

**SIMULATING AND PLAYING GEOPOLITICS  
IN DIGITAL GAMES**

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**A THESIS SUBMITTED  
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY  
DEPARTMENT OF GEOGRAPHY  
NATIONAL UNIVERSITY OF SINGAPORE**

**2025**

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## Declaration of Academic Integrity

I hereby declare that this thesis is my original work and has been written by me in its entirety. I have duly acknowledged all the sources of information which have been used in the thesis.

This thesis has not been submitted for any degree in any university previously.

Simon Wellisch

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## Acknowledgements

Although my name tops the document, this thesis only exists because of the support of various people throughout the process. First of all, I am grateful for the possibility to conduct my PhD at the Department of Geography, enabled by a NUS scholarship. At the department, I appreciate the patience of the administrative staff, especially Pauline's, who catered to my inquiries and helped me out behind the scenes numerous times. I also thank my fellow graduate students, whose company I enjoyed on and off campus. You made the PhD lively. Naturally, I am indebted to James and Chih Yuan, who allowed me great flexibility and were supportive of my research throughout the process. I received guidance when desired and pressure when necessary. Your input was always helpful and informed me beyond the scope of my thesis. I also thank Carl for giving me my first experiences as lecturer and demonstrating his inspiring passion for the discipline. Additionally, I am grateful for his as well as Dan's suggestions during the oral examination, which sharpened and clarified my arguments. Together with Allen, this made the examination a pleasant experience. Besides geographers, I thank Alex whose game design course was as informative as it was enjoyable.

Coming to my research participants, I am grateful for all *Hearts of Iron IV* players, who were willing to sit beside me or streamed their gameplay for me. I know this must have been awkward at first! I am particularly thankful for those who engaged in modding the game and the modders who shared their experience. Equally, my gratitude extends to the *Arma 3* unit, who welcomed me and my research. Above all, I am grateful for the patience they had with me because I remain a noob in military simulations. I thank the instructor for teaching me the basics and the administrators of the unit for keeping records vital for my

analysis and even clarifying some of my findings. If there is any research participant left that does not feel addressed, please know that your inputs found their way into this thesis and that I am grateful for your participation. Similarly, I appreciate all community-based sources and their diligence in curating information on both games.

Lastly, I want to express my appreciation to those outside of the confines of my research: To Christian, who gave very useful input at various stages of my PhD research and helped streamlining my questionnaire together with Leon. Beyond that, I thank you two for engaging together in games as enjoyment rather than research object. And to my dear Laura. For your warmth when I was cold. For your high spirits when mine were low. For your patience, support, and love. Thank you!

# Table of Contents

<b>Declaration of Academic Integrity</b> .....	i
<b>Acknowledgements</b> .....	ii
<b>Table of Contents</b> .....	iv
<b>Preface</b> .....	viii
<b>Summary</b> .....	ix
<b>List of Tables</b> .....	x
<b>List of Figures</b> .....	xi
<b>Abbreviations</b> .....	xii
<b>1 All Fun and Games</b> .....	1
<b>2 Games, Geographies, and Assemblages</b> .....	7
<b>2.1 Games Research</b> .....	7
2.1.1 Geography and Other Disciplines.....	8
2.1.2 Playing Geopolitics.....	10
2.1.3 Research Gaps.....	13
<b>2.2 Digital Game Assemblages</b> .....	15
2.2.1 Framework.....	17
2.2.2 Components.....	21
2.2.3 Processes.....	29
<b>2.3 Summary</b> .....	32
<b>3 Studying Game Assemblages</b> .....	34
<b>3.1 Game Production</b> .....	35
<b>3.2 Games</b> .....	37

<b>3.3 Players</b> .....	39
3.3.1 Access .....	40
3.3.2 Methods .....	43
3.3.3 Analysis.....	49
<b>3.4 Player-Creations</b> .....	50
<b>3.5 Privacy and Obstacles</b> .....	52
3.5.1 Data Privacy.....	53
3.5.2 Obstacles Encountered.....	54
<b>3.6 Summary</b> .....	56
<b>4 Developing Simulation Games</b> .....	58
<b>4.1 Small Studios—Big Games</b> .....	60
4.1.1 Grand Strategy Games .....	62
4.1.2 Military Simulations .....	65
4.1.3 Sandbox Design.....	69
<b>4.2 Simulating Geopolitics</b> .....	74
4.2.1 From Above.....	75
4.2.2 On the Ground.....	79
4.2.3 Without Accountability.....	83
<b>4.3 Summary</b> .....	85
<b>5 Simulating Warfare</b> .....	87
<b>5.1 It’s in the Name</b> .....	88
5.1.1 Advertising Conflict .....	89
5.1.2 Folders and Files.....	92
5.1.3 Scripting World War II .....	93

<b>5.2 Images and Mechanics</b> .....	96
5.2.1 The Art of War.....	96
5.2.2 Painting the World.....	103
5.2.3 Absolute Authority.....	109
<b>5.3 Worlds and Narratives</b> .....	116
5.3.1 Spatialising Conflict.....	117
5.3.2 Islands as Warscapes.....	121
5.3.3 Geo-Typical Narratives .....	127
<b>5.4 Summary</b> .....	132
<b>6 Alternative Scenarios</b> .....	135
<b>6.1 Beyond Warfare</b> .....	135
6.1.1 Historical Re-Enactment versus Alternate Histories.....	136
6.1.2 Law in Conflict .....	140
<b>6.2 Moulding Sand</b> .....	146
6.2.1 Beyond World War II .....	146
6.2.2 Virtual Lives.....	152
<b>6.3 Just Games?</b> .....	158
6.3.1 From Physical to Virtual World Politics .....	158
6.3.2 Too Real.....	163
<b>6.4 Summary</b> .....	169
<b>7 Role-Playing Conflict</b> .....	172
<b>7.1 World War II</b> .....	173
7.1.1 Doing Better .....	173
7.1.2 Geopolitical Play .....	177

<b>7.2 Combat Forces</b> .....	181
7.2.1 Replaying Reality.....	182
7.2.2 Achieving Semi-Realism .....	187
<b>7.3 Men and War</b> .....	191
<b>7.4 Summary</b> .....	195
<b>8 From Europe to Asia</b> .....	197
<b>8.1 Where Is Singapore?</b> .....	197
8.1.1 Historical Singapore .....	198
8.1.2 Missing Southeast Asia.....	203
8.1.3 Rural Warfare .....	208
8.1.4 Unavoidable Biases.....	212
<b>8.2 Player Creations</b> .....	215
8.2.1 Little Red Dot.....	216
8.2.2 Adding Singapore .....	221
8.2.3 Creating Conflicts .....	225
8.2.4 Adding Forces.....	230
<b>8.3 Summary</b> .....	234
<b>9 Games, Geopolitics, and Singaporeans</b> .....	236
<b>Bibliography</b> .....	246
<b>Appendices</b> .....	277

## Preface

I submitted this thesis for evaluation on 3 August 2025. The present work reflects further improvements applied after the oral examination. My thesis adheres to two sources in terms of formatting: The *National University of Singapore Guidelines on Format of Research Thesis* (NUSGS.073/22) from 15 September 2025 and *The Chicago Manual of Style Online* in its eighteenth edition. I take the liberty to provide chapters, pages, section headings, or paragraphs even when paraphrasing because I believe this increases usefulness and transparency of citations, especially for online sources. When I consult the source code of the two games studied in this work, I disclose the lines of code in the games' files to pinpoint the exact location. Because the source code changes over time, it is important to note that source code citations were made for *Hearts of Iron IV* version 1.16 and *Arma 3* version 2.16. Lastly, I follow Lastowka's (2014) memorandum which considers the use of visual material from games (screenshots) as fair use for non-commercial purposes, not requiring specific permission. All other works appearing in this thesis are reproduced with permission.

## Summary

Digital games have become part of everyday life and engage billions around the globe. Compared to other popular media, play is a distinctive feature of digital games and enables a unique form of encountering geopolitical content. This raises issues of representations, especially in games featuring war. More so than other genres, simulation games claim to mimic the physical world in detail based on intricate play possibilities rather than visual appearance. I investigate the developers' interpretations of war for two different in-game perspectives: top-down in the strategy title *Hearts of Iron IV* and in person in the shooter *Arma 3*.

Furthermore, I illuminate how virtual war is being engaged with. Singapore sits at the crossroads of dominant Western and Asian production and consumption nodes and provides the opportunity to analyse how a neglected audience makes sense of the selected games. Moreover, some players go beyond playing games. They change them, re- and overwrite source code and adapt the imaginations laid out by developers. Game modifications are an intriguing case of participatory culture in face of a very spatially concentrated digital games industry. Hence, I examine modifications of the selected games and how local perspectives are being incorporated.

My research expands popular geopolitical scholarship towards hitherto understudied simulation games and non-Western audiences. I draw on assemblage theory to account for the multiplicities and dynamics that characterise digital games as well as to include players as everyday producers of geopolitical imaginations. Building on this conceptual framing together with literature from critical geopolitics and game studies, I analyse presentations, play, and player-generated content for two war simulation games.

## List of Tables

Table 1: Research participants for HOI4 .....	44
Table 2: Survey respondents for A3 .....	47
Table 3: Content release history of HOI4.....	78
Table 4: Content release history of A3 .....	82
Table 5: Most popular total conversion modifications in HOI4 .....	147
Table 6: Release history of Creator DLCs for A3.....	157
Table 7: HOI4 modifications for British Malaya.....	216
Table 8: HOI4 modifications featuring British Malaya or Singapore .....	217
Table 9: HOI4 modifications for Singapore .....	219

## List of Figures

Figure 1: Offline gaming interview setup for HOI4.....	45
Figure 2: Average daily players for HOI4 and A3 per month .....	59
Figure 3: Paradox Interactive organigram .....	61
Figure 4: History of Arma and VBS releases .....	67
Figure 5: Hitler’s and Mussolini’s portraits in HOI4 .....	97
Figure 6: Header image for the HOI4 DLC Götterdämmerung.....	102
Figure 7: Starting map in HOI4.....	103
Figure 8: Spanish Africa with selected tile in HOI4.....	105
Figure 9: Challenges to authority in HOI4 .....	112
Figure 10: Altis in A3 compared to Lemnos .....	122
Figure 11: Rural settlement on Tanoa in A3.....	123
Figure 12: Passing a checkpoint on Stratis .....	124
Figure 13: Time jump in A3 DLC Laws of War.....	144
Figure 14: Terrain locations in Arma games and player-generated content....	155
Figure 15: Comparison of photo and A3 footage.....	168
Figure 16: Regional distribution of loadouts used by the Merlion Battalion....	183
Figure 17: Popularity of A3 roles in the Merlion Battalion .....	185
Figure 18: Infantry formation instructions in the Merlion Battalion.....	187
Figure 19: Types of modifications used by the Merlion Battalion .....	189
Figure 20: British Malaya in HOI4 .....	200
Figure 21: Urban warfare in A3.....	209
Figure 22: NFT of Singapore .....	222
Figure 23: Aaron’s map of the fictional setting for the campaign .....	229
Figure 24: Loadout selection in the Merlion Battalion .....	231

# Abbreviations

A3	Arma 3
AAF	Altis Armed Forces (Arma 3)
AAW	Armed Assault Wiki
BI	Bohemia Interactive
BIKI	Bohemia Interactive Community Wiki
BISim	Bohemia Interactive Simulations
BLUFOR	Blue Force
CSAT	Canton Protocol Strategic Alliance Treaty (Arma 3)
CTRG	Combat Technology Research Group (Arma 3)
DARPA	Defence Advanced Research Projects Agency (USA)
DLC	Downloadable Content
FIA	Freedom and Independence Army (Arma 3)
HOI4	Hearts of Iron IV
ICRC	International Committee of the Red Cross
IDAP	International Development & Aid Project (Arma 3)
INDFOR	Independent Force
NF	National Focus (Hearts of Iron IV)
NFT	National Focus Tree (Hearts of Iron IV)
NS	National Service (Singapore)
OPFOR	Opposing Force
PDS	Paradox Development Studio
RAS	Republic of Altis and Stratis (Arma 3)
SAF	Singapore Armed Forces
VBS	Virtual Battlespace

# 1 All Fun and Games

Games are an essential part of life and playing them has seen drastic changes in the last decades. Their availability and variety have increased tremendously with the rise of information technology. Internet made games globally interconnected and more complex than the humble beginnings of simple board games or early arcade video games. Digital games have steadily become a popular activity across the globe, age groups, and genders.<sup>1</sup> An estimated 3.4 billion people worldwide play digital games (Newzoo 2024, 17). Juul (2010, 8) affirmed already 15 years ago: “To play video games has become the norm; to not play video games has become the exception.” Interestingly though, the games industry is spatially concentrated in few North American, European, and Japanese regions (see Johns 2006; Kerr 2017, chap. 2). As in other entertainment media industries, such as Hollywood movies, this leads to specific dominant portrayals and narratives in games. Additionally, women, trans, and nonbinary people are largely absent in the games industry. For example, the ratio of female to male employees can range from 1:5 up to 1:17 among top 25 digital game publishers (Bailey et al. 2021, 59). The issue of underrepresentation increases for leadership roles in those companies.

It comes as little surprise that these circumstances impact representations in games. Especially games which depict violent conflicts succumb to simplified narratives and depictions. Warfare becomes a masculinist spectacle in digital

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<sup>1</sup> Throughout my thesis, I use the term ‘digital game’ as it allows a broader understanding opposed to video games, which are sometimes confined to game consoles, or computer games, which are played on computers. Similarly, I use ‘players’ and ‘playing’ instead of ‘gamers’ and ‘gaming’ to avoid confusion with ‘Gamers’, a subset of players who discriminate other (non-white, non-male) players (see Consalvo 2012; A. Shaw 2012).

games, where players are heroic soldiers in the overwhelmingly Westerncentric theatres featured for instance in the *Call of Duty* series (Stahl 2010, chap. 4). From World War II to Vietnam to the Middle East and back again; the yearly releases of this and other franchises retell wars from a Western perspective. Looking at representations in these games illuminates what geopolitical discourses are disseminated among a worldwide audience in the millions.

However, it is equally important to go beyond an analysis of games and turn towards players and their interactions with them. As Dyer-Witford and De Peuter (2009, 228) point out: “While games tend to a reactionary imperial *content*, as militarised, marketised, entertainment commodities, they also tend to a radical, multitudinous *form*, as collaborative, constructive, experimental digital productions.” Besides biased content, players negotiate the form or assemblage digital games constitute while playing. Players have an extensive history of intentionally deviating from what the developers’ imagined to be the play experience. They break or alter in-game rules or content for instance by cheating (see Consalvo 2007). Another, more far-reaching example is modding, when players change the source code of digital games according to their ideas. This has a long history, starting with *Doom* (id Software 1993) on a broader scale.<sup>2</sup> Many players adapt specific aspects of games or create major modifications.

For instance, the *Gaza Conflict Pack* (sgtseve3n 2015) for *Counter-Strike* (Valve 2000) translates an originally unspecified in-game scenario of counter-terrorists fighting terrorists into the conflict between Palestinians and Israel Defence Forces, allocating the role of the terrorists to the latter. Another reinterpretation of the base game is *Counter Strike: Malvinas* (Dattatec 2013) which

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<sup>2</sup> *Doom*’s impact on public recognition of digital games and its influence on the games industry inspired a multitude of games with similar gameplay, so-called *Doom* clones.

relocates in-game fighting to the disputed islands between Argentina and the United Kingdom, assigning British forces as terrorists.<sup>3</sup> These brief examples hint at the massive potential of modifications, mods for short, to subvert geopolitical imaginations in digital games. The *Gaza Conflict Pack* challenges the narrative of who is the terrorist; *Counter Strike: Malvinas* similarly questions British narratives of belonging of the Falkland Islands.

The creation of both modifications was not interlinked with other sites which contribute to the formation of geopolitical imaginations, i.e., formal or practical geopolitical actors (see Ó Tuathail and Dalby 1998). Nevertheless, they manifest imaginations of contested spaces from these actors, e.g., the Argentinian state. Hence, modifications are a form of participatory culture in game communities where politics, conflicts, relations, and other aspects impacting specific spaces are visualised. In other words, geopolitical imaginations emerge and spread in these everyday practices. Modifications are therefore an example for the “constituent power” (Dittmer and Gray 2010, 1669) of audiences. This is particularly relevant as the games industry is concentrated in few nodes worldwide. Except for Japanese game productions, the persistent dominance of Western cultural products raises the question how non-Western players not only perceive digital games but adapt them to their needs.

My study explores a specific (Southeast) Asian audience engaging war simulation games produced in Europe. I use Western, Asian, and other categorisations as necessary descriptions without essentialising them. Neither do I subscribe to a binary split between ‘West and the rest’ (see S. Hall 2018). Singapore sits at the crossroads of Western and Asian cultural products. On one side, high

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<sup>3</sup> In *Counter-Strike* two teams (counter-terrorists and terrorists) have opposing objectives, e.g., planting and detonating a bomb versus securing and defusing it.

English literacy in Singapore eases access to games developed in North America and Europe. On the other, games from Japan, South Korea, or the PRC are also enjoyed by Singaporean players (Chung 2015, 483). Additionally, Singapore is partly embedded in the global production networks of the games industry, wherein large foreign developer studios have local branches, such as Bandai Namco (Japan), Ubisoft (France), or Riot Games (USA). At the same time, local studios have been founded by Singaporeans and produce mostly small-scale games (see Baey 2024). On the consumer end, more than 60 percent of Singaporeans play digital games in one form or another (Ludwig et al. 2023, 6). But despite being embedded in global games production and consumption, Singapore itself receives little representation in games.

Therefore, Singapore offers an instructive case to investigate how players interact with geopolitical imaginations proliferated by digital games created elsewhere. Singaporean players do not speak for other audiences who are receivers in global digital game production networks rather than producers. Furthermore, players incorporate disparate subject positionalities, especially in the multicultural Singaporean society. Thus, it is difficult to generalise my findings for (Southeast) Asian or even Singaporean players. Nevertheless, my study of Singaporeans enriches perspectives on the study of games; previous works from geography and other disciplines concentrate on Western audiences. I argue that studying players who usually have no representation in digital games explores their interaction with biased portrayals informed by local conditions. The practices associated with this process are applicable beyond my Singaporean case study. Especially my analysis of modding and modifications provides insights into how players negotiate geopolitical discourses.

Moreover, I see the need to move beyond military-themed first-person shooters as research object, which have been hitherto prominently studied. Although this genre is very useful to approach the visualisation of war in person, strategy games are equally relevant because they integrate various geopolitical assumptions in their game design. Compared to shooters, where players usually incorporate the role of single soldiers fighting their way through waves of enemies, strategy games let players control entire countries or civilisations who are bound to clash with others. Despite contrasting play experiences, conducting a comparative analysis highlights how games of different genres imagine warfare. Genre specificities cause unique characteristics yet combining shooter and strategy games also discloses overarching themes and points to general assumptions in game development.

Hence, I selected the grand strategy game *Hearts of Iron IV (HOI4)* published by Paradox Interactive and developed by Paradox Development Studio (2016b), PDS for short, as well as the military simulation shooter *Arma 3 (A3)* created by Bohemia Interactive (2013b), BI for short, for my case study. Both are two of the most well-known titles in their respective genres, are still supported by the developers, and have active communities despite their age. Thus, my thesis sets out to answer two main questions by looking at these games and their Singaporean players:

- (1) What geopolitical imaginations are embedded in war simulation games?
  - (a) What are the dominant themes and underlying assumptions?
  - (b) How are these imaginations embedded and articulated?
  - (c) How are digital games connected to the physical world?
- (2) How do Singaporean players interact with war simulation games?
  - (a) What impacts the interaction of players with the games?

(b) What influence do geopolitical imagination have on players?

(c) What content do Singaporeans create for the games?

With these questions, I set out to identify dominant themes and underlying geopolitical assumptions in game design and representation as well as how players negotiate games through playing and modding.

To achieve that, I study games through an interdisciplinary approach, altogether grounded in political geography and game studies. Chapter 2 outlines the conceptual framework for this. After positioning my study against relevant literatures, I introduce assemblage theory as way of understanding the dynamic and interconnected relationships between games and players. Chapter 3 covers the range of methods I employed in my study, alongside discussing the obstacles that I encountered and how I sought to negotiate and overcome them. Thereafter, my analysis starts in chapter 4 with the production background, the respective developer studios, and game design principles, contextualised by historical influences. Chapter 5 engages in a critical reading of the games by going through source code, visual appearance, narrative structure, and game mechanics. Chapter 6 continues with investigating the games and focuses on exceptional instances, where game content deviates from the usual play experience and links virtual and physical geopolitics. Then, I turn to the players in chapter 7 and offer findings on how Singaporeans engage the games, in terms of their play behaviour and subsequent impacts on geopolitical imaginations. Chapter 8 covers player responses to the games' assumptions, explores what content Singaporeans create, and how they change existing narratives. I conclude my findings in chapter 9 which reflects on the outcomes, shortcomings, and contributions of my study, thereby allowing me to signal possible future research directions.

## 2 Games, Geographies, and Assemblages

This chapter prepares the conceptual ground for investigating digital games. Relevant literatures from geography, game studies, and related disciplines are introduced to situate my research. Because there have been few works which compare genres and offer a comprehensive analysis of game production, consumption, and modification, I see the need for a theoretical approach that allows combining these different aspects without losing sight of single influencing factors. Hence, I introduce assemblage theory as conceptual starting point to grasp the multiplicities games and players constitute.

### 2.1 Games Research

The study of games and play has a long tradition. Historians, psychologists, anthropologists, sociologists, or biologists, to name but a few vocations, have been concerned with what, why, and how people play (Sutton-Smith 1997, 6–7). Naturally, media studies scholars have approached the subject as well. Particularly game studies, which are predominantly concerned with digital games, are informative for my work here. The field gained momentum in the 1990s and early 2000s when journals were founded and conferences held (Mäyrä 2008, 7–8). Early on, some authors identified a split in scholarship between the study of play (ludology) versus the study of narratives (narratology) (see Frasca 1999). This caused a brief yet intense discussion about the direction of game studies. The dispute eased and was partly reconciled through emphasising that researchers mostly included aspects of both sides in their work (see Frasca 2003; Murray 2005). Retrospectively, feminist scholars point out that the intensity of the discussion was caused by few White men from selected European and North

American institutions zealously defending ‘their’ approaches (Vossen 2018, 184–85; A. Phillips 2020, 21). Nevertheless, game studies have developed nuanced understandings for studying digital games (Mäyrä 2008; Egenfeldt-Nielsen et al. 2024), how digital games are designed (Salen and Zimmerman 2004), how they convey meanings (Bogost 2007), how they facilitate play (Sicart 2014), and how they create narratives (Murray 2016). Thus, game studies were successful “in establishing the relevance of games as a research topic across disciplines” (Deterding 2017, 530). Researchers from other fields profited from the legitimacy awarded to the study of digital games—among them many geographers.

### 2.1.1 Geography and Other Disciplines

Geographers have a history of utilising games as learning facilitators in classrooms reaching back to the 1960s with engagements increasing at the end of the 1990s (Walford 1995, 239). Particularly digital games which directly relate to geography (for instance city building simulations) received attention early on (see Adams 1998b). Still, the focus was on how games could be implemented in educational settings rather than on a critical discussion of games. This pedagogic research remains popular among geographers to this day (see Morawski and Wolff-Seidel 2024). At the same time, the nascent stage of the internet inspired geographers to dedicate research to ‘cyberspace’, the virtual world (see Dodge and Kitchin 2001). While this literature was not explicitly connected to games research, it laid the ground for future analyses of virtual geographies, the exploration of how the emerging network worlds are shaped, and how they relate to offline geographies. Henceforth, digital games were included in media and digital geography (see Ash 2014; Ash et al. 2018). However, these approaches often focused on the medium itself rather than representations or audiences.

Scholars from media studies, political geography, and international relations were among the first to question biased representations in digital games. This line of inquiry traces back to Said's (1978) seminal *Orientalism*, where Eurocentric Othering in European literature and sciences as well as Western perceptions of superiority are revealed. The interrogation of hitherto essentialised (Western) argumentations became the core of critical geopolitical scholarship. Following Said's analysis of imaginative geographies, Ó Tuathail (1996) and Agnew (2003) questioned world orders which were postulated by Western thinkers and practitioners. These geopolitical imaginations of territorial control and delineated identities are conceptual articulations of geopolitical cultures, in turn formed by three sites: popular, practical, and formal geopolitics. After initially concentrating on elite geopolitical discourses, political geographers quickly noticed the everyday influences those discourses have. Hence, scholars increasingly paid attention to popular geopolitics, from newspapers to movies to comics (see Dittmer 2018).

However, other disciplines approached digital games before geographers realised their potential as sites of popular geopolitics. Der Derian (2009) unravelled the relationship between military industry and entertainment media in one of the first in-depth accounts. An expansion of Dwight Eisenhower's 'military-industrial complex', Der Derian identifies a 'military-industrial-media-entertainment network' where the games industry is but one part ultimately serving the sanitisation of war and militarisation of society. Originally published in 2001, subsequent works from media studies, political geography, and international relations continued to question representations in military-themed shooters and the proliferation of geopolitical discourses, for instance Stahl (2006; 2010), Gieselmann (2007), Günzel (2007), Power (2007), Höglund (2008), Šisler

(2008), Gagnon (2010), I. G. R. Shaw (2010), Crogan (2011), Salter (2011), Zwieten (2011), Robinson (2012; 2015; 2016), Schulzke (2013a; 2013b; 2014), Young (2018), and Shrimplin (2024).

While these studies cover the genre of first-person or third-person shooters, strategy games are studied alongside similar inquiries as well. Apperley (2006), Schut (2007), Lammes (2008; 2010), Nohr (2010), Ghys (2012), Chapman (2013; 2016), Ford (2016), Mukherjee (2015; 2017), Lundblade (2019), Aschim (2020), Houghton (2021), Pennington (2021; 2022), and Bijsterveld Muñoz (2022) question Westernised portrayals of history and imperial logics in game design for strategy games. Additionally, several volumes have contributions for both shooters and strategy games (see Huntemann and Payne 2009; Kapell and Elliott 2013; Harrigan and Kirschenbaum 2016; Hammond and Pöttsch 2020; Lorber and Zimmermann 2020; Lünen et al. 2020). Compared to this wealth of literature on the representations in digital games, fewer works explore the role of players. I argue that deconstructing representations is only the first step to understand what impact digital games have. Billions of players worldwide engage with games in their play practices, making players and their associated play performances important areas for analyses.

### 2.1.2 Playing Geopolitics

The game or toy is only a rhetorical argument—political expression at most, if not propaganda. Politics happens when play becomes political action.

(Sicart 2014, 73)

For Sutton-Smith (1997, 9–11), power is one of seven rhetorics of play observable in games. Players play digital games for social, escapist, and various other reasons, yet there are “legitimate power interests intrinsic” (Sutton-Smith 1997, 90)

in games. The examples for political play Sicart (2014, 74–80) offers are limited to play performances which subvert authoritative discourses. But I argue that replaying those authoritative discourses is equally a (geo)political practice; a practice where geopolitical imaginations, which are imprinted in games, emerge and affect in everyday encounters through play (I. G. R. Shaw and Warf 2009, 1338–40; Woodyer 2012, 322).

It was feminist geopolitical scholars who laid the ground for analysing these practices in political geography. For them, “the point of entry to such topics of study is often the less visible everyday lives of individuals [...] across the globe and often times less focused on the traditional sites of geopolitics [...]” (Massaro and Williams 2013, 570). This development culminated in the call for popular geopolitics 2.0, where audiences are expressively included in critical analyses (see Dittmer and Gray 2010). Thereafter, players have become one of many audiences studied in political geography. Accounts on educational models (Dittmer 2015), miniature wargaming (Yarwood 2015), and toys (Carter et al. 2016; Woodyer and Carter 2020) are informative for how players engage with geopolitical discourses in everyday play activities across various media forms.

Bos (2016; 2018) was the first political geographer to conduct an encompassing study of digital games *and* players. Analysing the first-person shooter series *Call of Duty: Modern Warfare*, Bos (2016, chap. 4) highlights how the ‘war on terror’ is replicated in the game’s virtual landscapes and cutscenes, supported by a thoroughly masculinist rendering of warfare. Turning towards players, Bos’ (2016, chap. 5) findings illustrate that consumers negotiate the messaging of the game based on their familiarity with geopolitical events from other media as well as personal background. Therefore, Bos demonstrates that looking at players enriches our understanding of how popular geopolitical discourses impact

audiences. Bos (2021; 2023; 2024) continues to study the marketing of *Call of Duty: Modern Warfare* as well as the potential of other digital games to critique hegemonic popular geopolitical representations.

Whether virtual Western special forces combat insurgents abroad or British WWII toy soldiers fight Germans, it is important to look not only at representations but at how players interact with the medium. (Bos 2018, 57; Woodyer and Carter 2020, 1061). Ciută (2016, 205) points out that the “ludic aspects” are at times neglected in existing scholarship. After all, play is the defining criteria that sets games apart from other media forms. In the context of war-themed play performances, Carter et al. (2016, 69–70) term this ‘ludic geopolitics’ which “move away from a single focus on the discursive reading” and consider the “embodied and affective dimensions of play.” Bos (2018, 62) similarly highlights the “varying emotional investments, different preferences and practices and spatial circumstances” that impact how players engage with geopolitical content. Beyond being consumers, players exhibit individual performances with the geopolitical imaginations embedded in digital games. The strongest form of appropriation is when players turn into modders and change the games they play.

Hitherto, predominantly game studies scholars studied this activity. Sotamaa (2010, 246) identifies five major motivations for players to engage in modding: (1) They are dissatisfied with the original play experience. (2) They enjoy tinkering with software and realising their ideas. (3) They indulge in research to better understand what is portrayed in the game. (4) They want to express themselves through modifications. (5) They appreciate to work with others in the community. Based on these motivations, players display diverse attitudes towards game modifications. For example, they challenge simplified portrayals in games (Owens 2011; Apperley 2013; 2018), but they also repeat the developers’ visions

(Crabtree 2013). Modifications empower lesser-known perspectives (Loban and Apperley 2019; Loban 2021), yet some modders create discriminatory or even extremist content (Salvati 2020). These works hint at the potential of game modifications to manifest everyday geopolitical imaginations. Recently, Lassin (2024) explored the interconnection of geopolitical events and digital game modifications. After the Russian invasion of Ukraine, modders have created various mods explaining Ukrainian history with some providing information on how to support Ukrainian forces. This underscores the influence of modifications in geopolitical discourses. Besides the lack of studies on game modifications, I identify two more shortcomings in games research and how my own work responds to them in the next section.

### 2.1.3 Research Gaps

Considering the existent scholarship on games, players, and modders, I see three major issues. First, while shooters and strategy games have been both studied across disciplines, many studies concentrate on the same game franchises, i.e., *Call of Duty* and *Civilization*. This comes with little surprise as these are two of the most popular representatives of their respective genres. Nevertheless, other games and game series reach millions of players as well. Moreover, they have different portrayals of conflict and warfare. Here, simulation games stand out because they want to provide distinctive play experiences compared to other shooters or strategy games.

Whereas *Call of Duty* and the like imagine war as virtual spectacle, military simulation games such as *A3* emphasise their authentic recreation of warfare, from landscapes to equipment to gameplay. Indeed, military simulations are slow-paced and offer complex settings for weapons, vehicles, etc. Strategy games

such as *Civilization* are certainly inspired by historical and contemporary settings but they do not want to accurately reflect them. They emphasise entertainment through catchy and satisfying gameplay. *HOI4* and other strategy simulations very much concentrate on their claims to fidelity and their desire to reflect history, politics, economics, etc. in detail. Again, they are more complex and therefore more demanding on players. In short, simulation games favour “behavioural realism” (Breuer et al. 2012, 218), because they want to imitate the physical world through game rules and game mechanics. I argue that their claim to realism strengthens their discursive power. If simulation games convincingly establish themselves as realistic interpretations of the physical world, biased portrayals become more persuasive.

There are several studies on specific simulationist series, such as *America’s Army* or *Europa Universalis*, which are valuable for my own analysis. But there remains a severe lack of comparative works. This is the second gap I address with my work. Although combining game genres is analytically challenging because they have stark differences in gameplay, I argue that doing so adds to a comprehensive understanding of digital games. Shooters and strategy games provide entirely different possibilities to incorporate geopolitical imaginations. Whereas shooters expose players to explicit geopolitical narratives, strategy games have geopolitical assumptions subliminally programmed into the game rules and mechanics. Comparing case studies from both genres shows then unique characteristics *and* common themes. Nevertheless, it is important to have a linking element when engaging in a comparative analysis. In my work, both games are self-declared war simulation games. Hence, both have the goal of portraying warfare with high fidelity which triggers my inquiry how they want to achieve accurate depictions of war based on their genre-specific game designs.

Lastly, the predominance of studies on Western games and players is striking. While I do not compensate the lack of attention paid to non-Western games, I shed light on a severely understudied audience. Considering that an estimated 80 percent of global players do not reside in Europe or North America, few works explore this significant portion of players (Newzoo 2024, 18; Statista 2025, 11). Singaporeans are certainly not representative for these audiences, but they enable analysing a neglected perspective on games. Additionally, scholarship on player-generated content from a popular geopolitical perspective is only recently gaining traction. I argue that looking at modding from (Southeast) Asia is even more important because players challenge Western geopolitical imaginations inspired by local knowledge. Therefore, I see my thesis as continuation and extension of past scholarship, expanding research objects and subjects. My study of game production, consumption, and modification opens a myriad of factors that require attention. Developer studios, software, game design, play behaviour, game communities, modifications, and more aspects provide a multifaceted challenge. Bos (2016, 30) classifies this as popular geopolitics 3.0, “a framework that considers the text, its production, and its audience.”<sup>4</sup> I grasp these multiplicities through understanding games as assemblages, whose various components are outlined in the next section in more detail.

## 2.2 Digital Game Assemblages

Before covering what constitutes digital game assemblages, I explain my understanding of digital games since definitions vary from discipline to discipline.

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<sup>4</sup> Not to be confused with Sidaway’s (2022, 1623) popular geopolitics 3.0, calling for the inclusion of “elite, high culture” media in popular geopolitics.

There have been many offers to define games, which focus on specific aspects, e.g., looking at play versus looking at narratives (see Stenros 2017). Together with the dynamic nature of game development, a final, all-encompassing definition of games is impossible (Arjoranta 2019, 118). Instead, definitions serve as spotlight of the issues researched. For my thesis, I understand (digital) games as socio-material assemblages of discourses, systems, and bodies. Adapting various elements of different definition proposals, I follow the distinction between game and play prominent in game studies, but without subscribing to a strict separation of the two. As Consalvo (2009, 415) states, players “have real lives, with real commitments, expectations, hopes, and desires. That is also brought into the game world [...]” Or in the words of Kitchin (1998, 403): “[...] cyberspace, rather than providing an alternative world, exists in a symbiotic relationship with real space”. The digital worlds of games are not detached from their physical inspirations. Although a useful understanding of the relation between the digital and non-digital, speaking of ‘real space’ creates an unnecessary normative notion. Ash and Gallacher (2011, 358) argue that virtual worlds “are themselves ‘real’ worlds, which are brought into being through material practices and technologies.” An everyday example for this are mobile games shaping how public space is encountered and experienced (Woods 2020), with a more extreme example being drone warfare, where virtual mediation has deadly consequences (Gregory 2011).

It is useful to note that ‘digital’ serves here as term encompassing ‘virtual’ geographies and geopolitics. Both digitality and virtuality entail materiality, from bodies to technologies to infrastructures (Kinsley 2014, 376). Therefore, the relationship between digital realm and physical space is multifaceted, characterised by networks in the digital world and in relation to the physical world

(Adams 1998a, 90–94).<sup>5</sup> With digital games being part of this multiplicity, I argue that approaching the medium with assemblage theory has its merits. The great variety and ongoing development of digital games make it hard if not impossible to provide any holistic account of digital game assemblages. But through assemblage theory, these issues are addressed to some degree, as their dynamic understanding allows for greater flexibility. Related concepts such as actor-network theory have similar propositions, but I favour assemblage theory because agency is seen as intrinsic rather than achieved only through associations (Müller 2015b, 30–31). While I concede that digital games are a suitable example for non-human entities with constituent power, assemblage theory captures the various levels involved in the formation of digital game assemblages more comprehensively through an open perspective on historical and other influencing factors. Thus, I introduce assemblage theory adapted to geopolitical analysis before mapping its connection to digital games in more detail.

### 2.2.1 Framework

Assemblage theory, notably DeLanda's (2006) refinements of theories by Deleuze and Guattari (1987), has been introduced to various subdisciplines in geography and other fields. With a terminology quite reminiscent of geography, it is described as a 'geophilosophy', which is instrumental "to break free of conceptual deadlocks, circumvent crises of representation and the textualist trap, overcome imposed dichotomies (for example, 'human' vs 'physical'), and challenge subdisciplinary boundary-drawing" (Bonta and Protevi 2006, 38). While I do not see assemblage theory as universal solution to conceptual issues, I cover its specific

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<sup>5</sup> As Castells (2010, 377–78) points out, this network has been distributed unequally since its inception, an observation aligning with digital games production (Kerr 2017, 59).

qualities when applying it to digital games in the following sections. But before outlining assemblage theory with DeLanda (2006) as well as Massumi's translation of Deleuze and Guattari (1987), I turn to existing theorisations and applications in political geography and game studies. This informs my own conceptualisations. Additionally, I feature criticisms of assemblage theory and how I address those, because I believe this strengthens my argumentation for using it as a concept.

Geographers have been engaging with assemblage theory over the past 15 years and utilised it in various contexts. In political geography, assemblages were theorised prominently by Dittmer (2014) and Müller (2015a; 2015b). They see potential in assemblage thinking to address two main criticisms of critical geopolitics. First, many critical geopolitical scholars utilise a normative understanding of actors, e.g., as intellectuals of statecraft or spin doctors, which collides with the poststructuralist assumptions used to analyse geopolitical discourses (Müller and Reuber 2008, 462–63). Who is influential: single individuals or discursive framings? In the 'flat ontology' of assemblages, "persons are not the only individual entities involved in social processes, but also individual communities, individual organisations, individual cities and individual nation-states" (DeLanda 2006, 28). Rather than asking who is more powerful, assemblage theory helps questioning predisposed assumptions of who is perceived as powerful in the first place. This dissolves the "macro/micro scalar tensions at the heart of geopolitics" (Dittmer 2014, 386), where everyday negotiations of geopolitics are seen in conjunction with geopolitics enacted on 'higher' scales. In the case of digital game assemblages, the nexus between developers and players is crucial without overemphasising one side regarding their constituent powers.

Second, the explicit inclusion of materialities in assemblages addresses a common criticism of Foucauldian discourse theory, the conceptual mainstay of critical geopolitics (see Müller 2008; 2011). Language and text are pivotal in discourse theory, neglecting the role of material factors (see Squire 2015). Feminist geopolitics already opened the field towards materialities, and assemblage theory further contributes to theoretically situate discourses—also termed expressive components—and materials. Both sit at the ends of an axis (expressive–material), which identifies characteristics without assigning them irreversibly (Deleuze and Guattari 1987, 88; DeLanda 2006, 12). Because definitions are not fixed to either expressive or material but to an axis, especially the digital world is approached in more precise degrees. Is a game source code stored materially on the hard drive or is it expressive when the code runs and appears visually? In assemblage theory, both notions are attached, which follows the argument to overcome an understanding of “immaterial ‘cyberspaces’” (Kinsley 2014, 378).

Paradoxically, the solutions assemblage theory offers are not without criticism themselves. The ontological flatness and dismissal of social categories runs the danger of losing sight of power relations and ignoring critical perspectives, such as feminist theories (see Kinkaid 2020a; 2020b). To address the latter issue, I follow Kinkaid’s (2020b, 485) suggestion and include critical perspectives on game production and consumption in my conceptualisation and analysis of game assemblages. However, observing ontological flatness opens the possibility to consider various impact factors in the formation of game assemblages. Indeed, it is tempting to assign either side in digital game assemblages with constituent power. Developer studios shape game assemblages from the outset and hold ownership over their products after releasing them to the public. They are part of “militarised hypercapitalism” (Dyer-Witford and De Peuter 2009, xv)

which determines how game assemblages form up. Yet, games are an interactive medium and require players for engagement. Therefore, game assemblages are decidedly formed by players and the argument can be made that playing, not games, is the key concern (Sicart 2014, chap. 1). But I employ assemblage theory to identify influential actors and materialities in digital game assemblages without the need to stratify their power level in the formation of said assemblages. This enables me to consider the impact of both producers and consumers of digital games and how they contest digital game assemblages.

Another criticism of assemblage theory cuts more broadly. Can it be applied to digital games in the first place? Is it just another instance where “literally anything comes to be described as ‘an’ assemblage” (Anderson and McFarlane 2011, 125)? This is an important provocation, especially since DeLanda was primarily concerned with social assemblages. Contrary, Deleuze and Guattari (1987, 4) point early in their work to books and literature as examples for assemblages. Nevertheless, the widespread application of assemblage theory has led Buchanan (2017, 462) to ascertain that some works engage the theoretical underpinnings at best superficially: “When that happens the concept becomes adjectival rather than analytical, it describes rather than defamiliarises, which defeats the purpose of having the concept in the first place.” To avoid this danger, I consult works that conceptualise assemblage theory for the study of games.

I identify three theoretical contributions: Taylor’s (2009) brief yet widely cited article, I. G. R. Shaw’s (2011) rather obscure book chapter, and Cremin’s (2016) monograph. Starting with the latter, Cremin draws generally from Deleuze and Guattari but concentrates on games and players, disregarding developers or modders. A limitation common in play-centred game studies, I argue that this approach is less helpful in comprehensively understanding digital game

assemblages and does not utilise assemblage theory to its full potential (see for similar play-centred applications De Paoli and Kerr 2010; Karppi and Sotamaa 2012). Contrary, Taylor and I. G. R. Shaw identify the multiplicities that constitute assemblages: developers, platforms, code, representations, players, interactions, communities, etc. are all “interwoven in complex ways at particular historical moments” (Taylor 2009, 332). Furthermore, these digital game assemblages are fluid with their ongoing development, frequent additions of content, or players’ modification of the code. In other words, they are “nonlinear systems plugged into a host of changing multiplicities” (I. G. R. Shaw 2011, 169). While these remarks may seem rather abstract, I illustrate my approach with concrete examples in the following section.

### 2.2.2 Components

Assemblage theory rejects essentialism and understands ascriptions as well as identities as fluid. Rather than operating with inherent characteristics or organic unities, assemblages are constituted by heterogenous component parts. These component parts are “*contingently obligatory*: entities are affected by relations and by the other terms they are related to but they are not fully determined by those relations/terms” (Anderson et al. 2012, 179). In DeLanda’s (2006, 18) words, “relations of exteriority” between component parts constitute assemblages. In their relation to and interaction with other elements, they are not exclusive for one assemblage but are incorporated in other assemblages as well. Additionally, whole assemblages are only temporary formations; durability but no continuous fixation is achieved (Anderson et al. 2012, 180).

The components of digital game assemblages are multiscalar and adaptable to the scope of analysis. Thus, I build on what Taylor (2009, 333) and I. G. R.

Shaw (2011, 165) signalled as key components, fitted to my own critical geopolitical focus. As my research interest covers how digital games incorporate geopolitical imaginations and how players interact with those, I see the nexus between representations and interactions as constitutive for digital game assemblages. Three component parts shape this nexus from both sides: discourses, systems, and bodies, influenced by underlying geographies.

### *Discourses*

Starting with discourses, an established line of inquiry in critical geopolitics is addressed. In digital game assemblages, discourses cover what is featured in games, for example biased portrayals of who is friend or foe. These digital representations are interconnected with other discourses, e.g., national, online, or in other media. Developers imprint discourses (implicitly or explicitly) into their games and in turn add another medium to the discursive formations. Thus, how characters, environments, etc. are portrayed in a game influences the constitution of assemblages and play experience. How do players make sense of what they play? Turning to players and their reception of games is aligned with the feminist critique of popular geopolitics ignoring the “everyday ways in which people *live* geopolitics” (Dittmer and Gray 2010, 1671). As players offer their thoughts on games in reviews, forums, or social media, they reinforce or reconfigure assemblages vis-à-vis the developers. The public dissemination of perceptions highlights “how the encounters of play, and its geopolitical values are made meaningful within the broader gaming community and beyond the moment of play itself” (Bos 2023, 1218).

Moreover, discourses include materials as well. Digital game assemblages extend into the physical world with “paratextual materials” (Jones 2008, 10) such

as physical copies, promotional material, or fan merchandise. The linkage between the virtual and physical is an important consideration to fully grasp the influence digital games have. Coming back to the virtual, narratives—the storylines or key messages games want to convey—are another discursive element. Compared to other media forms, digital games offer new ways to experience narratives, shaped by interaction and immersion (Murray 2016, 111). Interaction is the play assemblage of individual agency meeting game design; immersion is the play experience created by persuasive game systems. In other words, narratives are personally experienced and enact convincing scenarios. This depends on how successful game designers configure interaction and immersion. The same game appeals diversely to individual players. The next section explores how game systems achieve this.

### *Systems*

Game systems are elements which shape gameplay. Just as in-game representations, they are stored in the source code. Source code is the individual input by developers. The game ‘exists’ in and through the code. To run a digital game, the source code needs to be compiled, which describes translating the code “into machine language, a sequence of numbers in hexadecimal or binary notation that the computer can understand” (Sample 2016, 53). Although stored on the players’ smartphone, console, or computer, it remains mostly inaccessible for those without any programming knowledge. This is striking, as the source code also includes elements which are not featured in the game, e.g., comments by developers or unused code (see Willumsen 2017). Therefore, looking at it uncovers components of an assemblage which contribute to its formation but not to its

engagement by players.<sup>6</sup>

The source code also contains the two most notably game systems: game rules and game mechanics. Rules determine what is allowed and what is not; mechanics show how things happen or how they do not. Neither are usually static in games, e.g., when players are granted new abilities with game progress, overriding previous rules, and enhancing existing mechanics. After defeating a smaller country and exploiting its land, players are now able to take on the next, larger country. Moreover, rules and mechanics do not only shape game assemblages but are inherently producing meaning. Bogost (2007, 28) calls this ‘procedural rhetoric’, “the practice of using processes persuasively, just as verbal rhetoric is the practice of using oratory persuasively and visual rhetoric is the practice of using images persuasively.” What do developers permit players to do in the game? On the contrary, players often break or play with the rules, sometimes even with given mechanics. Cheating (altering the rules and/or mechanics via codes or commands) is a prominent example for this and exemplifies how players deviate from what the developers programmed.<sup>7</sup>

Another key element of game systems is their enactment of virtual spatiality. How is space represented? A number of possibilities are available to directly or implicitly feature space in digital games, from text adventures to side-scrollers to 3D environments (see Wolf 1997). The split in omnipresent (complete overview) versus vagrant (exploration through movement) perspectives by Elverdam and Aarseth (2007, 7–8) is helpful for illustrating how bodies are affected

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<sup>6</sup> However, this does not seem very feasible for bigger productions and requires in-depth knowledge of programming languages. Additionally, to protect intellectual property, developer studios often do not make their code (easily) accessible.

<sup>7</sup> Playing with rules and mechanics is covered by the discussion about metagaming, e.g., by Boluk and LeMieux (2017).

or discourses articulated, depending on the designers' choices.<sup>8</sup> A first-person view mediates consequences for players immanently whereas a top-down perspective removes players from what is happening on the ground. Consequently, players shape the virtual space differently. Moreover, everyday play performances differ among players even if they are located in the same game space, for instance concentrating on trade versus focusing on combat.

### *Bodies*

Developers and players are the two main categories of bodies found in digital game assemblages.<sup>9</sup> Individual bodies are assemblages of corporal and cognitive capabilities as well as part of larger assemblages, i.e., game communities and game developer studios. These capabilities are the first barrier in engaging with games, e.g., for players with disabilities. Assuming players can play the game as intended, they experience emotional responses programmed by the developers (see Ash 2012). Developer studios strive for affect which encourages players to keep playing the game. In the words of the former president of Nintendo of America, Reggie Fils-Aimé (2017, 2:15–17): “If it’s not fun, why bother?” Affect in the form of entertaining gameplay is an important factor which constitutes the assemblage of digital games (Müller 2015b, 36). However, I do not situate affect as the core element, as this would lead to a play-centric perspective.<sup>10</sup> Furthermore, affects may not always work as expected. Tough opponents, erroneous coding, or incomprehensible narration negatively affect players. On the other

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<sup>8</sup> Günzel (2008, 175) points out that this differentiation is not universally applicable, but it is useful for the games studied in this thesis.

<sup>9</sup> Playtesters are subsumed here, which include paid, but also voluntary testers recruited from players. They serve as first external feedback for developers and shape game design at an early stage. Despite this influence, this work is often precarious, see Bulut (2015).

<sup>10</sup> My study loosely utilises affectual and emotional geography, as laid out by Pile (2010).

side, developers are affected by the ways players play the game (see Markocki 2021). If players deviate from expected play behaviour, developers may be surprised, amused, proud, disappointed, or even mad. Therefore, bodies represent “the potential to affect and be affected emotionally as well as cognitively, unconsciously as well as consciously” (I. G. R. Shaw and Warf 2009, 1339) while playing or designing games.

Coming to the larger corporal assemblages of game communities and developer studios, there is another scale to consider in the emerging game assemblages. Game communities, i.e., the collective identifying a specific title or series as its interest, are very fluid social assemblages, as digital games production is dynamic and belonging to a community is elective, similar to Castell’s (2010, 389) ‘virtual communities’. As community, players articulate their position more prominently towards developers and shape digital game assemblages markedly. After all, developer studios want to sell their products, already hinting at the impact this assemblage has on individual developers. Developers are part of corporate assemblages which are embedded in local, national, or—in the case of larger companies—global game production networks (see Joseph 2013).

Moving back to the individual scale, experiences and identities are two decisive markers which exert influence on digital game assemblages. For developers, interdisciplinary experiences are commonplace in game development and developers transfer their knowledge of unrelated fields directly to game design (O’Donnell 2014, 68–70). For players, there are “many gradually developed competencies, such as an appreciation of both the immediate and historical features of the terrain players are navigating, a rapid appraisal of reciprocal viewpoints, reacting and adapting quickly to the tactics of the opposition, and so on” (Reeves et al. 2009, 223). Simultaneously, experiences outside of the game shape how it

is played. For example, former soldiers approach a military simulation such as *A3* different than those without that background.

Lastly, identities have strong impact on how play is experienced. Although playing games has become an everyday enjoyment across genders, non-male players still experience discrimination.<sup>11</sup> The trope that “men are simply gamers” (Eklund 2015, 25) with other players being recognised first by their identity, e.g., as women, is persistent. This is indisputably connected to production circumstances, where (white, young) male developers dominate and others face hostility (Harvey and Shepherd 2017, 504; Bailey et al. 2021, 59–62). Finally, in-game identities influence the formation of game assemblages as well. For instance, in strategy games such as *HOI4*, players have a variety of countries to play as. Since identifying or role-playing as a country is often an important part of this play experience, the numerous countries provide diverse identifications. Leading Brazil in *HOI4* through WWII is a quite different experience to doing so as Czechoslovakia.

### *Geographies*

Discourses, systems, and bodies encompass the key sites of geopolitical imaginations in digital games. Discourses around digital games represent the expression of geopolitical imaginations in visual, aural, and haptic forms. Systems contain geopolitical imaginations procedurally and reflect their underlying assumptions. Bodies incorporate geopolitical imaginations through exposure and experiences. Hence, geopolitical imaginations are observable on all scales of the digital game assemblage, influenced by the dynamic interaction between single

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<sup>11</sup> Recent examples on a broader scale are the harassment campaigns surrounding ‘Gamergate’ in 2014–15 and the company ‘Sweet Baby Inc.’ in 2024 (see Mercante 2024).

components as well as particular geographies. Instead of constituting their own component part, I see geographies as underlying factors for the three outlined components. I do so, because their influence on the nexus between representations and interactions is systemic rather than immediate.

The geographies of production and financial flows are dominated by “core creative clusters” (Cohendet et al. 2018, 1054) in London, Los Angeles, Montreal, San Francisco, and Tokyo with significant consequences: “In sum, the picture of the global games industry shows an exploited labour aristocracy in the imperial core structured along white, masculine, heteronormative lines, while the super-exploited hardware assemblers and outsourced developers in the peripheries provide extra surplus value” (Hammar and Woodcock 2020, 57). The emerging game assemblages reflect these production conditions in their Westerncentric game designs to appeal to the sites of consumption, which are similarly concentrated in consumer markets with more affluent populations due to the costs of hardware and software (Nichols 2013, 22).

Nevertheless, as developers attempt to appeal to the largest audience possible, games are adapted for worldwide play. This incorporates the process of localisation, i.e., translating the game to various languages, or—more broadly—culturalisation, which “takes a deeper look into a game’s fundamental assumptions and content choices, and then gauges their viability in both the broad, multicultural marketplace as well as in specific geographic locales” (Edwards 2011, 20). Through this, digital game assemblages take different forms depending on where they are played; game content available in some countries might be blocked in others. This hints at the dynamic character of digital game assemblages and the need to understand their processes. The next section approaches these in detail.

### 2.2.3 Processes

Surely, more can be said about what each component part incorporates, more examples can be found. New aspects will come to the fore especially by applying this approach to different games. But the main advantage of going through discourses, systems, and bodies is the opportunity to grasp the multiplicity of digital game assemblages, from the expressive to the material, as well as their interconnectedness and flexibility, e.g., in their adherence to one or more assemblages. Players are part of communities; developers part of studios. Both sides exchange representations and perceptions as discursive material. Systems affect players individually, based on experiences and identities. In turn, those systems are informed by a range of experiences and identities among developers. This further complicates the multiplicity of digital game assemblages and my task is now to structure the arrangement and interconnections for a critical analysis. To do so, I elaborate on the processes in assemblages.

Assemblages are subject to the processes of territorialisation, deterritorialisation, and reterritorialisation, or, in other words, they are continuously formed, dissolved, and reformed (DeLanda 2006, 12; Deleuze and Guattari 1987, 9–10). These constituent processes have literal territorial effects as Dittmer (2014, 393) illustrates with the examples of dissolving Yugoslavia and collapsing Somalia and their reforming states afterwards. The same is applicable to the re/de/territorialisation of digital game assemblages. Digital games do not stay the same. Patches, updates, downloadable content (DLC), add-ons, reworked editions; developers continue developing games after the public releases. It is an ongoing and interlinked process. Even before release, player expectations influence the formation of digital game assemblages. Once games are published,

players contest discourses and systems. The in-game experience communicated by developers upfront can be in stark contrast to what players think about the game. This uncertainty of appeal is one reason for the well-known issue of seriality, which illustrates the processes of re/de/territorialisation (see Denson and Jahn-Sudmann 2013).

Seriality, similar to movies or comic books, shapes the outlook of games in one series such as *Hearts of Iron* or *Arma*. However, contrary to other media, preserving key characteristics often is at odds with the pronounced call for innovation from game to game. Who wants to buy a new game when it does not offer anything new? And what fan of the original enjoys the new game if it is too different from the old one? It is not a fully-fledged “tyranny” (Dittmer 2007, 252), the insistence on continuity is not as strong and progress or changes are even demanded. But many publishers hold dearly to their annual or bi-annual best-selling titles, e.g., the *Call of Duty* franchise. Serial releases illustrate how component parts of previous assemblages participate in territorialising new ones. The studio remains the same and the systems are tweaked based on receptions of the predecessor, but without losing the perceived essence of the series. In addition to the existing audience, developers want to increase their appeal towards new players. Thus, games become akin to Deleuze and Guattari’s ‘refrain’, “the need for repetition *with some difference* to capture and hold a player’s attention and to facilitate certain experiences” (Tomkinson 2020, 292). In contrast, the industry is still full of innovation. Metagames or genre-defining titles deterritorialise familiar assemblages through new interpretations of their component parts. For example, *Demon’s Souls* (FromSoftware 2009) and the even more successful *Dark Souls* (FromSoftware 2011) led to an avalanche of so-called ‘soulslike’ games,

imitating the defining characteristics of FromSoftware's acclaimed production (Andiloro 2023, 565).

Moreover, through playing games, players re/de/territorialise digital game assemblages. Players subscribe to the procedural rhetorics they encounter or discard what the game designers intended. They dispute discourses and decode identities.<sup>12</sup> Staying with the example of soulslike games, the essence of any representative of this game genre encompasses a (dark) fantasy setting, role-playing features, and most importantly high difficulty. Game Designer Hidetaka Miyazaki, responsible for *Demon's Souls* and *Dark Souls*, laid out the identity of this particular game assemblage. Many fans of FromSoftware's publications disregard the next iteration, *Dark Souls II* (FromSoftware 2014), not only because of perceived changes in game design, but because Miyazaki was not in charge of its development (see Cryer 2024). For them, the missing designer was an important factor in deterritorialising the whole game assemblage, despite ticking formally all systemic and discursive boxes of fantasy, role-play, and difficulty.

Beyond playing, modding games is another example for how players re/de/territorialise game assemblages. Modifications range from cosmetic changes to reworked game mechanics to whole conversions of entire games. Whereas nameless or fantasy factions were originally fighting against each other, geopolitical conflicts are brought into games via renaming or adding visual signifiers. This changes discourses tremendously and games affect players differently, as my earlier examples of bringing conflicts between Israel/Palestine and Argentina/United Kingdom to *Counter Strike* showed. Thus, digital games are representative of new media which "may be repeatedly dissembled and

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<sup>12</sup> Coding and decoding are processes of "ordering matter" (Bonta and Protevi 2006, 69) in an assemblage, consolidating or flexibilising identity.

reassembled in various combinations” (Leszczynski 2015, 738) not only through playing but by changes to the fundamental material of a game, the source code. Entirely new digital game assemblages form, in some cases leading to formalised game development, i.e., modifications territorialise as their own respective games.

I consider these practices of playing and modding as more-than-representational, because they are “constantly bringing into being new socio-material associations” (Müller 2015a, 410). However, I refrain from placing my entire emphasis on these performances because representations are equally important. Moreover, I argue that representations are influential even without being engaged by players.<sup>13</sup> Hence, concentrating on the nexus between representations and interactions constituted by creative engagement from both developers and players enables an analysis of geopolitical imaginations in digital games and their negotiations.

## 2.3 Summary

Past scholarship on games in geography, game studies, and other disciplines is very valuable for my own research yet I revealed several gaps. Scholars have been mostly fixated on the most popular game genres and franchises, neglecting games which offer different play experiences. Next, comparative studies have been rarely done despite their potential to achieve a better understanding of digital games across genres. Lastly, (Southeast) Asian audiences have not received

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<sup>13</sup> This can be challenged by a philosophical thought experiment: Like the tree falling in the forest with no one around to hear it, do representations in a game matter outside of play performances? I argue that while playing a game is vital for achieving a comprehensive understanding of it, games can be also approached in other ways, e.g., by looking at the source code or the developers.

significant attention, overlooking how those interact with games. Turning to Singaporean players of two different war simulation games produced in Europe, I alleviate these gaps in my work. I developed an assemblage approach to do so.

Inspired by tentative applications of assemblage theory to games, I identify discourses, systems, and bodies as key component parts constituting digital game assemblages, underpinned by geographical factors. Discursive elements stretch from virtual representations and narratives to physical promotional material, inherently shaping perceptions of games. Systems cover rules, mechanics, and spatiality, determining the play experience. Bodies include affects, experiences, and identities on various scales, e.g., developers and their studios, players and their communities. These component parts are part of dynamic processes of re/de/territorialisations which highlight the dynamic nature of digital games. Rather than focusing on representations *or* play, I bring them together and make their interlinkages visible. From a popular geopolitical perspective, it is this nexus where geopolitical imaginations are shared and challenged between developers and players. Geopolitical imaginations, or world order conceptualisations, are expressed in digital games by game producers, e.g., in discourses around civilisations or in systems determining warfare. Through playing and modifying digital games, these geopolitical imaginations are negotiated in game communities. Based on my reading of assemblage theory, these multiplicities and dynamics can be traced. Hence, I add to the conceptual applicability of assemblage theory with illustrative examples. The next chapter shows what methods I employed to do so in my thesis.

### 3 Studying Game Assemblages

Because my research taps into the multiplicities of digital game assemblages and the uniqueness of two very different games, the question arose where to start: with the discourses, systems, or bodies? Building on my existing experience with digital games, I opted for progressing from production to consumption to modification. However, in keeping assemblages as an ethos, this was not a linear trajectory (see Kinkaid 2020b). For example, both games received updates by the developers during my research which reterritorialised the assemblages. This required me to reconsider previous findings. Additionally, I went beyond the currently territorialised game assemblages and explored previous titles of the developer studios as well as the historical background of simulation games. At the same time, I was open to indulge in aspects outside of the studied games as entertainment media, for instance their use as propaganda tools.

When engaging with research participants, my assemblage thinking gained “an empirically grounded focus on the everyday and mundane practices” (Ghoddousi and Page 2020, 6) which is vital to fully grasp the nexus between representations and interactions. These considerations made a variety of methods necessary. The outlined methodology starts with game production and shows how I used *HOI4* and *A3* developers as sources. Then, I come to the games where I disclose my own background and relation to them before illustrating my analytical approach. The following section covers how I accessed players, what methods I applied, and how I interpreted my findings. Next, I explain my approach to gain insights into player-creations for both games. Lastly, I outline the measures taken to protect the privacy of participants as well as those to circumvent the obstacles I encountered.

### 3.1 Game Production

The first line of my methodological inquiry revolved around the games themselves with developer studios as starting points. For both companies, Paradox Interactive and BI, I have consulted a mixture of primary and secondary sources. Hence, looking at game production discloses discourses and bodies in the digital game assemblages. Primary sources include official statements, promotional materials, and developer-player interactions. The latter are particularly useful since both studios pride themselves on their close relations to players. Responses by studio employees are tagged in the official forums of both companies and are valuable sources of information.<sup>14</sup> The forums are hosted by Paradox Interactive and BI, require registration for full access, and are managed by paid and voluntary community managers. Another distinctive primary source are reports made by developers regarding the development process and updates for the games. ‘Developer Diaries’ at PDS and ‘Situation Reports’ as well as ‘Spot Reports’ at BI not only give insights into how the games changed on a technical level (tracked in so-called changelogs) but also the underlying visions of the producers.

These reports, chronologically organised following each game version, are artifacts of the larger game archive, whose program code remains mostly inaccessible for my research (see McDonald et al. 2021). Apart from changelogs, which are meant to track factual changes to the game, diaries and reports are specifically curated for the public as promotion of the game. Thus, I utilise accompanying statements by the developers as editorialised presentations of how they want the games to be perceived. Lastly, working with online sources runs the danger of “absence and erasure” (Hodder and Beckingham 2022, 1305) of

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<sup>14</sup> <https://forum.paradoxplaza.com/forum> and <https://forums.bohemia.net>.

information. Since the studios hold authority over information regarding their games, webpages can be deleted, altered, or added at any time. I circumvented this twofold. First, I used the Wayback Machine whenever possible which independently stores websites as part of the Internet Archive.<sup>15</sup> Second, community-curated encyclopaedias are rich sites for information on digital games, where a dedicated part of the game community gathers data, namely the Hearts of Iron IV Community Wiki, Armed Assault Wiki (AAW), and Bohemia Interactive Community Wiki (BIKI).<sup>16</sup> These additional layers of online archives are not only valuable for primary sources but also secondary ones.

My secondary sources cover newspaper and game magazine articles. While the former are the digital extension of print media, the latter comprise the more specific game journalism. I do not use game journalism as source of information about games but for contextualisation of broader discussions around them and their communities as well as specific instances of interviews with developers. This lessens the danger of biased reporting since game journalism has usually close ties to the games industry.<sup>17</sup> Beyond articles, videos from game journalists or players-turned-entertainers help generating an impression of the various perceptions which surround the games. I systematically analysed official reports and tracked down interviews with developers deliberately; general reporting on the games in magazines and videos was skimmed for specific instances since the sheer amount of content would require its own dedicated approach.

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<sup>15</sup> <https://web.archive.org>. The Internet Archive saves a variety of material and has been critically engaged by Ogden et al. (2024).

<sup>16</sup> [https://hoi4.paradoxwikis.com/Hearts\\_of\\_Iron\\_4\\_Wiki](https://hoi4.paradoxwikis.com/Hearts_of_Iron_4_Wiki), [https://armedassault.fandom.com/wiki/Armed\\_Assault\\_Wiki](https://armedassault.fandom.com/wiki/Armed_Assault_Wiki), and <https://community.bistudio.com/wiki>.

<sup>17</sup> See for a broader discussion of game journalism Nieborg and Foxman (2023).

## 3.2 Games

My familiarity with *HOI4* and *A3* varies strongly. I have spent over 4,200 hours in *HOI4* since I purchased the game in 2017, and I have created modifications for it. I have also played some of its predecessors and other products of Paradox Interactive. Thus, I am very familiar not only with *HOI4* gameplay from the players' perspective, but I have begun to understand the basics of its underlying source code. The contrary applies to *BI*. Although I was generally aware of the type of games the studio developed, I had no contact with the *Arma* series. I acquired the game explicitly for research in 2024. I spent several hours learning to play the game in the tutorial and base game campaign before gathering additional experiences as part of my ethnographical approach. At the end of my fieldwork, 130 hours of playing were recorded for *A3*, and I still consider myself to be a novice player.

Hence, my positionality as researcher is constituted by two different backgrounds. Based on my vast experience with *HOI4*, I can recall many aspects of the game by memory. In contrast, I employed playing as a method for *A3*, looking at game rules and mechanics as well as representations while simultaneously learning how to play it (Mäyrä 2008, 165). This illustrates the subjectivity involved in studying digital games (see Jennings 2015). In this context, play is an individualistic performance expressed by unique play styles. Just as digital games are assemblages of discourses, systems, and bodies, my body as player and researcher is an assemblage of relations of exteriority which influence my recreational and academic approaches to games. As mentioned above, these relations form up very differently for both games. Notably, I never would have picked up *A3* without my PhD research. When playing *A3*, I discovered that

military simulations do not provide enjoyable gameplay for me. Neither the faithful recreation of military equipment nor the complex game systems meant to replicate physical warfare were appealing. Hence, my interpretations of both games are shaped by different degrees of familiarity and my individual background.

In my game analysis, I utilise critical discourse analysis to deconstruct the representations of the digital game assemblages. Reading the games as a text, as often done in critical geopolitics, focuses on the narratives around conflict and power (see Müller 2008; Dittmer 2010). Since both games portray warfare, I analyse how wars are imagined in the games and what underlying assumptions are incorporated. Going beyond this textual analysis, games research requires also attention towards to the (geopolitical) play experience.

We can have conversations with video game worlds. The real world and video game worlds, then, are both like written language in that we can read them and like oral language in that we can talk to them and get a response. We talk to the real world and video game worlds through action. (Gee 2015, 62)

I focus on this interaction between player and game as it shapes geopolitical play. Here, I turn towards how players are allowed to engage with the game through its systems. More specifically, how they can wage war and what impression of war developers want players to have.

Therefore, I examine discourses and systems as component parts of the digital game assemblage from a popular geopolitical perspective. I start with reading the source code, where the game is designed. I analyse audio-visual representations, which form the sensory war experience. I go through in-game texts and speeches by characters who shape conflict narratives. And I incorporate

game rules and mechanics in my research as building blocks for persuasive geopolitical rhetorics. All this accounts for how the game is presented, how it is experienced by players, and how geopolitics can be performed. I aim to be attentive to (intentional) gaps and absences during my analysis. What is not featured in the games? What are players not allowed to do? These and similar questions shed more light on what constitutes the hegemonic geopolitical discourses in the games and allow for further critical inquiry (see Müller 2011).

One key challenge I encountered has been the dynamic development of digital games. As I chose two games with ongoing support by their studios, there have been changes in the game code and therefore discourses and systems. Besides the manual effort of updating relevant information, this has impacted my lines of argument and required a renewed analysis of game contents. In the case of *HOI4*, PDS changed the presentation of the German Reich in the game tremendously with an update in 2024. In other words, the game assemblage reterritorialised and parts of the narratives were altered. I explore this in chapter 5.2.1.

### 3.3 Players

To understand how players interact with the games, I adopt three different methods: (gaming) interviews, participant observation, and survey questionnaire. This covers the bodies involved in the digital game assemblages but also touches upon discourses and systems. (Gaming) interviews were held for *HOI4*, whereas participant observation and questionnaire were employed for *A3*. The different approaches account for different styles of playing the games and methodological constraints. While *HOI4* has an active multiplayer scene, its single-player mode is the main draw for most players. If players play with others, it is

usually in very small groups, e.g., three quarters of all online sessions consist of two players (Lind 2018b, under “Multiplayer Telemetry”). Only few participants mentioned playing online. I was invited to and joined one multiplayer session with Singaporean players, but because I had little research agency over the session, where I participated as active player, my findings were limited. Thus, I found interviewing single players suitable to research play practices.

On the contrary, *A3* has various singleplayer options, but its multiplayer is popularly enjoyed. Interviews would be a viable approach, but observational methods capture the elements of social play. Thus, I joined a community of players and participated in their play sessions. Here, participant observation ideally “means play and research in parallel, as the same engaged activity” (Boellstorff et al. 2012, 69). Since I only very rarely posed questions during my observation, I conducted an online survey questionnaire to gather responses to specific questions around the community, play behaviour, and receptions of the game after I concluded my encounter. The survey also allowed for efficiently acquiring demographical data on community members.

Since I started my work on *HOI4* first, data collection predates my fieldwork for *A3*. For *HOI4*, the main data was collected from April to November 2023. I conducted the participant observation for *A3* from February to September 2024, with the questionnaire running through December 2024. The actual fieldwork took place only on specific dates during these time frames.

### 3.3.1 Access

For *HOI4*, first contact to potential participants was established at the university. Due to my capacity as teaching assistant of the same course on geopolitics in two semesters, I taught two cohorts of students who already had an interest in the

topic. After the second iteration of the course concluded, I disseminated an invitation to students who played strategy games, in particular *HOI4*. Since I did not want to make students feel any obligation to participate, I only did so after final marks were given. Additionally, I called for participation on social media, i.e., the official Paradox Interactive forum and the Reddit community dedicated to *HOI4*.<sup>18</sup> In both cases I asked for and received approval to publish my request by the so-called moderators of the communities. The team of the official Discord server of *HOI4* declined my inquiry, classifying it first as unwanted self-promotion and then as advertisement that would disturb the community.<sup>19</sup> This is not unusual in online community research, where moderators act as gatekeepers (Hewson 2016, 216).

As responses from these approaches were limited with eight participants, I directly reached out to players. Steam is a well-known multiservice platform for players, acting mainly as digital distributor of computer games as well as offering community services.<sup>20</sup> It holds a considerable market share of all computer games sold digitally to the point of being “synonymous with PC gaming” (Thorhauge 2023, 58). Steam is the main seller of both *HOI4* and *A3* whose publishers almost exclusively circulate their games through the platform. This makes the unaffiliated website Steamladder, which lists players on Steam for specific games, an excellent source of possible participants.<sup>21</sup> I filtered for *HOI4* and Singapore as self-declared nationality and reached out to all players who had played the game for at least 10 hours. This assured that players had some

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<sup>18</sup> <https://reddit.com/r/hoi4>.

<sup>19</sup> <https://discord.com/invite/hoi4>. Discord is a free-to-use communication platform popular among gaming communities.

<sup>20</sup> <https://store.steampowered.com>.

<sup>21</sup> <https://steamladder.com>.

familiarity with the game. In the *HOI4* community, several hundreds of hours are commonly stated to be necessary to properly understand the game in its complexity. Although I had very limited success, with less than one-fifth of those I contacted responding, this approach supplied half of all participants. Two additional interviewees were referrals by a player recruited from Steam.

Finally, I adopted a different approach for *A3*, where I had to find an existing Singaporean community instead of single players. Conveniently, there is an official collection of so-called *Arma* units.<sup>22</sup> A unit is a community where players with similar background or interests gather to play the game together. They are more or less equivalent to so-called clans or guilds, which are important social online spaces for players of the same game (see Reer and Krämer 2019). I selected the largest Singaporean unit, believing that I have the best chances for receiving a response. I joined the advertised Discord server and reached out to the leading persons of the unit, explaining my goals. They were welcoming and I obtained approval to conduct my research.

Beyond my personal contact to potential participants, I identify three factors which helped gaining access to players and communities. First, my “gaming capital” (Consalvo 2007, 4) in a Bordieuan understanding alleviated doubts about me as outsider-researcher. My own extensive experience with (digital) games from a young age allowed me to accumulate this form of capital and demonstrate it, for example when participants asked about my own relation to games (see Walsh and Apperley 2009). Furthermore, I acquired an important part of my gaming capital involuntarily. As (young) white male player, my appearance fits the expectation many players still have of what constitutes a ‘gamer’ and I could

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<sup>22</sup> <https://units.arma3.com>.

avoid any initial scrutiny or outright hostility researchers experienced who do not correspond to this image (see for example Vossen 2018). Second, having the National University of Singapore as institutional affiliation provided an aura of legitimacy for Singaporeans since it offers instant identification and familiarity. Third, I was able to offer S\$10 reimbursement for every participant based on NUS funding.<sup>23</sup> Many were not focused on remuneration; however, as I observed for those I contacted directly via Steam, this facilitated responses.

### 3.3.2 Methods

Once I secured access to research participants, I continued with the following methods. First, I conducted online and in-person gaming interviews for *HOI4*, which consisted of participants playing the game with no guidelines given while they were asked questions. If there were still some questions left after one hour of gameplay, the play activity was stopped and a regular interview continued. Although game research methods textbooks such as Boellstorff et al. (2012) or Lankoski and Björk (2015) forgo formulating gaming interviews, scholars have implemented the method with success (see Schott and Horrell 2000; Bos 2016). The main advantage of gaming interviews is the direct contact with the object of study. Interviewees use the game to illustrate their points, for instance by moving to the game elements they want to talk about. Through that, findings come forth more immediate and precise than when players recall past experiences. This was particularly important as some players did not play *HOI4* for some time. The casual setting of playing also made participants more comfortable than a formal interview setup (Schott and Horrell 2000, 40).

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<sup>23</sup> I received a total of S\$1,385.70 funding for my research, including a one-year NVivo license.

From a research perspective, it is enlightening to see how players play instead of relying on their description of it. However, there is the disadvantage of the game serving as distraction. Playing demands concentration and impacts the attention given to questions. Generally, I observed that the positive aspects of gaming interviews outweigh the negative. The 19 main interviews range in duration from 40 minutes to two and a half hours with an average of 81 minutes. More than 24 hours of video material was accumulated, not counting the pre-interview as well as two expert interviews, which add another two hours.

*Table 1: Research participants for HOI4*

<b>Pseudonym</b>	<b>Age</b>	<b>Gender</b>	<b>Occupation</b>	<b>Note</b>
Adam	22	Male	Student	
An Yan	22	Male	Student	
Ava	18	Female	Pupil	No recording
Brandon	23	Male	Student	
Chak	20	Male	Student	Dual citizenship (Thailand)
Dai Yong	19	Male	NS	
Dylan	20	Male	Student	
Hao Wei	22	Male	NS	
Jason	22	Male	Student	
Jeremy	20	Male	NS	
Jie Hao	17	Male	Pupil	Permanent Resident (PRC)
Joshua	18	Male	Student	
Kenneth	30	Male	Data Analyst	
Liam	20	Male	NS	
Malik	39	Male	Administrative Manager	
Matthew	26	Male	Student	Permanent Resident (USA)
Nishant	20	Male	NS	

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Ryan	27	Male	Financial Advisor
Shawn	16	Male	Pupil

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The interviews followed a sequence of introduction, warm-up questions, deep diving into specific aspects, and lastly demographic data, see appendix B (Cote and Raz 2015, 104). The semi-structured conversations allowed for flexibility if answers warranted further investigation. Due to the participants playing the game, talking digressed sometimes to in-game events or questions the interviewees had for me. At the end, I gave interviewees additional space for their own inquiries. The majority of participants opted for the comfort of their homes to conduct online interviews. Very close to their leisurely play activity on their own devices, interviewees streamed their gameplay footage for me via Discord, and I posed my questions throughout the session. For those who wanted to come for an in-person interview, I booked a departmental room and prepared a setup with my private laptop, see figure 1. To enable a welcoming environment, I provided refreshments, as well as an ambidextrous mouse for accessibility.

*Figure 1: Offline gaming interview setup for HOI4*



*Own photo.*

For A3, the key element of the participant observation has been my research diary. Since play sessions in the Singaporean unit I joined—henceforth pseudonymised as Merlion Battalion—take place on specific days, I structured my diary along the sessions I participated in. After completing the internal training course, I attended 29 out of 68 sessions from April to September 2024. More than field notes, the diary is a combination of ethnographic and autoethnographic accounts. Given the nature of the game, entries are quite similar to military after action reports, describing what mission we set out to accomplish and how we succeeded or failed. Additionally, I took photographic material, so-called screenshots—single frames of in-game footage—for illustration purposes of gameplay moments. When playing with the unit, I noted down not only how we played the game but also how we reacted and related to events happening in-game, for instance my frequent deaths. I did so, because I wanted to draw attention to what players go through when joining a unit and playing with others. Additionally, it helped me to process my emotions, since I struggled at various points with the unfamiliar game. Although I saw myself as a researcher who gets gradually involved in the practice of playing in the unit, I was also a player who wanted to do the best for the team. Thus, I follow Butz and Besio's (2009, 1670) call for “critically reflexive insider research” which rejects a clear-cut separation between insider and outsider. I disclosed my status as researcher openly, for instance while chatting or by using a self-description field on my Discord server profile. My own experiences are of course individual, but I believe my reflections allow for a more comprehensive understanding.

Lastly, I created an online questionnaire with Qualtrics as supplemental source of information from A3 players after I concluded my participant

observation.<sup>24</sup> My goal was to probe specific topics and to obtain an overview of personal backgrounds. The survey, see appendix C, has a mix of 74 open-ended and fixed-response questions. I wanted to strike a balance between individual input and selecting predetermined options to achieve a smooth and varied experience for respondents (McLafferty and Winata 2023, 155–56). Invaluable for improving the phrasing of questions and answers has been the feedback on a pre-test. This contributed to a low drop-out rate of 10 percent and faster completions than I anticipated. After not playing with the Merlion Battalion for a while, I joined two play sessions prior to announcing the survey as I wanted to signal my presence in the unit. I coordinated my outreach with leading members of the unit, who continued to be supportive of my research.

27 players responded in the survey out of which 18 are Singaporeans. The group has members from the Philippines, Malaysia, Indonesia, and other countries, whose responses have been filtered out according to my research scope. This number appears low but considering that on average only 11 players per mission have participated throughout 2024, the respondents reflect the number of active members. Additionally, I frequently allocated space for individual input in the survey, together with multiple open-ended questions, rather than trying to gain statistical data. Hence, the survey enriched my insights in individual perceptions and opinions aside from allowing me to attain demographic profiles.

*Table 2: Survey respondents for A3*

<b>Pseudonym</b>	<b>Age</b>	<b>Gender</b>	<b>Occupation</b>	<b>Note</b>
Ang	25	Male	Unemployed	
Benjamin	22	Male	NS	Permanent Resident (Philippines)

<sup>24</sup> <https://qualtrics.com>.

Daniel	22	Male	Student
Darren	18	Male	Student
Dominic	30	Male	Employed
En Jian	16	Male	Pupil
Fang	28	Male	Employed
Finn	16	Male	Pupil
Kevin	33	Male	Employed
Kyle	25	Male	Employed
Li Xian	22	Male	Student
Michael	24	Male	Student
Ming	32	Male	Employed
Peter	16	Male	Pupil
Richard	20	Male	NS
Shaun	20	Male	Student
Shen	25	Male	Student
Siong	23	Male	Student

Thus, I gathered a substantive amount of material for both game communities in Singapore. Going through the data, a great range of experience with *HOI4* and *A3* is observable among respondents. The time spent playing ranged from less than 10 hours to a couple of thousand hours, with an average of over 2,200 for *A3*. Those with more experience offered more detailed accounts on the games. Nevertheless, players with fewer in-game hours enabled me to understand a different perspective on how players approach the games. In terms of socio-statistics, there was great range in ages among participants, from 16 to 39, although the average was rather young, coming in around 22 years old for *HOI4* players and 23 for *A3* players. The general age distribution in Singapore among players is quite different, where 80 percent of players are aged 25 and above

(Ludwig et al. 2023, 2). Additionally, all but one Singaporean player identified as male, which is somewhat representative of the general *HOI4* and *A3* communities. However, it does not correlate to the overall gender distribution among players, which are reported to be rather evenly split in Singapore (Ludwig et al. 2023, 2). Hence, my sample is by no means representative of Singaporeans playing digital games in general but provides a detailed look into the local communities of two specific games.

### 3.3.3 Analysis

At the end of my fieldwork, I had a plethora of material available for analysis. First, the gaming interviews were audio- and videorecorded and thus required transcription totalling 150,000 words. This was done partly with the assistance of AI services provided by NVivo and Gladia.<sup>25</sup> I opted for conversion into Standard British English, while preserving Singlish expressions. Inspired by Dunn (2021, 170), I utilised various symbols to signify interrupted speech, longer pauses, or laughter to give an overall impression of the interviews' atmosphere. Furthermore, I added information when players referred to events on screen. I argue that my approach provides a more than sufficient level of detail for critical discourse analysis. This critical inquiry of interviews started with assigning codes with the software Taguette.<sup>26</sup> Initially, codes aligned with my general research interests around the players' opinions on representations, geopolitics, and the role of Singapore. But going through the interviews repeatedly, more categories emerged, e.g., for creative interactions with the game or specific gameplay styles. Indeed, the process is "inevitably circular, sporadic and,

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<sup>25</sup> <https://lumivero.com/products/nvivo> and <https://gladia.io>.

<sup>26</sup> <https://taguette.org>.

frankly, messy” (Cope and Kurtz 2023, 645). After structuring the outcomes, I compared opinions and summarised observations while answering my research questions.

Next, the research diary is significantly smaller in volume with over 33,000 words. I edited my notes directly after game sessions concluded and once more after I finished the fieldwork to achieve consistency across records. Compared to the more formal gaming interviews, the diary minutes the everyday practice of playing a military simulation. Hence, the findings are less focused on my outlined research interests and evolve around a myriad of topics, from personal interactions between players to mission-specific discussions to players messing around in-game. Still, I gained valuable insights on play behaviour and perceptions by players, which informed my critical analysis. I complemented this data with records on Discord and the online questionnaire. The built-in analytics of Qualtrics have facilitated my analysis of the survey data.

### 3.4 Player-Creations

Since I investigate how players create and share their own imaginations through games, I utilise different methods to gather those perspectives. First, I analysed community content on the so-called Steam Workshop, part of Steam’s community features.<sup>27</sup> With both games being mainly sold on the platform, most modifications are published on the in-house catalogue. *HOI4* and *A3* mods are available on other platforms as well, i.e., Nexus Mods, ModDB, and Paradox Interactive’s official mods website, but in very low numbers compared to Steam.<sup>28</sup> For

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<sup>27</sup> <https://steamcommunity.com/workshop>.

<sup>28</sup> <https://nexusmods.com>, <https://moddb.com>, and <https://mods.paradoxplaza.com>.

*Arma* mods, a community-curated host of modifications called Armaholic was quite popular but shut down in 2021 (see BI Forums [2021](#)). Therefore, I limit my content analysis to the Steam Workshop as it provides a comprehensive representation of the respective modding communities.

Next, I conducted expert interviews with *HOI4* mod creators. I reached out to several who published modifications for either Singapore or the corresponding entity in the game. Two creators answered my call and were interviewed along a similar outline as the gaming interviews but without any gameplay. During 56 and 33 minutes respectively, a US-American and a Malaysian content creator explained their approaches to the game and how they went through the modification process. Exploring player-generated content traverses all three component parts of the digital game assemblages, since players (bodies) change rules and mechanics (systems) based on their own imaginations (discourses). I track this process directly through a collaborative modding approach.

After concluding the gaming interviews, I asked *HOI4* players to participate in the next step of my research: creating a modification together. Researcher-guided modding sessions provide immediate insights into the creative process of players generating content. Loban ([2021](#); [2023](#)) illustrates a rare practical application of this approach and highlights how players enrich the base game through their additions. In my own case study, 10 out of 19 players joined the collaborative modding in August 2023. I set up a dedicated Discord server for communication, organised in several thematic channels, from general questions to specific aspects to other ideas players have. I posted a timeline of deliverables, starting with discussing the direction and general content of the mod. In six stages, all relevant components of how countries are constituted in *HOI4* would be covered. I planned to adhere to the overall logics of the game, as I deemed

diverging from the outlined gameplay mechanics to be too labour-intensive. I used announcements to prompt responses and to let players know at what stage the process is. I also explained that I handle the technical realisation of the mod so that players could freely share their ideas without having to worry about programming. After limited responses, I ended the process in January 2024 and released what I have programmed based on player suggestions. I discuss these results critically and explore what geopolitical imaginations manifest in the mod.

As in *HOI4*, the *A3* modding scene is quite active and players frequently make use of the possibilities granted by the developers. First, I analysed what modifications the Merlion Battalion uses. As players heavily change the play experience with mods, it is informative to see what appeals to the Singaporean audience. Then, I looked at the creative output of the community itself. Several community members have written their own narratives which frame campaigns for the community to play. I went through this textual material on the Merlion Battalion's Discord server and consulted an internal online encyclopaedia created by one of their members to understand what fictional conflict scenarios Singaporeans outline, looking at underlying geopolitical imaginations. Another creative engagement of the community is adding various existing armed forces as playable factions. Where the base game mostly has fictional armies to choose from, players replicate armies from across the globe. I disclose what modifications are the most popular in the unit to signal preferences and patterns.

### 3.5 Privacy and Obstacles

Throughout my work, I have adopted measures to assure the anonymity of research participants. Similarly, I have explored various options to overcome

obstacles I encountered. The most notably example is the addition of *A3* and its players to my research scope after responses by Singaporean *HOI4* players in the collaborative modding practice were lacking. Initially challenging due to my missing experience with *A3*, this proved to have more advantages than simply providing more data. Notably, the expansion into another genre helped clarify my original interpretations and offered the ground for a comparative analysis. Other obstacles and privacy issues are detailed in the following sections.

### 3.5.1 Data Privacy

Since my research includes various assistant tools, the question of privacy protection is immensely important. I have ensured data protection at all stages of the research process. Institutionally, I was granted approval by the NUS Internal Review Board (reference code NUS-IRB-2023-33) for the described methods. All gaming interview participants and survey respondents filled in a consent form, which explained my research, assured the right to retract at any point, and provided my contact details among other information, see appendix A. All data was stored on an encrypted device and anonymised after its collection was completed. After concluding my research, the original files were deleted and only pseudonymised records remained. When using software or services, such as NVivo, Gladia, Taguette, or Qualtrics, no identifiable information of research participants was shared. NVivo and Qualtrics are NUS-approved tools, Gladia adheres to data privacy regulations, and Taguette does not store data online.

Moreover, I wanted to give research participants the possibility to supply their own pseudonym to be used when citing their responses in the thesis. However, especially in the survey, this request was not clearly phrased, and many stated the name they used as part of their online persona. Although this is

already an anonymisation, I wanted to unify naming conventions for easier readability and place an additional layer of privacy protection. Usernames, especially in game communities, are an important part of identity and unique identifier (Boellstorff et al. 2012, 139–40). Thus, I created pseudonyms with the help of the AI service ChatGPT.<sup>29</sup> I had to resort to AI assistance since Singaporean name data sets were not publicly available. During pseudonymising, I conserved naming origins, e.g., Western, Chinese, Malay, or Indian, to better represent the diversity in the communities I studied and to correspond to the personal identification of players. Thus, although the game communities of both *HOI4* and *A3* in Singapore are small, I trust that participants are not identifiable by a third party.

### 3.5.2 Obstacles Encountered

At the beginning of my fieldwork, I initially planned to get in touch with developer studios directly. After establishing contact with PDS through a former employee in July 2023, I was initially met with a positive response to my request. However, after exchanging more details, I was unable to obtain an interview. Several reminders were ignored with my last attempt made in January 2024. I understand that there is little incentive for developers to participate in my research, especially in an industry which is known for its stressful working conditions. I also did not have the impression that PDS wanted to purposely withhold any information; a practice very common in the games industry, which clinches to secrecy (see O’Donnell 2014). Nevertheless, I was discouraged and abandoned the idea of directly receiving the developers’ perspective and redirected my efforts to openly available material. I argue that since PDS and BI disclose their

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<sup>29</sup> <https://chatgpt.com>.

positions online in forums, statements, and other forms, direct contact would provide little new information. For *HOI4* extensive work has been conducted by Grufstedt (2022), whose direct access to PDS enabled me to cross-reference my own findings.

The next obstacle arose when I started to search for research participants. Singapore is a comparatively small consumer market in the first place, and war simulation games are a niche which impacts the availability of research subjects. Thus, I adopted various approaches to achieve a higher number of responses for the study of *HOI4*. In the case of *A3*, I am grateful for the existing community welcoming and supporting me in my research. I believe that my own disclosure as player facilitated access. I demonstrated my openness by using my private username instead of creating one only for research. In the end, the total number of 37 participants across both games enable me to draw conclusive findings for Singaporean players and beyond.

The last significant obstacle revolved around collaborative modding. Unfortunately, this approach never developed momentum. In the beginning, only three players engaged in the activity and after a few weeks, I did not receive responses to my prompts any longer. As an alternative discussion stimulus, I created a 20-minute-long video showing how Singapore is already imagined in an existing mod. But this last measure was unsuccessful as well. I identify several issues for why collaborative modding largely failed. First, modding usually comes from an intrinsic desire to change the game. In my case, I prompted players to partake in an activity most of them would have not considered. Thus, they are missing impetus in the first place. Second, modding is quite technical and requires not only in-depth knowledge of the game but creativity. Not all players fulfilled these criteria. Third, I retrospectively managed the group insufficiently.

Since I was occupied with other tasks at the time, my prompts for feedback were spaced out and suggested slow progress. Fourth, participants naturally have private matters to tend to; participating in my research was not their priority.

Although I contemplated creating a modification by myself to be evaluated by participants, this would defeat the major purpose of including Singaporeans as creators. I wanted to explore domestic design ideas and not external ones. Loban and Apperley (2019) demonstrate that indigenous modding adds valuable perspectives to games, but since I lack those in the case of Singapore, my own creation would not be the same as a Singaporean production. Despite the failure of this approach, it gave valuable insights into player-generated content from a Singaporean perspective, together with the expert interviews and studying existing modifications. Lastly, collaborative modding might have still inspired some players to critically reflect the in-game representations. Similar to failure while playing as learning experience, failure at modding is a productive endeavour, not least for refining the method in future possible applications (Loban 2021, 536).

### 3.6 Summary

Throughout my work, I utilised a broad variety of qualitative methods. I consulted primary and secondary sources to explore production circumstances. I deconstructed rules, mechanics, representations, and narratives in the games regarding their impact on geopolitical imaginations. Gaming interviews, participant observation, and small-scale survey helped me illuminating perceptions and play behaviour. Lastly, interviewing experts, modding collaboratively, and analysing existent modifications discloses what imaginations are realised by

players. Therefore, the employed methods trace discourses, systems, and bodies in the digital game assemblages and illustrate the variety of methodologies necessary to grasp the multiplicities of game assemblages.

My gaming capital proved to be invaluable throughout my research. My long personal history of playing games was the starting point of my PhD thesis and influenced my approach to the study of games. Building on my previous works in popular geopolitics, I wanted to challenge an entertainment medium that I enjoy to this day. This allowed me to build on my expertise and to question my understanding of digital games. I instrumentalised my experiences as player when going through the games' analyses as well as when interacting with Singaporean players. I unveil the outcomes of this extensive research in the subsequent chapters, starting with game production.

## 4 Developing Simulation Games

Simulation games such as *HOI4* and *A3* differ in their game design from other genres. They promise realism “even at the expense of immediate gratification” (Egenfeldt-Nielsen et al. 2024, 59). PDS and BI depart from gameplay conventions in adjacent genres which want to depict warfare. There are no quick matches where players must eliminate enemies in 20 or 30 minutes as in real-time strategy or first-person shooter games. Players require several hours to play with their selected country throughout the years in *HOI4* or to engage in a long mission full of uneventful driving in *A3*. Next, the virtual environment is not meant to make players in awe of its ‘realistic’ graphics. Instead, the underlying game mechanics aim to impress players with how complex managing their countries is in *HOI4* or how accurately their weapons fires while being exhausted from running in *A3*.

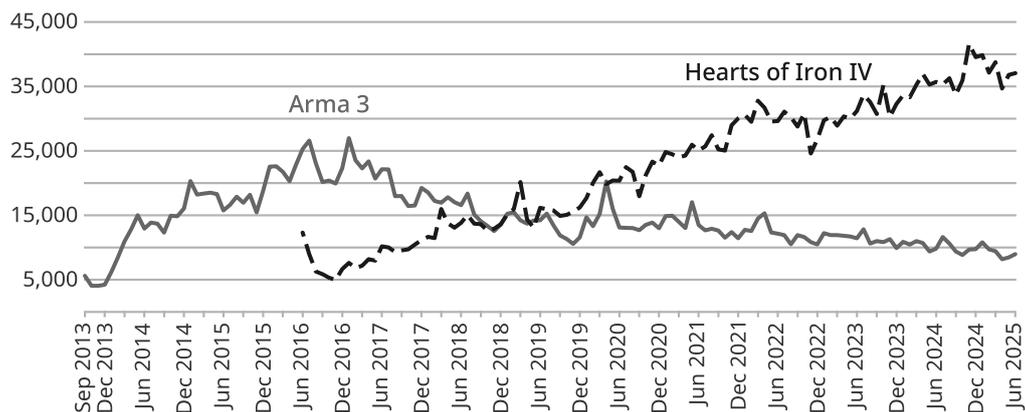
Nevertheless, they are still designed as commercial entertainment media, contrary to training or learning simulations, which have educational purposes.<sup>30</sup> Enjoying play is very important in simulation games and balanced against perceived realism, because the games must appeal to the market. The studios behind *HOI4* and *A3*, PDS and BI, have gained a reputation for their simulation games although on quite different topics. PDS is renowned for history-themed grand strategy games, BI for military simulations with in-person perspectives. Both studios aim at in-depth gameplay experiences, where players must be attentive to a wide range of gameplay rules and mechanics. Mastering their games is pointedly more difficult than many other games.

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<sup>30</sup> Making clear-cut distinctions between genres is often difficult (Mäyrä 2008, 100). The study of simulations has its own academic community despite intersections and cooperations with game studies (Harviainen 2017, 719; Egenfeldt-Nielsen et al. 2024, 12).

Generally, these kinds of games appeal to a rather small audience, but in the last couple of years, the two companies tried to facilitate wider access to their games and make them more user-friendly—with success (Caldwell and Lenoir 2016, 261–62). *HOI4* is the most popular strategy game according to active player numbers on the platform Steam in July 2025 (Valve 2025c). It averages over 37,000 players in June 2025, see figure 2. Because PDS continues to add content to *HOI4*, its outreach has grown steadily. With few games offering a similar gameplay experience, *A3* averages almost 9,000 daily players in June 2025.<sup>31</sup> Although declining popularity is common in most digital games over time, *A3* has retained an active player base for over a decade.

Figure 2: Average daily players for *HOI4* and *A3* per month



Own work based on data from Gray (2025).

I start my critical approach to *HOI4* and *A3* by interrogating their production backgrounds with a historical contextualisation of simulation games. This grants a comprehensive understanding of geopolitical discourses that impacted the development of genre-defining specifics. Furthermore, I explore the bodies involved in game production, namely the developers at PDS and BI. In the next section, I foreground these histories and how the companies relate to them.

<sup>31</sup> A notable currently popular game comparable to *A3* is *Squad* (Offworld Industries 2020) which reaches a slightly higher player count.

Then, I detail what game design philosophies shape the digital game assemblages of *HOI4* and *A3* decidedly. Despite their stark contrast in game genres, both studios exhibit several similarities. Through this, I disclose basic assumptions in game production which impact the game systems and representations I cover in subsequent chapters. In the following, Paradox refers to both entities, the publisher Paradox Interactive and its executive branch PDS. BI has no dedicated subunit.

## 4.1 Small Studios—Big Games

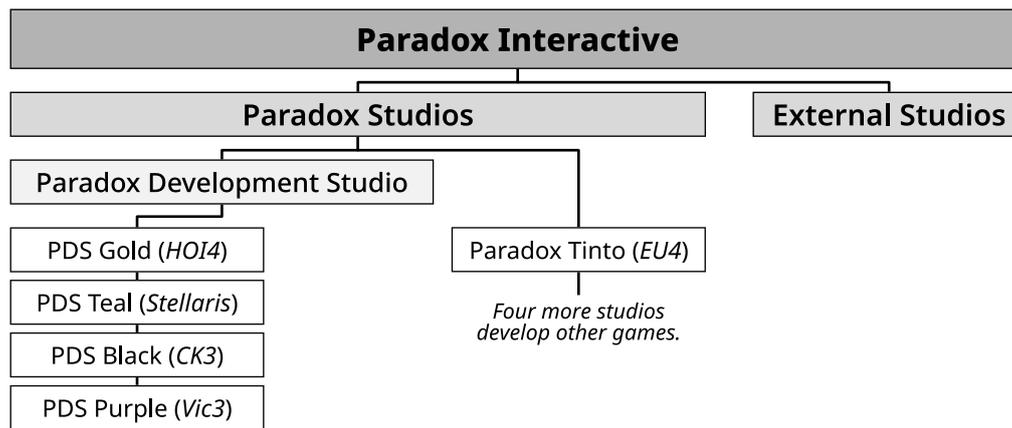
Paradox and BI are among the largest game companies in their respective countries, but they are comparatively small on the global scale where bigger studios have several thousand employees (Barák et al. 2020, 27; Milton et al. 2024, 22). Originally founded as Paradox Entertainment by Fredrik Wester in 1999 in Sweden, Paradox has now studios in Bulgaria, Finland, France, the Netherlands, and Spain (Paradox Interactive 2025a, 20–21).<sup>32</sup> It is a publicly traded company but remains mainly in local hands with the biggest shareholders being founder Wester and a Swedish investment firm.<sup>33</sup> Its headquarters as well as core studio, PDS, are concentrated in Stockholm. There is no exact figure on how big each studio is; however, PDS is claimed to have more than 150 out of a total 587 Paradox Interactive employees, split up in four teams, see figure 3 (Davies 2021, para. 1; Paradox Interactive 2025a, 3).

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<sup>32</sup> Paradox also publishes games from third-party studios which have otherwise no affiliation with the company.

<sup>33</sup> The top three shareholders, which account together for almost 60 percent of shares are WesterInvest (33.4 percent), Spiltan Invest (15.3 percent), and Tencent (10.1 percent) (see Paradox Interactive 2025c).

Figure 3: Paradox Interactive organigram



Own work.

Each team focuses on one game, with possible cooperations between teams. Thus, the number of employees fluctuates throughout development, with a team of 12 reported in 2017 for PDS Gold, which is responsible for *HOI4* (Blum 2017, para. 1). Looking at those credited in the game itself, 29 employees were directly involved in development in 2025 (interface\credits.txt, lines 1–54). This indicates that the bodies contributing to the territorialisation of digital game assemblages change even during development of the same game. Additionally, the bodies on the production end are already entwined with bodies of consumption. The developers are supported by so-called beta testers, the first instance of volunteer playtesters before the game or patches are released to the public. At PDS, they “are all but integrated in development and, arguably, essential to content design, research and testing” (Grufstedt 2022, 5), which exemplifies the deep interaction between developers and community.

Coming to BI, the most renowned privately developed military simulation series was not produced in the USA or Japan with advantages in financial capital, consumer base, or technological access, but in the Czech Republic. The studio responsible for this series called *Arma*, BI, was founded by brothers Marek and Ondřej Španěl together with Slavomír Pavlíček in 1999 (Skoták 2021, under “The

wild nineties” and “Poseidon and Interactive Magic”). Initially a rather small team, the whole company now consists of over 500 employees located in the Czech Republic, the Netherlands, and Thailand (BI 2024a, 4, 29). Around 70 were directly involved for the release of *A3*, although the current team is significantly smaller since development shifted to other projects (Hlava 2013, para. 1; Kovaříč 2018, under “Status Update”). Besides creating military simulations for entertainment, BI acknowledged the potential of developing training simulations and established Bohemia Interactive Simulations (BISim) as a subordinated entity in 2001, dedicated to simulations for non-commercial use. I explain the reasons for this development as well as its consequences in more detail later. First, I introduce the histories for both simulation game genres and how PDS and BI are informed by these backgrounds.

#### 4.1.1 Grand Strategy Games

Prussian military officers are attributed with developing the first instances of *Kriegsspiele* (wargames) in the early 19th century.<sup>34</sup> Georg von Reisswitz sr. and jr. improved earlier versions by Johann Hellwig and Georg Venturini which “only reproduced the rehearsal of specific formations” (Hilgers 2012, 47). Their game allowed experimenting with tactical manoeuvres on a tabletop representation of a battlefield with alternating terrain, observed by players from above. These early game developers incorporated the importance of reconnaissance: players could not see all opposing units; those hidden behind structures or terrain became only visible when discovered (Reisswitz 1824, 4). This ‘fog of war’ has remained an integral part of simulation games featuring some sort of

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<sup>34</sup> There is an even longer history of games simulating war, e.g., *Go* or *Chess* (see Halter 2006; Creveld 2013).

conflict to this day (although neglected in commercial wargames later on). Furthermore, dices were added to calculate the outcome of confrontations. They were not used randomly, but for specific encounters of unit types, reflecting their different purposes, e.g., artillery or cavalry (Reisswitz 1824, 22–25). Nowadays, computers handle greater calculations but the concept of determining the outcome of battles with mathematics based on unit types has not changed much.

*Kriegsspiele* became quite popular at courts and military academies beyond Prussia (Deterding 2009, 24; Hilgers 2012, 56). In the spirit of enlightenment, wargames reflected the “belief that war was an exact science” (Wilson 1968, quoted in Crogan 2003, 4) which could be abstracted with mathematical calculations. Military officers saw use in the simulation of battles and development of wargames continued, ultimately reaching the civilian market. During WWII, wargames expanded their scope, featuring more than a single battle (Dunnigan 1992, 146–47). In the 21st century, wargames for military purposes remain a pillar of the military-industrial-media-entertainment-complex network (Der Derian 2009, 93–94).

Current civilian war simulation games cover all scales: real-time strategy games focus on one battle, whereas grand strategy games take strategic interests into account. Some games even offer hybrid play experiences with both aspects, such as the *Total War* series. With the adaptation to computers, civilian wargaming saw some changes: Playing online with others or alone against the computer was possible and players could focus on playing instead of calculating (Crawford 1981, 4). Today’s simulation games build on these developments and offer enjoyment for a greater player base as access was made significantly easier. Instead of needing a committed group of friends who ideally lived nearby, players now start battles at home suited to their own time schedule without calculator. Digital

war simulation games are heavily informed by the history of tabletop wargames since the “very first generation of video wargames were developed and distributed by board game fans and publishers” (Deterding 2009, 31).

Paradox is one example for this transition. The studio originated from the then-bankrupt Target Games, mainly a board games company. Target Games’ *Svea Rike* series was a direct inspiration for future Paradox titles (Dean 2013, para. 5–6). Furthermore, PDS Lead Designers Johan Andersson and Dan Lind point out personal interests in wargaming not only of themselves but of several members of the team (Andersson 2009, under “What were your formative gaming influences?”; Lind 2013, para. 2–3; Pennington 2022, 342). Their development efforts culminated in several war simulation games with a clear Eurocentric scope: The major series are *Crusader Kings* (European medieval times), *Europa Universalis* (early modern period), *Victoria* (Victorian period), and *Hearts of Iron* (early to mid-20th century). Additionally, there are several stand-alone games on specialised topics: *Sengoku* (PDS 2011), dealing with the eponymous era in Japan; *March of the Eagles* (PDS 2013a), focusing on the Napoleonic Wars; *Imperator: Rome* (PDS 2019), going from Roman Republic to Empire; *Stellaris* (PDS 2016a), a sci-fi scenario of interstellar grand strategy. Most historical strategy games are set in the late modern period and PDS games are no exception (Rochat 2020, 13–14). Even *Stellaris*, which plays out in a distant future, reflects representations of the past (Loban 2017, 9). Each game offers a range of intricate systems in terms of politics, economy, diplomacy, etc. fitted to the historical scope.

Contrary to, for example, Firaxis Games’ *Civilization* series, PDS “presents a radically different conception of periodisation” (Koabel 2017, 67). In many historical strategy games, history is a continuous flow from one time period to another where players progress through technologies, policies, and other aspects

of their chosen faction. PDS games do so to a certain extent as well, but they strongly focus on periods and highlight their distinctiveness. For instance, *Crusader Kings* allows in-depth interactions between medieval characters not available in other PDS series, which in turn look more at the role of whole countries rather than individual relations. The possibility to colonise territory is different in *Europa Universalis* and *Victoria* and fully absent in *Hearts of Iron*. The latter puts great emphasis on warfare and commanding troops directly, which creates an entirely different gameplay experience compared to the other series.

Hence, the digital game assemblages territorialise diversely between series as well as reterritorialise between titles of the same series. Whereas the first *Crusader Kings* (PDS 2004) was limited to countries in Europe, around the Mediterranean and West Asia, its successors extend the playing area to sub-Saharan Africa as well as the rest of Asia. *Europa Universalis* (PDS 2000) only allowed to play as specific nations, whereas players can choose any country in the following titles. And the way players conduct warfare altered considerably throughout the *Hearts of Iron* series. What all PDS game series have in common are the inspirations taken from wargames. While this influence is systemic, BI had a direct link to the military industry.

#### 4.1.2 Military Simulations

The simulation of war on the ground lets players see through the eyes of soldiers. Players experience different aspects of conflict compared to the top-down perspective in strategy games. In military simulations, players fight as individuals. Although another genre, the entanglement of military and digital games becomes obvious once more. Production of first- and third-person military simulations was contracted by the US military and even technical developments such

as processors or online multiplayer were initially funded by the US Defence Advanced Research Projects Agency, DARPA for short (Crogan 2011, 12–13). Ultimately, the US military saw potential in creating their own free-to-play game. *America's Army* was a designated “advergame” (Nichols 2009, 45), because it established a positive image of its developers, the US Army (2002). In other words, it served as recruitment tool—cheaper than traditional recruiting methods (Power 2007, 279; I. G. R. Shaw 2010, 797). The strong focus on educating players about the US Army did not hamper popularity of the title, which had several successors with the franchise closing down only in 2022 (see Chalk 2022).<sup>35</sup>

Eventually, commercial developments in simulating war outperformed military projects and were in turn adopted (Herz 1997, 204; Dyer-Witford and De Peuter 2009, 101). DARPA's involvement in BI is one example for this. Although BI initially had commercial success, the studio struggled financially in the early 2000s due to internal issues and conflicts with their then-publisher. BI was bailed out by the US Army because they had an interest in proficient military simulation software. Without BI's knowledge, DARPA sponsored a modification of BI's first public release, *Operation Flashpoint: Cold War Crisis* (Bohemia Interactive Studio 2001)—later rebranded to *Arma: Cold War Assault* and referred to as *Arma 0* (Španěl 2013, under “Present”)—and reterritorialised the digital game assemblage from entertainment medium to training tool. This was done without knowledge of BI and DARPA bought the licenses to do so only after a legal dispute (Purchase 2014, para. 25–26; Roberts and Diller 2014, 471).

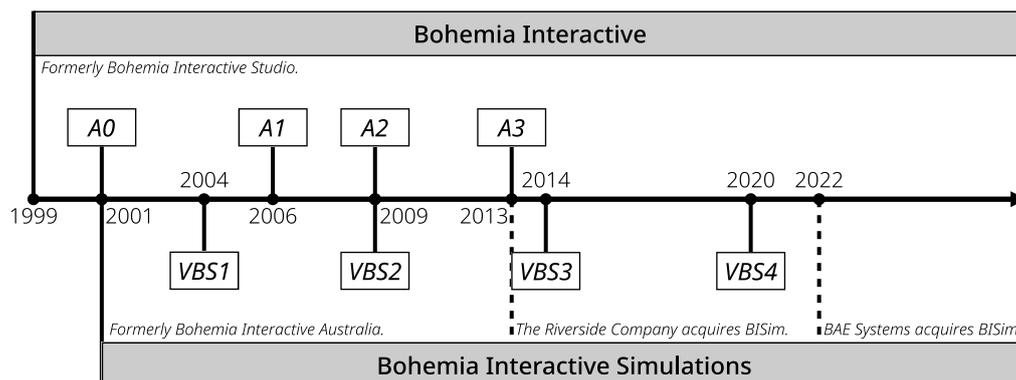
DARPA's interest framed BI as qualified developers of simulations for military purposes. Hence, BI acknowledged the potential of training simulations

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<sup>35</sup> The US military seems to have moved on to other venues for public outreach, such as streaming platforms and their own esports teams (Michel 2023, 11–12).

and established BISim as separate studio. BISim adapted the game engines used in the *Arma* series to develop *Virtual Battlespace (VBS)* (Morrison 2013, 1–3). From its outset, *VBS* has been designed to be the virtual training environment for NATO countries and their allies and is used as such by over 60 armies worldwide (BISim 2024, 2). An example for how the games and military industry are linked in the military-industrial-media-entertainment network, this connection also highlights how digital game assemblages shape the territorialisation of other assemblages. Since the first three *VBS* versions and *Arma* titles were developed jointly, releases of the games and training simulation were overlapping, see figure 4. In 2013, BISim was bought by an equity company.<sup>36</sup> Nine years later, the largest European defence contractor, BAE Systems, acquired BISim for US\$200 million (see Paynter 2022). Thus, *A3* is the last game to share a direct connection with *VBS*. However, BISim has been still “closely affiliated with our sister company” as former CEO and now CPO of BISim, Pete Morrison (2019, under “Have you produced any simulations as commercial games?”), pointed out.

Figure 4: History of *Arma* and *VBS* releases



Own work.

<sup>36</sup> There is no report on why BI sold BISim, which made profits in the double-digit million-dollar range per year (see Burnett 2013). I offer three speculations: First, it was a profitable deal with a market prize in a high double-digit or low triple-digit million-dollar range. Second, it was the consequence of two studios having developed different creative goals. Third, it was the desire to separate commercial and military production as a result of the arrest of two BI developers on espionage charges. I explore the last case in chapter 6.3.2.

On the other side, both companies saw the need to publicly clarify their independence from each other in two instances. The first occurred when Chinese conglomerate Tencent invested in BI in 2021 (see BISim 2021). BI is a privately-owned company and apart from European Union funds and a minority strategic investment by Tencent in 2021, little external investments have been made (see BI 2021b). Tencent's interest in both Paradox and BI is explained by two strategic shifts in the company: from mobile to computer games and from North America to Europe (Jia and Kenney 2022, 80–81). The former followed a perceived maturation of the Chinese games market, where more players are willing to buy games which require dedicated hardware, e.g., consoles and PCs. The latter was caused by the so-called trade war between the USA and the PRC, which prompted Tencent to look elsewhere. Paradox and BI were two of many European studios Tencent invested in.

The second controversy arose when BAE Systems bought BISim in 2022 (see Batchelor 2022). In both cases, the perceived external influence raised concerns. While the interest of a Chinese company in the developer of training simulations used throughout NATO countries unsurprisingly provokes hawkish responses, the interest of a defence contractor in a commercial digital game developer studio acts as endorsement. After all, BI's reputation as developers of military simulation profits from the shared past with BISim. If armies around the world see use for related software, BI's products must persuasively replicate existing military equipment in a virtual environment. Although PDS games have not received the same discursive reinforcement, their claim to authenticity is still strong among players. I explore how game design philosophies of both studios contribute to this perception.

### 4.1.3 Sandbox Design

Many games want to engage their players over years, but few studios focus as strongly on long-term entertainment as PDS and BI do. It is instrumental for both companies to give players great creative possibilities *in* games and *with* games to attract players to their games over time. Consequently, PDS and BI games are categorised as sandbox games, where players build and destroy according to the basic framework set up by the developers. The concept of the sandbox has its origins in 19th century German pedagogy, when sand was hailed as simple yet effective material to enable enjoyable play sessions for children (Arnswald and Fröbel 1893, 61–62). Henceforth, the concept of sandboxes was successfully spread in Germany and beyond by pedagogues such as Henriette Schrader-Breyman and Marie Zakrzewska (see Zinguer 2022). Initially, the sand piles had no boundaries but as they were institutionalised in the newly emerging kindergartens, barriers were added, subliminally reflecting Western modernist understandings of conformity where play can only happen in an orderly manner.

The same applies to digital games labelled as sandboxes. They (as all games) require demarcations of play; spatially limitless play is impractical. Another parallel to sandboxes is the declared freedom of play. Players shape their play experiences on their own, just as they would shape their sand structures. However, this does not free game developers from providing some guidance and rewards to playing in their sandboxes:

If the design effort fails to produce a game rich in intriguing potential, it's very much like shipping a literal sandbox.—Imagine a game-box literally filled with sand: the open-minded player might enjoy playing in the sand a bit, but the gameplay really isn't worth a lot. (Breslin 2009, under “The Necessary Framework”)

Moreover, PDS and BI games are sandboxes in an extended meaning, since both studios encourage players to generate their own modifications of the game—changing the sandbox itself. In the case of BI, modifications of *Arma 2* (BI 2009) had significant impact. Notably, the mod *DayZ* (D. Hall 2013) features a zombie apocalypse, where players struggle for survival against zombies and each other. The modification was widely popular and inspired various other games who copied the open world survival environment (Purchase 2014, para. 39). The creator of *DayZ* was hired by BI, and the modification turned into a fully-fledged game, illustrating the reterritorialisation process of the digital game assemblage and its component parts.<sup>37</sup>

PDS and BI provide narrative guidance for players in their games, which I explore later in more detail. But giving guidance is not the key facet of their games. This is the most obvious for *A3* which initially had no campaign and received one only after release (Land 2013, para. 1). Although there is strong contrast between PDS games and the *Arma* series in terms of play experience and even between titles of each series, *Arma* and all major series by PDS employ similar game designs to engage players.

### *What If?*

Paradox has five “game pillars” for their games: (1) Agency—they should enable players to be creative, e.g., through mods; (2) Living worlds—they should create play experiences which change every time; (3) Inviting—they should pique the interest of (new) players; (4) Cerebral—they should foster interest in (historical) settings beyond the games; (5) Endless—they should not have a clear ending and

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<sup>37</sup> *DayZ* itself served as inspiration for another modification, which pitted players against each other until one winner remained (McCarthy 2017, para. 6–7). Again, this mod developed into a stand-alone game and sparked the genre of so-called battle royale games.

avoid repetitive play experiences (Paradox Interactive 2025a, 13).<sup>38</sup> Following these game design goals, it is imperative for PDS to let players create their own believable, entertaining narratives. PDS games want to inspire players to develop stories around their leader, country, or faction that they play as.

Usually, narrative games are akin to movies, strictly guiding players through a story without possibilities for alternate paths. PDS certainly determines what narratives are played in their games, but they rarely tell players what to do. This leads players to craft their own stories, for example in after action reports, where they share their play experiences with the community, often trying to “recreate events with an adherence to ‘accuracy’” (Apperley 2018, 14). Historical play scenarios are meant to replicate the current understanding of those histories and power relations simplified for enjoyment. During playing, players immerse themselves in these experiences, although they are generally aware of the subjective and limited representation of the themes. A major part of enjoyment stems from the ability to play out scenarios according to personal preferences. The possibility to follow a variety of narratives in historical settings is referred to as “(hi)story-play-space” by Chapman (2016, 33), where this “dynamic, of *doing* affecting representation, amounts to the player being given *access to configurative production within the story space*.” In other words, the agency programmed by game developers allows players to explore and write their own (hi)stories within the game space.

Generally, a substantial interest for players is to test out what has *not* happened in recorded history. What-if scenarios, alternate or counterfactual histories, are a quite popular and originated as literary genre (Hellekson 2001, chap.

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<sup>38</sup> These design principles changed in name over time but remained largely the same in the last decade (Grufstedt 2022, 70–72).

1).<sup>39</sup> Games—and particularly PDS sandbox games—provide the opportunity to escape a deterministic understanding of historical and contemporary events. “This notion permits a plural approach to the past, each past is still an interpretation, but they are no longer necessarily hegemonic” (Apperley 2013, 189). Alt-historical scenarios require the benefit of hindsight and therefore build upon the knowledge of what is commonly known to have happened. Despite giving players great freedoms, the historical scenarios PDS develops are meant to appeal to Western audiences. Chapman (2016, 36) terms this “historical resonance”, when studios choose (and mix) already popular historical scenario to resonate to the players’ existing preferences. BI similarly draws from Western perspectives on conflict to frame their military simulations.

### *Conflict Narratives*

BI has fewer pillars than Paradox but those involve similar aspects for their games: (1) Curiosity—they should explore new, challenging ideas; (2) Creativity—they should stimulate internal and external developments; (3) Community—they should help players to participate in content generation (Španěl and Španěl 2003, 22–23; BI 2024a, 26). Thus, rather than providing pre-formulated cinematic experiences as other military-themed in-person shooter games do, BI focuses on offering large and authentic virtual spaces, where players experiment and create their own content. BI designs their game engines with this goal in mind. *Real Virtuality*, used for games up to A3, is a word play on the better-known virtual reality and is meant to create virtual worlds that mirror the physical in authentic ways. Combined with their second proprietary game engine,

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<sup>39</sup> Other denominations for this field are allohistory, parahistory, or uchronia. Following Hellekson (2001, 3), I use ‘alternate history’, or ‘alt-history’ for short, since ‘alternative history’ is already occupied in historiography.

*Enforce*, the new *Enfusion Engine* is claimed to have the best of both with an emphasis on immersive gameplay experiences and easy moddability (see BI 2025d).

While PDS games operate with commonly known historical contexts, which automatically provide relatability and plausibility, *Arma* games have fictional settings. These are informed by history *and* present. Španěl's personal army experiences as well as growing up under a communist regime shaped the first major release, *Arma 0* (BI 2022b, under "Before Everon"). The game features a Cold War conflict scenario between NATO and Soviet forces as the latter invade fictional island nations. In the story, this is done by hardliners dissatisfied with Mikhail Gorbachev's domestic politics; a mirror of Czechoslovak history with the Soviet invasion during the Prague Spring as Alexander Dubček launched reforms in 1968. *Arma: Armed Assault* (BI 2006) or *Arma 1* takes place on an imaginary island, where a monarchist and communist country clash with each other. The USA sides with the monarchists who control the island's oil reserves. Although located in the Atlantic, the scenario is clearly inspired by US interference in the Middle East in the decades prior to release.

*Arma 2* (BI 2009) is an even more explicit recreation of contemporary events, where the fictional country Chernarus deals with Russian-backed rebels and a break-away province called South Zagoria. The parallels to the Russo-Georgian War and separatist movements in South Ossetia are obvious. *A3* goes into the near future of 2035: The political unrest on the Mediterranean islands Altis and Stratis and the intervention of a fictional alliance led by China opposing NATO forces reproduces contemporary Western fears and roughly builds on existing animosities in the region surrounding Greece, Türkiye, and Cyprus. These geopolitics motifs resonate among Western players who are always taking up the role of Western units defending against aggression from varying Easts. But,

as BI's pillars emphasise, players are encouraged to deviate from the narratives laid out by the developers. Both studios decidedly involve players not only in playing but also in adding content to their games.

The outlined game design philosophies are also present in other games or genres, but PDS and BI are two studios who emphasise them heavily, which make their game assemblages markedly more fluid than others. For this to be successful, a convincing framework is necessary. The promise of verisimilitude is important for players if they explore what the sandbox has to offer and if they want to tinker with the sandbox altogether: If players change history in PDS games, the history should be plausible; if players add new weapons in *Arma* games, the weapon should behave plausible. When looking at the frameworks PDS and BI put in place to simulate war in their games, it is necessary to critically reflect on issues of selective and reductive representations as well as biases. I discuss these generally in the following section and in more detail in chapter 5.

## 4.2 Simulating Geopolitics

Based on my disclosure of the influences of wargaming and military industries, I argue that sandbox games offer the opportunity to study not only how geopolitics are represented but also how they are imagined working and playing out. Hence, they offer specific interpretations of geopolitics. In the case of PDS and BI games, the biases of those interpretations already manifest on the surface. What content is developed as well as naming conventions in games (*Arma*, *Crusader Kings*, *Victoria*) and game engines (*Clausewitz*, *Jomini*, *Real Virtuality*) are direct

indications of a Western/European perspective on history and warfare.<sup>40</sup> In the following, I critically engage both game genres according to their perspectives: top-down and in person. The former utilises movement across axes in a birds-eye view as in *HOI4*; the latter allows for individual exploration of the three-dimensional game space as in *A3* (Wolf 1997, 20–22). Both enable unique ways of playing and experiencing geopolitical issues.

#### 4.2.1 From Above

In simple terms, the world is taken to be a reality that exists ‘out there,’ separate from the consciousness of the intellectual. The basis of this attitude is the Cartesian divide between an inner self and an outer reality, between an internal mind and an external world of objects. [...] The relationship of the intellect to the world, therefore, is that of a viewing subject and a viewed object. (Ó Tuathail 1996, 17–18)

The Cartesian view Ó Tuathail criticised so aptly for classical geopolitical traditions is the norm in strategy games such as *HOI4*. Rather than describing the spatial perspective in the game neutrally as top-down or birds-eye view, it is an omnipresent understanding because players see the entire game space at once. The fog of war introduced by wargaming is one of few challenges to this omnipresence. Hostile units remain invisible until discovered, requiring players to scout the map. Generally, the power relation between viewing subject (player) and viewed object (map) is one-sided. The map serves not only as navigation, but “visualises transformations that are imposed onto a developing world” (Günzel 2007, 446). Moreover, the map itself calls for attention, especially if it is modelled

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<sup>40</sup> *Victoria* is a reference to both being victorious and British Queen Victoria under whose rule the British Empire saw considerable expansion. Carl von Clausewitz was a Prussian general. Antoine-Henri Jomini was a Swiss military officer.

after the physical world as done in *HOI4*. The issues of “selection, omission, simplification, classification, the creation of hierarchies, and ‘symbolisation’” (Harley 1989, 11) arise. Building on Harley, B. S. Bunting (2026, 39) sees game maps as ‘language of power’, because they “incentivize the player to engage in the domination and control of space within the gameworld and facilitate the player’s attempts to establish that control.”

Besides being omnipresent, players usually embody omnipotence as well. Players seemingly control all aspects of a city, country, or civilisation, receiving accurate, up-to-date information for their decision-making. This is delimited by game rules and mechanics. In other words, players are only as powerful as the game designers allow them to be (Bereitschaft 2016, 53). Still, because developers focus on entertainment, they usually give players a vast range of powers to achieve their goals. Because the goal in strategy games is essentially to control the game map, imperial logics are incorporated. The so-called 4X gameplay (explore, expand, exploit, exterminate) recreates a geopolitical imagination of contested space. Players fight over the in-game space and its resources, victory points, or other game-winning markers on the map, and follow “colonial logics” (Mukherjee 2017, 31) of perpetual expansion and subjugation. Thus, in-game space serves as a contested “competitive resource” (Chapman 2016, 107) while explicit portrayals of the consequences, e.g., ethnic cleansing, economic exploitation, or war crimes, are avoided.<sup>41</sup>

Wars are only one aspect of many in history. But the most popular simulation games such as the ones by PDS have an inherent focus on violent confrontations. There are many incentives for confrontational playstyles in the source

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<sup>41</sup> Even the discussion of those topics is banned on the official Paradox forums (Secret Master 2015, para. 2–6).

code: Goals and achievements are only accomplished through expansion and game mechanics offer more possibilities if the players' countries grow larger. In general, strategy games still concentrate "on some combination of politics, economics, and war" (Schut 2007, 221). Even the portrayal of warfare itself is largely uncritical. Where other media forms in popular culture may depict warfare in more nuanced ways (e.g., its disastrous impact in anti-war movies) "digital games discursively still lag behind" (Pfister 2020b, 58).

PDS games emphasise conflict differently from series to series, but conflict is prominent in each of them. This leads to a problematic understanding of history revolving almost entirely around famous, fighting men, the primacy of economic exploitation, the inevitability of war, and absence of international law or organisations (Schut 2007, 222; De Zamaróczy 2017, 167; Lundblade 2019, 260). Nohr (2010, 189) similarly highlights these "highly normative and reductive" representations, comparing them to the theory of inevitable conflict in Samuel Huntington's *Clash of Civilisations*. Criticism comes also from a wargaming perspective, as war simulation games "work better as impressionistic multiplayer politico-economic studies than as simulations of the strategy and tactics of real military conflicts" (Sabin 2014, 24). Compared to the complexities of wargaming, digital war simulation games increase simplifications and abstractions. Thus, the criticism that they have not evolved much in comparison to their wargames ancestors rings partially true despite all technical innovations (see Costikyan 2016).

These findings for the genre of strategic war simulation games inform my analysis of *HOI4* in chapter 5. Lastly, a deeply embedded Western/European perspective adds to a biased portrayal of history and conflict. Only selected countries receive gameplay content in PDS games upon release and those are mostly located in Europe. Other countries are expanded later as part of Paradox' DLC

policy, see for the *HOI4* chronology table 3.<sup>42</sup> This is at odds with the expectation that players have the same play opportunities for each country. There is an obvious focus on European countries, with others receiving unique content years after the initial release. Some, such as the German Reich or United Kingdom, even had multiple rounds of updates, whereas Asia has been severely neglected.

Table 3: Content release history of *HOI4*

Name	Type*	Date	Countries with content
Hearts of Iron IV	Base game	06/06/2016	France, German Reich, Japan, United Kingdom, United States, Soviet Union
Poland: United and Ready†	Country Pack	06/06/2016	Poland
Together for Victory‡	Country pack	15/12/2016	Australia, British Raj, Canada, New Zealand, South Africa
Death or Dishonor‡	Country pack	14/06/2017	Czechoslovakia, Hungary, Romania, Yugoslavia
Waking the Tiger‡	Expansion	08/03/2018	China, Communist China, German Reich, Japan, Manchukuo
Man the Guns	Expansion	28/02/2019	Mexico, Netherlands, United Kingdom, United States
La Résistance	Expansion	25/02/2020	France, Spain, Portugal
Battle for the Bosphorus	Country pack	15/10/2020	Bulgaria, Greece, Turkey
No Step Back	Expansion	23/11/2021	Estonia, Latvia, Lithuania, Soviet Union, Poland
By Blood Alone	Expansion	27/09/2022	Afar, Ethiopia, Italy, Switzerland
Arms Against Tyranny	Expansion	10/10/2023	Denmark, Finland, Iceland, Norway, Sweden
Trial of Allegiance	Country pack	07/03/2024	Argentina, Brazil, Chile, Paraguay, Uruguay

<sup>42</sup> Major PDS series receive continuous content years after the initial release, generating revenue which is used for further developments. Grufstedt (2022, 69) calls this “supplementary design practices”.

Götterdämmerung	Expansion	14/11/2024	Austria, Belgium, Congo, German Reich, Hungary
Graveyard of Empires	Country Pack	04/03/2025	Afghanistan, British Raj, Iran, Iraq
No Compromise, No Surrender	Expansion	20/11/2025	Japan, China, Communist China, Philippines
Peace for Our Time	Country pack	2026	Czechoslovakia
Thunder at Our Gates	Country pack	2026	Australia, Indonesia, Siam

\* Country packs are intended as smaller extensions, while expansions have larger changes also in terms of game mechanics.

† This DLC was released free of charge.

‡ These DLCs were incorporated into the base game in March 2024. Hence, they do not require separate purchase anymore.

#### 4.2.2 On the Ground

The business of play works closely with the military to replicate the tools of state violence; the business of state violence in turn capitalises on playtime for institutional ends. (Stahl 2006, 125)

First-person shooter franchises such as *Battlefield* or *Call of Duty* promise detailed virtual environments meant to imitate the physical world (while often remaining generic) or have cooperations with arms manufacturers to suggest weapon fidelity to analogue equivalents (Payne 2012, 316–17; Robinson 2016, 262–63). In those games, war becomes a ‘spectacle’, where players are invited “into the drama” (Stahl 2010, 35). Military simulations such as the above-mentioned *America’s Army* or *Arma* series are less spectacular but not less persuasive. Authenticity is implicated by gameplay and not superficially attached by in-game visuals or promotional material. However, the claimed realism of *Arma* and similar games does not encompass the gruesome realities of warfare.

In all shooter games depicting warfare, the war experience is embodied, where players are amid battle, personally encountering the opponent. But this

experience is usually highly sanitised to the point of being “almost sterile” (Gieselmann 2007, 3). If players are hit, injuries are abstracted by audio-visual indicators, e.g., blood splatter or gasping, which disappear over time or can be removed by simple healing tools. Generally, virtual blood is scarcely used compared to physical battlefields, and enemy bodies often vanish after they have been killed. Equally, disfigurements or dismemberments of (enemy) bodies is rarely possible in digital games.<sup>43</sup> This is not only an economic decision by the developers—less violent depictions enable sales to younger audiences—but relates to the narrative of war as ‘virtuous’, as Der Derian (2009, xxxi) postulates: “Fought in the same manner as they are represented, by real-time surveillance and TV ‘live-feeds,’ virtuous wars promote a vision of bloodless, humanitarian, hygienic wars.”

In these virtuous wars, there is usually no doubt that players fight on the ‘right’ side of the conflict: “The moral cartography of these games is entirely ego-centric: the self is always in the right, the positively identified enemy is always worthy of extermination” (Salter 2011, 371). This is narratively easier to convey for Western developers if opponents are Wehrmacht or kōgun soldiers as popularly done in the *Medal of Honor* series; it requires more explanatory effort if players combat insurgencies in contemporary scenarios, e.g., in *A3* (Payne 2016, 75–76). What makes them the ‘bad guys’? To draw the lines, shooter games reproduce official Western geopolitical discourses and build upon historical as well as contemporary antagonist imagery from Russia, China, or the Middle East.

Particularly the ‘war on terror’ narrative is echoed in games: Players fight in deserts or other remote areas against delegitimised enemies with Orientalist

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<sup>43</sup> Curiously, players contribute with ‘gore mods’ to a more realistic representation of war.

connotations (Stahl 2006, 118–19; Šisler 2008, 208; Zwieten 2011, 8–9). Despite some games which critically engage the own genre, similar militaristic logics as in strategy games become visible.<sup>44</sup> Goals can only be achieved by violence and hostiles are dehumanised as endless, faceless waves confronting players. Because game production of the most popular shooter games is firmly located in the USA and Europe, there are few challenges to this naturalisation of righteousness. Therefore, players virtually continue the defence of “an established—usually Western—form of political order” (Young 2018, 175) that is threatened and only contained by a diverse assembly of Western special forces and militaries, which offer identification for the Western community (Bos 2016, 110).

Although BI games are not blatant propaganda as *America’s Army* is, they certainly subscribe to Westernised discourses. Especially early iterations satisfied the desire to tackle dangers stemming from communism and terrorism—at least virtually (Lowood 2008, 83). Despite the strong emphasis on fidelity, *Arma* games remain entertainment media and want to provide an enjoyable play experience with various simplifications, e.g., respawning after dying. Players vastly increase the depth of these mechanics with their modifications, especially as part of units, where like-minded players gather. Playstyles differ between units, but the underlying desire to recreate gameplay reminiscent of military operations is the major draw for players (Mack 2015, 35–38). Thus, the desired play experience is a social one albeit embedded in militarised logics, as I discuss in the following chapters. One key gameplay feature to enable this experience was published one year after the base game of *A3*, the so-called *Zeus*. This allows

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<sup>44</sup> One example questioning traditional narratives is *Spec Ops: The Line* (Yager Development 2012), which poses moral decisions for the player. For more examples see Robinson (2012, 513–19). On the other side, games can also serve as propaganda tool for other actors, such as Hezbollah (see Schulzke 2014).

players to act as game masters: “from a bird's-eye view, wielding an intuitive real-time editor, Zeus can create, manipulate, or expand mission content to generate new stories and a flow of challenges” (BIKI 2023, under “Introduction”). Compared to other vehicle and weapon packs published afterwards, see table 4, the free DLC *Zeus* has shaped gameplay tremendously and is still utilised by units. Rather than developing new content themselves, BI now curates existing content and collaborates with the community on publishing mods as official DLCs.

Table 4: Content release history of A3

Name	Type*	Date	Notable content
Arma 3	Base game	12/09/2013	
Zeus†	Game design	10/04/2014	Players can assume role of game master
Karts	Vehicle pack	29/05/2014	
Helicopters	Vehicle pack	05/11/2014	
Marksmen	Weapon pack	08/04/2015	
Apex	Expansion	11/07/2016	New scenario in South Pacific
Jets	Vehicle pack	16/05/2017	
Maldent†	Map	22/06/2017	Added map from <i>Arma 0</i>
Laws of War	Mission pack	07/09/2017	Non-combative gameplay
Tac-Ops	Mission pack	30/11/2017	
Tanks	Vehicle pack	11/04/2018	
Contact	Expansion	25/07/2019	Spin-off with extraterrestrial encounters
Art of War‡	Charity pack	23/02/2021	Exhibition of community art

\* Expansions include the largest amount of content, e.g., maps, weapons, or campaigns.

† These DLCs are free of charge.

‡ This DLC was part of a charity sale but is now free of charge.

### 4.2.3 Without Accountability

Neither Paradox nor BI claim to offer fully realistic experiences. Indeed, former Senior Designer at PDS, Chris King (2016, 31:42–32:53), weighs off the representation of history with the need to design games which are fun to play. For instance, historical events are purposely simplified, and nuances ignored to be realisable in the source code. King stresses that these are no easy but necessary decisions in game design. Through the necessary process of abstraction, games never fully mirror reality and instead “focus on the important information and round off the inconsequentialities” (Nakamura 2016, 43). This is quite common in digital games featuring historical periods; for some development studios, even anachronisms, such as utilising historical characters outside of their recorded appearance, are tolerated if they appeal to the audience.<sup>45</sup>

The question remains what game designers assess as inconsequentialities to be rounded off. While developers such as King are aware that this is a subjective decision, they rarely recognise underlying influence factors, e.g., the Westerncentric perspective. On the other side, many players critically reflect on presentations in games when encouraged (McCall 2023, 22). Still, not all players contemplate reflexively about problematic issues present in games. After all, most are designed as entertainment media and not thought-provoking experiences. Players do, however, engage very actively in modding the game, an opportunity explicitly supported by Paradox and BI. With this possibility, players change the portrayal of history and warfare according to their own ideas. They explore alternate narratives to those imagined by the designers.

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<sup>45</sup> For example, Narrative Director Fasih Sayin (2023) from Logic Artists, responsible for the historical *Expeditions* game series, admitted this practice.

Here, the question arises what players create.<sup>46</sup> For historical simulations like *HOI4*, many indulge in the desire to create an ‘accurate’ historical portrayal (Hong 2015, 48). While this adds complexity and nuances, the chase for accuracy is subjective. Just as PDS developed their version of history-telling, modders do the same. They challenge the Western/European narratives present in the game through giving indigenous people representation, as Loban and Apperley (2019) and Loban (2021) demonstrate. But the histories presented also manifest racist, misogynous, or other sorts of discriminatory content. Outright ‘war crime simulators’, as they are referred to by the community, are removed by Paradox, as has been a modification that excluded non-white people in the human faction of *Stellaris* (see C. Hall 2016). Other discriminatory modifications, which operate under the guise of exploring counterfactual histories or providing comedic entertainment, still exist on public distribution platforms (Salvati 2020, 155–56). Former *HOI4* Game Director Dan Lind explains Paradox’ general strategy as letting “the community decide whether they want to play a mod or not” (quoted in Winkie 2018, para. 15). This shift of responsibility upon the community is problematic yet emblematic for the tendency to downplay the impact of political content in games—an effort often undertaken in the industry.

BI is no exception in this regard. But A3 modifications usually focus less on creating narratives themselves, reducing the possibility to directly script discriminatory representations. For example, modders recreated Wehrmacht equipment for A3 yet how this equipment is utilised is up to players: play as Nazis or play against them. However, the danger of misappropriating in-game

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<sup>46</sup> Another issue is outsourcing work processes to players (see Kücklich 2005). Although openly communicated and supported, the inclusion of modding as part of game design is not without criticism in the communities.

videos as fake news in conflicts has been called out by the developers. While providing a guideline on how to spot misused *Arma* footage and highlighting the company's (limited) efforts in stopping the spread of fake news, the developers also vaunt their product: "[...] players of *A3* can recreate and simulate any historic, present, or future conflict in great detail (thanks to its advanced game engine). This unique *freedom of the Arma 3 platform comes with a downside*: videos taken from *Arma 3*, especially when the game is modified, are *quite capable of spreading fake news*" (BI 2022c, para. 2, emphases in the original). I explore this issue in chapter 6.3.2 in more detail.

### 4.3 Summary

I end the investigation of the production background with several findings. The studio histories of Paradox and BI reveal interlinkages with wargaming as well as the military industry which shape core assumptions in designing war simulation games. This confirms Der Derian's (2009) 'military-industrial-media-entertainment network' or Stahl's (2010) 'militainment': the entanglement of military and games industries. Since both studios are not directly involved in producing software for military purposes, the influence on the territorialisation of digital game assemblages is systemic rather than immediate. The historical context explains the role of militaristic assumptions in the games' discourses and systems which the latter chapters explore in more detail.

Furthermore, individual developers and superordinate organisational structures impact the territorialisation of game assemblages. Although PDS and BI are now independent from external publishers, development teams are subjected to company goals, especially commercial expectations. Since Paradox and

BI have multiple studios outside of Sweden and the Czech Republic it is tempting to assume that their workforce is quite diverse. However, Kerr (2017, 156) reminds us that the “glocalisation strategy should not be confused with cultural diversity.” Decisions are ultimately made in Stockholm and Prague respectively. The developer teams have members of different nationalities, but the vast majority are European. Thus, PDS and BI content is aimed at Western markets, determining what representations and narratives are employed in the assemblages. Although the studios emphasise the fidelity they apply in virtual recreations of history and warfare, this is a distinct bias that comes forth in my analysis in more detail.

Nevertheless, PDS and BI are renowned for creating convincing simulations based on behavioural realism despite their relatively small sizes. With continuous updates and new content, they have reterritorialised the original game assemblages significantly over time. Simultaneously, they want players to engage in and with their sandboxes and rarely constrict the type of content players create. This focus on modifications lets players easily de- and reterritorialise the digital game assemblages PDS and BI published. I explore these practices in upcoming chapters. The next chapter moves to the discourses and systems of the *HOI4* and *A3* digital game assemblages that result from the outlined game design philosophies. My analysis concentrates on experiences in singleplayer mode—how the developers intended the game to be played by individuals. I do not ascertain the games’ accuracy, authenticity, or plausibility—this task would be better suited for historians and military experts—but question underlying geopolitical assumptions and presented narratives.

## 5 Simulating Warfare

*HOI4* and *A3* are the latest full releases of their respective series by PDS and BI. Both companies streamlined their games visually and structurally, making them easier to understand, thereby amplifying their appeal among players. Consequently, the games are an ongoing financial success. *HOI4* sold 200,000 copies in less than two weeks after its release in 2016 and reached over six million in 2025 (Paradox Interactive 2016d, para. 2; Sensor Tower 2025, under “Quick Stats”). It has the largest audience out of all major series. *Crusader Kings III* (PDS 2020), *Europa Universalis IV* (PDS 2013b), and *Victoria III* (PDS 2022) reach the same daily average of players *HOI4* had in June 2025 only when combined (see Gray 2025). *A3* has been growing in sales to over 10 million in 2023 (Land 2023, under “Situation”). In 2024, *A3* was purchased another 500,000 times during a sale event (BI 2024b, para. 1). It remained the most-played title of the series until February 2025, when *Arma Reforger* (BI 2023) recorded more daily players (see Gray 2025). Although the successor—which is described as stepping stone for the yet to be released *Arma 4*—slightly surpasses *A3*, the latter continues to be played by thousands every day (see BI 2025b).

Thus, with the popularity of *HOI4* and *A3* in mind, it is even more crucial to critically reflect on how PDS and BI design war simulations. In other words, it is imperative to study the territorialisation of the digital game assemblages as imagined by the developers. How do the outlined discourses and systems shape the territorialisation of the game assemblage? For this, I explore several textual, virtual, and systemic components. The first discursive materials are promotional statements and source code. These elements illustrate how PDS and BI sell their games as realistic warfare simulations through discursive framings from the

outset. Next, I examine both games separately, due to their different instrumentalizations of game mechanics and narratives. First, I cover *HOI4* and how its visuals and systems portray WWII. Second, I analyse the virtual space and fictional narratives in *A3*. Both accounts are a critical reading of games design choices and how they add geopolitical issues to the digital game assemblages.

## 5.1 It's in the Name

Besides in-game material, games shape perceptions on two quite contrary textual levels. On the surface, there are game brands and advertisements, visible for everyone and actively disseminated by the producers. Below the surface, there is the source code, hidden in rather remote locations on the disk. I explore the former first and sketch out the impressions PDS and BI want players to have of their games. Then, I go into the basis of the digital games, the source code and data files. This is the material that runs the game. Paradox' approach of providing easy access to game files for the modding community enables a deep look into the underlying structure of *HOI4*.

However, going through the code in detail as technical reading would be a huge endeavour: *HOI4* consists of almost 7,300 files and over 5.2 million lines of code.<sup>47</sup> Naturally, I am not able to go through every single line, but I offer selective examples to illustrate how geopolitics are turned into code. It is harder to access the files of *A3*. BI uses a proprietary data format, and the code is accessible only with external software.<sup>48</sup> Because the official encyclopaedia, BIKI, offers surprisingly little help on these matters, I pinpointed relevant sections in the

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<sup>47</sup> Data compiled with *cloc* (Danial 2025) for game version 1.16 without the DLCs *Götterdämmerung* and *Graveyard of Empires*.

<sup>48</sup> The software to do so, e.g., *PBO Manager* (Kobzev 2024), has been developed by the community.

code using the community-curated AAW. Although I do not offer a systematic technical analysis of the source code, my findings already substantiate how *HOI4* and *A3* write conflicts.

### 5.1.1 Advertising Conflict

PDS and BI promote *HOI4* and *A3* as war simulations, separating them from ‘casual gaming’. This is apparent in public developer-player communication. PDS addresses players as ‘generals’ in official channels when announcing an update or other relevant news for *HOI4*; BI categorises *A3* news in military jargon: situation reports, spot reports, technical reports, and operation reports. Except for the technical report, the terminology and accompanying abbreviations are derived from the US military (US Department of Defense 2017, 216, 221, 345). With these minor but effective measures, the developers establish a discursive framing reminiscent of military communication. Similarly, the games’ titles are meant to draw players into the conflict simulations.

The *Hearts of Iron* series started in 2002, with the promise to let players “take the War to any new front of their own choosing, while focusing primarily on the epic struggle between the great alliances of the New World Orders—Fascism, Communism and Democracy” (Paradox Entertainment 2002, under “About Hearts of Iron”, capitalisation in the original). Developed by the same team responsible for the *Europa Universalis* series, it set the tone for its successors: A complex simulation of WWII, where players lead a nation of their choosing through the years. Whereas *Europa Universalis* derived its name from the board game it was designed after, *Hearts of Iron* was a new brand name (Bossom and Dunning 2015, 140). There is no official explanation for the origin of the name,

but it successfully evokes an imagination of the violent context the game is set in and resonates in the community shortly before release.<sup>49</sup>

Hearts of Iron can basically symbolise the fact that this period (1936-1947) is not a time for the weak Hearted and that only those who are made of Iron will survive. To come out on top, you must balance yourself, ruling with an Iron fist and with a soft Heart at just the right combination to survive. (KrisKannon 2002, para. 5)

Each iteration of the series ticks the boxes of Paradox' game design philosophy I outlined previously: giving players agency in inviting, cerebral, and endless living worlds. But *HOI4* introduced some notable changes, improving its accessibility especially for players unfamiliar with PDS games. The user interface has been polished, making information more intuitively accessible. AI assistance for managing troops has been expanded, relieving players of tediously micromanaging every single unit. And—most notably—national focus trees (NFT) have been added, a sequence of national focuses (NF) reflecting historical events, which provide guidance to players who are overwhelmed by the open nature of sandbox games.

### **This Is War**

Experience true combat gameplay in a massive military sandbox. Authentic, diverse, open—Arma 3 sends you to war. (BI 2025a)

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<sup>49</sup> One theory is that naming draws from Hans von Seeckt, German military officer, who pressed for “hands of steel and hearts of iron” (Wette 2007, 145) if the need to serve Germany arises. Ming (2002) observed that Seeckt’s quote has been posted on the forum in Swedish. Other community members suggest a connection to Marianne Moore’s 1944 wartime poem *In Distrust of Merits*—“Hate-hardened heart, O heart of iron, / iron is iron till it is rust” (Moore 1967, 138)—a reference to Adolf Hitler’s designation of Reinhard Heydrich as man with an iron heart, or a hint at the military decorations from Germany, the Iron Cross, and from the USA, the Purple Heart (see Paradox Forum 2002; 2003).

The promotional materials for each *Arma* title promise realistic war experiences for players. As with *HOI4*, the naming of the game reflects this goal. The title of the series *Arma* was popularised as an acronym and single word. In both readings, it has a direct connection to militarism. As abbreviation for *Armed Assault* the link to an aggressive and offensive act with weapons is obvious.<sup>50</sup> As stand-alone term, *Arma* borrows from a Latin interpretation of arms, weapons, tools, shield, soldiers, war, battle, etc. (*Pocket Oxford Latin Dictionary: Latin-English 2005*, ‘arma’). For CEO Španěl (2009b, under “The meaning of Arma”) the acronym exemplifies a unique approach of BI towards game development:

By choosing a Latin word we are not only trying to have a name that will be very easy to pronounce and remember globally [...] but also to indicate that our game is not only different but that its roots go very deep, that we were the first to establish a realistic battlefield simulation with vehicles [...]. By using a Latin word, we also try to say that our approach to gaming is different, perhaps more scientific in some areas [...].

Although claiming global appeal, the Latin reference resonates mostly with Western audiences. Thus, just as the *Real Virtuality* engine, the title of the series reflects self-understanding and aspiration of the developers. Španěl does not elaborate on what ‘scientific’ game development entails, but judging by BI’s game design philosophy, this emphasises that the developers take their commitment to authenticity serious. For instance, to recreate virtual environments accurately, developers went on field trips (Crowe and Land 2015, 2:48–3:04). The past collaboration with BISim is another instance giving discursive weight. BI

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<sup>50</sup> The first game of the series was sold as *Arma: Combat Operations* instead of *Arma: Armed Assault* in North America, probably to account for naming conventions at the time and to avoid any confusion with the criminal offense ‘armed assault’.

and BISim as well as *Arma* and *VBS* are easily conflated to elevate the persuasiveness of *Arma* as military simulation (see Španěl 2009a). In contrast to boisterous advertising, the source code contributes silently to the territorialisation of *HOI4* and *A3* as war simulation game assemblages.

### 5.1.2 Folders and Files

Game files are generally structured in folders with descriptive labelling. Without knowing how the actual games look like, aspects of its characters can be derived when going through the data. The main *A3* folder directory has little indication on what the game is about, but the filenames are illuminating. There must be a virtual environment since there is a ‘map’, full of ‘animals’, ‘plants’, ‘props’, ‘roads’, ‘rocks’, and ‘structures’. Players can apparently interact with this dynamic environment, because there are ‘animations’, ‘characters’, ‘dubbing’, ‘music’, and ‘sounds’. In the files named ‘missions’ the game provides tasks for the players to fulfil. The context of these missions becomes clear: ‘armor’, ‘drone’, and ‘weapons’ point to a violent engagement in the game. With this assumption, ‘air’ and ‘boat’ likely cover military vehicles. If players own DLCs, the picture is even more complete with folders for ‘heli’, ‘jets’, ‘tacops’, and ‘tank’. The variety of military equipment in filenames hints at the sandbox *A3* wants to be, where players live out their military fantasies.

In the *HOI4* main folder, there are subfolders such as ‘events’, ‘history’, and ‘map’, which point to a game with occurring events, set in a historical context, and based on a map. In the folder ‘events’, only selected countries have unique content. Hence, there is a perception of noteworthy countries and the rest, whose roles are deemed neglectable. The diversity of content for countries increases only if players buy the numerous DLCs. Diving deeper into the folder

'history', a list of countries, states, and orders of battle can be found. Therefore, the game must feature territory separated among different entities, as well as troops who are probably used in conflicts. The folder 'maps' includes several filenames suggesting a militaristic outlook: 'airports', 'rocketsites', 'supply\_nodes', or 'unitstacks'. Now it is certain that conflict is an important element of the game and that it is played out on a map. Furthermore, going into visual materials, e.g., the folder 'gfx', discloses a focus on single persons, such as 'aces' and 'leaders', and the folder 'common' covers various gameplay possibilities. The source code further illuminates underlying assumptions in *HOI4*'s game design.

### 5.1.3 Scripting World War II

The source code of *HOI4* provides useful insights into its production background. Game developers use comments in code to explain what the code means but also to communicate with each other as a form of "social text" (Sample 2013, para. 24).<sup>51</sup> For *HOI4*, explanations in the source code show the depth of historical research conducted by the developers, as exemplified by an event describing the expropriation of oil companies by the Mexican government in 1938 and the following embargo by the USA and other states:

```
# Mexico is informed that they are under embargo

country_event = {
    id = mexico.3
    title = mexico.3.title
    desc = mexico.3.desc
    [...]
    MEX_increase_cedillo_tension = yes # Supposedly, Cedillo rebelled because
    he thought the imperial powers would support him after the oil nationalisa-
    tion
    [...]
    (events\Mexico.txt, lines 308-29)
```

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<sup>51</sup> Comments in code are usually signified by a delimiter. In the case of *HOI4*, which is written in C++, this is a hashtag (#).

The side effect of increasing tensions, an in-game mechanic where players governing Mexico must deal with unrest caused by Saturnino Cedillo, is supported by historical contextualisation. This is only one of a vast number of occasions where the digital game assemblage is formed vis-à-vis historical records. Practically every historical note in the game is an assemblage of individual knowledge of developers, research on historical topics, or popularly known histories. Although there is no reference quoted, this indicates that developers consult sources frequently. Paradox even compensates research expenses for employees (Grufstedt 2022, 98). What the source code snippet also illustrates is the translation of historical events into playable mechanics. Tensions must be managed by players if they want to avoid a full-scale rebellion. The geopolitical consequences of oil nationalisation by Mexico are connected to domestic issues and players must weigh those against the appropriation of resources.

Another example of source code discloses the relationship between developers and players. Aware of players who circumvent programmed events for their own advantage, the developers introduced source code, which punishes such behaviour:

```
civil_war_anti_exploiter_punitive_action = {
  # Anti-exploiter punitive brigades! BET YA DIDN'T SEE THAT COMING DID
  YA?!
  if = {
    limit = {
      has_army_size = {
        size < 1
      }
    }
  }
  [...]
}
(common\scripted_effects\00_scripted_effects.txt, lines 674–81)
```

In the case of civil war, the army of a country is split between the respective factions. If players disband their troops ('size < 1') before civil war breaks out, the opposing side does not have any as well. Since game AI does not quickly

deploy new troops, civil wars are easy to overcome for players.<sup>52</sup> To avoid this, the above code automatically generates an army for game AI to challenge players. The teasing character of the comment shows that developers expect at least some players to find the changes made in the source code and that they are aware of how far players deviate from the paths they set up. It can be also understood as an effort to ensure plausibility. Dissolving the armed forces comes with no repercussions in the game whatsoever but would have so in the physical world, especially on the outset of civil war.

Lastly, the mathematical abstractions in the source code illustrate the militarised understanding of war. Of course, these abstractions are necessary for the game to work, but they convey a problematic procedural message. The population of a country becomes a resource of human manpower, which is the basis for recruiting soldiers. Aside from an abstract 3D model representing those soldiers, they are no more than numbers needed to fill divisions, planes, and ships, or to trigger actions. Generally, the top-level approach in strategy games leads players to treat their population as a mere resource; war becomes a disembodied experience. This is even more apparent once the fighting starts and casualties amass, or—in other words—once people die. As feminist geopolitics scholars remind us, “although counting is an important device for remembering, it is also flawed in the way it transforms unnamed dead people into abstract figures that obfuscate the political meanings of the violence and its social and political consequences” (Hyndman 2007, 38). In the case of *HOI4*, aside from historical figures deemed relevant (politicians, generals, admirals, aces, spies, and scientists),

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<sup>52</sup> In my thesis, game AI refers to program code controlling non-player characters. In the case of *HOI4* these are countries, which are meant to shape the play experience for human players (Yannakakis and Togelius 2025, 138–39).

individuals are not featured. This abstraction is a legacy of wargames, which are popular among Paradox staff. The disassociation of war and its consequences on individual lives creates a sanitised and disengaged image of a disastrous conflict.

Just as folder structure and source code set the stage for *HOI4* and *A3*, this brief look into the software-side of the games serves as introduction to some of the themes explored in the next sections: The spatial portrayal of conflict, the gamification of history, or the sanitisation of war. Source code determines the play experience, yet a systematic technical reading would be insufficient to grasp games as cultural objects (Mäyrä 2008, 36). How the game is perceived requires attention to the representation and how players interact with them.

## 5.2 Images and Mechanics

Since *HOI4* and *A3* provide very contrasting perspectives and play experiences of warfare, the analysis of discourses and systems in the digital game assemblages is split accordingly. I start with *HOI4* in the next sections. *HOI4* does not provide a single narrative, so I analyse the contribution of visual and aural material to the narration of conflict first.<sup>53</sup> Then, I investigate its game map and accompanying game mechanics. Finally, I question game rules and mechanics surrounding the portrayal of authority and control.

### 5.2.1 The Art of War

Starting with the artworks of *HOI4* personalities, technologies, icons, etc., stylised images instead of the historical black-and-white pictures of previous *Hearts of Iron* iterations are visible. Mats Virtanen (2016, para. 4), the 2D artist in charge,

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<sup>53</sup> In game studies terminology, ‘aesthetics’ cover this approach; however, as its definition encompasses more aspects, I refrain from using it (Egenfeldt-Nielsen et al. 2024, 123).

describes the new appearance as “gritty and dark” where “the more saturated and detailed icons will pop out”, enhancing accessibility as players are able to navigate the user interface more easily and quickly. At the same time, discarding historical imagery in favour of artistic interpretations helps avoiding too intense immersion in the game. After all, *HOI4* wants to portray a playful WWII experience without simulating the period with all its detailed atrocities. Not having authentic visual material lets players disassociate when they play as Adolf Hitler or Benito Mussolini and alleviates the historical dead freight.

Thus, despite offering the possibility to lead countries responsible for infamous acts in the first half of the 20th century, they are downplayed through art design. The most prominent cases for this are Hitler and Mussolini, whose portraits were chosen from less popularly known images: a Ukrainian propaganda poster for the former and a painting for the latter, see figure 5. Directly naming those in charge is something many other games shy away from in the first place, but the disassociation of digital game portrait and historical figure is more or less successful through artistic interpretations (Chapman and Linderoth 2015, 147–49).

Figure 5: Hitler’s and Mussolini’s portraits in HOI4



From left to right: reference for Hitler’s portrait (*Hitler Vyzvolyytel 1942*), Hitler’s portrait prior to update 1.15, Hitler’s portrait after update 1.15 (`gfx\leaders\GER\portrait_GER_adolf_hitler.dds`); reference for Mussolini’s portrait (*Fischer 1935*), Mussolini’s portrait (`gfx\leaders\ITA\Portrait_Italy_Benito_Mussolini.dds`).

However, with the release of the DLC *Götterdämmerung* and its accompanying free update 1.15 in late 2024, PDS undermined its own approach. As is obvious from its name, the new content heavily focuses on extending the existing gameplay experience for the German Reich and added substantive unique content for the country. For instance, players can choose leading Nazi figures such as Heinrich Himmler to be part of their so-called Inner Circle. Before the update, those were political advisors with minor effects on gameplay. Now, Himmler and other possible candidates for the occupation of *Reichsleiter* are featured separately in the NFT. Whereas all *Reichsleiter* have unique stylisations in their artwork, the NF featuring Himmler surrounds him with oak leaves' wreath. Oak tree and oak leaves have been a German national symbol before and after the Nazi regime, but they were extensively utilised in Nazi propaganda (see Mosse 2022). Thus, Himmler, the leading figure of the Holocaust, is decorated and placed in the centre of all possible candidates players can select for their Inner Circle. After opting for Himmler, more NFs let players improve Gestapo as well as SS, again highlighted by oak leaves and laurel wreaths with the final focus stating the following:<sup>54</sup>

With increased recruitment and better equipment the SS now is a formidable force on the battlefield. Under the leadership of Himmler the group has grown to be one of our most prominent assets, capable of things far beyond our expectations. [...] (localisation/english/WUW\_focus\_1\_english.yml, line 3323).

It is hard to forget *what* the SS was capable of. Without any historical contextualisation, this in-game content normalises the Nazi regime and its

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<sup>54</sup> Gestapo: *Geheime Staatspolizei*, Secret State Police. SS: *Schutzstaffel*, Protection Squadron.

‘accomplishments’, causing uproar especially in the German community (see Bliemel 2024). Hence, for parts of the audience, the digital game assemblage of *HOI4* has deterritorialised through the changes made. The critique has been addressed by PDS through re-enabling censored portraits of Hitler, Himmler, and other leading Nazi figures in update 1.15.2 (Nicholson 2024a, para. 1). This change was reverted again with update 1.15.3, and the options to opt-in for blacked-out portraits was removed; instead, the German version of the game is completely censored while the international version is not. There is no option to choose any longer, repeating the same split in versions that was existing before the DLC *Götterdämmerung*. Game Director Peter Nicholson (2024b, para. 1) stated that this was done in compliance with German law. The flexibility of the game assemblage allows for these frequent changes in component parts. I argue that these measures are only a superficial attempt (the text as well as insignia remain unchanged) which cannot solve the underlying problem: *HOI4* features an ideology and its key actors playfully in more detail while decoupling it from its inhuman and destructive consequences.

Another aspect that comes to the fore when examining the appearance of *HOI4* is its masculinist rendering of history. Promotional pictures exclusively feature men. 14 out of 19 loading screens with identifiable persons portray men. Except for female scientists who were added with update 1.15, most personalities players choose to influence their internal politics, foreign policy, diplomacy, economy, armies, air forces, or navies are male. Of course, this is based on contemporary conditions; leading roles in politics and militaries were overwhelmingly occupied by men because women were not allowed or accepted in those positions. While authenticity serves as an argument for this decision, it still leads to women being invisible despite their important work not only on the ‘home

fronts' but as part of the armed forces and many other war-essential capacities. Thus, I observe a reductive representation of WWII affairs based on a realist reading of international relations. A deliberate act quite close to what happens outside of games, as Enloe (2014, 3) argues: "Making useful sense—feminist sense—of international politics requires us to follow diverse women to places that are usually dismissed by conventional foreign affairs experts as merely 'private,' 'domestic,' 'local,' or 'trivial.'" Of course, the game would have to be designed radically different to account for those places. *HOI4* wants to be a war-game and largely simplifies or ignores aspects like others of the genre. The developers are aware of this and addressed the issue of women's representation publicly, emphasising to "make an extra effort when we have a plausible candidate or historical references to women's impact on the war" (Lind 2018a, para. 2). However, the accompanying changes mentioned in the announcement are rather minuscule and no other update dedicated to the role of women followed.

While these reductions are problematic, they could be tolerated through arguing that the game focuses on the global scale and cannot reflect intricate relations below the state-level. But the choice to represent countries with their male figureheads creates an oversimplification, whereby, as feminist critiques of geopolitics and international relations have foregrounded, geopolitical history focuses on the acts of 'great men' and evokes embodied (hetero)masculinity (see Sharp 2000; Enloe 2014). Using the likeness of contemporary leaders as country representatives has alternatives. In previous iterations of *Hearts of Iron*, PDS opted for national flags as visual identifiers. Having a portrait of Franklin D. Roosevelt or Joseph Stalin certainly may be more recognisable by players—despite the above-mentioned artistic interpretations—but it is very much a gendered imagination of the nation-state.

The imagined bonding between individuals and the nation in narratives of national identification is differentiated by gender. Men are incorporated into the nation metonymically. As the Unknown Soldier could potentially be any man who has laid down his life for his nation, the nation is embodied within each man and each man comes to embody the nation. (Sharp 1996, 99)

In the case of *HOI4*, Hitler, Hirohito, Mussolini, Roosevelt, Stalin, and other portrayed leaders are metonymies for their respective countries and create a persuasive masculinist history. There are female leaders, but gameplay-relevant women are few and far between. Many have not been in the game from the start but were slowly added through DLCs.

This outlook remains when turning to another important portion of in-game art: music. Although I cannot offer a detailed analytical hearing of all auditory elements of *HOI4*, already listening to the most prominent audio points to a militaristic soundscape interlinked with masculinity.<sup>55</sup> In-game voice lines that trigger when players select troops, are male and only one music piece has a solo female singer. Furthermore, most of the instrumental music playing in the background consists of military marches or what the former Senior Music Composer at PDS, Andreas Waldetoft, called “really aggressive war music” (Lind 2017a, under “Music”). The scores change according to the in-game situation, e.g., tranquil in peacetime versus inciting in wartime, and are individualised for in-game factions (Allies, Axis, and Comintern) or region- or country-specific, e.g., when those received new content via DLC. Like in film, the marches “carry with them connotations of loyalty and patriotism, together with a certain national character

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<sup>55</sup> See Kamp (2024) for a detailed approach to digital game music.

that they derive from their historical military connections and that run through the march in its wider musical incarnations” (Mazey 2020, 183).

Most pieces are new compositions by Waldetoft, but PDS also released a DLC with 13 historical German, Polish, Romanian, and Soviet marches. Again, the developers demonstrated lack of awareness when promoting *Ride of the Valkyries* as bonus song for buying an expansion that included the DLC *Götterdämmerung*. Although *Ride of the Valkyries* is very popular across media forms and has been used in various contexts, it was relinked to Nazism without contextualisation (see Paul 2014). Richard Wagner’s lifework had significant impact on Hitler personally and was heavily adopted in Nazi symbolism (Mosse 2022, chap. 4). Together with the promotional material for the DLC creating a fetishised image of Nazi militarism with *Wunderwaffen* and the like, see for example figure 6, it is increasingly harder to reduce *HOI4* to simply being a wargame.

Figure 6: Header image for the HOI4 DLC *Götterdämmerung*



Image as used by Paradox Interactive (2025b).

Art design is an important factor of how the game is perceived. Therefore, it is necessary to critically reflect how wargaming is framed by developers. The visuals have always been militaristic and masculinist but got increasingly so

with the DLC *Götterdämmerung*. The audible environment supports the male-coded experience of a grand strategical conflict where men clash against each other as personified nation-states (Austin 2018, 171–72). Hence, visuals and music create a geopolitical imagery of masculine war with subtle admiration for totalitarianism, leaving anything non-male and the consequences of totalitarianism largely out of the picture.

### 5.2.2 Painting the World

After outlining what impression the game aims for, the question arises: What do players see when they load *HOI4*? When starting a game for one of the two scenarios, beginning in 1936 or 1939 respectively, players can either select a country from a featured list (all those that have received unique content) or choose one from the map. In both cases players are transferred to the world map, see figure 7. While the map seems rather ordinary at the first glance, issues arise regarding projection, scale, positioning, and detail, which ultimately succumb the game to Agnew's (1994) critique of the territorial trap.

Figure 7: Starting map in HOI4



Own screenshot from HOI4.

The map is based on the Eurocentric Miller projection, which in turn builds upon Mercator (Skjæran 2014, para. 1). The Miller projection has no applied purposes as Mercator has for navigation; it wants to reduce “areal distortion as far as possible” (Miller 1942, 424) while departing not too much from Mercator’s outlook. Still, it does not preserve areas or shapes accurately, limiting its use to aesthetic applications (Snyder 1987, 86). The selection of the Miller projection leads to considerable distortions towards the poles, increasing the size of North America and Eurasia. In terms of countries, especially Canada, the USA, the Soviet Union, and Central to North European nations appear larger. This assembles a Eurocentric geopolitical imagery of the world, where the central countries appear as key actors. Whether or not this was an intentional choice to further draw attention towards the area where most of the gameplay is supposed to happen, the effect remains the same: The European war theatre is emphasised, pushing especially the Pacific theatre to the margins.<sup>56</sup>

Eurocentrism is also observable when zooming in closer. Countries that received multiple updates have more detailed states, the main organisational spatial unit (light orange) consisting of so-called tiles (yellow) (see figure 8). States host manpower, industrial capacities, resources, and more gameplay mechanics. The further players move out of Europe, the less-detailed states become. Whereas this might be justifiable for sparsely populated regions, the Americas, Africa, and Asia generally warrant more in-depth spatial details. Again, this exemplifies what developers focus on, namely the European theatre of WWII. Although the Second Sino-Japanese War is the first conflict between two countries in the game, states in China are larger and have fewer cities. After multiple

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<sup>56</sup> The developers argue that other options, such as using a globe instead of a map projection has negative consequences for in-game navigability (see Dahlberg 2023).

rounds of updates for Europe over the years, where states have been changed, it has become very clear that PDS neglects non-European sites of the conflict. Warfare as well as country management have more possibilities in Europe.

Figure 8: Spanish Africa with selected tile in HOI4



Own screenshot from HOI4.

Moving to scale, small territories exemplify how developers favour game-play possibilities over accurate projections. Gibraltar, Hong Kong, or Iōtō (Iwo Jima) are greatly enlarged simply because players must be able to click on them. On the other side, some territories like the Channel Islands, with Guernsey alone amounting to 10 times the size of Gibraltar, are not represented in the game. This selectiveness is based on perceived in-game importance. The aforementioned territories played major strategic roles during WWII, whereas the Channel Islands were of minor concern. Adjusting the map according to military strategy considerations exemplifies the inspirations drawn from wargaming, which is primarily concerned with managing troops and conquering territory instead of featuring how people dealt with an increasingly demanding Nazi occupation, to stay with the example of the Channel Islands (see M. Bunting 2014). Players are aware of these practices, and some challenge how biased the digital game assemblages are shaped by PDS. An inhabitant of the Channel Islands proposed adding

them to the game, dissatisfied with the developers' explanation that doing so would create difficulties for game AI to manage troops on the coast (see Orlunu 2017).

Coming to positioning, one of the more obvious distortions of the map must be pointed out: The Americas are significantly moved northwards. This was deliberately done to fit more land areas into the given game space, reducing the amount of sea areas (Lind 2014b, para. 1). This decision adds weight to the focus on land-based warfare. Although managing naval units is an established part of gameplay, it does not receive the same depth. Players' attention is moved towards land combat in Europe or China instead of naval combat in the Atlantic or Pacific. I argue that this reflects the portrayal of conflict as inherently spatial, the conquest or loss of territory. Since countries are colour-coded, players can 'paint' the map in their own colour when conquering territory on land, granting resources, manpower, or other strategic advantages.<sup>57</sup> On sea, only naval dominance in a simple red-yellow-green colour scheme on a separate map mode is achievable for almost a decade after the game's release. But the digital game assemblage is again in flux and in June 2025, the responsible game designer at PDS announced a rework of the naval game mechanics, including colour-coding sea areas in the main map mode according to the dominant country (Żwirski 2025a, under "Appeal to my Lizard Brain"). With this update, players can map-paint land *and* sea areas in their quest for control over the virtual space.<sup>58</sup>

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<sup>57</sup> Resources are not meant to replicate extraction and production in detail but should "create interesting (and realistic) strategic gameplay where many areas become important to control" (Lind 2015b, para. 3).

<sup>58</sup> This feature was not included in the scheduled update in November 2025. It remains to be seen if PDS implements it at a later date.

Thus, map-painting is a key fulfilment for players, putting them in “a position of power that is reminiscent of a (military) cartographer, giving players the means to transform maps according to their needs and purposes” (Lammes 2010, 3). Similar to the strength of tactile markers in board games drawing players into their play experience, the visual engagement in digital games offers satisfaction when the world slowly turns into the players’ colours (Ambrosio and Ross 2023, 865). Positioning other symbols on the map accurately, such as cities, is not a priority. Instead, the world map is meant to be a playground for territorial control, reflecting a classical geopolitical understanding of space (see Lammes 2008).

Despite the popularity of military dominance as victory condition in strategy games, others implement more possibilities to win the game, e.g., by constructing a special building. The elimination of the opponent remains a popular goal, but it is rarely so spatially visualised on a global scale as in *HOI4*. If players control enough ‘victory points’, cities assigned with values, the opponent capitulates. This triggers a peace conference, where players demand territory, release nations, or change governments of the countries they conquered. An alternative route to peace is very rarely scripted in the source code. But achieving peace is significant for players’ satisfaction; only then does the paint dry and conquered territory are fully incorporated into their countries. Thus, the game has two goals which appear contradictory: wage war and settle for peace. The former is imagined as ‘total war’, where all aspects of managing a chosen country serve the purpose of military conflict. The latter is mostly a negative conceptualisation as absence of personal violence (Galtung 1969, 183). Since *HOI4* is set up as war-game between clearly delineated nation-states, other conflict types are rarely featured.

Questionable from a historical standpoint, this is even surprising considering the expertise of the game developers. PDS has already programmed peace conferences differently. The other three major series exhibit more variety in fighting and solving conflicts. Capturing the hostile ruler ends wars quickly in *Crusader Kings III*; taking too much territory leads to alliances forming against players in *Europa Universalis IV*; and peace is negotiated without capitulation in *Victoria III*. The developers decided against these and reduced both the conflict and conflict solution to territorial matters (Lind 2015d, para. 2). With the *HOI4* DLC *By Blood Alone*, PDS introduced more mechanics in peace conferences allowing players to create demilitarised zones or to remove military industrial capacities (Dotson 2022, para. 8–10). However, there were no substantial changes to the abstraction of conflict as well as winning criteria, let alone any mechanics to pre-empt another outbreak of war. Map-painting still reflects territorialised power as the prominent playful geopolitical performance.

This is supported by map modes. While there are multiple modes available, e.g., diplomatic relations, logistics, or ideologies, the political map is the default one. Others add specific information useful for players in certain circumstances, but the political map is predominantly used while playing. All land areas are neatly separated between countries; no single piece is left unclaimed. Nation-state control is essentialised in a spatially ordered world; there are no alternative imaginations possible (Agnew 1994, 62). A difference between so-called core territories and those which resist occupation exists in gameplay mechanics (see Spanish Africa in figure 8), but with enough conscripts and weapons, there is little to fear as colonial or occupation power.

The map portrays geopolitics as a zero-sum game, where military conquest is visualised pleasingly when players map-paint (Salter 2011, 365–66). What

happens with the conquered population is of minor importance. Additionally, the population in nation-states is presented as one homogenous unit. While other PDS games feature cultural diversity, in *HOI4* every person in a country is at the disposal of players, abstracted in population numbers. Heterogeneity is mostly ignored or serves as negative effect. For example, Yugoslavia is confronted with a range of modifiers which reduce gameplay options for players significantly, based on ‘Croatian and Macedonian opposition’ as well as ‘Slovene nationalism’.<sup>59</sup> Nation-states serve as containers for society, which directly translate to territory on the map (Agnew 1994, 68).

Therefore, the map of *HOI4* is persuasive through subtlety incorporating elements that set the scene for simulating war in a classical geopolitical logic (see Tyner 1982). Territory is an expression of power including the hard facts of industrial capacities as well as human and natural resources (Crampton 2001, 243–44). If players control valuable territory, they are prepared to expand their reach to others.

### 5.2.3 Absolute Authority

In the tradition of wargaming, *HOI4* players command armies, navies, and air forces to achieve their goals. Division composition, warship designs, or ace pilot assignments are some examples of small actions players perform to influence the outcome of battles. They can also choose the overarching strategic approach and set preferred tactics when troops engage. In these aspects, *HOI4* is a quite direct remediation of wargaming board games (Deterding 2009, 32). But the game is more than that. Players can delegate various tasks to AI. Instead of

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<sup>59</sup> Other examples include Czechoslovakia as a ‘divided nation’ between Czechs and Slovaks, and the Dominion of Canada with a ‘conscription crisis among French Canadians’.

managing single units across the frontline, players let AI handle attack or defence of whole armies. The navy is always rather autonomous; players choose tactics and the modes of (dis-)engagement, while assigned admirals handle the actual fighting. Aircrafts can be attached to armies avoiding moving them manually if the frontline advances or withdraws. These automatisations of features are necessary, as players must control other aspects as well: military equipment production, technological progress, or choice of NFs. Tellingly, it is interesting to consider what does not require too much oversight by players—sovereignty.

There is no need to justify any decision. Where other strategy games require players to consider those who are under their control and satisfy their needs, *HOI4* does not have any internal opposition. Even control in occupied or colonial territory is largely unchallenged. Earlier versions of the game did not have an elaborate distinction between core and occupied territories. After two years, a ‘resistance’ game mechanic was introduced, which was meant to reflect that occupation was not accepted without consequences by inhabitants. Core territories grant full access to manpower, industry, or resources. Occupied territory is managed with a range of options, from assigning no garrison to harsh exploitation. Depending on the choice, resistance and compliance are modified.

Interestingly, this was apparently not motivated by the desire to reflect the various conflicts in colonies or conquered land, but by reducing the easiness of conquest (Dotson 2019, para. 1). There would have been multiple historical examples to draw from, e.g., Yugoslavian partisans or Arab independence movements, but the game mechanic remains generic, even with the addition of intelligence services in the DLC *La Résistance*. I explain this approach with the developers’ sanitisation of war. Explicitly mentioning subversive activities by local populations would lead to featuring countermeasures taken by the occupational

power. Programming a button which enables eliminating whole villages to set a warning example is not an option for PDS—rightfully so. But ignoring the actions of those suppressed paints a very incomplete picture not only of WWII but of how control can be challenged from different topographical scales (see Allen 2011).

The only game system representing some form of public approval is ‘stability’. This mechanic was introduced one year after release, together with ‘war support’, both replacing ‘national unity’ (see Lind 2017c). Ranging from 0 to 100 percent, these modifiers provide positive effects if they are higher than 50 percent. Players increase these values through NFs and decisions. In some instances, high stability prevents the outbreak of civil war or increases the capitulation threshold of a country. While players should be mindful of their country’s stability, it does not impede their sovereign rule over the territory. This follows the “dominant realist tradition defining sovereignty as the ultimate law-making authority within given territorial boundaries and thus conceived as fixed, final and absolute” (McConnell 2013, 110).

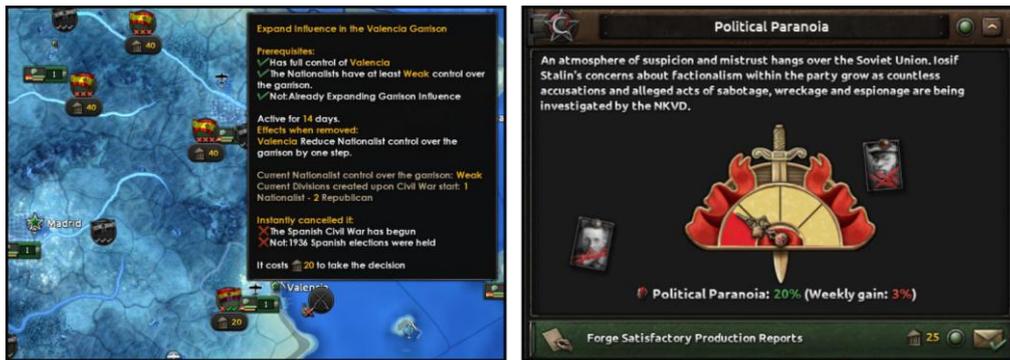
There are notable exceptions to this portrayal of sovereignty: the Spanish Civil War and Stalinist purges (see figure 9). Before the conflict breaks out in Spain, players fight over territorial influence in the country against AI. Sovereignty is explicitly challenged by the other side and controlling more provinces improves the position in the inevitable conflict. When leading the Soviet Union, players must address Stalin’s ‘paranoia’ early on, keeping it at low levels to avoid a full-scale civil war or acting against Stalin altogether.<sup>60</sup> There is no dedicated opposition, but the in-game mechanic of ‘political paranoia’ which questions

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<sup>60</sup> If players oppose Stalin, they must fight over territory similar to the Spanish Civil War before the conflict breaks out.

authority. More recently, ‘balance of power’ systems have been introduced for several countries (Italy, Ethiopia, Switzerland, Finland, and Denmark). A simple progress bar between two sides illustrates who has more influence and players must reflect on possible consequences of actions which favour one side.

Figure 9: Challenges to authority in HOI4



Left: Spanish Civil War territorial struggles; right: Stalin’s Political Paranoia system. Own screenshots from HOI4.

While adding more layers to portray sovereignty, these game mechanics are still vast simplifications in comparison to political processes. This is justifiable by the nature of games; what is more troublesome is that they are only superficial challenges of player sovereignty. It matters barely, what party is in power. In gameplay terms, changing country leaders has considerable effects, but the understanding of players’ sovereignty remains. Even in cases of domestic or foreign influence leading to a regime change unplanned by players, they keep control and continue with the new faction. Only a military defeat in a (civil) war causes the game to end. That is not to say that winning or at least having an enjoyable session is easy as there is no challenge to players’ authority. Overcoming obstacles, a vital part of play, is apparent through the difficulty of mastering the game (Crawford 1984, 11). As all PDS titles, *HOI4* is remarked to be “overwhelming in both its depth and, more importantly, its complexity” (Plunkett 2016, para. 5).

Many (non-strategy) games implement dynamic difficulty adjustment, which confronts players with increasingly harder opponents as they progress through the game (Salen and Zimmerman 2004, 222–23). In *HOI4*, difficulty can be only adjusted before starting a game session. Instead of facing challenges based on game rules and mechanics, players are tasked with understanding the rules and mechanics in the first place. Thus, the digital game assemblage cultivates a geopolitical imagination of complex conflicts, where leading a country through turbulent events is no simple endeavour, let alone winning a war. Although control is absolute and players have no responsibilities, having fun while playing requires them to learn how the game works.

It is easier to have fun depending on what country players choose. At first glance, in-game power—the ability to perform certain actions—is mostly concentrated in so-called major countries (France, German Reich, Italy, Japan, United Kingdom, United States, and Soviet Union). The others dubbed as minor countries are inscribed with less meaningful roles in the game. This clear-cut system of power distribution is primarily determined by industrial factors. If the country has a specific amount of industrial capacity in comparison to others, they are granted the status of major power. This comes with some preferential treatment especially in diplomatic relations by AI. Curiously, the developers do not restrict their core gameplay element of waging war to being a major country. It is significantly easier based on a larger production base or manpower pool, but all non-democratic countries can do so relatively easily.

The connection of ideology and aggressive expansion reflects aspects of democratic peace theory, which has been explicitly acknowledged by the former lead developer (Lind 2015c, para. 1). Although all major democracies are eventually at war in the game, the dyadic hypothesis that democracies tend to not

wage war against each other is reflected in *HOI4* through game mechanics (Rousseau et al. 1996, 515).<sup>61</sup> Democracies can only justify war goals against others if ‘world tension’ reaches a specific value and if those countries have created said tension. Tension is raised by aggressive actions, predominantly by fascist and communist countries, e.g., the Italian occupation of Albania or the Second Sino-Japanese War. If the world tension value reaches 25 percent, democratic countries start guaranteeing the independence of non-fascist and non-communist countries. Tellingly, fascist and communist countries are not programmed to do so for countries with the same ideology. Therefore, democracies are coded as preservers of independence, while the major ones (France, United Kingdom, and United States) still hold on to their colonies. This game rule aims at recreating the historical events of WWII, where fascist expansion was finally responded to. It also balances the gameplay experience as non-democratic countries cannot conquer others unchallenged (see Lind 2015a).

Although this reflects classical geopolitical assumptions of powerful countries and those which are either easily conquered or must be protected, linking offensive actions and ideology deviates from these. It is not only great powers which are drivers of international relations; minor countries have impact as well, which corresponds to baseline critical geopolitical inquiry (Dalby 1991, 274). In many cases, they still follow expansionist logics—a form of “small state imperialism” (Fabrykant and Buhr 2016, 104) based on national imaginations of past empires—but even this is already a refreshing experience in digital games. Thus, countries, which are usually not regarded as influential on the world stage receive representation and agency; a rather unique element compared to

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<sup>61</sup> For criticism of this reading of democratic peace theory see for example Rosato (2003).

options in most games, where only certain factions can be selected—WWII settings usually let players fight on the British, German, or Soviet side, but rarely as Indonesian, Hungarian, or Mongolian.

Further ambivalence to power is created in foreign and domestic policies. Diplomatic relations remain underdeveloped in terms of game mechanics and are mostly incorporated in NFTs. Historical events, such as the continuous diplomatic struggle of appeasement, are reduced to players demanding territories as Nazi Germany almost effortlessly and with only minor repercussions in diplomatic relations. But there are limits to the ‘rule of might’. For instance, if players demand Sudetenland from Czechoslovakia as Germany, a range of factors were coded for game AI to consider when responding:

```
modifier = { # Decrease chance CZE submits if AUS isn't taken first
[...]
modifier = { # Increase chances if other bordering nations are in Axis
[...]
modifier = {
  factor = 0.3 #if you are in a faction, maybe fight
[...]
modifier = { # If they stand a chance they will fight
  factor = 0
  strength_ratio = {
    tag = GER
    ratio > 0.75
[...]
modifier = {
  factor = 0 #if you lead a faction, fight
[...]
(events\Germany.txt, lines 3014–47)
```

The comments the developers made showcase that army size is only one variable among many. Leading a faction of countries or being part of one also increases chances of game AI to take a stand against players. Still embedded in a realist conceptualisation of power relations—territorial proximity (existence of Austria) or powerful allies are decision-making factors—the developers simulate considerations when hostile foreign policies are enacted. In the spirit of

wargames, there is no absolute certainty for game AI to take either option, just probabilities. Lastly, power is a value in itself, for domestic purposes. Countries continuously produce ‘political power’. Compared to other game mechanics, the implementation of political power as numerical value to assign political advisors, influence foreign relations, or take certain decisions appears quite unsophisticated. There is no difference based on countries itself, but more so between leaders or ‘national spirits’ which grant bonuses or maluses to political power generation. This reflects an understanding of power as “enumeration of the resources of a state” (Painter 2008, 60) in a realist reading.

With this look into how developers negotiate control for players of *HOI4*, I conclude the first analysis of assemblage component parts. Although the audiovisual environment as well as rules and mechanics would provide even more material for critical inquiries, the accounts already convincingly illustrate the main biases of *HOI4*. The masculinist representations of history are apparent in imagery and music to the point of fetishising war. The map exhibits Eurocentrism in projection, scale, positioning, as well as detail, and serves as canvas for an essentialised practice of conquering virtual space. The agency given to smaller countries highlights how the game enriches perspectives, as do the few options challenging players’ authority; but generally, players are put into a position of absolute authority. After going through discourses and systems for *HOI4*, I now turn to the same component parts for *A3*.

### 5.3 Worlds and Narratives

*A3* has a vastly different conceptualisation of conflict compared to *HOI4*. Players choose between first- and third-person perspective in the military simulation,

reflecting an in-person visualisation of warfare. This is a significant change which requires a different focus when critically examining the game. Gameplay rules and mechanics revolve mostly around character or vehicle movement as well as the behaviour of military equipment. They are influenced by players' decisions but they are no active performances, such as map-painting in *HOI4*. Therefore, they do not hold as much persuasive power. Instead, I concentrate on the representations of conflict scenarios laid out in the game's campaign. I do so for in-game stories and virtual environments.

### 5.3.1 Spatialising Conflict

Whereas *HOI4* builds on an existing historical conflict, *A3* creates its scenarios from scratch, but not without deep interlinkages to the physical world. Before players join the fictional conflict, they go through a tutorial, as is common in many digital games. This is not only meant to introduce players to the key game mechanics of *A3* but also to expose them to the basic geopolitical scenario that frames the campaign's story in the portrayed year of 2035. Curiously, the tutorial starts in an in-game VR environment. Since players incorporate the role of NATO soldiers in the story, this is inevitably reminiscent of BISim's *VBS* used by militaries around the world. In *A3*, military simulations have reached a level of sophistication which allows VR equipment to be deployed alongside soldiers in the field. However, BI generally abstains from implementing too futuristic technologies to assure relatability to the fictional setting.

After players learn how to navigate in the game and how to engage enemies, they are quickly thrown into the ongoing conflict on the Mediterranean islands Altis and Stratis. The storyline of the campaign imagines a conflict

inspired by existing geopolitical assumptions.<sup>62</sup> The Republic of Altis and Stratis (RAS) has a history of various occupations by external powers (Roman, Arab, Venetian, Ottoman), the most recent one being the United Kingdom (AAW 2025c, under “History”). After gaining independence at an undisclosed point, the RAS joins the EU, and the country gets caught up in global shifts of power in the introductory video to the campaign. Economic and social crises among Western countries are predicted for the 2020s while China gains importance.

As the difficult situation hits the RAS, political unrest grows, and a military coup d’état takes place in 2026, triggering a civil war that ends with a victory of the military over forces loyal to the government in 2030 (see BIKI 2025). Although the new regime is officially recognised, the RAS is expelled from the EU:

‘When Europe cast us out of their failed union of states, we rose from the ashes of a false society, a false economic norm. We gave new hope to our unemployed. Without Berlin’s noose around our neck! We stand for what was, is, and will forever be our own! Our land! Our people! One Nation. Altis!’  
(adapted from Addons\languagemissions\_f\_epa\stringtable.xml, lines 1656–65)

Here, looking at the code helps painting a more complete picture as the speech is only partially included in the introductory video. The conflict is presented as mainly economic and German political domination castigated by RAS leadership. Parallels can be drawn to sentiments in Greece after the economic crisis in 2008.

Whereas these narratives are rather convincing, the expulsion of a country is no legal possibility under current EU law (Blagoev 2011, 236). The artistic license BI took in this instance further strengthens their geopolitical imagination

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<sup>62</sup> According to the achievement awarded for completing the base game campaign, only 3.4 percent of players did so in July 2025. Still, the confrontations portrayed in the campaign set the context for a multitude of other ways to play the game.

of a deeply polarised international order, where EU law was amended to follow up on drastic measures. In this international order, a new actor constitutes the counterpart to Western organisations: the Canton Protocol Strategic Alliance Treaty (CSAT). While the EU and NATO are featured as their non-fictional organisations are, CSAT is inspired by the Collective Security Treaty Organization and the Shanghai Cooperation Organisation. China, Iran, and Belarus are member states with Russia cooperating with the organisation (AAW 2025d, under “Background”). Hence, contemporary geopolitical discourses made their way into the digital game assemblage. Subsequently, RAS leadership reorients the country towards CSAT, although both NATO and CSAT initially support the republic in its fight against the insurgent Freedom and Independence Army (FIA), which partially consists of former loyalists to the pre-coup government (BI 2025e, under “FIA”). However, in 2035, Altis Armed Forces (AAF) attack the local NATO task force with CSAT support. Players experience this in the main campaign *The East Wind* through Corporal Ben Kerry, who joins FIA ranks after NATO forces have been decimated.

Warfare is mostly portrayed as asymmetric since the remnants of NATO and FIA do not have the capacities to field a larger force until the successful invasion of the RAS by NATO in the last chapter of the campaign. This is an interesting contrast to other shooter games, which balance between players in similar outnumbered roles and giving them the option to control tanks, gunships, and other vehicles. Although players do so in *A3* as well, it does not visualise “militainment-as-spectacle” (Payne 2016, 13). The spectacle derives from indulging in detailed recreations of physical environments and military equipment, promising authenticity. In the end, the NATO invasion is successful and AAF forces capitulate while CSAT retreats.

Another element further complicates the conflict: The involvement of a weapon of mass destruction. Players interact with soldiers of inconclusive motives throughout the campaign, but the full scale of deception is revealed only at the end. If players choose to disregard orders and help the special forces called Combat Technology Research Group (CTRG) in one of the final missions, they learn about the Eastwind device.<sup>63</sup> This device has been developed by CSAT and causes the increasingly stronger earthquakes players experience throughout the campaign. CTRG is tasked with securing it.

WMDs or superweapons are a longstanding trope in popular culture, e.g., the Death Star in *Star Wars* or nuclear weapons in *James Bond*, and are often the ultimate object to destroy or capture in shooter games. Curiously, it is less important what the weapon exactly does. Similar to official communiques, where WMDs are rhetorical devices for justifying action, superweapons are story devices which drive the plot (Oren and Solomon 2013, 134). In *The East Wind* it does so only in the background; it is more pronounced in the DLC *Apex*, where CTRG hunts down the Eastwind device on the pacific archipelago Tanoa which suffered a disastrous tsunami caused by the weapon. Therefore, the geopolitical confrontation scenario between NATO and CSAT is complicated with special operations around the WMD. Even without this addition, the conflict between various factions with changing allegiances is already rather complex. I argue that this is done on purpose to create the image of ‘messy war’. Contrary to non-simulationist shooter games, where enemies are more plainly outlined, A3 upholds its claim to authenticity with convoluted stories (Bos 2016, 66–67).

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<sup>63</sup> However, this ending is considered non-canonical as the device is still searched for in the subsequent campaign *Apex Protocol* (AAW 2025a, under “Background”).

However, on the grand scale, the narrative is similar to other military games. Non-Western forces are the aggressors, imposing the violent outbreak on Western units, which must struggle for survival. The allocation of NATO as Blue Force (BLUFOR) against CSAT as Opposing Force (OPFOR) in the game mechanics does not only illustrate the usage of military jargon (BLUFOR describes allied units, OPFOR the enemy, and INDFOR any Independent Force, e.g., AAF) but also clearly delineates who is friendly and who hostile. Even the image of special forces damaging the presentation of lawful warfare conducted by the West has been already used numerous times in popular culture. In the end, they are still fighting for the 'right' cause, although their means certainly trigger discussions.

BI differs in nuances, e.g., in explicitly portraying NATO troops. Although those feature mostly British and US-American soldiers, it conveys a slightly more international image than other games which focus on special forces or specific countries. Furthermore, BI abstained from reusing the geopolitical fictionalisation of desert countries or popular urban areas as conflict spaces in *A3*, although they utilised this imagery in past titles. Instead of hopping globally from place to place, players are confined to the same environments for the entire campaign. This adds to BI's desired realism and puts further emphasis on the role of the virtual space itself. I expand on the space in *A3* as the main element where play happens in the next section.

### 5.3.2 Islands as Warscapes

At release, *A3* offered two maps as playground for players and background for campaigns. These are the islands of Altis and Stratis, which are based on the Greek islands Lemnos and Agios Efstratios, Ai Stratis for short. The virtual spaces are very close, albeit smaller, recreations of their physical equivalents. With

around 270 km<sup>2</sup> (Altis) and 20 km<sup>2</sup> (Stratis), large land areas are at the disposal of players, competing with the biggest open world games (see BIKI 2024b; 2024c). But compared to those, Altis and Stratis are not filled with quests or events. The islands ‘come alive’ only with campaigns or missions. They are sandboxes, where players either explore content others have created or script their own ideas. As comparisons of the images make clear, see figure 10, BI is very proficient in capturing the physical world in virtual space. Paper fold-out maps of *Arma* terrains or maps, including Altis and Stratis, can be bought in the official store, manifesting the islands in the same way as non-fictional places (see BI 2025f).

*Figure 10: Altis in A3 compared to Lemnos*



*On the left: Altis (BIKI 2018); on the right: Lemnos (Esri 2025).*

Altis and Stratis were later complemented by Tanoa with the DLC *Apex*, adding a 100 km<sup>2</sup> Pacific archipelago to the game (see BIKI 2024a). With no single inspiration for the environment but drawing from a visit to Fiji and more research on tropical island climates, the developers refer to their virtual recreation as “geo-typical” (Crowe and Land 2015, 3:04–13): The physical conditions are mirrored without copying an existing environment piece by piece, see figure 11.

Figure 11: Rural settlement on Tanoa in A3



Own screenshot from A3.

Islands are often used as virtual worlds in games because they offer an inherently spatially contained playing experience without requiring designers to add (invisible) walls or other elements to delineate the boundaries of play. The sea acts as natural border, which most characters in digital games cannot overcome (Nyman 2013, 274). The reiteration of the contrast between land and sea perpetuates a form of environmental determinism, where land mass is the focal point. Other conceptualisations of what constitutes island communities are neglected, as Hau’ofa (1994, 151–52) sharply criticises. This is certainly connected to Eurocentric logics and colonial heritage, where those islands were remote in the geographical imaginations but remained places of desire. The biomes of Altis, Stratis, and Tanoa are promoted to be explored by players, from long beaches to thick forests to small deserts. The limited portrayal of civilian life beyond buildings and infrastructure emphasises the naturalistic view.

This is pronounced on Stratis, which is described as “‘military island’ after most of the civilian population moved to Altis” (Addons\language\_f\string-table.xml, line 57839). There is no further information on how or why the

population movement took place; the outbreak of violence or even forced displacement are possible reasons. This may act as explanation why players do not encounter any civilians on Stratis, but the same civilian absence continues on Altis. Players *only* interact with combatants, see figure 12. The islands become ideal “war-scapes” (Nordstrom 1997, 37), where warfare takes place without involving civilian actors. Moreover, the entire setting is scripted as male. The inclusion of female-read character models was unsuccessfully requested by some players during development and rejected by others (see Asytra 2013). Apart from Katherine Bishop, a journalist in the DLC *Laws of War*, players do not interact with women or civilians. The war is fought man-to-man. Prevalent in military-themed digital games, the reduction to warfare as men’s business “reinforces the deeply patriarchal system military masculinity reflects” (Blackburn 2018, 49). Consequently, the players’ role as soldiers on the ground is imagined as heroic warriors surviving against all odds once players are quickly thrown into battle at the start of the campaign.

Figure 12: Passing a checkpoint on Stratis



Own screenshot from A3.

Initially, NATO supports the RAS against insurgents. But its “peacekeeping mandate” (Addons\language\_missions\_f\_bootcamp\stringtable.xml, line 2198) is subsequently limited to the smaller Stratis following the RAS’ alignment with CSAT. The defensive role the game assigns to the Western faction until its invasion in the last act of the campaign is foreshadowed. With few exceptions, there is little doubt raised that NATO involvement is beneficial for the islands, illustrating a Westerncentric narrative. With military bases by both NATO and CSAT established on the islands, they also represent what Vine (2011, 41) calls “bases of empire” which grant the ability to quickly project military power in regions far away from the origin country. Again, this writes Altis and Stratis as points of geopolitical interests rather than highlighting indigenous issues. This approach is repeated with different circumstances for Tanoa.

Furthermore, there is a utopian notion regarding energy production. Altis and Stratis wholly utilise wind and solar energy with installations spread across the country (Abraham 2018, 73–74). This is likely inspired by actual developments on the islands. The plan to convert Ai Stratis into an energy-autarch island through replacing diesel generators with renewable sources was developed in the 2010s and its pilot project was completed in 2024 (see Agricultural and Environmental Solutions 2020; Kathimerini 2024b). Notably, this project is limited to Ai Stratis with its smaller population. At least in the world of *A3*, sustainable energy-independence has been achieved for the larger Altis. Strikingly, this takes away one possible key justification for the violent situation on the islands and foreign interventions. In realist approaches, natural resources play a major role which is not the case on Altis and Stratis. Although Tanoa is mined for rare earths, the foreign interventions on the island are contextualised with the consequences of the devastating tsunamis as well as the outbreak of a super-strain

of malaria (AAW [2025b](#), under “History”). As the campaign reveals, both are caused by CSAT with WMDs to exert influence through humanitarian aid following the crises.

Therefore, the islands’ conflicts are embedded in geopolitical power struggles between a surging Asian faction and NATO. There is limited explicit geopolitical reasoning; it is speculative what CSAT gains from supporting the RAS or what strategic value Tanoa holds. Instead, a realist view on international relations is incorporated in the narrative, focusing on “who is in charge first and foremost in a world of inevitable faction and power struggle” (Dalby [2013](#), 36). The islands as (fictional) material spaces take a back seat in favour of the disputed balance of power. What Criekemans ([2021](#), 140) calls a “realpolitical geopolitics” is observable in *A3*, with territory only representing the space where conflicts are enacted rather than playing a major role itself.

While in-game and promotional discursive elements prompt players to discover the islands on their own, colonial assumptions also materialise in the procedural rhetorics. As in many games, the islands (and other spaces) are meant to be conquered by players. In the case of *A3*, players must clear out villages, set up ambushes, or destroy infrastructure in the struggle for control. The situation is complex, as a variety of factions clashes. The inclusion of foreign powers, i.e., NATO and CSAT, reflects another issue around island discourse. Since China-led CSAT is involved, the narrative of “a ‘rising China’ and ‘waning West’ to be stuck in an anachronistic mode of dualistic logic where ‘influence’ in island spaces is portrayed as an either/or, zero-sum game of imperial rivalry amongst external powers” (Davis et al. [2020](#), 15–16) is repeated.

Additionally, the ‘Chinese threat’ scenario is strengthened through the location of the conflict. Whereas Tanoa implicates ongoing issues in the Pacific,

Altis and Stratis are in the Mediterranean Sea few hundred kilometres southeast of Italy and geographically close to multiple NATO countries. Despite some undisclosed North African CSAT member states, the power to enact influence in this location hints at a substantial political and military potential of the organisation vis-à-vis a weak Western community, as exemplified by a dialogue between two soldiers at the beginning of the main campaign:

Mitchell: How did things get this fucked, anyway?  
Conway: C'mon, it's hardly like it's a surprise. The economy's been in the tank for a decade—at least.  
Mitchell: Yeah, but CSAT? How'd we ever let that happen, you know?  
Conway: Not our call any more. They got jobs. Growth. Influence. Fucking... China, man.  
(adapted from Addons\languageemissions\_f\_epa\stringtable.xml, lines 17662–747)

The replication of existent islands as well as incorporation of contemporary geopolitical discourses showcase how BI draws from the physical world to territorialise the digital game assemblage. Finally, it must be mentioned that *A3* is not all about islands. A fictional mainland territory based on Czech landscape called 'Livonia' was added with the DLC *Contact* and various other maps not confined to islands are shared in the community. Still, throughout the series, islands have been predominantly utilised as virtual warscapes (see Mořický 2016). The concept of geo-typicality for those virtual spaces can be applied to the narratives as well.

### 5.3.3 Geo-Typical Narratives

BI developers describe their simulation as geo-typical, a virtual amalgamation of physical geography without duplicating every detail. I extend this understanding of geo-typicality to the geopolitical scenarios that contextualise the game. Just as the physical environment is imitated, the geopolitical conflicts are

reminiscent of contemporary international relations without reproducing them in name. The developers confirm that creating fictional factions and conflicts was influenced by what unfolds in the world (Alsworth and Buchta 2023, 31:30–33:58). The previous section already pointed to some examples, e.g., the fictional CSAT faction and its SCO/CSTO inspiration. Even the history of Altis and Stratis is a mixture of developments in the Mediterranean.

The DLC *Laws of War* added historical context for the islands three years after the base game release: Phoenician settlements, Roman conquest, and Byzantine occupation are shared experiences among various Mediterranean islands and have been ascribed to Altis and Stratis. The events mentioned in the game are dated close to historical trajectories, tracing the developments in the region, most notably those of Cyprus and Malta (see AAW 2025c).<sup>64</sup> Like Malta, Altis and Stratis changed hands between Byzantine and Arab rulers in the Early Medieval period (Rudolf 2018, xxx). But where a Byzantine reconquest of Malta failed, Altis and Stratis were conquered by the empire in the 10th century like Cyprus (Mirbagheri 2010, xxiv). Similarly, the Venetian takeover in the 15th century is inspired by Cypriot history, whereas the unsuccessful siege by the Ottoman Empire in the 16th century is derived from Maltese history (Mirbagheri 2010, xxvi; Rudolf 2018, xxxi). Both countries have been incorporated into the British Empire in the 19th century and so did Altis and Stratis although in an undisclosed time frame.<sup>65</sup> Similarly, independence was achieved without precise date in the 20th century. The background on Tanoa is less detailed, pointing to Dutch and

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<sup>64</sup> Parallels are observable to Balearic, Cretan, Sardinian, and Sicilian history.

<sup>65</sup> The AAW (2025c, under “Colonial era”) claims the 16th century as time frame. I could not verify this in the game’s files. Furthermore, it would be a rather early start for British colonial expansion, especially in the Mediterranean.

French colonialism as well as Japanese occupation during WWII, with a subsequent liberation by the USA (AAW 2025b, under “Colonial era”).

Since there is little other historical information on the islands, BI reaffirms a historiography dedicated to conflict. Non-violent aspects of history have not been explored. I argue that this decision adds to the presentation of Altis, Stratis, and Tanoa as eternal warscapes. Centuries of possible peaceful existence are overshadowed by conquests. It also contributes to seeing the islands as pawns of foreign powers. Therefore, in-game historical information is reduced to a rhetorical argument for the current complex situation of the RAS, exemplified by the dialogue between the players’ character (Nathan MacDade) and a journalist (Katherine Bishop) in the DLC *Laws of War*:

Bishop: Do you know who built it?

MacDade: The castle? Not exactly. Thing was built sometime around the end of the ninth century. Arabian warlords. But, I mean, they only occupied a much older site. It was a Phoenician fortress before that. Y’know, during the first of the Punic wars, the Romans laid siege to it. Six long years.

Bishop: That’s some time! Did they capture it?

MacDade: Um, in a way. The defenders wound up ceding it to Rome - some later treaty. And then? Well, then it gets even more complicated.

(adapted from Orange\Addons\language\missions\_f\_orange\stringtable.xml, lines 10525–610)

Considering the great lengths other non-simulationist games go that want to re-enact non-fictional histories, this effort can be explained by the desire to create more plausibility and authenticity (Groot 2016, 154–55). Whereas games set in WWII need few explanations on what the conflict is about and who fights, the fictional RAS certainly warrants some background. With the DLCs *Tanks* and *Tac-Ops*, players explore parts of the most recent history of the RAS in campaigns set during the civil war between junta and loyalists. Contrary to historical accounts, this conflict does not have any direct parallel to the non-virtual world,

and it remains a rather generic coup d'état following an economic and political crisis.

Remarkably, BI did not incorporate any other possible fault lines, where conflict could stem from. Particularly the Cypriot situation could have served as inspiration. However, the residents of Altis and Stratis are portrayed to have one common ethnicity, language, and religion. The islands are homogenous, the visual appearance of both people and landscape is derived from Lemnos and explicitly called Greek in the game files; naming conventions of characters and places are Hellenic as well with few exceptions such as foreign military forces. Only Tanoa exhibits a greater mixture in denominations mostly based on colonial influences. Looking at general conventions of portraying conflict in military simulations, this becomes less surprising. As other developers, BI avoids the risk of any controversies which hamper sales through creating rather vague fictional settings (Heede et al. 2018, 245). Furthermore, I argue that neglecting the representation of internal struggles emphasises the greater geopolitical confrontation between the two major factions: NATO and CSAT.

BI (and many other Western game developers) echo contemporary geopolitical discourses of an 'Asian Century' in general and the 'Chinese Century' in particular when future geopolitical scenarios are created. Although BI has moved on from the Soviet Union and Russia as focal antagonist (but come back to it in *Arma Reforger*), utilising China, Iran, and Belarus as noted members of CSAT embeds Western stereotypes into the game assemblage.<sup>66</sup> Some observers see parallels to the binary geopolitical discourses of the past century: "a very tense new superpower rivalry between a declining United States and an

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<sup>66</sup> Initially, only Iran was mentioned as main opposing force without any faction attached to it (see BI 2011).

emerging China is a probable scenario, one that summons the ghost of the historic Cold War to appear as a New Cold War” (K. P. Tan 2023, 9). Indeed, the game follows up on this split between factions although it does not elaborate much on its cause or nature. The conflict is essentialised and builds on players’ familiarity with Western discourses. This familiarity has been well-established not only in other digital games, but popular culture in general as well as official discourses. Therefore, other narratives are subdued and the conflict between the two factions dominates.

Here, it is important to note that *A3*’s scenario takes place in 2035, which appeared certainly more futuristic in 2013, when the game was released, than it does halfway through to the imaginary setting. During development, Western geopolitical anxieties about a power shift towards the so-called Indo-Pacific with the PRC in the spirit of “yellow peril and red menace memory frames” (Yang 2017, 178) gained considerable popularity (Pan 2014, 454). Although stemming from US-American perspectives, European discourses also shifted towards stronger opposition of the PRC (Pavličević 2022, 70). In the Czech Republic, whose national discourses have been impacting developers at BI, China was identified as potential threat ranking even above Russia in 2012 (Mácha et al. 2015, 575). Thus, the in-game narratives are geo-typical as they reflect and reference Mediterranean histories and contemporary geopolitical discourses. It matters barely if those accounts are incomplete: “The player’s pre-game knowledge allows the game-maker to leverage the player’s experiences rather than adding more detail to the story. Players will readily project their knowledge of events” (Berger 2008, 47). Hence, in the territorialisation of the digital game assemblage, it is not necessary to feature geopolitical discourses exhaustively, as players contribute to its

formation with their own assumptions. I disclose how they do so in the case of Singaporean players in chapters 7 and 8.

## 5.4 Summary

This chapter covers several instances of how key discourses and systems in the digital game assemblages are informed by their relations of exteriority. The bodies involved in the production of *HOI4* and *A3* decidedly shape the game assemblages according to their own assemblages. Developed by European studios, the virtual spaces and scenarios in both games are heavily shaped by Eurocentrism. From the map and the practice of map-painting to the homogenous eternal warscapes of Altis, Stratis, and Tanoa, Western conceptions of conflict shine through in visuals, narratives, and mechanics. Moreover, the masculinist production circumstances shape equally masculinist representations of warfare.

At Paradox, reportedly one out of five board members and one out of six senior managers are women; in total, 22.5 percent of the workforce identify as female (Paradox Interactive 2025a, 44). Similarly, BI employs one female senior manager. Even if non-males are employed, they rarely have creative influence on products (Bailey et al. 2021, 61). This situation nurtures an unwelcoming work environment, as multiple cases of gender-based (sexual) harassment at Paradox reveal (see T. Phillips 2021).<sup>67</sup> Evidently, it also impacts the portrayal of warfare in their games, where past and future conflicts are similarly masculinist: Male figureheads dominate WWII and male soldiers take on each other in 2035. Any one non-male is left out of the picture.

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<sup>67</sup> Consequently, Paradox hired external evaluators before implementing internal reporting (see Bengtsson and Hayren 2022; Bengtsson 2023; Paradox Interactive 2024).

Besides reducing warfare to men's business, realist and (neo)classical geopolitical assumptions are at work in the game assemblages, where control of territory is inherently connected to power. With each victory, players are encouraged to expand further. Since no in-game oppositions exist, players have unchallenged authority to do so. In principle, there is nothing wrong with portraying a conflict in a game, but the abstractions and reductions necessary to create a playful experience are done mostly with little public reflection—especially on Paradox' side. In other words, the “pragmatism of game design practice” (Grufstedt 2022, 177) reigns supreme. Of course, in-depth discussions on the portrayal of history or military equipment take place internally as well as on the official forums and frequent changes in the source code illustrate the ongoing reterritorialisations of the digital game assemblages. While the sections of this chapter offered a critical reading of game design choices of specific games, simplistic representations traverse the genre of war simulation games.

In general, digital games put players in absolute control of what they play as, be it country or soldier.<sup>68</sup> If the virtual character does not behave according to player input and expectations, play experience quickly turns into frustration. This is highly important for simulation games, which promise behavioural realism. Nevertheless, developers are selective in what game rules and mechanics portray realism. It would be unappealing for players to deal with the bureaucracy involved when leading a country in *HOI4* or with combat injuries that cannot be solved with a catch-all first aid in *A3*. Surely, those examples can be gamified, but the developers decided to focus on other aspects to stress the authenticity or fidelity of their games without compromising on entertainment value.

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<sup>68</sup> Salen and Zimmerman (2004, 225) remind us that it is more important that players feel to be in control rather than actually being so.

While PDS and BI showed the potential to diverge from one-dimensional depictions of warfare common in other games, e.g., through giving smaller countries agency and drawing a grounded, complex picture of war, they still succumb to popular notions of warfare as essentialised, spatial conflict which is only ‘solved’ by violence. Already the games’ titles, files, and source code contribute to this image. *HOI4* and *A3* are embedded in existing discourses of the historical scenario and contemporary geopolitical narratives. In doing so, they exhibit an explicit focus on Western perspectives. However, this is not the only way of retelling history or imagining future geopolitical struggles. The next chapter demonstrates how these digital game assemblages can take up other forms.

## 6 Alternative Scenarios

For a comprehensive understanding of the proliferation of geopolitical imaginations in digital game assemblages, I investigate occurrences, where these assemblages de- and reterritorialise. This helps painting a complete picture of the dynamic processes involved in the formation of game assemblages. Since *HOI4* and *A3* are designed as sandbox simulations, they offer broad possibilities to reterritorialise the digital game assemblages. First, I turn to the potential of in-game deterritorialisations. In other words, how does specific game content (tentatively) challenge the militarised logics apparent in both games? Second, I move towards player-generated content and its potential to reterritorialise assemblages. This exploration foregrounds my analysis of player creations in later chapters. Third, I consider the (mis-)appropriation of in-game content in the physical world. Whereas chapter 5 supplied cases where external assemblages contribute to the territorialisation of game assemblages, this section illustrates the inverse case.

### 6.1 Beyond Warfare

*HOI4* and *A3* invite players to diverge from the narratives the games themselves set up. *HOI4* does so in a more curated way than *A3* with NFTs as game mechanic. NFTs guide players through historical and alt-historical scenarios. I explore how *HOI4* lets players divert from common game experience and how they are still bound to game mechanics. *A3* lays out an alt-historical futuristic scenario for the year 2035, where a surging ‘Eastern’ faction challenges a declining ‘West’. Here, I take a closer look at one specific DLC which departed almost fully from the usual conceptions of warfare in games.

### 6.1.1 Historical Re-Enactment versus Alternate Histories

Historically specific simulation games address a particular event; and even though the nature of that address can differ—although it generally centres on correct period detail—the game’s claims offer a framework for play, meaning, and critique. By contrast, nonspecific simulations of the *Civilization* type are abstracted from the particularity of historical event, allowing the impact of decisions to be played and tested out in various worlds, but without bearing the burden of any specific referent. (Uricchio 2005, 330)

*HOI4* combines both approaches identified by Uricchio. It is restricted to a specific period and allows for deviation from historical events. Its predecessors did not have this dedicated focus on alternate histories. They concentrated on a simulation of historical events more akin to Uricchio’s first category of simulation games although winning the war as Nazi Germany already was possible. The tyrannies of seriality and innovation are at work when game developers create a new iteration of an established series. For *HOI4*, then-Project Lead Dan Lind (2014a, under “Less railroading—more historical feel”) outlined several new features with one of the most prominent goals of reducing a too predictable sequence of events:

The leaders of those days did not have crystal balls or an active forum of amateur historians from the future telling them what would happen next. This is something that we need to deal with without losing the sense of place and realism that people have come to appreciate about our games.

The materialisation of this new approach to gameplay are NFTs. Ironically, they very much predetermine what paths players can follow. NFTs consist of a sequence of NFs, which often portray historical contextualisation of events. NFs build on each other; for instance, when playing as Japan, establishing the

Greater East-Asian Co-Prosperty Sphere is a prerequisite for going to war with China:

```
focus = {  
  id = JAP_intervene_in_china  
  icon = GFX_goal_generic_occupy_states_ongoing_war  
  prerequisite = { focus = JAP_greater_east_asian_co_prosperty_sphere }  
  [...]  
  (common\national_focus\japan.txt, lines 1135–38)
```

Players are not forced to do so but are heavily restricted in gameplay options if they are not following through their NFs. The developers want players to use the new mechanic they implemented, to play the histories they identify as important and entertaining. They articulate the rhetorical argument of sequenced causality (Pennington 2022, 40–43).<sup>69</sup> One historical event must lead to another. Therefore, if war is part of a sequence of NFs, it becomes inevitable. The choice of NFs is highly selective and as the critical discussion of the map showed, there is an explicit European bias. The question arises, what NFs are featured, what histories can be played?

Looking at the game almost a decade after its initial release, the argument can be made that there is a broad range of histories. Players can oust Hitler, decolonise the British Empire, or start a second civil war in the Soviet Union. PDS has given players numerous possibilities to territorialise distinctive game assemblages. Although this allows players to perform individual (hi)story-making, it illustrates the power developers wield over play experiences, as they determine what histories are played in the first place. Additionally, alt-histories were added only over time and require separate purchase. When the game was released, alt-historical NFTs were restricted to very few options, and they remain so if players

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<sup>69</sup> Researching technology is similarly deterministic, where each country “follows the same (in this case Western) track of progress” (Ghys 2012, under “Conclusion”).

do not buy DLCs. None of the above examples of removing Hitler, dissolving the British Empire, or plunging the Soviet Union into civil war are possible in the base game.

PDS restricts the variety of game assemblage territorialisations also with game mechanics. Alt-histories are often assigned to the four ideologies in the game: communism, democracy, fascism, and neutrality.<sup>70</sup> This assigns a presentist, ideological component to a geopolitical conflict that was signified by naturalised thinking (Agnew 2003, 101). It does not consider the underlying assumptions of Nazi or Shōwa militarist ideology: The superiority of the own nation, race, and culture as well as the desire to project power onto others. PDS ignores these historical facts to avoid the formation of assemblages which would eventually include war crimes and concentration camps. Hence, *HOI4* operates on the assumption: What if there was no Holocaust in WWII?

Therefore, even historical NFTs which aim to recreate WWII are alt-historical. Through this, not only are militaries sanitised, but political actors of the time and whole ideologies as well (Pfister 2020a, 275–76; Matlack 2021, under “Investigating *Hearts of Iron IV*”). Still, *HOI4* is better off not featuring these realities. The ethical concerns are obvious and apply to all games covering this period (see Chapman and Linderoth 2015). It requires a reflective engagement with totalitarian ideology, which is rarely done in digital games.<sup>71</sup> The game design of *HOI4* is simply not suitable, as a former content developer confirms: “*HOI4* is a game about warfare, and so focus tree branches will focus on this, and, indeed,

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<sup>70</sup> There are several subcategories for each ideology, e.g., despotism, oligarchism, anarchism, moderatism, and centrism for neutrality, but they have no notable effect. The ideology system is a simplification compared to previous instalments of the series, where popularity shares of specific parties were important.

<sup>71</sup> One example is *Through the Darkest Times* (Paintbucket Games 2020) which portrays resistance in Nazi Germany without being able to stop the regime.

necessarily *need* to focus on this so the player can do what the game is meant for: waging war” (Kuiper 2020, para. 3). Players can choose not to do so, but this is ‘boring’, Kuiper acknowledges.

Even one of the most illustrative factions contrasting existing game design ultimately promotes expansion. Anarchist Spain, or the Regional Defence Council of Aragon, incorporates a historical geopolitical imagination rather unknown compared to existing WWII narratives. Introduced as part of the DLC *La Résistance*, players have the option to support an anarchist uprising during the Spanish Civil War. If players emerge victorious as the Regional Defence Council of Aragon, they control a country that is unusual in several ways: it is not lead by a single person (the ‘leader’ is called Anarchist Commune), it has military councils as advisors not specific officers, and it has a collectivised economy that cannot be changed. Through this and other modifiers, the game designers wanted to respond to the fact that “Anarchist society is inherently incompatible with the way Nation-States are represented in *HOI4*” (Kuiper 2019, under “Anarchist (Unaligned) Branch”, capitalisation in the original).

After players have won the civil war, the NFT allows expansion, first to Portugal and then abroad, inciting anarchist revolutions where desired. Thus, letting players expand as anarchists, forming first the Regional Defence Council of Iberia and then the Global Defence Council, attaches an expansionist geopolitical idea to a movement that historically mostly remained self-centred on the peninsula (see Ferretti and García-Álvarez 2019).<sup>72</sup> This is exemplary for alt-histories in *HOI4*, which explore fascinating timelines and stir curiosity in lesser-known histories but in the end follow dominant game logics.

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<sup>72</sup> A similar example is playing as Mapuche Chile to conquer and establish native councils in the Americas. This NFT was added with the DLC *Trial of Allegiance*.

Even if players purposely abstain from starting conflicts themselves, war is inevitable, because other countries eventually start to fight (Pennington 2022, 20). The only way to achieve a peaceful game session is to manually set all countries on democratic paths in their NFTs where possible. Surely, this is not very entertaining for players as the whole gameplay evolves around conflict. Hence, the territorialisations of digital game assemblages through play are inherently limited by design.

But looking in more detail at the various DLCs released for the game, the developers moved their attention steadily towards internal affairs of single countries. In *Battle for the Bosphorus*, national factions were introduced for Bulgaria, Greece, and Türkiye. In *No Step Back*, players must manage purges as Stalin or work against him. In *By Blood Alone*, Mussolini can be dethroned not only via regime change but by other fascists. In *Götterdämmerung*, the German Reich's internal affairs were greatly revisited. PDS apparently wants to enrich gameplay experience beyond the conquest of territory. However, this development causes issues with the core game mechanics the game was built on from the beginning. It also leads to discrepancies between those countries that received new content and older ones, whose simplifications appear outdated. And it runs the danger of simplifying and normalising aspects of WWII which should not be simplified or normalised as the DLC *Götterdämmerung* for the Nazi regime did. It remains to be seen how PDS tackles these issues in the future.

### 6.1.2 Law in Conflict

A3 wants to provide players an embodied experience of war. In the campaigns of the base game and adjacent DLCs, players fight their way alone and with AI companions as well as with and without vehicles through enemy lines. But the

developers seized a unique opportunity to create a wartime experience vastly different from the main game. Here, players are civilians and are purposely put in vulnerable situations. This significantly deterritorialises the digital game assemblage *A3* usually constitutes and reterritorialises an assemblage that stands in contrast not only to the rest of the game but to military simulations in general. To fully grasp what developments have led to the inclusion of legal frameworks and non-violent gameplay, I investigate the background beyond the game itself.

In 2009, two Swiss NGOs published a report on how International Humanitarian Law and International Human Rights Law might be applied to digital games (see Castillo 2009).<sup>73</sup> Although the report is highly selective and includes inaccuracies about the games studied, it was the first systematic answer to how human rights issues are portrayed in games from a legal perspective. Curiously, no *Arma* title was included. The International Committee of the Red Cross (ICRC) followed up on this study with their own research on games starting in 2010. The first discussions of results drew unexpected attention of media outlets and beyond (see Crecente 2011). The proposition to implement forms of in-game consequences for players who violate IHL or IHRL was misunderstood as claim for prosecuting players for said behaviour off-game. Neither the report by Castillo (2009) nor the work done by ICRC advocated for this in any capacity. The controversy prompted the ICRC (2013, under “Why is the ICRC interested in video games that simulate real warfare?”) to clarify their goals publicly:

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<sup>73</sup> Without going into the legal intricacies of IHL and IHRL, it is sufficient to understand IHL as *ius in bello* regulating warfare, e.g., the Geneva Conventions, and IHRL as general framework covering human rights, e.g., the Universal Declaration of Human Rights. As legal scholars point out, both have significant overlaps and can be applied complementary in armed conflicts (Ben-Naftali 2011, 4–6).

In real life, armed forces are subject to the laws of armed conflict. Video games simulating the experience of armed forces therefore have the potential to raise awareness of the rules that those forces must comply with whenever they engage in armed conflict—this is one of the things that interests the ICRC.

The ICRC also expressed their willingness to cooperate with game developers on this issue. The full study published in 2012 reiterates these points and mentions *Arma 2* in several instances as notable exception where aspects of IHL and IHRL are followed (see Clarke et al. 2012).

Demonstrably, the influence of digital game assemblages has been identified by actors not commonly associated with either production or consumption. Moreover, the ICRC actively wanted to participate in the territorialisation of game assemblages to realise their educational potential. Consequently, the ICRC reached out to developers seeking cooperation in the presentation of IHL and IHRL without resorting to “pop-up messages listing legal provisions or lecturing gamers” (ICRC 2013, under “Won't this make the games preachy or boring?”) and instead have rules of law in tandem with enjoyable gameplay. One developer studio contacted by the ICRC was BI, which responded promptly. More precisely, A3 Creative Director Ivan Buchta reached out to ICRC Adviser Christian Rouffaer, who in turn visited BI in Prague to discuss the ICRC’s vision of armed conflicts in digital games (C. Hall 2017, para. 15–17). Another example for how digital game assemblages are intertwined with the physical world, this exchange was motivated by mutual interests: The ICRC aimed to enrich the presentation of IHL and IHRL in digital games and BI wanted to increase the authenticity of their simulation as well as explore new play experiences for their audiences. This was the start of further collaboration between NGO and development studio.

First, both cooperated in hosting ‘Make Arma Not War’ in 2014, a contest awarding prizes to mod creations.<sup>74</sup> Rouffaer oversaw the category ‘Health Care in Danger’ as judge on behalf of the ICRC, which wanted to highlight the difficulties of providing health care in armed conflicts (see BI 2014). The winner, who created a mod around civilian air rescue missions, was to accompany an ICRC delegation on a one-week trip (see ICRC 2015).<sup>75</sup> Next, the ICRC consulted BI during the creation of the *Laws of War* DLC, which was released in 2017. The DLC adds a fictional humanitarian organisation to the world of *A3* and extensively features non-combative gameplay. On a smaller scale, the DLC *Art of War* released in 2021 has a mission where players must recover artworks in a war zone.<sup>76</sup> While the cooperation with ICRC does not lend the same discursive strength to BI’s simulations as its past association with BISim and the adjacent developments for militaries do, it certainly contributes to BI’s image as diligent developers of authentic war experiences. Due to the novelty not only in the *Arma* series but in military simulations generally, I look into the DLC *Laws of War* in more detail.

The campaign takes place one year after the war between NATO and RAS/CSAT ended. The setting concentrates on the small village Oreokastro on Altis. Playing as Nathan MacDade, a member of the International Development & Aid Project (IDAP), players are tasked with clearing the abandoned village of landmines and unexploded ordnance. Simultaneously, MacDade is in a call with

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<sup>74</sup> The contest was held again in 2025 for *Arma Reforger* without involving the ICRC. Instead, a category for modifications who “reduce in-game toxicity, encourage positive communication, and/or directly help veterans suffering from mental health issues” (BI 2025c, para. 2) was added.

<sup>75</sup> It is not verifiable whether the winner redeemed the prize.

<sup>76</sup> Sales of both DLCs were partially or fully donated to the ICRC, amounting to US\$371,062 (see BI 2018; 2021c; 2022a).

journalist Katherine Bishop, who interviews MacDade regarding war experiences, local conditions, and IDAP's mission. While players move through the village, specific places trigger dialogues between MacDade and Bishop with flashbacks to the situation before violence broke out. The contrast between past and present is pronounced heavily, e.g., comparing civilian livelihoods with destroyed houses or a colourful hopscotch court with body bags, see figure 13. Besides clearing the village of ordnance, several missions explore specific situations during the conflict between AAF and FIA. In these missions, both sides violate IHRL and IHL, for example by using a cluster bomb or anti-personnel landmines. At the end of the campaign, players blame one side for the suffering in Oreokastro or claim that all contributed to it. After concluding the interview, the article drafted by Bishop is shaped according to the players' choice.

*Figure 13: Time jump in A3 DLC Laws of War*



*Left: flashback; right: current scene. Own screenshots from A3.*

In the few hours the campaign lasts, IHL and IHRL issues are embedded quite directly yet naturally, following up on ICRC's goal of avoiding heavy-handed lectures. Because the narrative establishes all factions in the conflict—except IDAP—as contributors to violence, the messiness of war is repeatedly emphasised. The campaign plays with this ambiguousness, for instance through obscuring what faction players embody when they violate IHL and IHRL in the

retrospective missions. With the words of in-game character MacDade: “Things—information, people, landmines—they get lost in the fog of war.” (adapted from Orange\Addons\languageemissions\_f\_orange\stringtable.xml, line 24731). The exploration of grey areas in armed conflict as well as showing consequences for the civilian population turns the attention to lived experiences. Thus, the DLC critically reflects armed conflicts, while other campaigns remain mere enactments of violence. There could be more details on what Brickell (2012, 575) summarises as “geopolitics of home”, the domestic or everyday level of geopolitics beyond contrasting idyllic pre-war livelihoods and post-war devastation; nevertheless, *Laws of War* successfully informs and challenges players and has been used for teaching law students (see Moffett et al. 2017; Minai 2020).

According to reviews, the DLC has been very well received by players for raising critical questions. On the contrary, many have been joking that they would purposely use some of the equipment added with the DLC, e.g., landmines, to perform war crimes. These reactions exemplify the “moral management” (Klimmt et al. 2006, 313) players perform to uphold enjoyable game experiences and how they reterritorialise the game assemblage against the developers’ vision. For those players, the game is *just* a game. What happens in the virtual world is separated from the physical. Still, Rouffaer (quoted in C. Hall 2017, para. 25) is confident that awareness is spread among players:

Everyone on the forums says, ‘Yes! Thank you! Give us civilians and humanitarian workers and cluster munitions and we will use these new guns to eradicate as many of the first group as possible.’ But by saying that, it means that they will have consciously been saying, ‘We are going to break the law.’ It means that, even if it’s at a very low level, they now have an understanding that there was a law in the first place.

## 6.2 Moulding Sand

Modding communities are very important components of PDS and BI games. Where other companies restrict access to game files, PDS and BI actively encourage players to engage with source code and to share their creations. Coming back to sandbox simulation games, the focus is on how the sand and sandbox itself can be moulded. The results of those player-created changes are published on the Steam Workshop which records over 57,000 items for *HOI4* and over 161,000 for *A3* in July 2025 (see Valve [2025a](#); [2025b](#)). The high number for *A3* is caused by various single objects that have been added to the game, e.g., vehicles, weapons, equipment, etc. Undoubtedly, players engage in multitudinous reterritorialisations of digital game assemblages. The question remains what game assemblage they territorialise. Because the main draw of *HOI4* is playing through diverse histories in singleplayer mode, I examine the most-played modifications catering to this desire as well as their implicated geopolitical imaginations. For the group-orientated gameplay of *A3*, I study what gameplay units favour as this impacts the choice of mods. Additionally, I survey the geographical distribution of player-generated virtual environments, hinting at what conflict imaginary resonates with players.

### 6.2.1 Beyond World War II

The impressive number of 57,000 mods highlights Paradox' successful strategy of fostering participatory culture, where players release new mods on a daily basis and in turn 64 percent play the game with them (Scott-Jones [2019](#), para. 1–

2).<sup>77</sup> Since PDS offers continued support for their major series, the mods are less important for keeping the game ‘alive’ although they certainly contribute to its overall appeal (Postigo 2007, 302). There are mods for almost every purpose: improved graphics, new mechanics, enhanced user interface, or additional content. If a modification changes “the rule system, the narration, and so on in a way such that it feels like playing a new game” (Unger 2012, 518), it is referred to as ‘overhaul’ or ‘total conversion’. It is this type of modification, where geopolitical imaginations are manifested extensively as modders change existing or develop entirely new systems on a broad scale. Although it is worthwhile to go into the details of those mods, similarly as I have done for the base game, I must restrict my analysis to a general critical reading of what is created as almost all selected mods surpass the base game in complexity.

In table 5, total conversion modifications which are maintained by modders through updates in 2025 and with more than 100,000 subscribers are listed. This ensures that the most popular, currently played mods among players are covered. 22 modifications fulfil these criteria, where I identify four major types: (1) Pop culture mods translate external fandoms into *HOI4* logics. (2) Extension mods expand the general scope of the base game. (3) Time shift mods change the period. (4) Alt-history mods create entirely new settings.

Table 5: Most popular total conversion modifications in *HOI4*

<b>Modification</b>	<b>Type</b>	<b>Subscribers*</b>
The Road to 56	Extension	1,439,000
Kaiserreich	Alt-history	1,151,000
Millennium Dawn: A Modern Day Mod	Time shift	981,000

<sup>77</sup> Few mods reach a greater audience, as Lee et al. (2020, 2490–93) demonstrate. Furthermore, many mods are abandoned if the creators do not keep them up-to-date with official game files. In some cases, other creators continue the work.

Hearts of Iron IV: The Great War	Time shift	682,000
The New Order: The Last Days of Europe	Alt-history, time shift	579,000
Old World Blues	Pop culture	483,000
Kaiserredux	Alt-history	437,000
The Fire Rises	Time shift	392,000
Cold War Iron Curtain: A World Divided	Time shift	343,000
Equestria at War	Pop culture	252,000
The Great War Redux	Time shift	231,000
Novum Vexillum	Time shift	209,000
BlackICE Historical Immersion Mod	Extension	208,000
Thousand Week Reich	Alt-history, time shift	196,000
Rise of Nations	Extension, time shift	174,000
Pax Britannica: An Imperial Timeline	Alt-history	168,000
Red Flood	Alt-history	134,000
Lord of the Rings Mod	Pop culture	120,000
World Ablaze	Extension	116,000
Europe in Flames AGORA	Extension	115,000
End of a New Beginning	Extension, time shift	112,000
Red Dusk	Alt-history, time shift	111,000

\*As of July 2025, rounded to thousands.

I skip pop culture mods as they appeal mostly to players who are already familiar with the featured content from other media, e.g., the *Fallout* game series for *Old World Blues*.<sup>78</sup> They exemplify how certain franchises inspire the reterritorialisation of the *HOI4* game assemblage but have the fewest in-depth changes

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<sup>78</sup> Creators of modifications are not cited. This is by no means to diminish their role as player-creators. Because the identified mods have been created by teams whose composition changes over time and whose contributors are not fully credited on the Steam Workshop, it is difficult to attribute single individuals. All modifications can be found by name on Valve (2025b).

to game mechanics besides adding completely new maps, e.g., Middle-earth in *Lord of the Rings Mod*. All other types utilise the base map but make significant changes to what is featured there; even those keeping the same time frame grant independence to nations that do not have it in the base game or vice versa. Extension mods are the clearest expression of players wanting to compensate unsatisfying play. For them, the base game does not offer the gameplay experience they look forward to (any longer); this disappointment turns players into modders to fix the issues themselves (Sotamaa 2010, 245–46; Unger 2012, 515). Doing so, they reterritorialise the game assemblage in close interchange with the original assemblage. They improve game mechanics, add content, or change visuals, but they still want to retain the core scope of *HOI4* as war simulation set in WWII.

The various extension mods concentrate on different aspects: for instance, *The Road to 56* is known for greatly extending content aligned to the original game design; *BlackICE Historical Immersion Mod* focuses on a more authentic representation of history and alters various aspects to accomplish this. The latter is an example of mods which utilise detailed historical pictures instead of the stylised visuals in the base game to emphasise their dedication to realism. Thus, the selectivity of what is portrayed, military, politicians, technologies, etc., and what is not, civilians, resistance, atrocities, etc., becomes striking—more so than in the original *HOI4*. The modders achieved their goal of immersive gameplay experience, but they create uneasiness because it is difficult to disassociate the play experience from historical knowledge. While social, cultural, and individual factors influence the personal decision of what is acceptable to depict, the existence and popularity of these mods “can be considered as value thermometers” (Chapman and Linderoth 2015, 150) of the game community.

Coming to historical time shift mods, reterritorialisations become more elaborate. Because different periods are featured, modders often adapt or develop entire new game systems. Apparently, they believe that the original game rules and mechanics are not suitable to represent the geopolitics of other eras. Adapting *HOI4* to other historical or contemporary contexts requires great creative input and working power. For instance, the project leader of *Millennium Dawn: A Modern Day Mod* confirms that several hundred people worked on the mod over time, with the current team amounting to 82, which easily surpasses the PDS development team. These are volunteers who dedicate their free time for game development, but the group's size demonstrates what resources are necessary to change the game drastically. In the case of *Millennium Dawn: A Modern Day Mod*, the project leader laments that especially international relations are only insufficiently represented in the base game. Hence, the modders added supranational organisations and an influence system, which allows players to manage intricate foreign policies.

Apart from modifications bringing *HOI4* into the 21st century, two other major international events of the 20th century, are reflected: World War I and the Cold War. In those mods, creators want to portray characteristics of the periods, e.g., trench warfare or mutual assured destruction, and reterritorialise the game assemblage accordingly. Curiously, no modification from this selection covers any period prior to the early 1900s. These mods exist but do not appeal to as many players. This can be explained by PDS providing 'proper' games featuring these periods, but it also hints at the limitations of transforming the game design of *HOI4*. The rigid structure of essentialised nation-states eventually fighting each other is not very applicable to other settings. Therefore, players see limitations in how the game assemblage is reterritorialised. Nevertheless, *HOI4*'s

game design is well-suited for the realisation of alternative (historical) geopolitical imaginations.

Alt-history modifications drastically change the setting of the game. Since many alt-history mods also shift the featured time frame, they are far-reaching reterritorialisations. A triumphant German Reich is a popular theme here: In *Kaiserreich* and *Kaiserredux*, a variation of the former mod, the German Empire has won WWI; in *The New Order: The Last Days of Europe* and *Thousand Week Reich*, the Axis powers have won WWII. Exploring what would have happened if the defeated were victorious is a straightforward alt-history. It is also one that is very popular, with the end of WWII triggering various works on successful Nazi rule of Europe, not least a whole digital game franchise named *Wolfenstein* (Rosenfeld 2005, 11; see Denning 2021). Popular alt-history mods reproduce this narrative and their approach reflects that “the memory of the Nazi past has become increasingly affected by the powerful forces of normalisation” (Rosenfeld 2005, 196). Nazi rule is neither celebrated nor condemned in the modifications. Rather, they portray the regime plagued by factionalism, corruption, and other negative consequences of an empire controlling vast portions of Europe. Therefore, just as PDS developers do not moralise Nazi rule, mod creators simplify a successful Nazi Germany. Again, this delinks a deeply destructive ideology from historical events.

Hence, my findings on the reterritorialised game assemblage are twofold. On one side, modders deterritorialise *HOI4* in key aspects. For instance, the general dissatisfaction with diplomatic options in the base game is obvious since many modifications do not require military domination as the single possibility to end wars. Many of the most popular mods include so-called scripted peace deals or dedicated peace deal mechanics which put a stop to conflicts. There are

also stand-alone modifications addressing this issue. Evidently, players dislike the zero-sum understanding of conflict in the base game. On the other side, re-territorialisations in every total conversion mod studied adhere to the general principles of *HOI4*. There are always NFTs, there is always conflict, there is always territorialised control and power. Modifications remain very important for self-realisation; many players concentrate on single countries, giving them representation where there is none in the base game, but they do so according to prevalent logics, reproducing the issues raised (Apperley 2018, 16–17).<sup>79</sup> What the developers laid out as a framework for depicting geopolitical conflict is apparently convincing and has significant impact over possible reterritorialisations of the digital game assemblage.

### 6.2.2 Virtual Lives

The programmed play experience of *A3* is the embodiment of a soldier. But as sandbox game, *A3* provides a framework which has been utilised in other settings as well. Similar to *Second Life* (Linden Lab 2003), which attracted many people to lead a virtual life with mundane activities mimicking offline experiences in the late 2000s, players moved away from military simulation with *Arma Life*.<sup>80</sup> Instead of role-playing soldiers, players created modifications and set up servers which were dedicated to communities with civilian roles. But contrary to *Second Life*, *Arma Life* focuses on playfulness and creators include some forms of conflict in the virtual communities, e.g., between criminals and police. After all, *Arma Life* is not imagined solely as social virtual space such as *Second Life*,

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<sup>79</sup> It is also more difficult for single contributors or small groups to keep their mods up to date, as Paradox regularly releases major patches, which require adaptations. Paradox cooperates only with larger modding groups in anticipation of these changes.

<sup>80</sup> There are various labels for these worlds. *Arma Life* serves as umbrella term.

but as a game. This form of engaging with A3 has dropped in popularity yet exemplifies how military simulations are deterritorialised.

Nevertheless, the mainstay of mods caters to military simulation. *Arma* players are prolific mod creators: From vehicles to game mechanics to characters, all have been added en masse to the game to enrich playing war. Player-created scenarios with fixed missions are popular, but modifications which offer dynamic, randomised missions are more frequently subscribed in the Steam Workshop. This supports the point that A3 players look for solid frameworks which can be adapted to their own needs. Furthermore, it is arguably more enjoyable to conduct missions with other players, who offer more agency than AI-controlled companions. Although not necessary, joining an *Arma* unit greatly facilitates finding fellow players. Units are advertised in various online spaces and the official catalogue of BI (2025g) lists over 157,000 units in July 2025. The diversity among units makes it difficult to draw a conclusive image of what is played on the global scale.

The first obstacle is collecting data, despite the official overview BI provides. Since the unit list is not curated, there are many inactive communities. From the 690 most popular units, little more than one third have at least 50 members on their Discord servers or other community spaces. Thus, I complement this data with a community-curated list as well as collecting data from the official A3 Discord server, where units advertise themselves.<sup>81</sup> There are slight differences in categorisations among these sources and the latter two are biased towards Western countries; nevertheless, they help constructing a general impression of how players enact digital war.

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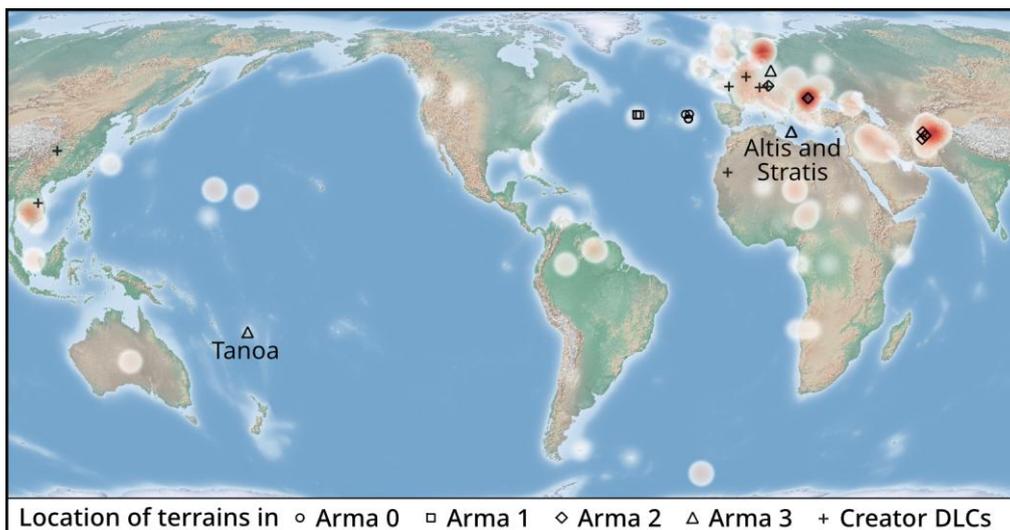
<sup>81</sup> See nanner (2022, under video description) and <https://discord.com/invite/arma>.

Across all 457 units surveyed, the heavy emphasis on authenticity is apparent. Only around 13 percent have a casual approach to A3. The rest wants to enact military simulations with varying degrees of perceived realism. These are roughly split in two halves: One half strives for what they believe is an accurate representation of warfare as far as possible in a digital game. For example, they provide training materials and obligatory bootcamps. Players must attend missions to demonstrate their commitment. The units are hierarchically structured along military ranks, and they emphasise that some members have served or are actively serving in the physical world. The most ardent communities even role-play as existing military units and limit themselves to specific conflicts, e.g., WWII. The other half accepts simplifications if they are not detrimental to the desired authenticity. In those units, less intense training is provided for new members. Players are not required to join missions although their presence would be welcomed. There is no replication of military structures, but there are players with commanding roles. Most importantly, those units take the freedom to portray any army or scenario. This can go so far as playing warfare from other pop cultural universes, e.g., *Star Wars* or *Warhammer: 40,000*.

In both halves, player-creators largely adhere to the frameworks of the base game and territorialise assemblages which respond to their desired level of immersion in the militarised imagination. This demonstrates the game's wide-ranging malleability not only in terms of modifications but also in ways to play. Although many modifications are available on the Steam Workshop, some units utilise dedicated software for organising mods or have their own in-house modders. Therefore, gathering data on used mods comes with another set of obstacles. But there is one specific type of player-generated content which is the clearest manifestation of geopolitical imaginations: terrains.

Terrains are the maps where gameplay, i.e., fighting, takes place. How do those conflict spaces look like, where are they located? Going through 454 maps with at least 100 subscribers in July 2024 and weighted according to number of current users, discloses four main influencing factors (see figure 14). (1) Developers: Various popular terrains are variations or additions to maps created by BI; for instance, the fictional post-communist Eastern European Green Sea region, georeferenced to existing Black Sea littoral states in *Arma 2*, has been reworked and expanded. (2) Popular content creators: If they acquire great expertise, some modders command large audiences for their creations which explains some of the hotspots seemingly located in the middle of oceans. (3) Individual background: Many terrain creations are inspired by experiences players have with those in the physical world. (4) Existing events: Beyond geo-typically mirroring the physical world, many players directly recreate environments in detail. They are often inspired by historical or contemporary military events in those regions, e.g., Vietnam or Afghanistan. Especially the latter is reproduced extensively, explicitly referencing the military missions of the USA and its allies.

Figure 14: Terrain locations in Arma games and player-generated content



Own work.

Overall, it becomes apparent that conflicts are imagined mostly outside of North America. To emphasise this aspect, I purposely centred the map on the Americas, illustrating how conflict zones are pushed to the margins in geopolitical imaginations.<sup>82</sup> Some of the few exceptions visible in the USA are recreations of training grounds. Thus, existing military logics of training taking place on domestic soil followed by overseas operations is reproduced virtually. Compared to landscapes from Europe and the Middle East, the Americas and Africa are severely underrepresented. What is completely left out among geopolitical imaginations is located at the margins of the map: South and East Asia.<sup>83</sup> Although many from the regions play the game, the missing representation in base games and player-generated content is emblematic of the concentration on European and North American markets. The popularity of terrains from specified and unspecified countries from mainland Southeast Asia, the Middle East, and border regions to Russia exemplifies the dominance of Western perspectives. A fact reproduced in the so-called Creator DLCs released for the game.

BI has not conducted any major developments themselves since 2019. Instead, they began supporting modders and have published their content as official DLCs, see table 6. An example of how volunteer work transforms into professionalism, Creator DLCs are a rather unique territorialisation of player-generated game assemblages. They are no modifications because they add content instead of changing the base game. But they are developed by modders with the

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<sup>82</sup> The map warrants further explanations for clarity. Not every terrain provided coordinates or descriptions of the location. In those rare cases, I placed the terrain according to its presentation. Even the official terrains deviate; for instance, in *Arma 2* the fictional Takistan, although representing Afghanistan in appearance and geolocation, is claimed to be a neighbouring state of Chernarus, located at the Black Sea coast.

<sup>83</sup> The single point located in Sichuan, PRC is misleading as the terrain georeferenced at this location wants to depict Vietnam as part of a DLC focusing on the Vietnam War.

same motivations as those who reterritorialise A3, namely a perceived lack of content and the desire to realise their ideas. Hence, they offer quite different play experiences since they often feature historical scenarios: WWII, European Cold War theatres, and the Vietnam War require specific simulations of equipment, weapons, etc. Creator DLCs are game assemblages which territorialise as collaboration between modders and BI, thus exemplifying an amalgamation of community action and studio authority. It is telling that exclusively Western conflict imagery, from historical theatres to contemporary counterinsurgency operation, have achieved publication. Just as the geographical distribution of terrains highlighted, Westerncentric narratives and representations territorialise in similar ways as in the base game. Players diverge from these according to how they utilise terrains and scenarios, but they are restricted by Westerncentric content production by both volunteer modders and developer studio in the first place.

*Table 6: Release history of Creator DLCs for A3*

<b>Creator DLC</b>	<b>Developer</b>	<b>Release</b>	<b>Scenario</b>
Global Mobilization – Cold War Germany	Vertexmacht	29/04/2019	Alternate 1980s Cold War, Germany
S.O.G. Prairie Fire	Savage Game Design	06/05/2021	Vietnam War
CSLA Iron Curtain	CSLA Studio	16/06/2021	Alternate 1980s Cold War, Czechoslovakia
Western Sahara	Rotators Collective	18/11/2021	Contemporary desert
Spearhead 1944	Heavy Ordnance Works	25/07/2023	World War II
Reaction Forces	Rotators Collective	26/03/2024	Contemporary
Expeditionary Forces	Tiny Gecko Studios	26/11/2024	Contemporary

## 6.3 Just Games?

The reduction of games to *just* another entertainment medium in the virtual sphere is frequently performed in public discourse and even among scholars. My brief coverage of the historical background of today's simulation games in chapter 4 already disclosed that digital game assemblages have been shaped particularly by the interests of military institutions in the past. The linkage between physical and virtual has also become apparent with the involvement of the ICRC in game production. Hence, digital game assemblages territorialise through a range of expressive and material component parts. They are also interconnected with what is traditionally considered geopolitically relevant, e.g., national security concerns or ongoing conflicts. Rather than simply repeating those issues, I provide some examples where the games themselves were instrumentalised to spread messages unintended by the developers. In those cases, controversies are addressed by both PDS and BI through emphasising that *HOI4* and *A3* really are *just* games. This is at odds with the discursive framing of the games as pronounced 'realistic' simulations.

### 6.3.1 From Physical to Virtual World Politics

PDS links virtual and physical worlds purposely in "promotional paratexts" (Vollans 2023, 161). In a pre-release video, the then-project lead of *HOI4* is visiting the Swedish Tank Museum Arsenalen (see Paradox Interactive 2014). The video cuts back and forth between a staff member of the museum explaining the role of various iconic WWII tanks and in-game snippets of gameplay where the employee continues with a voice-over. The combination of physical objects and their virtual counterparts as 3D models in the game wants to emphasise the high

historical fidelity *HOI4* supposedly offers. This presentation is supported in the first three video developer diaries of the game, where a professional historian of Stockholm University appears besides selected PDS personnel (see Paradox Interactive 2016a; 2016b; 2016c). Commenting on various aspects of WWII, the dubbed ‘history expert’ and the “developer-historians” (Chapman 2016, 15) are put on the same level, creating an aura of legitimacy. Together with visual material from actual military equipment, historical photographs, in-game footage, behind-the-scenes shots, and march music as soundtrack, an audio-visual representation of the ‘grand ambitions’ the video title teases is shown. As Wright (2018, 599) notes:

Sensations of spectacle are intentionally generated, attempting to preload audiences with expectations of these products’ inherent historical value and authenticity, if not outright faithfulness to historical ‘fact’. Thus, expectation and anticipation are generated for what it is these games will offer in terms of historical representation.

Interestingly, historical *factuality* is not as important as historical *plausibility*, since the promise to explore alternate histories is highlighted. To strengthen the perception of an authentic war simulation, PDS invited an officer of the Swedish Armed Forces testing “whether real-world military expertise and planning translates to the virtual space” (Paradox Interactive 2016e, under video description) accurately in *HOI4*. The verdict of the officer, whose military planning experience in Afghanistan is mentioned, is positive as the ‘principles of war’ are implemented. Therefore, aside from publicity, these marketing efforts establish the impression of PDS’ high commitment to develop convincing historical scenarios based on an authentic simulation of war.

Both developers and players are aware that the game is not able to hold up to this promise to the highest degree. After all, it is ‘just’ a commercial game and is not considered a serious wargame, which is used by military personnel to test and train scenarios. Significant modifications and instructions would be necessary. The only recorded instance is a modified *Hearts of Iron III* (PDS 2009) being used at the US Marine Corps War College with assistance by mod developers (see taffy3 2013; 2014).<sup>84</sup> Rather, at its core, *HOI4* showcases abstracted militarised logics of war. It does so in the tradition of wargames and “the mathematical-technical abstraction of war” (Crogan 2016, 655) enabled by more and more sophisticated computer calculations. The possibility to create alternate scenarios embedded in these assumptions can appeal to players who align with totalitarian values. Extreme right ideologies are known to be a problem in the community (Aschim 2020, 16–17). They share many of the underlying geopolitical assumptions at work in the game: nation-state-territory equivalence, absolute control for single rulers, inevitable conflict, or military fetishism.

These issues stretch to influencers. In February 2023, a Russian streamer played *HOI4* from the Wagner Group headquarters, then a prominent mercenary group, while wearing full military attire including the Russian symbol (Z) for the war in Ukraine (see Korolev 2023). With this backdrop it is less surprising that the play scenario was not WWII, but the contemporary Russian invasion of Ukraine, which the streamer not only completes successfully, but extends towards the rest of Europe and the USA.<sup>85</sup> The recording and several more following were hosted on VK Play—part of the Russian social media platform VK—and

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<sup>84</sup> Other digital games come closer to wargaming. The studio Slitherine (2025, para. 3) cooperates with armies besides their commercial digital game development.

<sup>85</sup> The modification used is uncredited. Observers suggest it is from the then-unreleased *The Fire Rises* (see OSS\_Headquarters 2023).

therefore remained out of reach for any measures Paradox attempted to stop it (Wolens 2023, para. 7). Formerly the second most watched player of *HOI4* on the streaming platform Twitch before being banned, the influencer commands a certain audience—although non-Russian streamer colleagues firmly distanced themselves (Terry 2023, 108).

According to the public appearance on other platforms, such as YouTube, these propagandistic efforts do not seem to be thoroughly planned and rather an expression of personal commitment. Even after the Wagner Group lost its standing, the streamer has continued to support the Russian war effort with dedicated fundraisers (see Korolev 2024). Nevertheless, the geopolitical imagery of a powerful Russia dominating its rivals in Europe and North America is spread using *HOI4*. Certainly nothing PDS condones, the geopolitical realisation of a “Russian world” (Suslov 2018, 333) beyond the grandest visions of thinkers such as Aleksandr Dugin is playfully explored. Moreover, the influencer has been involved in the creation and promotion of a modification set in present day. The mod focuses on West African countries and demonstrates why cooperating with Russia is beneficial for them, especially in battling Western influences (see Chenrose 2024). This mod has been removed from the Steam Workshop, arguably because of its propagandistic messaging.

Another modification that has drawn attention and subsequent ban from the platform is an Islamophobic mod for waging crusades while cooperating with Nazi Germany (see Winkie 2018). The mod is not available on the Steam Workshop anymore, but it is still hosted on other platforms. Hence, these cases of rogue modding outline the limits digital game developers experience over the reterritorialisations of digital game assemblages. I argue that reterritorialising *HOI4* for propaganda purposes is more likely to happen because Paradox’ and

the community's stance against the mingling of supremacist geopolitical cultures and playful encounters is not strong enough. Active measures, such as contextualising WWII history or advocating against destructive ideologies, are rarely taken. Programming a war simulation sandbox operating on classical geopolitical assumptions without public curation aside from bans furthers the territorialisation of propaganda mods.

Besides contemporary issues, the histories *HOI4* visualises with its map have consequences beyond the virtual world as well. After previous iterations of the series have been already barred from publication in the PRC, the same happened for *HOI4*, as it “does not comply with local law” (Blomberg 2017, para. 1). The precise justification for this move remains unnamed; the arguments could be the same as for the previous bans: Tibet is independent, Taiwan controlled by Japan, and China split up among various warlords besides the central government (see China Daily 2004). The geopolitical imagery of a territorially fractured China with warlords and an independent Tibet, recalls a “cartography of national humiliation” (Callahan 2009, 141) disapproved by the increasingly nationalist outlook of the Chinese Communist Party. The portrayal PDS chose for China is certainly debatable and changed over time. In earlier versions of the game, China simply annexed the warlords with outbreak of the Second Sino-Japanese War (Have 2016, para. 4). With the DLC *Waking the Tiger*, the Asian theatre received significant updates and players must actively subjugate warlords as China or conquer them as Communist China, as it is called in the game prior to proclaiming the People's Republic.

None of these representations appeal to current readings of geopolitical history prominent among Chinese scholars (see Woon 2018). In the game, China is splintered and has a severely weakened military as well as economy. War is

dictated by Japan and players struggle against the invasion. It is a very spatially concentrated conflict in the game with barely to no direct impact on other areas in WWII. Although this illustration of the war could serve as part of the narrative of a patriotic struggle against foreign enemies, it is the Kuomintang who lead Chinese efforts (Gustafsson 2014, 77). Thus, the possibility to emerge victorious as non-communist China is another instance where official Chinese geopolitical discourses clash with digital representations.

Similarly, the portrayal of China in modifications follows Paradox' vision, with many mods having even more separate entities competing for control of China. The actively encouraged possibilities to mod the game is another instance raising suspicions among Chinese officials. The PDS trademark game design of creating your own (hi)stories is deemed inappropriate.<sup>86</sup> Therefore, the digital game assemblage is subject to regulators who officially prohibit its territorialisation in the domestic market. Despite this, it is the game community which territorialises the game once more: Chinese players circumvent the ban and disseminate *HOI4* and modifications thereof via irregular means.

### 6.3.2 Too Real

Previous examples of geo-typicality in chapter 5.3 made already clear that *Arma* is interconnected with physical world events: Islands are meticulously recreated and narratives inspired by geopolitical discourses. Both appropriations had consequences for BI. In case of the former, two developers experienced drastic repercussions for BI's decision to model existing islands into *A3*. While visiting Lemnos in September 2012, they were arrested by local authorities on charges

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<sup>86</sup> *Stellaris* suffered a similar fate. Set in a science-fiction scenario where players create their own factions, the title saw no release despite cooperation with the Chinese internet conglomerate and Paradox shareholder Tencent (Holmes 2021, para. 4–6).

of espionage (see Španěl 2012a). They claimed to have merely vacationed on the island. Still, from the seized material, several pictures and videos of military installations were declared supportive of the charges. Furthermore, based on the case file, Souliotis (2012, para. 2) reported that the Greek National Intelligence Service planned the arrest in advance, monitoring them until their detention shortly before their departure. Apparently, the inclusion of existing Greek islands with an operating military base on Lemnos in a digital game caught the attention of investigators. Subsequently, the developers were imprisoned for 129 days before bail was approved.<sup>87</sup> The case triggered an online campaign for their release, demonstrations in Prague, and exchanges between the Czech and Greek side on multiple levels: heads of intelligence services, prime ministers, and presidents (see Souliotis 2012; Klaus 2012; Česká televize 2013). Regardless of this special attention, the process continued, and the developers received a suspended sentence of two-and-a-half years in 2017, which was upheld but reduced to 18 months after an appeal in 2018 (Kathimerini 2017, para. 1; 2018, para. 1–2).<sup>88</sup> The developers refrained from advancing the case further to the Greek Supreme Court (Deník 2018, para. 3).

It seems easy to dismiss the conviction as draconian interpretation of protecting national security, but it is informative to further explore the reasoning behind the accusations. For the Greek National Intelligence Service, it is apparently not *just* a game. The fact that BI CEO Španěl was holding shares of BISim connected the work of his employees to applications used by militaries around the world, i.e., *VBS*. At the time, BISim was still part of BI and the assumption

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<sup>87</sup> <https://helpivanmartin.org> provides a timeline of events.

<sup>88</sup> Apparently, the court found them guilty based on a ‘violation of state secrets’ and ‘espionage’, Articles 146-149 of the Greek Penal Code (Chalkiadaki and Billis 2017, 123–24).

that data collected by one company ends up at the other was plausible. The promotional support BISim awarded BI's military simulation was now detrimental. Furthermore, a Greek player raised concerns about including Lemnos one month prior to the incident. On the BI forums, the player assumed that pictures have already been taken illegally and that the virtual recreation could lead hostile countries, namely Türkiye, to exercise attacks on it (T. Phillips 2012, under "Update 1"). Although a single and specific voice, the community member reflects Greek national security discourses which frame the ruling. Particularly the issues in the Aegean Sea, where Lemnos and Ai Stratis are located, have been causing disputes between both countries, based on antagonistic geopolitical cultures (see Heraclides 2012). In this context, espionage charges seem to be applied rather harshly at times, hitting plane spotters, photographers, and humanitarian workers (see Kathimerini 2001; 2022; 2024a). Furthermore, any clampdown in the name of national security is put into perspective since Greek and Turkish forces must be at least familiar with VBS which is used by over 60 NATO and NATO-aligned countries (BISim 2024, 2).

The situation led Španěl (2012b, para. 4) to publicly downplay the authenticity of A3, stating that "it's far from an identical replication of the real place." Although BI's games build mostly on behavioural realism, claiming authenticity through gameplay rather than visual factors, this understatement is at odds with the usual promotional claims, e.g., when Španěl posed with a T-55 tank on a game fair in 1999 or BI acquired their own T-72 tank in 2015 to underscore their commitment to military simulations (see BI 2015; 2021a). Hence, state authorities not only impacted the individual lives of bodies involved in the territorialisation of the digital game assemblages, but also its discursive messaging. Perhaps for the first time, BI saw the need to publicly stress how their game is *not* an accurate

representation of the physical world, thereby deterritorialising the military simulation. Additionally, the island Limnos was renamed to Altis after the developers were released, separating “it from any undesired real-life connotations” (BI 2013a, para. 5) according to Project Lead Joris-Jan van ‘t Land. Changing the label was a superficial attempt at delinking the virtual from the physical, but the only viable one, as the game was on the brink of release. Redesigning the environment would have been a massive task and for the developers it was always *just* a game. But as physical spaces and places are elaborately made virtually accessible, it matters what spaces and places are represented.

Additionally, it matters what happens in those spaces and places. *A3* was banned in Iran even before release (see Sarkar 2012). Earlier in game development, Iran constituted the sole opposing force to NATO (BI 2011, under “Iran”). Being the single counterpart to the Western community that destabilises international relations was no acceptable portrayal for Iranian regulators. Because the Islamic state wants to ensure that cultural products adhere to official narratives, “control and censorship by the state, alongside the regulation of cultural production” (Šisler 2013, 255) have been enforced, including digital games. The rewritten scenario which added China and the CSAT faction did not change the decision. Just as *HOI4*’s ban in China, officials prohibited the territorialisation of the digital game assemblage based on geopolitical concerns.

Curiously, Chinese regulators did not respond to the PRC being featured as antagonist. A counterexample is the shooter *Battlefield 4* (DICE 2013) which was banned in the same year. The game violated Article 16 of the *Interim Provisions on the Administration of Internet Culture*, “endangering the unification, sovereignty and territorial integrity of the State” and “divulging secrets of the State, harming national security, or impairing the honour and interests of the State”

(Ministry of Culture of the PRC 2011, translated by Zhang 2013, 344). In the campaign of *Battlefield 4*, a rogue PRC admiral tries to overthrow the Chinese government with the goal to ignite further global escalation. Contrary, the representation of the PRC in *A3* is vague and uniform. China is an aggressor, but there are no comments on internal power struggles or conflicts on its territory.

Still, it is surprising that the release of the DLC *Apex*, where China-led CSAT devastates an island with a WMD and deploys a deadly disease, did not result in any consequences. It might have either simply slipped through or exemplify the inconsistent bans and censorships of digital games based on representations. Understandably, it is difficult for regulators around the world to keep up with the highly dynamic production of games. On the other side, developers already self-censor their games to maximise sales. This is also why they shy away from drawing too explicitly from existing places, people, etc. If everything is fictional, controversies are less likely to happen. Hence, digital game assemblages are exposed to various internal and external factors influencing their territorialisation.

Another instance of interwoven virtual and physical worlds stems from using *A3* as fake news. The high verisimilitude BI takes pride in has unintended consequences: Public Relations Manager Pavel Křížka recounts that game scenes have been repeatedly misused as combat footage of “conflicts in Afghanistan, Syria, Palestine, and even between India and Pakistan” (quoted in BI 2022c, para. 3). More recently, videos allegedly featuring war footage from Russia/Ukraine and Israel/Palestine were incorporated in media coverage. The developers urged media companies and the public to carefully examine material and provided a guideline to spot *Arma* content. Indeed, game footage is relatively easily produced, see figure 15. Using the in-game Eden Editor and applying minor photo

manipulation I recreated a picture of a Ukrainian special forces soldier in Kher-  
son. The whole process took me around three hours.<sup>89</sup>

*Figure 15: Comparison of photo and A3 footage*



*Left: Ukrainian soldier (The Associated Press 2023); right: virtual recreation, own work.*

The still image on the left certainly offers more variation, details, and vibrancy but my fabrication on the right nevertheless conveys the same message. If affect is successfully triggered, e.g., empathy for Ukrainian forces, the details matter little (Laketa 2019, 159). Additionally, I used assets provided by the base game. With more experience and community-generated content, of which an abundance is available on the Steam Workshop, the footage could be substantially more persuasive. Altering the narrative is also quickly done. My simple addition of a tank wreck behind the soldier gives the impression of military losses absent in the original footage. This is a fascinating instance exemplifying how ‘real’ the virtual can become. Despite the increasing capabilities of AI in the field of deep-fakes and image generation, manually creating footage based on *Arma* caters to specific purposes, especially if future releases have more convincing visuals.

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<sup>89</sup> I had three hours of prior experience with the Eden Editor, where I experimented with its features and created another image. This includes learning the basics, finding a suitable spot, trying out different arrangements, and editing the picture with image manipulation software (colourising, pixelating, blurring).

## 6.4 Summary

I explored a variety of divergent territorialisations of digital game assemblages in this chapter. *HOI4* and *A3* provide the opportunities to stray from their own realist assumptions and reductive views of war. However, dedicated content doing so, e.g., NFTs or DLCs, remain the exception and are locked behind financial barriers. Generally, studio-guided deterritorialisations such as BI's cooperation with the ICRC for the DLC *Laws of War* are rare and only the first step for more critical reflections in digital game development. Some abstractions in the games fall short among players, who are dissatisfied with the given game rules and mechanics, e.g., how peace is achieved. Since war simulation games offer the possibility for countless individual variations, players “have the stewardship over the game system, the software, and its informational integrity” (Sicart 2011, 92). Modders show how digital game assemblages are reterritorialised, but they are largely restricted by and adhere to the games' general logics. Because of Eurocentric game designs, the games overwhelmingly appeal to PDS' and BI's target audiences in Western countries. Consequently, the bigger player numbers in those countries lead to more engagement in modifying *HOI4* and *A3*. Hence, Western conflict imagery dominates the reterritorialisations of the game assemblages, from *HOI4* alt-history mods to *A3* terrains.

Despite the Western outlook in player-generated content, there is one notable outlier for both *HOI4* and *A3*. Chinese modders overcame several obstacles to adapt the games for their uses. First, *HOI4* is banned in the PRC. Second, even if the games are available, such as *A3*, access to the Steam Workshop is blocked since 2021 (see Chan 2021). After Steam launched a dedicated platform for China without many community features such as the Steam Workshop, the access to

Steam's global version has been restricted (see Messner 2021). Hence, players are barred from easily sharing their creations with those outside of the PRC. Third, language barriers make it harder to develop content. As developers have mainly English-speaking and larger European audiences in mind when making their games accessible, Asian languages receive delayed translations if at all.

But translation modifications exemplify that Chinese modders work around those restrictions. The Chinese localisation mod of *A3* has over 80,000 subscribers on the Steam Workshop in July 2025; the one for *HOI4* counts over 650,000 subscribers and demonstrates that a game banned in China is still played there. Both have not been updated recently, since official translations made them obsolete in 2017 (*A3*) and in 2023 (*HOI4*) (see Kovarič 2017; Jakobsson 2023). Chinese-speaking players want to play the games and compensate for absent localisation themselves despite national regulations. These regulations are a curious interconnection of world politics seeping into the digital realm seeking to prevent the territorialisation of game assemblages. Other instances where the digital game assemblages spread beyond the virtual sphere were evident throughout the chapter.

*HOI4* was heavily promoted with experts from fields associated with historical military simulation. Hence, PDS attempted to strengthen the discursive claim to realism. The same claim is important for many *A3* players, who gather in units promising different intensities of military simulations. Mods are chosen accordingly and territorialise differently from unit to unit. On the other side, developer studios do not condone the appropriation of their games as propaganda tools. But they are unable to avert the reterritorialisations of the game assemblages, as the case of the Russian streamer instrumentalising *HOI4* to publicise Russian perspectives on international relations shows. While this unintended

usage does not have any consequences for PDS, A3 developers have experienced them first-hand. The arrest of two BI members is an extreme example for how wanting to achieve utmost fidelity in games impacts those who create them. Together with reports of *Arma* game footage used as misinformation, it becomes obvious how digital game assemblages are interconnected with the physical world.

Therefore, this chapter demonstrates how impactful representations are beyond the screen. Speaking of *just* games would be reductive and dismissive. Digital game assemblages are interlinked in discourses and bodies. Despite developer studios principally holding authority over their products, players and other actors reterritorialise the assemblages according to their own agendas. To better understand how audiences do so, I turn to players in the next chapter.

## 7 Role-Playing Conflict

Hitherto, I have examined the re/de/territorialisations of the *HOI4* and *A3* assemblages through a general approach, looking at developer studios and global game communities. Whereas my analysis of modifications already illustrates that many players are dissatisfied with representations or systems in the games, the prevalent Eurocentrism prompts the question how players interact with war simulation games which were not developed for them as target audience. To gain an encompassing overview of *HOI4* and *A3* players, data would be invaluable but is very rarely made public by game developers. This is a common practice in a volatile industry where any innovative practices or valuable information are deemed necessary for success. As O'Donnell (2014, 206) aptly analyses: "Within the industry, fear, or at least self-censorship operates at all levels of development to help manufacturers, publishers, and studios maintain secrecy." Despite their community-orientated outlooks, Paradox and BI adhere to some games industry secrecy practices and do not publish sales by countries or in-game country/army choices by player background.

Hence, the following findings cannot be generalised for (Southeast) Asian audiences. They are also not representative of Singaporean players, where war simulation games are niche. But based on limited data the developer studios released as well as my personal observations of the communities, I tentatively compare Singaporean and global audiences. Furthermore, uniquely Singaporean aspects of playing warfare come to the fore. After covering the influence of developers on the territorialisation of digital game assemblages, I turn to the bodies on the consumption side and how they reterritorialise game assemblages through discourses and systems. Since both games offer the possibility to role-

play in conflict, i.e., countries in *HOI4* and military personnel in *A3*, I start with looking at play practices and the role of personal identification. First, I analyse how *HOI4* players (re)play history. Second, I investigate the desire for realistic play experiences among *A3* players. Third, I explore the consequences of masculinist game design from the players' perspectives.

## 7.1 World War II

In *HOI4* players engage with historical scenarios and shape their own (hi)stories. My gaming interviews with Singaporean players disclose various factors that shape play performances. First, I introduce with country choices and in-game goals the first major factors. Then, I outline play behaviours in more detail and how they are related to the formulation of geopolitical imaginations.

### 7.1.1 Doing Better

Participants played a great variety of countries. The so-called major countries have slightly dominated, and some were chosen more than once: German Reich five, Soviet Union three, and France two times. Except for Brazil, China, Ethiopia, and Japan all countries were either located in Europe or North America. Most players set game AI on a historical trajectory. However, many digressed from what would be historical for the country they played. They wanted to perform 'better' than what has been recorded in history books, as participant Jeremy pointed out: "What's fun is overturning history. The feeling that you're doing better than history." For players, 'doing better' roughly translates to achieving what the countries at the time failed at, e.g., successfully defending against aggressors, such as the German Reich, Italy, or Japan, or fulfilling the grandest geopolitical ambitions as those aggressors. Players territorialise these game

assemblages in relation to their prior knowledge, derived from history classes or other media. In turn, *HOI4* confronts players with a wealth of historical information which prompts them to conduct their own research: “It’s after the gaming session that I google stuff and find out more about it” (Kenneth). Then, the acquired knowledge informs the next play session. Thus, digital game assemblages territorialise through a hermeneutic process of play and research.

This process as well as the desire to do better is typical for historical strategy games (see Loban 2023). “Players are offered the possibility of becoming *player-historians*, experiencing freedom to engage in historical practices and yet doing so in a structured story space in which much of the groundwork is already complete” (Chapman 2016, 232–33). Indeed, it is important to reiterate that players mostly act according to what the developers programmed. In Chapman’s (2016, 119) words, players explore their own histories limited by “*framing controls*”. Two of the most prominent framing controls in *HOI4* are NFTs which determine national histories, and ideologies which determine interactions, i.e., the easiness of starting war for non-democratic nation-states. Hence, developers have significant influence over what digital game assemblages territorialise. For players, this is unproblematic if play experiences are immersive. If the game fails to deliver this experience, modifications reterritorialise the desired game assemblages. Almost all participants have tried out mods and some presented their favourite mods during the interview. Although these mods come with their own set of framing controls, they reterritorialise the original game into new assemblages, for instance in alt-histories.

With or without modifications, playing *HOI4* becomes a very personified experience. Players take up the role of an entire nation-state and live out historical geopolitical imaginations. They do so via role-playing, which is highlighted

as main source for entertaining gameplay by various players and for some even prerequisite to enjoy the game, such as Jason:

I think the game won't be as fun if you're not really into the mindset of the nation. You are just moving small little men on a map. [Jason laughs] You have to be already involved in doing it.

PDS tries to ease identification with countries through the images and mechanics outlined in chapter 5.2. But as Jason highlights, players contribute to the territorialisation of a convincing historical simulation as well. Besides engaging historical topics outside of the game, players wilfully ignore in-game aspects which disrupt their immersion. This is an essential part of role-playing and what Murray (2016, 136) calls “active creation of belief”. For instance, the inability to achieve peace by other means than total victory strikes participants as particularly ‘unrealistic’, but they connive this shortcoming to prevent the deterritorialisation of the game assemblage at critical points in the play session.

The declared goal of PDS to provide the environment to experience histories rather than to spell them out themselves often avoids deterritorialising elements by design. There is no fixed campaign every player must go through; instead, players are largely responsible for how they territorialise the game assemblage. Again, in-game framing controls shape the environment but compared to other strategy games, the freedom of choice is significant. Players acknowledge and appreciate this game design:

If a certain geopolitical framework was a model of a certain sandcastle, *Hearts of Iron* only gives you the sandbox by which you can build that sandcastle. It's just a tool. The sandcastle you have to build yourself. (An Yan)

In other words, players create their own geopolitical imaginaries of the period. The high variability makes identification with what players play as even more important. Whereas other games draw in players with their preformulated narratives, players must draft them themselves in *HOI4*. History acts as guideline especially when players are new to the game but diverging from the set path is an important appeal of the game.

Looking at Singaporean players, it might seem surprising that almost all players chose countries not located in (Southeast) Asia, where easier identification is possible. However, there are two major influencing factors. First, countries are gamified. Applying findings from other digital games genres, players prefer to play as characters, in the case of *HOI4* these are countries, who have impact in the game and enact power (Hodges and Buckley 2018, 175; Bopp et al. 2019, 318). Since the game was developed not only for the European theatre but with major countries such as the German Reich in mind, the popularity of those is understandable. They enable the players to live out their ambitions to the fullest. Particularly the German Reich is the dedicated main driver of events in the game. This leads to the second point. Whereas the German Reich has received continuous attention by developers, with three large updates for its NFT, others have been neglected. The Pacific theatre especially so; only two out of 14 DLCs have added country-specific content for the region. There is simply less to do in-game, hence players choose other countries.

With the data PDS has released, the claim that Singaporeans play like the global *HOI4* community is substantiated. The German Reich has been the most popular country throughout the years and accounts for every fifth play session—by far the largest share (Lind 2017b, para. 4; 2019, under “How popular were the new focus trees?”; 2020, under “A Look Back & Cool Numbers”). Although major

countries were more popular among players in the beginning, the continuous release of content for minors evened out the share considerably (Lind 2021, under “PdxCon Recap—Statistics”). Having country-specific content entices players, as the data after DLC releases show. Those countries which received new content were played significantly more often (Lind 2017b, para. 3; 2019, under “How popular were the new focus trees?”). The importance of content is reflected by my participants, where only one player chose a country which did not have a unique NFT at the time. I look closer into how participants engaged with their countries in the next section.

### 7.1.2 Geopolitical Play

While playing is a highly individualistic performance, players can be grouped according to typologies (see Hamari and Tuunanen 2014). I do not want to conduct a full introspective on play typologies as this is not the scope of my research and my sample is too small for substantive claims. Instead, I turn to my observations of specific in-game play behaviour. Based on the observed gameplay as well as self-descriptions by participants, I identify three axes: domination–survival, creativity–conformity, and macroscale–microscale. Domination and survival disclose what goal players have between controlling minor countries facing aggressive expansion versus enacting those aggressions themselves. Creativity and conformity cover how far players go in adapting the game according to their goals which can range from adhering to existing game mechanics to using exploits. Macro- and microscale express the preferred scalar level of playing, e.g., players who prefer higher-level aspects of country management versus players who enjoy controlling single troops. These three axes do not account for all possible gameplay-styles—for example, I leave out social elements of play with

others. But as the findings of Tondello et al. (2019, 388) indicate, simulation games are predominantly played individually, and social game systems play a minor role in this genre. There were only few participants who mentioned playing *HOI4* with others.

First, playing for domination is moderately more popular than trying to survive under difficult circumstances. The former appeals to so-called power fantasies of players whereas the latter approach is motivated by overcoming challenges (Fritz and Stöckl 2023, 304–5). This overlaps with country choices, i.e., majors are usually the ones used for domination purposes, and exemplifies the persuasiveness of expansionist ideology that shapes game design. Players enjoy conquering their neighbours and painting the world in their countries' colour:

For my Germany run, I start on the Dutch East Indies [...]. After that, I battleplan through the Netherlands, steal all their rubber in the war. After that, I can slowly eat up the Poles and the Czechs, maybe the Austrians first. I slowly eat all the countries around in Europe. (Chak)

But—similar to the popularity of minor countries—players also enjoy withstanding the aggressions of others or exploring their imagined history of the chosen country. Expansions are often part of these imaginations but on a considerably smaller scale and at times bounded by role-playing factors, as Jie Hao illustrates:

If you've played Finland before: you're going to get invaded by Soviet Russia. You don't have a lot of manpower, you have a lot of land to defend, you don't have many resources, you don't have many factories. But most of the time, if you play your cards right, you should be able to even take Leningrad [...].

Jie Hao could resort to other gameplay styles, for instance an alt-historical trajectory for Finland or expanding far beyond Leningrad, yet he describes his plan

as entertaining as the challenge lies in resisting the Soviet Union with its far greater military capabilities. Hence, Jie Hao's territorialisation is limited by what he considers to be an authentic (hi)story.

Second, many players conform to the gameplay provided by the developers. But since the game supports players as their own creators of their geopolitical imaginations, I observe a range of creative negotiations with the game. As touched upon in the previous section, the most popular behaviour is diverging from historical events while replaying history. Role-play is important but malleable when players want to optimise their strategies. For example, playing as Japan, Malik justifies his direct involvement in the Spanish Civil War:

Of course, Japan doesn't join any of the civil wars. They did send officers to observe or to learn. But that is more abstract and I'm going to join them {Nationalist Spain}. Because they win the war anyway historically, it just takes longer, right?

Moreover, various players 'admitted' that they deploy creative ways unintended by the developers if it served their gameplay purposes. This behaviour is calculated, as illustrated by Malik, and players differ between reasonable playfulness and abandoning any role-play. Very few participants decouple the game from its historical contextualisation and only concentrate on gameplay aspects. Furthermore, some players mentioned their creative encounters outside of play sessions, e.g., Shawn who creates his own modifications. Others reported their experiences in Model United Nations, leading tabletop role-playing campaigns, or even creating their own boardgames. Many players do not stop at *playing* the game. The *HOI4* assemblage is a potential reference point for players when

engaging in those activities; in turn, in-game behaviour is related to experiences and knowledge acquired outside of the game.

Third, most participants manage their country on both macro- and micro-scales. Successfully commanding troops and defeating opponents on the battlefield as well as tending to the countries' internal and foreign affairs are equally enjoyed. The game has transcended the classical wargame scope and offers gameplay on a large scale which resonates with players. It is even possible to abandon the microscale: “[...] during the war, you won't see me click and micro. I zoom out, press play, and see all the green or the red bubbles” (Ryan). Still, the dedicated focus on military planning and operations led Shawn to firmly identify *HOI4* as wargame: “It's not really geopolitics. It's a wargame. *HOI4* for me has always been/ has always felt like a wargame.” For many, the game lacks more sophisticated options on the macroscale to be considered more than a wargame. For instance, players criticise simplified diplomatic and economic options in game design which take a backseat compared to combat game mechanics. Thus, although the game offers possibilities to realise geopolitical imaginaries, players are all too aware of its shortcomings.

Furthermore, the game itself abstains from mentioning geopolitics. The term is broadly absent in the game files. This is remarkable, as it was during this period where geopolitics as a concept began to leave its mark on official discourses, especially in Germany (Ó Tuathail 1996, 16; see Herwig 1999). Since the ideological component to Nazi politics is absent from the game, so is any direct reference to geopolitical arguments made for expansion. The same applies to other major countries playable in the game, which had their fair share of geopolitical traditions (see Dodds and Atkinson 2000). Nevertheless, the game indirectly corresponds to contemporary geopolitical traditions without naming

them directly. National geopolitical theories are intermixed with already existing political directions, e.g., Japanese imperial ambitions, and responses to foreign doctrines, e.g., Central European small states versus German imperialism (Takeuchi 2000, 73–74; Drulák 2006, 425). Players can do the same; expand as Japan in Asia and search for European small state allies as Czechoslovakia (Little Entente) or Poland (Intermarium) to name but a few examples.

After being asked about their own understanding of geopolitics and how the game responds to that, many players made the case that *HOI4* partially represents geopolitics. Some participants implicated that geopolitics are dynamic; this is what the game lacks the most, as it is a static retelling of history rather than lively interactions between states—at least if played alone. Few interviewees had experience in playing *HOI4* with others, but this area is identified as one where geopolitics play out: “Multiplayer *HOI4* will give you geopolitics because everyone starts forgetting about the historical shit [...]” (Hao Wei). Players are familiar with the calculations game AI performs to decide their course of action. It is the human factor that is necessary to territorialise geopolitical game assemblages. Geopolitical potential unfolds only when the motives of adversaries are ambiguous and the outcome of exchanges uncertain. How immersed players are in this interactivity-defined geopolitics can be observed also in other instances, e.g., Model United Nations (see Dittmer 2015; Saddington and McConnell 2024).

## 7.2 Combat Forces

Apart from managing countries top-down, war is fought also on the virtual ground in Singapore. *A3* offers the possibility to embody soldiers of various armies, fictional and non-fictional, based on the broad modding activities of

players. Modding is also important to adapt the game to the needs of units, where players with similar attitudes towards the level of perceived realism gather. In the following, I examine how one Singaporean unit, the Merlion Battalion, utilises both aspects, from armies popular among players to modifications which achieve the desired immersion in the game.

### 7.2.1 Replaying Reality

In units, existing armies are created by modders and added as so-called loadouts. These loadouts come with uniforms and equipment to represent specific militaries, for instance the US Army. In the Merlion Battalion, there are 170 unique loadouts, although some are only slight variations in camouflage, e.g., for deserts. Of those 170, slightly more than half were actively played over the course of 2024. The loadouts showcase how players reterritorialise game assemblages and their usage discloses several characteristics.

First, non-fictional loadouts significantly more popular than fictional loadouts. 70 out of 170 loadouts are inspired by the fictional worlds of *Arma*, other games, or individual creations by unit members. But those were used in only one third of all operations played. Most missions are done with loadouts representing existing forces, which demonstrates that replicating militaries is quite appealing for players. Second, about 62 percent of loadouts played throughout 2024 were allocated as BLUFOR, with OPFOR only accounting for 15 percent, leaving the rest of 23 percent to INDFOR. As OPFOR mainly consists of Russian/Soviet forces, as well as one Iranian and one PRC loadout, Singaporean players seem to broadly identify stronger with BLUFOR factions. Those consist largely of NATO countries but are not a direct reproduction. For instance, loadouts for Austrian, Kurdish, or Swiss troops are listed as BLUFOR, as are

Australia, Japan, Singapore, and the rest of Southeast Asia. It is still possible to script missions where BLUFOR engage each other, but the operations usually feature a conflict between two of the three forces rather than in-between them. Thus, Singapore and various other militaries are imagined as aligned to NATO.

Next, going further into the loadout selection, there is a diverse distribution. Loadouts from European countries amount to 40 percent, from Asia and the Americas to 28 percent each, with the rest split between Africa (three percent) and Oceania (one percent), see figure 16. This distribution would look vastly different if I had joined a unit from North America or Europe which have stronger emphasis on portraying armies from their region. The Merlion Battalion has a high share of loadouts from the Asia-Pacific, yet Western conflict imageries are also popular, e.g., loadouts from the USA (34) are the most frequently played, followed by Russia (14), Singapore (14), and Germany (11). Apart from replicating West-versus-East conflict scenarios, the specific national background of the unit comes to the fore: Singaporean loadouts were played 14 times and account for almost half of all loadouts featuring Asian countries. Thus, Singaporean players have a dedicated desire to play out what they are most familiar with.

Figure 16: Regional distribution of loadouts used by the Merlion Battalion

<b>Europe</b>			<b>Asia</b>			<b>Americas</b>			
	United Kingdom		Austria						
<b>Russia</b>			<b>Singapore</b>		Philippines				
	France	Czech Republic				<b>USA</b>			
		Ukraine		Japan	PRC	Iran			
<b>Germany</b>	Sweden	Portugal	Switzerland			South Korea	Canada	Brazil	Colombia
		Finland	Soviet Union	Malaysia	Indonesia	Saudi Arabia	Oceania	Africa	South Africa
						Kurdistan	Australia		

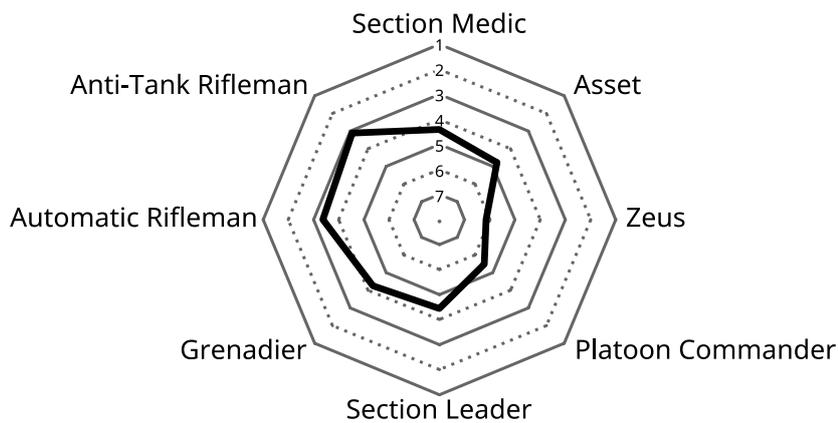
Own work.

Loadouts are not only chosen for their country-wise appeal, but for their functionality. They have specific uses, e.g., close quarter fighting or ranged engagements, and are selected to suit mission objectives. Historical settings are another influencing factor. For instance, there are few loadouts for the late 20th century. If players want to engage in Cold War-esque conflicts, they have automatically less choices. Furthermore, the unit-internal suggestion to not repeatedly use the same loadout has impact as well. I argue that one year of data collection compensates for these issues. 182 missions were conducted, which demonstrates that some loadouts are favoured despite these circumstances. Although only players who act as platoon commanders select loadouts, the decision is at times reached communally. Additionally, this indicates the variety of influences which impact the territorialisation of game assemblages. Availability, functionality, familiarity, and variety are important considerations when loadouts are chosen for each mission. Depending on the choice, different assemblages territorialise. Another dynamic element in this territorialisation is the role players incorporate when engaging in conflict.

Operational roles are chosen freely in the Merlion Battalion. As in many other units, the available positions are inspired by existing army hierarchies on the platoon level where each infantry section contains seven players. This is smaller than usual rifle sections in the Singapore Armed Forces (SAF) but mimics its key roles: one section leader, one grenadier, one medic, two automatic riflemen, and two anti-tank riflemen (Chiang 1990, 60–65; Tang 2021, 1:15–2:58). The so-called asset changes from mission to mission and is usually a supporting vehicle, e.g., tank or helicopter, or specialised role, e.g., marksman. Team leaders and seconds-in-command are assigned at the start of missions and not fixed. Experience is highly suggested for commanding roles, such as platoon commander,

or taking control as the Zeus. The added responsibility of shaping not only the own play experience but those of others leads to fewer players opting for those roles. This is reflected in the rankings players produced when asked about their preferred roles. On average, roles without additional duties, such as riflemen, are placed higher according to popularity, see figure 17. Fewer feel comfortable to lead others or guide operations as Zeus or platoon commander.

Figure 17: Popularity of A3 roles in the Merlion Battalion



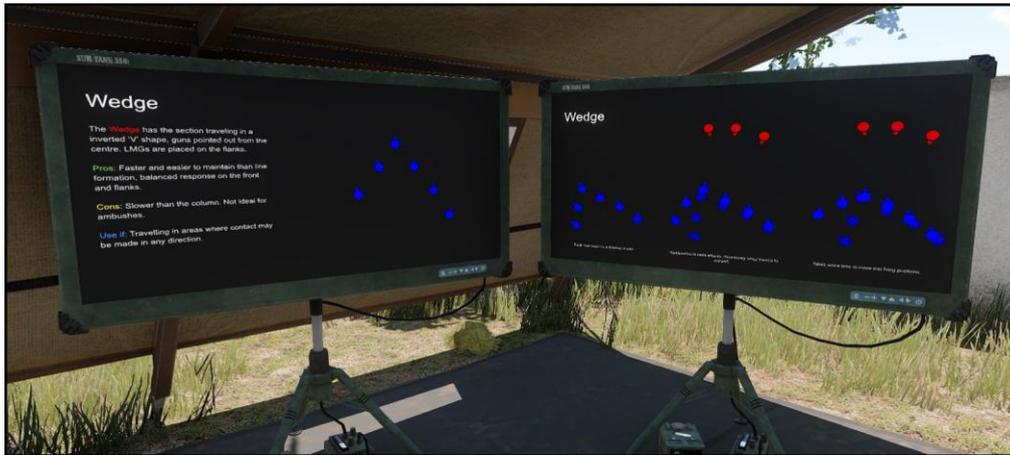
Own work.

To complete the image of how players engage in virtual war on the ground, I examine how they fill in the roles during operations. 14 respondents declared that they never or at most only sometimes role-play in A3. Since role-play in the *Arma* community is linked to units which strictly mimic military protocol, some respondents do not relate to the notion of role-play. Instead, players who mentioned their role-playing activity highlighted that they do so for enjoyment rather than trying to accurately reflect military structures: “It gives immersion, and it elevates player enjoyment as most of the time the role-play is quite funny” (Yi). Whereas other units actively advertise the engagement of active army personnel or reservists in their community to elevate their role-playing and military simulation, this is not the case for the Merlion Battalion. Going through two years of mandatory National Service (NS) has the opposite effect: “Role-played back

then as I have not done my national service, but ever since I finished, it's boring to role-play" (Michael). There is tangible less desire to mimic a military habitus they experienced first-hand. Thus, the digital game assemblage territorialises according to personal experiences.

Contrary to non-simulationist games, the representation of soldiery in *A3* is less concentrated on skilled individuals who perform heroic acts in combat. Displaying knowledge of how to engage effectively in virtual conflicts certainly helps in acting as a "ludic soldier" (Payne 2016, 117). But soldiery as imagined in units is best demonstrated by discipline and comradeship. This is most noticeable in communication during missions. Whereas voice-chats in games can get chaotic with multiple speakers talking over each other, clear communication on the virtual battlefield is an important skill in military simulations. As studied by Duell (2014, 75), team play turns into squad play, where enemy positions are accurately called out and "a shared-situation awareness among each player" is produced. Existing military terminology and tactics are implemented to achieve goals. For example, in the training I completed after joining the unit, the instructor explained basic infantry formations, which I had to repeatedly apply in the missions that followed, see figure 18. Abbreviations are ubiquitous and overwhelming for new players unfamiliar with military jargon. At times, I had trouble to understand what was demanded of me in the heat of battle, which not only disconnected me from my role but also disrupted the gameplay experience of my teammates. The prevalence of technical jargon also traverses communication outside of missions, i.e., on the unit's Discord server.

Figure 18: Infantry formation instructions in the Merlion Battalion



Own screenshot from A3.

Regardless of the intensity of role-playing soldiery, the imagery of soldiers is undisputedly positive. The preferred choices of what armies to play mirror that: Following up on the predominance of BLUFOR loadouts in the unit in terms of availability, they are also the most popular among players. Eight out of 10 prefer to play with them, with the rest being split between OPFOR and INDOFR. There is no single loadout that stands out among players. At most, the same loadout was mentioned twice. Despite being more familiar with loadouts from the region based on national backgrounds, players did not mention any personal identification with those. For many, it was more important what weapons the loadout incorporates, which determines what gameplay is possible. I explore more examples of how gameplay is enacted in the following section.

### 7.2.2 Achieving Semi-Realism

The units players form to play A3 together disclose the variety of playstyles. Some units focus on casual play sessions that do not strictly adhere to military conventions. Players join freely, hierarchies are relatively flat, and members switch between roles from mission to mission, which are irregularly held. Other units heavily emphasise their close recreation of existing military structures.

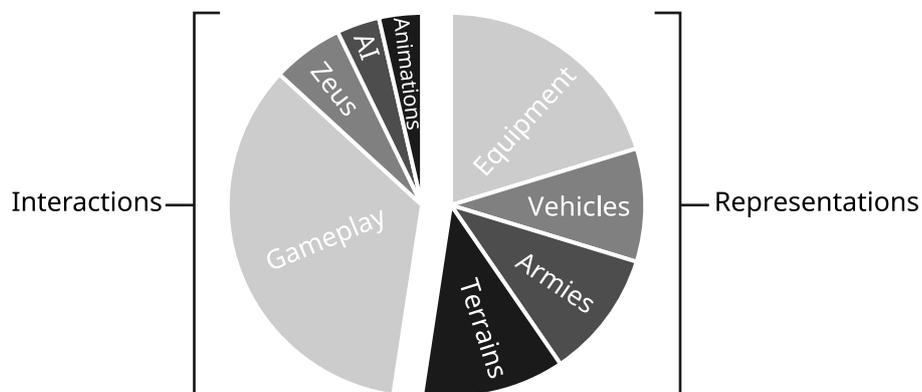
They require an interview process, have age restrictions, provide extensive training materials and bootcamps for newcomers, use in-group military ranking systems with a clear chain of command, and have designated roles for each player on regularly scheduled operations. Furthermore, they play the game with mods which want to mimic physical warfare even closer. The latter case demonstrates how intense soldiery is being role-played. As in other online and offline role-playing games, performance is a core element (Mack 2015, 76–77). Using military jargon as well as showing dutifulness and dedication are expected in units which focus on strong role-play. Of course, the separation between unit and others is not as distinct as the civilian-soldier divide; after all, they play a game. Many units operate in-between these two ends, implementing some role-playing aspects and disregarding others.

The Merlion Battalion is one example for doing so. There is no need to address commanding officers formally, but members should follow their orders properly. Players choose their role in missions freely but should know what the role is all about. Although play behaviour is more casual, the unit implements several modifications which aim at higher ‘realism’. These add complexity to medical assistance, in-game movement, or communication and remove base game simplifications such as the crosshair. As the unit adapted many mods according to their own ideas, the ongoing balancing between enjoyable gameplay and desired realism is apparent. For instance, some advanced options in the medical system have been removed, making treating other players simpler. On the other side, the time it takes to dig trenches was increased, as players were dissatisfied when this could be accomplished in a few seconds. The latter is another example of military experience shaping in-game expectations. Since unit

members had to dig trenches during NS, they wanted to reflect the time and effort this requires in the physical world at least somewhat in the virtual.

The modifications used in the Merlion Battalion show how players utilise player creations and what the desired play experience is. A total of 99 modifications is required to join operations in the unit, although 15 do not add content per se but are so-called core or compatibility modules necessary for the performance of the actual mods. After excluding these and categorising the remaining 84, I split the modifications into two categories (see figure 19). On the left, there are modifications concerned with game mechanics. Here, gameplay is altered, e.g., through detailed trench systems, better movement, or advanced medical treatments. Zeus mods increase the options the game master has in shaping operations. AI mods aim for a better performance of non-player-controlled characters. Finally, animations add further possibilities for in-game expressions. On the right, there are those that enrich representations. The most dominant in this category are equipment modifications, including weapons, accessories, etc. Vehicles add various types of land vehicles, aircraft, or watercraft. Armies are a combination of both equipment and vehicles structured along fictional or non-fictional army formations. Lastly, terrains add maps to be played on.

Figure 19: Types of modifications used by the Merlion Battalion



Own work.

Although each A3 unit (and player) chooses an individual selection of mods to achieve the desired play experience, I argue that other units which follow a so-called semi-realistic approach to A3 reterritorialise the game assemblage similar to the balanced separation in the Merlion Battalion. Units that focus on entertainment utilise fewer gameplay-modifying additions; units that uphold perceived realism have a stronger emphasis on modifications which increase behavioural realism. Representations are certainly important, but since the latter units often restrict themselves to the replication of specific army formations, there is not the same range in equipment necessary as utilised by the Merlion Battalion. Nevertheless, there is a tangible inclination towards having an immersive play experience. Many of the gameplay modifications make the game more complex and reflect physical warfare in more detail. For instance, the creators of the mod *Suppress* used by the Singaporean unit describe the shortcomings of simulating warfare:

Video games generally can barely recreate one thing:

The fear of losing your life.

In reality, suppressing the enemy by sending ♥♥♥♥♥♥♥♥ of bullets is so effective because he's sure that sticking out his head will end his life—forever. (Laxemann and jokoho 2016, under “What is Suppress about?”)

Thus, the modification adds visual impairments if players are under fire to emulate the consequences of being shot at. Speaking from my own in-game experience, this effect discourages from returning fire carelessly as in other shooter games. This mod is only one of 99 examples for how the base game fails to deliver the play experience Singaporeans desire; consequently, they reterritorialise the game assemblage to their liking.

Lastly, collaborative play experiences illustrate how digital game assemblages territorialise quite differently between units. During my ethnographic research, the Merlion Battalion participated in so-called Joint Operations with other units. These cooperations between two or more units are meant to simulate large scale virtual warfare based on combined player numbers. One of those operations was conducted with a Vietnamese unit, which acted as host for the event and provided a list of modifications to be used. While playing, several Singaporean players made fun of the settings, such as having a crosshair, for impeding their play experience. The gameplay diverged too far from their desired level of perceived realism and the operation was not taken as seriously. The different setup of modifications deterritorialised the game assemblage for members of the Merlion Battalion whereas the same assemblage was formative for the Vietnamese unit. Hence, communities engage in virtual war differently and utilise other player-created content to achieve this. Since most units follow a balanced approach between perceived realism and enjoyment, the Merlion Battalion serves as illustrative example.

### 7.3 Men and War

Regardless of the scale of playing warfare, from country leader to single soldier, the play experience is thoroughly male-coded. The appeal of *HOI4* and *A3* towards men is confirmed by players in statements and self-identification: all but one participant in both games identify as male.

[...] guys like war and I can't deny it. Not to say that/ absolutely not saying that there are no female players or females that are interested in this time period. I have plenty of friends that love talking about World War II for

some reason. [Adam laughs] But it's more directed at a male audience because it's about conflicts, war, and stuff like that. (Adam)

Adam's statement aligns to the general perception of *HOI4* and *A3* communities being overwhelmingly dominated by men. In the Paradox forum, community members carry on the masculinist outlook of the game through selecting the very same country leaders or generals as their online representation; a possibility granted by Paradox in the first place. This dominance disincentives women from participating, as Liam points out for *HOI4*: "If it starts off being a very male-gender-dominated community, it could be a bit off-putting for a lot of women." Similarly, Richard states that *A3* is part of "a more masculine domain" which "might dissuade women." Commonly referred to as 'toxic gamer culture', players who do not fit the stereotype of a heterosexual, male, white, and Western gamer face ostracisation (see Consalvo 2012; A. Shaw 2012). The combination of masculinist game design and discrimination has a severe deterritorialising effect on game assemblages for women, trans, and nonbinary people.

Asked about their perception of *HOI4* players not corresponding to the gamer stereotype, almost all interviewees declined knowing any personally and only two pointed to YouTubers. Probed further as to why there seem to be fewer non-male players, many offered explanations such as Adam's quoted above: Playing war is for men. *A3* respondents agreed that more men than women play the game. Furthermore, no respondent saw women more interested in military affairs or games that depict those. The issue of being invisible is also observable among content creators. Only two non-male YouTubers are more widely known in the *HOI4* community, HeyCara and Gnarly Carly, but their outreach in terms of subscribers is comparatively small. Curiously, they are part of a running joke in the *HOI4* community, expressed by Nishant: "From what I've seen, and this is

interesting, most female players of the game that I've come across online tend to be transgender.” Both YouTubers identify as trans-females but going through YouTubers and streamers on Twitch, there is little reason to believe that trans players have an unusual large role in the community. Rather, a quick glance into communities of other games unrelated to trans representation indicates that *HOI4* players are not the only ones to jokingly assume that their game would be popular in the trans community. Thus, I argue that this is a coping mechanism of male players to explain the visibility of non-male community members. Instead of acknowledging that the community is diverse, emphasising that many trans *women* play the game wants to underscore their perceived maleness. This is done to stabilise the imagination of a game enjoyed by men, with the self-identifications of trans women becoming redundant.

Whereas hiding otherness can be achieved in *HOI4*—even when playing with others—it is more difficult in *A3*, since voice chats are an ingrained part of unit gameplay. Anyone non-male would be immediately identified as such if their voice does not match expectations. As Mack (2015, 158–65) elaborates, the male-dominated culture in units discourages and exclude players perceived as others. The ‘Gamer culture’ is intensified by repeating military structures and procedures in the virtual realm, which create virtual versions of military masculinities. Depending on the unit’s emphasis on role-play, harsh or casual reenactments of being a “magnificent warrior” (Millar and Tidy 2017, 150) take place. As Woods (2023, 2875) analysis of another Singaporean game audience indicates: “the gamespace provides a framework of anonymity, meritocratic skills development, and hyperstimulation through which players can develop and forge a sense of the masculine self.” This masculine self continues the existing gendered split in militarised masculinity and civilian femineity, with the latter being

notably absent in *HOI4* and *A3* (Enloe 1993, 52). Hence, masculinist game assemblages which exclude anything non-male territorialise.

*HOI4* and *A3* game designs outline a persuasive image of men engaging in warfare on the state and individual level; an image corresponding to official Singaporean discourses. The duty to defend the country is solely placed on men as part of the mandatory military service for all male Singaporean citizens and Permanent Residents. As Minister for Defence Ng Eng Hen (2022, under “Basis for Conscription”) states, conscripting women would “impose a great cost not only on women themselves, but also on their families, children and spouses and society as a whole.” Hence, going through NS serves as initiating experience for male Singaporeans: “In other words, males need to earn their rights to enjoy the benefits of Singaporean citizenship and heteronormativity that include having a job, receiving public housing subsidies, cash incentives for giving birth to babies, and a subsidised university education” (Lowe 2019, 692). NS is identified by several respondents to be an influential factor on why military simulations appeal to men in particular: “We serve NS, so we have some knowledge and interest in a MilSim” (Shen). Besides respondents mentioning social and cultural factors, the practical experience in the SAF lends legitimacy to players. It is men who acquire grounded knowledge of military affairs, which Singaporean women lack by design.<sup>90</sup>

Overlapping with S. H. V. Tan’s (2016, 71) observations, Singaporean players are aware of discriminations in the communities, but they do not identify the games themselves as contributing to this situation through biased portrayals. Rather, it is the people playing the games who are seen as responsible for

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<sup>90</sup> Nevertheless, about eight percent of the SAF are women (Ng 2022, under “Women’s contribution to defence and nation building”).

negative play experiences, with some explaining this with local conditions. None but the only female participant for *HOI4* explicitly mentions hostile behaviour by male players and calls out sexism in the community. In contrast, more than half of respondents for *A3* acknowledge that the overall community can be toxic. Thus, hostilities towards any non-heterosexual, non-male, non-white players remain a daily occurrence among players of *HOI4* as well as *A3*.

## 7.4 Summary

The gameplay observed among Singaporean *HOI4* and *A3* players exemplifies how digital game assemblages territorialise during gameplay. Role-play is an important aspect for *HOI4* players to immerse themselves in the game. It is less important for *A3* players, although it is done occasionally. This is connected to the stronger relation of Singaporean players with military experience due to NS. These findings also highlight how game assemblages are shaped by personal background and individual goals. Singaporean players territorialise assemblages based on their knowledge of historical or military affairs. *HOI4* players want to achieve what countries were unable to do in WWII. Countries perceived as major actors are favoured although it is more important that those countries received content by the developers. *A3* players follow Western imaginations of conflict in their selection of loadouts and mimic how armies operate in their missions. They also adhere to roles that suit them best when they are part of a unit.

But players notably reterritorialise the digital game assemblages outlined by the developers. In *HOI4*, players imprint their own ideas of how (hi)stories for their countries should unfold. They mostly do so according to individually set

rules of what is acceptably authentic to the period and what is not. Similarly, in *A3* local perspectives come to the fore as the popularity of playing as the SAF and other (Southeast) Asian troops illuminates. Unit members determine what level of fidelity to physical warfare is suitable and select modifications accordingly which shape gameplay experience quite different to the base game. Lastly, as a consequence of masculinist game design and exclusionary communities, playing war simulation games is identified as male performance in both communities. Masculinity and warfare are conflated, echoing Singaporean traditional gender roles. The game assemblages would certainly territorialise differently if the game design and communities would reflect greater diversity.

I want to close my observations on gameplay with an important disclaimer: Styles of playing a game are not static. Just as playing is a dynamic activity, so is overall play behaviour. Particularly time spent with playing the same game influences how players play it. As indicated by my observations, players who are more experienced exhibit more creative ways of interacting with the game. Those players who modified the game or created other content have usually vast experience with it. Additionally, players gather a range of experiences in genres with great freedoms in explorations, such as simulation games. Thus, studying them in a set point provides a glimpse into current territorialisations of digital game assemblages. Nevertheless, I believe that my observations of how Singaporeans play *HOI4* and *A3* can be tentatively generalised for the global communities of those games.

## 8 From Europe to Asia

In this last analytical chapter, I explore Singapore's role in *HOI4* and *A3* and how Singaporean players reterritorialise the digital game assemblages. Looking at Singaporeans playing and modding war simulation games is exceedingly informative because they illustrate how (Southeast) Asian players criticise Eurocentric game discourses and systems and territorialise their own ideas based on their background. Two separate approaches for *HOI4* and *A3* are required for investigating the consequences of biased portrayals in the case of Singapore. Whereas there is limited representation of Singapore in the former, there is none in the latter—at least in the base game. In the first section, I discuss Singapore's role in *HOI4* based on the developers' vision and the critical responses of players. For *A3*, I focus on what players created in the game, how Singaporean players generally make use of modifications, and what they think of the existing biases. In the second section, I move to player creations in more detail for both games, covering how digital game assemblages are reterritorialised by Singaporeans.

### 8.1 Where Is Singapore?

Looking at the covered time frame in *HOI4*, it is no surprise that there is no playable Singaporean country. Singapore exists on the game map as victory point, i.e., as location which has attached a numerical value mostly important for capitulating a country when conquering it. Up until November 2025, Singapore was part of so-called 'British Malaya' which consists of today's Malaysia, Singapore, and Brunei. With update 1.17 the United Kingdom was put in direct control of the island. I explore this imagination of colonial rule in the next section. Then, I discuss critical responses by players to the representation of Singapore and

Southeast Asia in general. In *A3*, the case is even clearer, as Singapore receives no mention in the base game. Although small island nations are recurring narrative settings in *Arma* games, only once was an Asian context featured. Even so, the islands themselves are mere conflict sites for larger factions. I offer explanations for why Singapore does not fit into *Arma*'s game design before coming to players' perceptions of biased game production.

### 8.1.1 Historical Singapore

British Malaya was no unified political entity during WWII but is one in *HOI4*. Understandably, the complex organisation of Federated Malay States and Unfederated Malay States as well as the Straits Settlements cannot be straightforwardly presented in a game which operates with essentialised nation-states. Thus, British Malaya in *HOI4* is a prime example for how territorial history is simplified for playability. In various ways, British Malaya is equated with the Straits Settlements by the developers. First, since no single country existed, there was no political leader. PDS coopted Shenton Thomas, governor of the Straits Settlements at the time and simultaneously high commissioner of the Federated Malay States, as leader for British Malaya. Indeed, Thomas can be seen as leading political figure in British Malaya based on these occupations (Lees 2017, 167). Furthermore, the flag of British Malaya is that of the Straits Settlements. Although not the historically accurate version, which misses the white disc as background for "a lozenge fesswise gules, a pall reversed argent surmounted by three imperial crowns" (Brooke 1921, 571; see Prothero, n.d.) from 1925 onwards, the developers might have chosen this version to improve in-game visibility of the badge. Thus, the Straits Settlements dominate the historical imagination of the colony in content and visuals. Even British Borneo (today's East Malaysia and

Brunei) is part of British Malaya for further simplicity. Similar severely inaccurate portrayals of imperially dominated territories are obvious in other instances, e.g., the absence of Egypt or French Indochina. At times, PDS corrects these portrayals with free updates and DLCs but to date none has addressed British Malaya (nor Egypt or French Indochina). In fact, British Malaya itself was only added a few months after the game was released (Lind 2016, under “Torch 1.3 Patchlog”).

Another reterritorialisation of the game assemblage applies to Singapore. For almost 10 years until update 1.17, Singapore was the capital of British Malaya. As the seat of government of the Straits Settlements—whose governors controlled the Federates Malay States as high commissioners as well—it comes closest to an administrative centre (Andaya and Andaya 1982, 183). The whole peninsula was organised as one state named Singapore with the island of Singapore not being an island, but part of the mainland separated by a large river, see figure 20. This changed in November 2025. Together with the DLC *No Compromise, No Surrender* covering Japan and China, the free update 1.17 reorganised the region. Singapore was territorially and politically detached from British Malaya: Singapore became an island and was put under direct control of the United Kingdom. For the first time, players can play as Singapore if they decolonise the British Empire. However, there is no unique content and Singapore’s political representation is generic without any historical substance. The changes made to British Malaya and Singapore remain unmentioned in the accompanying patch notes, underscoring that PDS tended to other parts of Asia for the update (see Bonomi 2025b). Even the DLC *Thunder at Our Gates*, planned to release in 2026 and focused on Southeast Asia, does not mention British Malaya or Singapore.

Figure 20: British Malaya in HOI4



Clockwise: British Malaya, close-up of Singapore before update 1.17, close-up of Singapore after update 1.17, political interface for British Malaya. Own screenshots from HOI4.

While initial technical and workforce constraints might excuse this negligence, the great attention other regions of the world received, especially Europe, since the game has been published in 2016 demonstrates that the developers have amassed the necessary skills and capacities. Southeast Asia does not seem to be regarded as important enough to receive an update. Nevertheless, it is attributed some relevance. For the in-game representation of Singapore, some participants highlight two main values: its strategic location and availability of resources. Both factors are important drivers of gameplay, especially in multiplayer sessions where players are destined to clash over these concerns in the Pacific. The developers formulated this role for Singapore in the game design.

First, the United Kingdom has with 'The Singapore Strategy' a NF which increases land and coastal fortifications. The accompanying text to the focus reflects strategic discussions at the time (Murfett et al. 2011, 151–52):

Singapore should remain our primary naval base in the East. Hong Kong may fall to the Japanese, but Singapore must remain impregnable until the Main Fleet can arrive to decisively defeat the enemy. (localisation\english\focus\_1\_english.yml, line 850)

Two subsequent NFs add land fortifications on the peninsula, referencing historical plans to bolster defences which never materialised (Murfett et al. 2011, 191). Singapore's strategic value is strengthened with update 1.17, where its port becomes a major naval hub (Żwirski 2025b, under "Naval Supply Hub"). Moving ships to Singapore, as has been done with the so-called Force Z, is up to players. Second, Southeast Asia accounts for around 90 percent of in-game global natural rubber production, just as it did in the early 20th century (Farley 1942, 14). In an undocumented change of game code, British Malaya's share was reduced and fell behind the output of the Dutch East Indies. This departs from historical records but as the region remains the top producer of natural rubber, its relevance for the in-game production system is maintained. Additionally, British Malaya provides aluminium, coal, oil, steel, and tungsten, although in smaller quantities.<sup>91</sup> Thus, it has six out of seven in-game resources necessary to produce war-time material. As puppet of the United Kingdom, the so-called overlord imports these resources for very favourable conditions. The only resource unavailable in British Malaya is chromium. These factors make the country an important asset while playing war.

Before update 1.17, control of British Malaya stood and fell with conquering Singapore. There is one dedicated event in case Japan conquers Singapore, which describes the fall of the 'Gibraltar of the East' with an accompanying

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<sup>91</sup> Coal was added with update 1.17.

contemporary picture of Japanese troops marching through Fullerton Square (events\NewsEvents.txt, lines 3443-498; localisation\english\events\_l\_english.yml, line 1181). But it is not entertaining to play as British Malaya or Singapore. Only one interviewee reported doing so and described a very historical experience:

You would face similar struggles of the onslaught of the Japanese, and you're not having a lot as British Malaya. You'd mostly rely on Britain to defend you. They wouldn't do a very good job. You would lose Singapore quite fast and have to retreat to Borneo or Kuching [...]. (Joshua)

The whole region has no agency and is shaped by external powers such as the United Kingdom and Japan. While Singaporeans would like to see unique content for this region, many refrain from demanding it specifically for Singapore, such as Jason: "This is World War II, there's not much going on in Singapore at this point and we're just a base for the British." Or as Brandon points out, "Conceptually, it wasn't even a nation or a country. It was just a city." This has historical background but shows that the game's geopolitical imagination is persuasive.

Most players pointed out that learning from the game directly is restricted to historical facts and geographies. But the game stimulates many players to indulge in historical research, starting the hermeneutic process of play and research. Learning about historical developments inspires players in following playthroughs, reenacting or purposely avoiding what they read about. But there is nothing stimulating when playing as British Malaya, the Dutch East Indies, Siam, or Indochina, because those countries do not have unique content in form of NFTs. Therefore, the tendency by participants to reject (alt-)histories for

Singapore would not be voiced if developers proved that there are possible scenarios in the first place. PDS chose to enable the territorialisations of a multitude of fanciful alt-historical game assemblages, such as restoring Russian Czarism or conquering the Americas as native tribes; possibilities to defend Singapore or British Malaya or even struggles for independence appear quite mundane in comparison.

Indirectly, there is one alternative history implemented. Australia has the option to govern British Malaya instead of the United Kingdom. Curiously, the NF is quick to access, and the request to take over British Malaya is programmed to be always fulfilled by game AI (events\TFV\_Australia.txt, lines 20–22). The option to assume control over British Malaya when playing as Australia is representative of the latter’s contemporary national security interests, which “saw the defence of Singapore as the basis of their own defence and British commitment to it as the guarantee of British good faith in imperial defence” (Murfett et al. 2011, 211). The United Kingdom certainly would have refuted any proposal of the like at the time as challenge to British authority. Again, the fate of British Malaya is shaped by others to the detriment of play opportunities for Singaporeans. There are no alternatives to do better than historical accounts and realise own ambitions, impacting what game assemblages players territorialise: “If you want to play an interesting game, you pick something here {pointing to Europe}, so you don't end up spending three to four hours building up and then getting wiped by Japan when they come” (Kenneth).

### 8.1.2 Missing Southeast Asia

Throughout my thesis, I offered accounts on the skewed representations and narratives that exist in *HOI4*. For instance, the map emphasises the European

theatre of war; the general game design revolves around the German Reich and its actions; and content releases neglect the Asia-Pacific which received only two dedicated DLCs. In short, *HOI4* is a Eurocentric game. PDS created various content for non-European countries but since these were only published years after the initial release of the game and require further expenses, they appear as an afterthought. Arguably, South America and Sub-Saharan Africa saw little immediate action during WWII, so missing representation can be justified through focusing on where the main fighting took place. However, Asia remains severely neglected considering that it was a major war theatre even before the *European* start of WWII (see Ven 2015).<sup>92</sup> The first Asia-specific DLC *Waking the Tiger* was added almost two years after the game was initially published; seven years later the DLC *No Compromise, No Surrender* indicates renewed interest in the region by PDS with another DLC for Australia, Indonesia, and Siam scheduled to release in 2026. Still, this hardly compensates for years of negligence.

Perhaps surprisingly, Singaporean players identify yet defend the missing attention to a crucial part of WWII history in a WWII history game. While some players explain the apparent Eurocentrism with Paradox' European location and staff, others argue that this not caused by biased production circumstances but by biased consumption conditions. In other words, it is not important where the game is developed but who buys and plays it. The perception of who does so differ; for instance, Nishant sees Europe, Liam the USA as main market for Paradox. However, no interviewee considers Asia to have a significant number of players. Rather, their observations of player distribution paint a picture of a predominantly North American and European community.

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<sup>92</sup> Without discussing the starting point of WWII in detail, the common conception that it started with the German invasion of Poland is a European perspective.

Thus, it is assumed that those players prefer to have their own countries added to the game, prompting PDS to develop content for them. While nationality may influence in-game country choices, I propose that every player of the game tries out different ones eventually. Personal identification is just one of many aspects when territorialising game assemblages, such as favoured playstyle, role-playing opportunities, or following alt-histories. PDS does not explicitly disclose why some countries receive unique content and others do not. Hence, the argument made by interviewees and many others in the game community that PDS simply caters to markets is not verifiable. Nevertheless, this is a popular approach observable among game developers as A. Shaw (2012, 33) argues: “Groups are representable only insofar as they are marketable.” On the contrary, PDS itself discloses that so-called minor countries are extremely popular after receiving new content via DLC, which demonstrates that players very much want to explore other, non-European historical trajectories (Nicholson 2022, para. 4).

The argument that Paradox should stick to its Western audience for financial reasons further erodes when looking at the popularity of the game among East Asian players. At release, *HOI4* has been translated into various languages but no Asian ones. The three largest, Simplified Chinese, Japanese, and Korean have not been available from the start. Simplified Chinese and Japanese were added in 2023, Korean in 2025 (Jakobsson 2023, under “Localization”; Bonomi 2025a, under “Additionally”). Although there is no public data to verify how popular *HOI4* is in those countries, existing language modifications are an indicator. The number of players who own the game despite not having native language support is astounding. The Korean language mod has 98,000 subscribers, Japanese 120,000, and Simplified Chinese 650,000 in July 2025. From personal

experiences, interviewee Allen confirms that the Chinese community is rather active despite the difficulties in acquiring and playing a game that is not officially available in the PRC. All mods were very quickly created after *HOI4* was published with the Chinese translation mod even being released on the same day.

Evidently, the game is heavily played in the region and there is considerable potential in Asian markets. While this is an advantageous position for PDS where free translation work boosts sales in those markets, it exemplifies how Asian and other audiences are neglected. As Edwards (2011) highlights, adapting games for markets is an important step to take if local audience are targeted. For this, localising the game is the bare minimum effort. Since this has been done for Polish but not Japanese or Simplified Chinese until 2023, marketability is an insufficient explanation. I argue that Eurocentric game production reduces incentives to create a game that appeals beyond North American and European players. Matthew reflects on the same issues in other PDS games:

I wished they would show more understanding for Southeast Asian politics, because it's not represented as much in *HOI4* and *Victoria 3*. In *Europa Universalis 4* though, they have a lot of/ they have made content for Southeast Asia, which is another reason why I enjoy it more.

Turning from the developers to the players, Singaporeans accept the skewed portrayals in *HOI4*, albeit many do so with criticism. In general, they tentatively challenge aspects of the game. They identify cartographic disproportions (Dai Yong: “Gibraltar is way too big.”), abstracted war (Jeremy: “One thing is that *HOI4* does make everything seem/ hides everything behind numbers.”), sanitised ideologies (Shawn: “Because there's no representation of the

ideological struggle, people will get the impression that World War II was just nations fighting one another.”), skewed history-telling (Nishant: “If you just read the game and base your knowledge of it, you’ll probably get some wrong impressions of history.”), and game misappropriations (Dylan: “But some people take it as a way to boost their political ideology.”).

Obviously, players are capable of deterritorialising the game assemblage and pointing out its flaws. Similarly, developers navigate between claims to historical authenticity and entertainment (Grufstedt 2022, 120). They accept these shortcomings, arguing that games must necessarily compromise to be entertaining. But many interviewees explicitly criticise the (under)representation of Southeast Asia. This is harder to justify as content for the region could have been developed within the existing game design, e.g., in form of NFTs for those countries. Despite voicing their understanding of the Eurocentric outlook based on dominant Western narratives that surround WWII in popular culture, Singaporean players are generally dissatisfied that the Pacific theatre has been ignored: “Is this a problem? I guess it is. It’s not nice to have a whole section of history being tossed aside [...]” (Hao Wei).

Furthermore, the missing attention paid to the region leads some players to critically reflect basic assumptions, such as An Yan:

It’s interesting because we look at the history of Southeast Asia during this period through a colonial lens. When we talk about World War II, we talk about conflict, when we talk about conflict, we talk about governments and policies and military forces instead of looking at people. The history of the natives isn’t really talked about very much apart from certain resistance movements.

An Yan but also Adam and Ava are vocal about giving local perspectives representation in the games. How exactly this would look like was more difficult to articulate for participants. Besides vague references to Southeast Asian resistance figures whose role could be mentioned in the game, interviewees keep their suggestions general, stating that it should be the priority for PDS to add content in form of NFTs for Southeast Asia soon. Singaporean players do so out of a desire to give representation to a vital theatre of WWII, whereas criticism in the global game community commonly revolves around lack of content or play opportunities. Indeed, many players notice biases but those from underrepresented regions are more sensitive to specific portrayals. Singaporean players probably do not differ too much in this regard from other (Southeast) Asian players. In fact, compared to other countries, the greater exposure to Western popular culture based on language accessibility explains the sympathy with Eurocentric narratives.

### 8.1.3 Rural Warfare

The lack of Asian representation is also observable in *A3*. Singapore is no part of *A3*. Adding Singapore is hardly possible in the game design of *Arma* games. Although *Arma* maps feature a multitude of settlements, there is a noticeable lack of bigger cities. In general, digital games struggle to represent cities and urban life. Attempting to mimic the complexity of cities in games requires resources that development studios concentrate on other aspects (Fraile-Jurado 2024, 892). Despite BI's simulationist approach, their terrain designs are meant to enable players living out their imaginations of armed conflict rather than explicitly replicating physical environment. For instance, terrains are largely even, regardless of inclination. This makes movement by foot or vehicle easy as there are few

obstacles. Urban settings are similarly simplified. Each terrain hosts a range of villages and towns, but settlements are rather small, and only specific buildings can be entered by players. Figure 21 illustrates this with the houses on the right side of the street with barricaded windows; the apartment block in the back is equally inaccessible.

*Figure 21: Urban warfare in A3*



*Own screenshot from A3.*

Singapore's contemporary extraordinary verticality would push the game engine and gameplay of A3 beyond its limits. Two of the very few attempts by mod creators to add urban terrains with high-rise buildings are a virtual New York City and an unnamed 'concrete jungle'. While these demonstrate that some representation of Singapore would be possible, the creators report technical limitations because of the high density of objects and buildings, which reduce game performance severely. Furthermore, the question remains how gameplay could be made entertaining in these settings, as dense high-rise buildings are difficult to navigate. In the case of Singapore, a historical representation of the city appears to be more feasible in A3.

However, this has also not been done. The closest approximation is a player-created campaign of WWII in Asia; but the mod does not go beyond the Chinese mainland. In general, Asia-Pacific settings receive little representation. Out of the 100 most subscribed terrains on the Steam Workshop, I interpret only nine as geo-typically Asian-Pacific. Two of these maps emulate continental Southeast Asia, the rest focuses on islands with fictional as well as non-fictional recreations. Since Tanoa is an official terrain set in the region, the argument could be made that players saw no need of creating more maps of similar scope. However, the abundance of theatres set in Europe or the Middle East despite the already existing terrains by BI demonstrates that in-game geopolitical imaginaries are shaped by the skewed distribution of modding communities and the persuasiveness of conflict scenarios outlined in the base games. Both feature a significant Western bias.

Throughout my time in the Merlion Battalion, I noticed that simulating warfare largely took place in the countryside with specific compounds or other installations, but rarely in urban settings. From a gameplay perspective, this is quite understandable: Manoeuvring through streets that all look the same while hostiles are engaging from hidden positions is quickly frustrating. Although this is certainly an authentic experience of urban combat, it is not one enjoyed by many players. There is also no preference towards playing in Pacific theatres among Singaporeans. My survey revealed that more than half of the players favour the terrains Altis and Chernarus. The geo-typical mediterranean island and the Eastern European rural area from *Arma 2* convince players with their atmosphere and possibilities. Otherwise, there are no favourites and only one player opted for a Pacific terrain as their favourite map. Based on my observations,

jungle maps are more often played than these findings indicate, but there is no prevalence of playing as any Southeast Asian army in those contexts.

Therefore, Singapore has no presence as virtual environment. Based on community creations, it does have one with military equipment, from uniforms to weapons to vehicles, etc. There are six modifications on the Steam Workshop. Five are concerned with bringing the SAF into *A3* and one adapts a fighter aircraft cosmetically for the Singaporean Air Force. These mods have up to several hundred subscribers, and one is used by another unit based in Singapore. Compared to the popularity of other representations of armies, these low numbers demonstrate that their appeal is restricted to local audiences. Representations of armies which tap into Western—and mostly US-American—geopolitical imaginaries, e.g., the wars in Vietnam or Iraq, receive greater attention by modders.

This illustrates that reterritorialisations of the *A3* game assemblage are inspired by external assemblages, reflecting the intertextuality in popular culture and how a Western-dominated game community reproduces narratives found also in other media (Dittmer and Bos 2019, 42–43). Due to its size, the Singaporean community does not achieve the same cultural impact. Apart from Singapore's role in WWII, where a depiction of an explicitly Singaporean military is arguable difficult since the SAF were formed only decades later, there are almost no instances suitable to be replicated in a military simulation. In other words, there is little inspiration for creators to draw from when reterritorialising the digital game assemblage. One notable exception is the hijacking of Singaporean Airlines flight 117 in 1991, which was ended by SAF Commandos (see Singh 1991). But this event is not comparable to other conflict scenarios, e.g., Afghanistan, in discursive impact, and would be quickly exhausted when replicated in the virtual space. The missing representation of Singapore and other Southeast

Asian countries is noticed by Singaporean players and engaged with in the next section.

#### 8.1.4 Unavoidable Biases

As in *HOI4*, the imagination of conflict in *A3* is thoroughly Eurocentric. With the DLC *Apex* which added Tanoa and an accompanying singleplayer campaign, a Pacific environment was added for the first time in the *Arma* franchise. Just as other island nations in the series, Tanoa is inherently imagined as warscape. Besides various factions on the island struggling for control, foreign powers, such as NATO and CSAT, enact their influence. Compared to the base campaign focusing on Altis and Stratis, which almost all respondents of my survey played, the campaign on Tanoa was explored by half of all players. It is still the second-most played campaign, indicating some desire among Singaporeans to explore the Pacific setting over other scenarios. When asked about the plausibility of the conflicts featured in *A3* campaigns, the majority found the settings convincing and agreed with the possibility of similar conflicts breaking out in ‘real life’. Regarding the representations of factions and countries, almost all players identify NATO and Western countries as positive actors, whereas CSAT and the AAF are antagonists. This evinces that BI successfully adopts existing geopolitical scenarios and proficiently crafts narratives that reverberate among players.

Narrative influence is one of many impacts the game has on players. For instance, more than half of all respondents stated that they learned about military jargon, tactics, communication, and equipment from the campaigns. Fewer mentioned learning about other topics, such as international relations, geopolitics, or history. Nevertheless, three quarters reported that they relate to events they read in the news or other media through *A3*. One third does so often or even

more frequently. Hence, beyond an understanding of war materialities or tactics, the exposure to geopolitical confrontations in the game helps players processing similar scenarios in the physical world. One explicit example for this is the DLC *Laws of War*. The unique instance of BI cooperating with ICRC to produce a critical reflection on the topics the game itself put forward was played by eight players who confirmed the DLCs educational effect.

Generally, contemporary geopolitical events are discussed in the community, for instance the Russian invasion of Ukraine. Images, videos, and other sources are spread in dedicated channels on the Discord server with humorous intent. Thus, the discussion of geopolitical affairs is supported by laughter. Most images, videos, etc. are shared without contextualisation, making it difficult to ascertain intentions, but the daily posting of content illustrates the importance of humour in making sense of geopolitical issues (Ridanpää 2014b, 156). Humorous engagements stretch to in-game performances, where jokes are integral to the playing experience and lighten the seriousness of the military simulation. This exemplifies “the geopolitical power of humour to contribute to the constitution of assemblages” (Dittmer 2013, 511). Players territorialise specific play assemblages during missions by referencing geopolitical events, e.g., US-American interventions in the Middle East, with jokes. Hence, humour is instrumental for social bonding and making sense of geopolitics (see Ridanpää 2014a).

Additionally, many already reflect and acknowledge some of the influences the game has on them. This is also articulated when asked about the relevance of representations. Here, respondents are split between confirming and rejecting the proposition that it matters how military equipment or factions are represented in the game. The majority saw at least some degree of bias in A3, especially around the portrayal of NATO and CSAT, as Darren illustrates: “While

there is some attempt to show factions as more ‘grey’, in general the West (NATO) is still shown as ‘good’ in most scenarios while the East (CSAT) is shown to be more ruthless.” Similarly, players critically reflect on the issue of game production when asked about how *Arma* would look like if it was developed in a Southeast Asian country. Curiously, more players identify a possible Southeast Asian *Arma* to be biased than the existing one. I argue that this is caused by the greater familiarity with regional politics. As the input of respondents shows, many display knowledge of diverse conflict scenarios influencing a game developed in a Southeast Asian country:

It depends on the country and people developing it, and who is the enemy.

There could be SEA vs China for the 9-dash line, Philippines and Indonesia vs China, Indonesia/Malaysia vs Singapore, NATO vs Russia/China in SEA etc.

(Kyle)

The situation is described as quite complex, since nations in the region have diverse agendas. For example, a military simulation developed in Singapore would differ vastly from one produced in Indonesia not only based on their respective geopolitical cultures that permeate their creative industries but also due to distinctive state involvement, i.e., Indonesia’s history of supporting games which allegedly focus on national culture (Darmawan and Rakhmani 2015, 257–59). For some, the PRC would be featured as antagonist in these settings, while others point out that a local developer studio “may go out of its way to avoid purposefully depicting China as an aggressor state in order to avoid attracting negative publicity” (Kevin). Hence, respondents identify a range of geopolitical factors that determine the territorialisation of game assemblages.

Lastly, the players offer their opinions on the dangers of biased games, with many generally pointing out the issue of skewed representations or harmful messages. Li Xian addresses the character of military simulations: “When you're making a game that advertises itself to be a realistic portrayal or simulation of war, it can influence consumers' impression of certain factions or nations portrayed in the game.” Indeed, claims to realism strengthen the persuasiveness of simulation games and Benjamin points out the issue of younger audiences consuming biased games:

As it shows more of culture X instead of Y (i.e., capitalist good, commies bad, or vice versa) it can turn into propaganda quickly. Since new generations of children are prone to using the internet, biased games which act as propaganda can shift their mindset very quickly at a young age.

Again, an important notion as younger players are shaped through games from a young age. *A3* is purchasable in Singapore from the age of 16 and the average age of respondents demonstrates that predominantly younger people engage with it (see Infocomm Media Development Authority [2023](#)). Some even contribute their own creations, which I come to in the next section.

## 8.2 Player Creations

Singapore has been directly and indirectly added to *HOI4* and *A3* in diverse ways. For *HOI4*, I look at modifications by players and how they imagined the region and the country's history. Furthermore, I produce the findings of the collaborative modding effort conducted with participants. For *A3*, I investigate narratives crafted by players in the Singaporean unit. Moreover, I analyse the applications of player-generated content.

### 8.2.1 Little Red Dot

Among the vast content produced for *HOI4*, Singapore does not stand out. Instead, British Malaya has caught the attention of several creators (table 7). Indicated by the number of NFs, all modifications provide at least a basic play experience. NFs are a helpful approximation to the amount of playable in-game content for the respective country. For a comparison: NFTs in the base game range from 54 (Manchukuo) to 327 (Soviet Union), with an average of 145 NFs.<sup>93</sup> I briefly explore how those mods feature Singapore and what regional geopolitical imaginations they offer.

Table 7: HOI4 Modifications for British Malaya

Name	Release	Last Update	NFs
Historical Malaya	2017	2017	89
Together For Victory - British Malaya Overhall	2018	2018	98
Hari Merdeka: Malaysia Expanded	2019	2020	83
Malaysia Boleh! - Malaysia Reborn	2023	2023	108
Persekutuan Malaysia - Malaya Rework	2023	2024	152

Apart from *Together For Victory - British Malaya Overhall* (sic), every modification is greatly informed by local histories. The former remains generic and provides little to no reference to what (and what could have) happened in the region. Singapore and its role are mentioned in *Historical Malaya*, *Hari Merdeka: Malaysia Expanded*, and *Persekutuan Malaysia - Malaya Rework*. The first enables the expulsion of Singapore, while the latter two have no scripted consequences in their NFs regarding Singapore. *Hari Merdeka: Malaysia Expanded* has since been incorporated in *The Road to 56* but because the respective focus for

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<sup>93</sup> Calculation without shared NFTs.

Singapore does not have any effect, it has been simply commented out.<sup>94</sup> *Persekutuan Malaysia - Malaya Rework* hints in its NF description at possible ethnic clashes between Chinese and Malays. The last modification, *Malaysia Boleh! - Malaysia Reborn* does not have content for Singapore but one of the two creators assured this would be part of the mod in the future during the interview. Therefore, Singapore as its own entity is imagined at least twice along historical post-war accounts. Apart from this, British Malaya's and Singapore's role as part of the British Empire is featured. For example, the 'Singapore Strategy' as well as 'Force Z' appear in almost all mods. This observation continues for larger historical modifications which offer content for the region, see table 8.

Table 8: HOI4 modifications featuring British Malaya or Singapore

Name	Date*	NFs
East focus mod	2017	80
The British Empire	2019	82
The Road to 56	2019	82
Millennium Dawn: A Modern Day Mod	2023	145

\*Date when content for British Malaya or Singapore was added.

As mentioned above, *The Road to 56* incorporates *Hari Merdeka: Malaysia Expanded* and its content almost completely unchanged. One key difference is noticeable on the map: Singapore and Brunei are integral parts of the United Kingdom and not British Malaya. Another, different imagination of territories is offered by *The British Empire*, where Sarawak is separated, but the rest of northern Borneo and the peninsula form British Malaya. Furthermore, *The British Empire* is the only modification to completely forgo a detailed account of how

<sup>94</sup> 'Commenting out' describes the praxis of prefixing a section of source code with comment delimiters which prevents the code from being compiled without deleting it.

British Malaya achieves independence. Although there is a NF enabling that, there is only one follow-up NF labelled “Clearly we have made a mistake.” (localisation/english\MAL\_British\_Malaya\_and\_Sarawak\_1\_english.yml, line 92) which allows the United Kingdom to declare war on the now-independent British Malaya. The mod generally wants to portray the British Empire in more detail than the base game and does not add alt-history for any of the new subjects of the United Kingdom. Thus, the creator territorialises a game assemblage with strictly British colonial imaginations and disregards any possible diverging paths.

The *East focus mod* is a stark contrast to this. Only available in Simplified Chinese, the authors add vast content for Asian countries, particularly in China. Although *Malaysia Boleh! - Malaysia Reborn* has the most detailed territorial imagination of British Malaya, which would make a separation into Straits Settlements, Federated and Unfederated Malay States possible, the most detailed geopolitical imagination is done by *East focus mod*. In the former mod, the changes to the map do not translate to political entities; all territories belong to one country. In the latter, there is a range of distinct countries. The Straits Settlements and Unfederated Malay States are an integral part of the United Kingdom, whereas the Federated Malay States are a separate political entity. Furthermore, there are British Borneo, Brunei, and Sarawak as playable countries subject to the United Kingdom. If the Federated Malay States achieve control of the peninsula, they can expel Singapore or include it in the new Malaysian Federation.

Lastly, *Millennium Dawn: A Modern Day Mod* offers an entirely different conceptualisation as it is set in the year 2000. Curiously, Singapore but not Malaysia has a unique NFT which explores Singapore and possible alternative routes in modern times. Created by a US-American, the Singaporean content exemplifies that national affiliation is no requisite for providing a detailed

representation of a country; 145 focuses enable players to explore various political directions with Singapore. The modder openly admits to taking creative liberties when designing the content while also emphasising the importance of trying to achieve an authentic portrayal during the interview: “I’m a human being. I’m not without biases. I try to eliminate as much from it as I can.” Although research for content design can start on Wikipedia, a great variety of sources are used during the design process. While not all creators might adhere to the same standards in this regard, general observations of modding communities highlight that conducting extensive research is a key part of modding as well as wanting to improve the game (Poor 2014, 1258; Sotamaa 2010, 246).

Rather than going into more detail for each modification, this overview shows how a range of creators approached the same region. Strikingly, the efforts to give British Malaya representation did not spread to Singapore, at least for historical mods. But there are four mods dedicated to the city-state, see table 9. Only one of those, *Majulah Singapura*, went beyond simply adding the country without further content. Named after the national anthem, *Majulah Singapura* is also the most recent modification and has a small NFT for Singapore. Unfortunately, these mods have not been maintained by the creators and require a rollback to previous game versions to be able to play them. Nevertheless, it is illuminating to have a closer look at *Majulah Singapura*.

Table 9: HOI4 Modifications for Singapore

Name	Release	Last Update	NFs
Singapore	2018	2018	No
Singapore Federation	2019	2019	No
Greater Hongkong and Singapore	2021	2021	No
Majulah Singapura	2021	2021	29

On the map, there is yet another territorialisation of British Malaya. This time, there are the Federated Malay States, British Borneo, and the Straits Settlements, but the latter consist only of Singapore. The Federated Malay States comprise the rest of the peninsula. Going through the NFs, the mod showcases a rather self-centred perspective. There is no ‘Singapore Strategy’ or ‘Force Z’ and apart from the NFs improving Singapore’s port, there are few references to its role in the British Empire. Although Singapore is a formal subject to the United Kingdom, the modder pays little attention to British strategic interests in the crown colony, as the mods for British Malaya do. There is no alt-historical path available apart from seeking independence and declaring war on British Malaya. Instead, historical accounts around the defence of Singapore are replicated. Among these NFs, a presentist argument is observable: The small population of Singapore necessitates building fortifications for a successful defence: “Relying on soldiers with our population size is a fantasy that we cannot be stuck in” (localisation\singapore\_focus\_1\_english.yml, line 33). However, at the time, Allied forces had a substantial numerical superiority (Stille 2016, 25).

Thus, while it remains unknown if the creator is Singaporean, the contemporary geopolitical imagination of the small Singapore finds its way into the representation of its history. On the other side, the author increased the population size to almost three million in the game, which Singapore did not reach until 1990.<sup>95</sup> I explain this design choice with the declared goal of creating an “OP focus tree” (Popato Chisper 2021, under “Description”), meaning an overpowered NFT which favours gameplay enjoyment over authenticity. Nevertheless, the decisions made exhibit a self-centred approach to portraying Singapore which

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<sup>95</sup> The creator applied the population size of the whole peninsula in the base game files to Singapore alone.

diverges from the modifications explored above. The only Singapore-specific historical representation exemplifies how local perspectives reterritorialise a different game assemblage for the same scenario. I explored this further through creating a modification together with research participants.

### 8.2.2 Adding Singapore

Before going through the outcomes and analysing them, I need to briefly reiterate that my approach to engage players largely failed and the findings are therefore quite limited with rare exchanges and only 652 lines of code. Nevertheless, I investigate the ideas players had and how they relate to other modifications as well as the game.

At the beginning of the guided modding project, I posed the question of what timeline the mod should feature. Participants opted for the 1960s instead of WWII or a modern setting. Since there is a dedicated modification for this period, i.e., *Cold War Iron Curtain: A World Divided*, our modification is a sub-mod for this. While other scenarios have been discussed, I believe that many had difficulties to imagine Singaporean content before it reached independence. Hence, we settled for a starting date in 1963, because “we could add a racial tension/civil war mechanic” (Ryan). Although this did not materialise, the desire to follow modern Singaporean history was noticeable. This desire is decidedly informed by Singaporean history education, where the post-war period is prominently taught (C. B. Goh and Gopinathan 2005, 213–16). Especially relations with Malaysia are part of the curriculum and surface in the discussion. Curiously, the knowledge of this history is instrumentalised for a drastically different alt-historical imagination:

Go down a path of focuses to get the Chinese/Indian population to revolt against Malaysia, potentially gain more land as Singapore during independence.

Grab Sabah and Sarawak while we're at it, never run out of natural resources, haha. (Ryan)

This direction is meant to enrich gameplay experiences and has a powerful Singapore not only overcoming historical struggles but projecting its might onto its neighbours. These kinds of modifications exist for many different countries. Contrary to established game design, where challenges and beating them is an important source of enjoyment, players seem to overemphasise what they identify as fun gameplay. In *HOI4* this is mostly dominating others, which exaggerates the classical geopolitical assumptions laid out by the general game design.

Despite these alt-historical plans, participants orientated themselves along historical events. Here, I identify several aspects of the ongoing “structural anxiety” (Chong and Chan 2017, 381) present in Singaporean geopolitical culture.

Figure 22 shows the final NFT and an overview of the topics.

Figure 22: NFT of Singapore



Own work.

(1) ‘Racial’ riots: Although this aspect did not find its way into the modification, it was raised by participants as significant part of Singapore’s independence story (see Aljunied 2010). The outbreaks of violence have been ‘haunting’ home affairs discourses ever since and more recently applied to perceived terrorist threats (see Law 2006; Woon 2013). Because of discursive consolidation, participants are quite aware of this part of Singaporean history.

(2) Water supply: The discourse around securing water infrastructure has been similarly persistent in Singapore. It frames Lee Kuan Yew’s (1998, 22, 663) memoirs, where he recalls Japanese troops cutting the supply to the island early on, and concludes with Malaysian politicians holding leverage over the newly independent country through the Johor water pipeline. Increasing and achieving water autonomy has been a key concern ever since (Tortajada et al. 2013, chap. 4).

(3) Nearby threats: *Konfrontasi*, the violent Indonesian opposition to the formation of Malaysia in the 1960s, hints at another instance of hostilities Singapore had to face in its history (see Chua 2015). But beyond a threat, the participant’s suggestion went so far as utilising a possible conflict with Indonesia to gain more land, after Singapore has already dominated Malaysia. This is an interesting alt-historical scenario as it does enable Singapore to enlarge its territory without being written as aggressor.

(4) Domestic stability: The participants also offer some solutions to the precarities outlined above. The focus on Lee Kuan Yew as “Man of Iron” (Jie Hao) and the People’s Action Party in extension are interpreted as securing the internal situation. This symbolises how entangled the discourse of Singapore’s success story with its first prime minister and ruling party is and how it shapes the

historical imagination: “The Singapore Story is also the Lee Kuan Yew story” (K. P. Tan 2017, 152).

(5) Military build-up: Security from foreign threats is achieved through reaching out to Israel. Here, participants explicitly reference the Israeli military mission which “profoundly influenced the development of the SAF, particularly in its early stages” (Huxley 2000, 11). In the mod, this even leads to a secret coalition between both countries. Despite increasing cooperation between both countries, a formal coalition is certainly alt-historical (see Lim and Tomba 2023).

(6) Strike first: With both Singapore and Israel having the same geopolitical culture of precariousness, attacking first is legitimised as necessary measure for national survival: “our doctrine is to always strike first because we learned that we can’t defend the island, from experience in WWII” (Ryan). This contradicts contemporary defensive doctrines, which only slowly moved from the passive ‘poisonous shrimp’ to the proactive ‘porcupine’ to the pre-emptive ‘dolphin’ (Loo 2015, 70). This suggested NF is influenced by current conditions, where the military capabilities of Singapore have vastly increased compared to the 1960s.

Due to the missing engagement of the modding exercise it is difficult to analyse what participants do not consider relevant enough to include in the mod. Still, the concentration on foreign rather than internal affairs is pronounced. This is connected to the game design of *HOI4*, which predominantly looks at those as well. The same applies to the focus on military matters with others such as social, economic, etc. not being mentioned. I argue that the *HOI4* game assemblage was significantly reterritorialised despite limited results. The participants reflect official Singaporean geopolitical discourses and extend them in a gamified way. Most non-Singaporeans would be surprised to learn of Singapore’s way of reaching independence or its cooperation with Israel. Furthermore, I believe

that a modification explicitly for the WWII scenario would similarly cover lesser-known aspects.

Although developers or modders alike outside of Singapore could cover these as well, there is simply less impetus to do so in the first place. Player-generated content is dependent on various factors, such as technical knowledge, individual motivation, and above all, available time. Hence, only a fraction of players engages in this practice. This strengthens my point that developers must already be attentive to biased discourses and systems in the game assemblage. It is not enough to suggest that players simply reterritorialise game assemblages in any form they want and that issues of representation are solved this way. Modders must operate with the (biased) assumptions laid out by the base game, and studios possess the necessary resources even if their portrayals of others might not reach the same level of detail as indigenous productions. Therefore, trying to create a modification with players outlined not only the potentials but also obstacles in implementing subaltern geopolitical discourses.

### 8.2.3 Creating Conflicts

In *A3*, it was not necessary to stimulate players to create content from a Singaporean perspective. Various members of the Merlion Battalion write contexts for the unit's operations. These missions are mostly single scenarios for players to solve where gameplay is foregrounded. For instance, it matters little what motivations the hostile faction had for kidnapping a fictional president; what is important, is how the unit successfully rescues the president. But some players have crafted entire narratives for multiple operations. One of the most prolific creators of the unit is Aaron, whose campaigns I explore in more detail.<sup>96</sup>

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<sup>96</sup> All names are pseudonymised.

The first full campaign Aaron designed for the Merlion Battalion plays out in Afghanistan, where the fictional Baqubah Movement starts an invasion against an unspecified coalition in 2019. The Merlion Battalion is deployed as response force and drives the hostiles back over the course of 11 mission in about three months. The last task of the unit is to assassinate a UN intelligence officer near a Pacific island, who supposedly assisted the Baqubah Movement on their initial surprise attack. This scenic end far away from Afghanistan is a stark contrast to the rest of the campaign, which consists of the coalition forces gradually pushing back the invaders in terrains mimicking the Middle East.

The campaign is inspired by the war in Afghanistan and generalises it. The coalition fighting the invasion remains unnamed, as do the reasons for their involvement in Afghanistan. On the other side, the Baqubah Movement is a generic terrorist organisation. Aaron does not attach any religious ideology to the organisation, but since its allies are Islamic State and Taliban, it is framed as an Islamic fundamentalist organisation, which wants to achieve its goal through violent means. Thus, while progressing through the campaign, Western intervention in Afghanistan is replayed in an abstracted manner by Singaporean players. Because the Baqubah movement is branded as terrorist organisation responsible for heinous acts of violence, they are an undisputed antagonist. A follow-up campaign, where remnants of the Baqubah Movement relaunch an attack against the coalition has been cancelled due to low player count one year later.

In the next large campaign, Aaron created a more nuanced scenario. This time, the Federation, a fictional country consisting of several continental and island states spanning from Europe to Asia, causes a global outbreak of violence. The unusual widespread territorial extent of the Federation has its basis in gameplay options for players. Where the Baqubah Movement was limited to

Western Asia, the Federation justifies playing missions in diverse environments. The Federation is also imagined as state-actor compared to the categorisation of the Baqubah Movement as ‘proto-state’. Already from its outset, the history of the Federation is written as violent. It achieved independence from its colonial power, the United Kingdom, in 1965 through a revolution. In the decades that followed, the Federation had confrontations with the USA, internal oppositions, and other fictional countries. Together with three short trailers, which show the outbreak of violence in a mostly Pacific setting, Aaron contextualises the longest running campaign recorded in the Singaporean unit. Over the course of eight months from 2021 to 2022, fictional material, such as news reels, private logs, radio chatter as well as pre- and post-mission dialogues document in over 8,500 words how this campaign is imagined.

The first act of the campaign sees the Merlion Battalion assisting in the evacuation of civilians and conducting operations against the Federation’s offensive. Warfare takes predominantly place in Southeast Asia, which prompts ASEAN countries to combine their efforts in the so-called Associated Command for Southeast Asia, Associated Command for short. At the end of act one, the Federation is pushed out and forced to surrender. However, as act two reveals, the Federation does not stand down arms and launches another offensive in Southeast Asia. The Associated Command responds again, and fighting continues until the Federation forces are defeated in the end. There are several noteworthy observations on how this conflict is portrayed.

(1) The narrative creations are geo-typical but more abstracted than what BI provides. Just as the Baqubah movement, the Federation has no ideology or other key identifiable characteristics that show direct inspirations from any country existing in the physical world. (2) This abstraction goes so far as moving

beyond recurring narratives in Western popular culture production, which have with Russia and China their most prominent others. Russia is explicitly cooperating against the Federation. (3) Furthermore, the Federation is portrayed as overtly aggressive and ignoring *ius in bellum*, but wrongdoings of the Associated Command are called out as well. Especially the situation of the suffering local population in the conflict is mentioned. (4) Grounded perspectives are also available around soldiery. Adopting the view of a corporal, one of the last entries in the campaign's storyline mourns the destruction caused by the Federation and the resolve to finally achieve victory.

These examples illustrate that players portray warfare in their own creations similar to the given narratives in the base game. They also showcase how players enrich representations based on their local perspectives. Avoiding the simple repetition of Western discourses, Aaron creates a conflict influenced by Singaporean contextualisation. This is observable already in the fictional storytelling, such as selecting 1965 as year of independence from British colonialism for the Federation, which references Singapore's past. Then, the main conflict takes place in Southeast Asia and is directly drafted from existing places, i.e., the Anambas Islands, part of the Indonesian Riau Islands, which serve as imagined setting for the campaign, see figure 23. Although Singapore is not threatened directly, the spatial proximity certainly plays into Singapore's geopolitical culture of being a small state struggling for survival. The danger stemming from the Federation's invasion serves as unifying momentum for Southeast Asian nations, which reflects the necessity for Singapore to seek out allies but also aims at including non-Singaporean community members in the campaign:

Federation HQ: What little we do know about them is that these aren't hodgepodge Singaporean, Malaysian or Filipino units caught in the region. Most likely a proper coalition that formed following all that ground that they lost.

Figure 23: Aaron's map of the fictional setting for the campaign



Image as used by the Merlion Battalion.

The campaign demonstrates how Singaporean players differ compared to the developers' vision and how influential national geopolitical cultures are. Additionally, the community displays awareness of the relation between fictional creations and events in the physical world. In 2024, Aaron comments:

Our real-world timeline has gone so far off the fucking rails from when I made the Federation that it really is an alternate universe now.

When I made the Federation a conventional army using 60s–80s surplus for third rate troops and aligned militias, I didn't expect Russia to hand out Mosins to their mobiks.

Apart from pointing out the ludicrousness of contemporary Russian conscripts (mobiks) using bolt-action rifles from the 19th century (Mosins), the quote highlights that player creations are not only reflections of the games' narratives and

national geopolitical discourses, but also of ongoing events. In view of the latter, players create quite different content. I go further into the imagination of Singapore itself among *A3* players in the next section.

#### 8.2.4 Adding Forces

Consulting the survey conducted in the Merlion Battalion, three quarters of the players rejected the claim that it is important for them to have Singapore represented. But more than half played as Singaporean forces in at least half of their play time. Thus, although the majority does not demand for Singapore being represented in *A3*, players seize the opportunity if possible. In this case, the general modding community and unit members themselves have added Singaporean, but also Malaysian, Indonesian, and more Southeast Asian loadouts. This supports the claim that representation matters, and that players enjoy playing as an entity which offers identification.

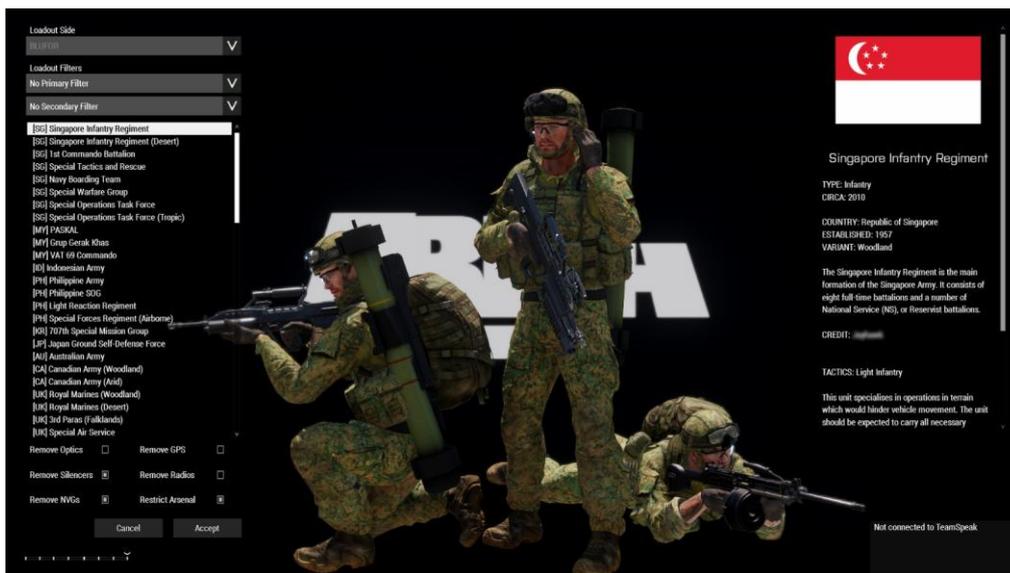
In the Merlion Battalion eight loadouts are dedicated to existing Singaporean military personnel—two of which are only cosmetic variations. There is one loadout available for each, standard SAF, 1st Commando Battalion, and the Special Operations Task Force. Besides the army, the Singaporean Navy has with the Maritime Security Task Force and Navy Diving Unit two loadouts. The Singapore Police Force has with the Special Tactics and Rescue its own loadout. Despite this range, only loadouts from the army have been used in 2024. Since some community members of the Merlion Battalion dive deeper into content creation, even weapons have been accurately added to the game, such as the SAR 21, the standard assault rifle of the SAF. In general, all loadouts aim for achieving high verisimilitude with the forces they want to portray, see figure 24 (see Singapore Police Force 2025; Republic of Singapore Navy 2025; SAF 2025). Once a loadout is

chosen for an operation, players are allowed to modify it, e.g., equipping more grenades, but within parameters deemed suitable for the mission. Players want to territorialise a game assemblage which is believable for them, even if it means imposing restrictions. Similarly, creators of loadouts are reminded not to depart from a perceived realism in the internal guideline:

Avoid designing ‘superman’ loadouts that have nothing but cutting-edge equipment or ‘tacticool’ loadouts that are mostly aesthetic and mimic other games without any interesting take on things.

Units with low budgets shouldn't have access to ‘extra’ or expensive equipment.

Figure 24: Loadout selection in the Merlion Battalion



Own screenshot from A3.

Another rule highlights the influence of national geopolitical discourses. Creators are advised not to design loadouts that are “based on any faction that could cause political/religious/racial arguments.” Furthermore, the overall ruleset that must be accepted by all players wanting to join the Merlion Battalion specifies that operations are not allowed to depict the following:

1. Player-controlled suicide bombings, hostage taking or other actions intending to emulate terrorist activities.
2. Potential conflicts or scenarios that are more likely than not to cause the group to encounter problems with players or external parties.
3. Conflicts between two parties based in Asia.

While many other groups certainly want to avoid any controversy caused by loadouts or scenarios as well, the stance exhibited here is arguably Singaporean. The first rule, a ban of enacting terrorist activities, hails from intensified national security discourses in Singapore (see Woon 2013). While many units which favour stronger focus on perceived realism do not reenact these activities since they are not considered part of simulating the military, they do not formalise the ban as the Merlion Battalion does. The second rule, abstaining from stirring controversies with external parties, is reminiscent of Singapore's small state ideology. In this realist view, it is vital for Singapore to balance between major powers to "adapt to changes easily while not having to 'take sides'" (Guo and Woo 2016, 39). Especially contemporary conflicts, e.g., in Ukraine, which could impact this position are avoided, as the unit also curates several public channels. The third rule, averting intra-Asian conflicts copies 'racial harmony' discourses, part of Singapore's geopolitical culture for decades (D. P. S. Goh 2010, 562). Since the unit consists not only of Singaporeans, but other Southeast Asian nationals as well, this decision wants to facilitate the 'harmony' in the community.

Although BI is careful in their representation of hostile factions, they deliberately incorporated China as counterpart in *A3*. Contrary, Singaporeans are embedded in a different geopolitical culture, where openly vilifying the PRC is not deemed appropriate. But this does not lead to the community refraining

from discussing geopolitical events. Often, this is done around the capabilities of various armies and leads to jokes about performances or military equipment, see Aaron's quote above. At times, community members raise serious points about the grounded realities of war, demonstrating awareness of *ius in bellum*. Based on their in-depth interest in virtual warfare and their personal experience as part of NS, players approach the realities of physical warfare differently than other game communities. The question remains if their personal national background also influences play behaviour.

During my ethnographic research with the unit, Singaporean loadouts were selected twice. Curiously, in both cases, the task laid out was to combat criminal organisations with one operation against a drug-related business. Across the 29 operations I joined, more often than not did players align terrain, loadout, and mission objective. In other words, if the terrain geo-typically represented the Middle East, the loadout was often US-American, and mission objectives evolved around eliminating hostiles, destroying equipment, or securing so-called high-value targets. Contrary, playing as Singaporean forces, there was no conventional warfare in a large-scale conflict, but the task was to combat organised crime. This appears to be believable for players and simultaneously adheres to the rules of the community not to depict conflicts between Asian countries.

Despite plausibility of the operation, enjoyment while playing remains important. Most players pointed out that they explore scenarios in *A3* that they cannot experience in their daily lives. Especially the practical restrictions of the SAF which has few opportunities to conduct large-scale combined arms exercises is one factor. Furthermore, respondents in the survey with military experience are split on the question how physical and virtual enactment of military service relate to each other. There is a tendency towards acknowledging the helpfulness

of playing *A3* when serving and vice versa. Although my findings indicate that playing *A3* is interconnected with off-screen aspects on various levels, players separate between the virtual and the physical. As military simulation, *A3* comes closer to a perceived reality, but remains an entertainment medium even when players reterritorialise it to indulge in their own conflict imageries.

### 8.3 Summary

Moving the scope from Europe to Asia, it is obvious that Singapore is neglected in *HOI4* and *A3*. This is not only caused by the prevalent Eurocentrism in game production and consumption but the consequence of game design decisions. Whereas *HOI4* revolves around nation-states in WWII, *A3* plays out mostly in rural settings. Singapore does not fit in either. At most, it finds its way in imperial historical imaginations in *HOI4* as strategic location that is fought over by major powers. Various *HOI4* modifications covering the region territorialise this perspective similar to the base game assemblage; the only mod narrowed to Singapore itself reterritorialises this imagination, self-centred on the island.

Players identify and criticise the lack of representation not only of Singapore but Southeast Asia in general. On the other side, they voice their understanding for developers concentrating on other regions and settings. Missing representation makes it more difficult for players to fully realise the potential of sandbox simulation games, which engage players in their topics beyond the screen. If there is little to experience or explore for Singapore in the game, players are not incentivised to broaden their perspective based on play experience.

Nevertheless, some players go great lengths in reterritorialising the game assemblages according to their own imaginations. For *A3*, one community

member wrote large campaigns for the unit which play with existing geopolitical narratives and enrich them through a focus on Southeast Asia. The collaborative modding of *HOI4* and community organisation of the Merlion Battalion exemplify how distinctive Singaporean geopolitical discourses leave their mark: racial harmony, water security, foreign threats, and small state diplomacy are traceable discursive elements. Hence, the digital game assemblages are reterritorialised from Singaporean perspectives. Since high modifiability is also part of the studied war simulation games, they facilitate the realisation of narratives that would otherwise see little representation. This demonstrates the relevance of modifications as site of everyday geopolitical assemblages.

## 9 Games, Geopolitics, and Singaporeans

My thesis set out on a twofold journey. On one side, I analysed how digital game assemblages territorialise through bodies, discourses, and systems. I did so for two specific assemblages, the war simulation games *HOI4* and *A3*, and disclosed that they are rife with geopolitical assumptions. On the other, I studied how players re/deterritorialise these game assemblages. Here, the potentials and limitations of player-generated content came to the fore. Throughout my work, assemblage theory enabled me to track a wide range of dynamic factors influencing the re/de/territorialisation of biased game assemblages and the implementation of geopolitical logics therein. It is my last task to summarise the key findings in the following for the nexus between representations and interactions as well as outlining limitations, contributions, and possible future research directions.

### *War Simulation Games*

First, the production background of PDS and BI highlights that the developer studios amassed expertise in crafting war simulation games. They have released numerous titles and expanded the scope of their games over time, reterritorialising the game assemblages progressively. The studios did so with a relatively small number of employees located in few European cities. Both PDS and BI have a game design philosophy which lets players explore their own (hi)stories instead of having preformulated narratives. The developers provide robust game sandboxes for this purpose. Although proficiently doing so, the analysis of the production circumstances revealed deeply masculinist work environments. Together with Eurocentric assumptions and a strong notion of unaccountability for what players create, the sandboxes are biased from the outset.

This impacts how the game assemblages territorialise. History in *HOI4* is largely imagined along important men who shape world politics and war in *A3* is fought and experienced exclusively by men. The virtual spaces are imaged in a Eurocentric manner, from the world map in *HOI4* to the Mediterranean islands in *A3*. Since *HOI4* explicitly draws on historical accounts, history becomes a bi-ased, inevitable sequence of events which is doomed to end in violence. The un-critical implementation of totalitarian ideologies further complicates the imagi-nation of history. In *A3*, the futuristic setting is a replication of contemporary geopolitical discourses. They stem from a Western perspective of geopolitical threats coming from an unspecified 'Eastern' alliance. Additionally, the game systems echo what the games represent in their visuals and narratives. The vir-tual worlds are inherently coded as warscapes. Other playstyles are possible, but gameplay enjoyment is derived through engaging in fights. The picture of una-voidable yet clean conflict scenarios is oversimplified for both historical and fu-ture imaginations and players are rarely challenged in their control. Especially as country leaders in *HOI4*, players' authority is unquestioned.

But PDS has given more and more representation and agency to non-West-ern perspectives over time. Nations which usually remain at the fringes of pop-ular attention in the context of WWII have received dedicated content and are entertaining to play as. The potential to diverge from set historical paths is cer-tainly enriching although still embedded in the general logics of the game. More-over, this content usually requires additional purchases and is not designed as key part of the game. In *A3*, the developers added the unique opportunity to en-gage in non-violent gameplay. Although locked behind a DLC as well, BI created a fascinating instance of playable in-game critique going so far as calling the

representation of war in games “sanitised” (adapted from Orange\Addons\languageemissions\_f\_orange\stringtable.xml, line 10975).

The general outlook of both games changes little for an important part of the digital game assemblages: player-generated content. Players reterritorialise the game assemblages and live out their imaginations through programming and sharing their own source code within the communities. These modding activities are encouraged by the developers and players have created diverse content, enriching the play experience for millions of other players. However, few modifications escape the logics of the games. Although many *HOI4* mods expand alternative histories even further, they remain conflict-orientated and Western-centric. The same is observable for *A3* where environments are predominantly crafted along Western geopolitical imaginations of conflict areas, such as Eastern Europe or Western Asia. Thus, although there is massive potential for undermining biased portrayals, this is done only sporadically by players.

Lastly, my analysis reflects different ways how games are entangled with the physical world. To strengthen discursive legitimacy, the developer studios crossed the lines between virtual and physical worlds to promote their games as sophisticated war simulations. In the case of BI developers being arrested in Greece, the interlinkage became ‘too real’ and discloses how serious repercussions can be. Furthermore, *HOI4* and *A3* have been instrumentalised by various actors to support contemporary propaganda, very much to the dislike of the developers. This is at odds with the developers’ claims to behavioural realism. On one side, they laud their games as accurate representations of physical conditions. On the other, they emphasise their products as ‘just games’ if they are co-opted. Players follow these arguments only limitedly.

### *Geopolitical Play in Singapore*

Based on fieldwork with two game communities, I have gathered substantive material on Singaporean *HOI4* and *A3* communities. The majority enjoys playing as Western countries or armies. These have received more attention by developers and modders alike and deliver fleshed out play experiences. Furthermore, gameplay styles are comparable to global communities. As intended by the developers, many players deep-dive into scenarios as country or soldier. Role-playing is an important aspect for players to immerse themselves in virtual worlds. Singaporean players do so in differing degrees and negotiate the proclaimed realism in war simulation games. They focus on what they find most entertaining, e.g., performing 'better' than the historical country in *HOI4* or avoiding additional responsibilities of holding command in *A3*.

Here, players territorialise game assemblages carefully. *HOI4* players debate what they accept as historically believable vis-à-vis fun gameplay. *A3* players balance between modifications for perceived realism and those for entertainment. The possibility to role-play is enhanced by the masculinist outlook of both games. The widespread association of warfare as male activity is reproduced and translates to overwhelmingly male game audiences. This is particularly the case in Singapore where official discourses blend men and warfare. While this increases role-play immersion for male players, it excludes anyone identifying differently and leads to toxic behaviour as many players admitted.

Next, Singaporean players display critical attitudes towards the games. They dispute the claims to realism the developers uphold and identify many of the issues outlined throughout my thesis. For instance, they reflect on how content for Asia is severely underrepresented. But they also are understanding towards developers for doing so. *HOI4* players mention that the predominance of

Western markets shapes what studios create. *A3* players suggest that games are always biased according to their production circumstances. Still, many players request that Singapore and Southeast Asia receive more attention.

Content creators fill this gap to some degree. For *HOI4*, several modifications feature the general region. These mods write a history mostly from an imperial standpoint. They retrace popular historical narratives and lack local perspectives. The modification dedicated to Singapore alone deviates from these re-territorialisations. This mod concentrates on the defence of the country and gaining independence rather than broader historical references. The mod achieves an alt-historical play experience, where Singapore gains great agency.

In the *A3* unit I joined, one member is a prolific creator of narratives. Whereas he originally reproduced Western geopolitical imaginations, his scenarios became increasingly complex and departed from the simple dichotomies of friend and foe in the base game, deterritorialising the original game assemblage. Furthermore, various content mimicking the SAF and other armed personnel has been created and used in the Merlion Battalion. Especially non-fictional loadouts are popular and aligned to mission scenarios. While US forces fight insurgents in the Middle East, Singaporean troops combat organised crime organisations.

Lastly, engaging with Singaporeans discloses how domestic geopolitical imaginations are replicated in player-generated content. My collaborative modding approach exemplifies how Singaporeans retrace official discourses around water security, external threats, domestic stability, and military capabilities. Similarly, the Merlion Battalion is a microcosmos of Singapore, where multiculturalism and ‘racial harmony’ are upheld. The ruleset of the unit puts the importance of those aspects into writing and imitates existing state policies.

### *Games and Geopolitics*

Hitherto, scholars from game studies, political geography, and other disciplines have studied digital games regarding their representations and players. As the focus has slowly shifted from textual analyses of narratives, mechanics, etc. towards the roles of audiences, digital games have been covered more comprehensively. I see my work as continuation of popular geopolitical scholarship through addressing two significant confinements: Most studies are restricted to one genre or game, and they do not often move beyond Western players and players as consumers. My thesis addresses these gaps by comparing a strategy and a shooter game as well as studying how Singaporean players change these games.

There are still limitations to my work. First, I had no direct access to developers, which downgrades my analysis of production conditions. I circumvented this with primarily looking at publicly available statements. Second, the dynamic nature of game development quickly makes my findings appear outdated. Assemblage theory compensates for this, and my findings will be still informative not least for comparisons in the future. Third, my research area is relatively small in terms of games and audiences. It is possible to generalise my findings for other genres and communities, but simulation games are specific in their game design and appeal. Fourth, I did not explicitly focus on social diversity among participants. This explains the dominance of young, male, Chinese Singaporeans although it also reflects the small communities of both games in the country. Despite these shortcomings, my research has several contributions.

First, I developed a close application of assemblage theory for the study of digital games. I demonstrate how simulation games grasp the multiplicities of games and players without losing single instances of variation or deviation. Geopolitical assumptions are observable in an assemblage of source code, visual

appearance, virtual worlds, gameplay, and game mechanics. I avoided a flat ontology through focusing on the key factors shaping the nexus between representations and interactions and utilised “the nature of assemblages as open systems that are always in flux” (Dittmer 2014, 396) for the dynamics observable in digital game production and consumption. Hence, I advance the application of assemblage theory in popular geopolitics. This is informative also for other genres, for instance mobile games, which utilise other component parts, and constitute different assemblages.

Second, I offer a detailed analysis of simulation games as media. Through this, I complement scholarship from popular geopolitics and media geography, see for example Ash (2014), Bos (2016, 2018, 2023), and Shrimplin (2024). Furthermore, I engage games not only based on their discursive material but also their systems. This enriches the understanding how game rules and game mechanics shape geopolitical play. The realism simulation games claim to portray is persuasively expressed in these rules and mechanics and call for a critical discussion. My disclosure of various biases in games, from the discursive to the systemic level, is also useful for studying other game genres. Additionally, my work reveals pointedly masculinist game designs. Men dominate developer studios, game communities, and in-game scenarios. My research draws further attention to these conditions and how they lead to a gendered portrayal of conflict in simulation games. These findings substantiate feminist critiques of digital games, such as Woods (2023).

Third, I turn to players and their interaction with games. As Woodyer and Carter (2020, 1068) put it: “play needs to be seen as an entanglement with the (geopolitical) world, rather than a retreat from it.” Looking at audiences is especially important for those which are not situated at the cores of game production

or consumption since they exhibit diverging perspectives. My study of European war simulation games and Singaporean players discloses these engagements from a hitherto neglected perspective: the Global Easts, “a demi-otherness that hovers between North and South” (Müller 2020, 749). Whereas developer studios from the European Global East, e.g., BI, succumb to Eurocentric geopolitical imaginations, the audiences from the Asian Global East challenge these assumptions. Singaporeans are not representative for players from the Asian Global East, yet the practices of play and content creation are more widely applicable.

Fourth, my addition of players as player-creators underscores the constituent power of audiences, see Dittmer and Gray (2010). Game modifications have been researched in game studies but were rarely approached with their impact on geopolitical imaginations in mind. Geographers have not yet engaged with this practice altogether. Studying modifications and modding allows understanding not only what power developers have beyond narratives and play, but also how audiences negotiate geopolitics in an everyday performance. PDS and BI determine the specifics of the sandbox the players adapt with some modders going beyond the game design the studios programmed. My case study in Singapore exemplifies the influence of the local geopolitical culture on player-creations and how geopolitical imaginations are expressed. My findings are also helpful for other everyday digital content, such as streaming, memes, or AI-prompted creations.

Fifth, to study these players and their creations, I enriched the methodological toolbox available for geographers. Gaming interviews and participant observation in a game community are still rarely done compared to critical readings of digital games. Furthermore, I employed with collaborative modding a novel approach. Building on Loban (2021, 2023), I engaged with players in

content creation and explored how geopolitical imaginations manifest in game modifications. My encounters highlight the potentials and obstacles involved in the in-depth analysis of everyday geopolitical imaginations and are valuable for future works on games. The urgency to examine everyday geopolitical imaginations in digital games is exemplified once more by an example from *HOI4* below.

The *HOI4* DLC *Graveyard of Empires* caused drastic responses by an audience largely ignored by PDS in early 2025. The DLC added NFTs for Afghanistan, Iran, Iraq, and the British Raj (India). The latter gained the possibility to expand the country as a Silk Road entity, referencing the historical trade route connecting Asia and Europe. Parts of the Chinese community were outraged that the British Raj received this gameplay possibility. They voiced their dislike in various forms: writing negative comments and reviews not only for *HOI4* but also other Paradox games; creating modifications which ridiculed the developers and insinuate Indian influence at Paradox; threatening and harassing developers (Nicholson 2025, para. 5). I see these reactions as a consequence of two conditions. On one side, Chinese players are frustrated with Paradox' continuous focus on other audiences, disregarding the development of unique content for the rest of Asia. The British Raj received with the DLC its second update after *Together for Victory* in 2016. On the other side, it illuminates the entanglement of popular geopolitical discourses and games. The Belt and Road Initiative (sometimes scripted as a new Silk Road) has gained significance in geopolitical discourses in the PRC (see Lin et al. 2019). It developed "geocultural power" (Winter 2021, 1377) which spreads to the digital sphere. The discursive reinforcement of a *Chinese* Silk Road supports aversion against other interpretations of the route, especially if there is only one interpretation available.

While modding is a great possibility for challenging one-dimensional geopolitical imaginations, it also runs the danger of misappropriation. In the case of Singaporean digital game players, modding was used by terrorist groups such as Daesh (ISIS) to appeal to adolescents (see Iau [2023](#)). Although these are isolated and extreme incidents, they demonstrate the potential of game modifications. As the popularity of digital games continues to rise around the globe, so does their impact on societies. Equally, the role of modding will gain importance and visibility. Indeed, developing, playing, and modifying games prove to be complex assemblages which warrant further investigations in the future.

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# Appendices

## Appendix A: Participant Information Sheet & Consent Form

NUS-IRB Reference Code: NUS-IRB-2023-33

- 1. Protocol title:**  
Playing Geopolitics: The Geopolitical Imaginations in Digital Games, among Consumers and Content Creators
- 2. Principal Investigator:**  
Simon Wellisch  
[telephone number removed]  
simon.wellisch@u.nus.edu  
National University of Singapore  
Department of Geography
- 3. What is the purpose of this research?**  
You are invited to participate in a research study. This information sheet provides you with information about the research study. The Principal Investigator (the person in charge of this research) will also describe this research to you and answer all of your questions. Read the information below and ask questions about anything you don't understand before deciding whether or not to take part. Despite the popularity of digital games in everyday life all around the globe, academic studies are still lacking in many regards. This research aims to expand knowledge around digital games, especially from non-Western countries. Singapore with its high digital media literacy provides a curious case study of players engaging with digital games that were produced elsewhere. The research will look beyond a critical discussion of geopolitical imaginations in games towards players' narratives and interactions with those.
- 4. Who can participate in the research? What is the expected duration of my participation? What is the duration of this research?**  
Everyone with experience in digital games can participate. Young persons must be at least 16 years old. There is no upper age limitation. Interviews can take around 1 hour to 1 ½ hours. If you are participating in a focus group, discussions can take around 1 hour to 3 hours. The fieldwork will last six months.
- 5. What is the approximate number of research participants involved?**  
Up to 30 participants will be involved in interviews and up to 10 participants will be involved in focus group discussions only.
- 6. What will be done if I take part in this research study?**  
There will be an interview, where you will talk about digital games and own experiences. Usually one interview per participant is planned, but more visits can be conducted. With your approval you can join focus group discussions, where participants discuss digital games with a group of friends who they repeatedly play with.  
The interviews and focus group discussions will be audio and video recorded only with your permission. If you decline, notes will be taken manually instead by the principal investigator. The location of interviews and focus groups will be according to your preference in a safe and suitable venue, e.g., public space, at NUS or online. Your responses in the interview and focus groups will be linked via anonymised naming/nickname if you wish so.

- 7. How will privacy and the confidentiality of research records be protected?**  
Only the PI has your personal data (e.g. names and contact information,) and this will not be released to any other person. Personal data will never be used in a publication or presentation and will be discarded as soon as the research is completed. All identifiable research data will be coded (e.g. nicknames) and will be handled according to your preference at the earliest stage possible.  
All data collected will be kept in accordance to the University's Research Data Management Policy and stored on encrypted devices. Research data used in any publication will be kept for a minimum of 10 years before being discarded.
- 8. What are the possible discomforts and risks for participants?**  
You will not be confronted with new requests, but instead engage in a topic you are very familiar with, i.e., playing a digital game. There are no discomforts or risks to be expected.
- 9. What is the compensation for any injury?**  
If you follow the directions of the PI in charge of this research study and you are injured, the NUS will pay the medical expenses for the treatment of that injury. By giving your consent, you will not waive any of your legal rights or release the parties involved in this study from liability for negligence.
- 10. Will there be reimbursement for participation?**  
You will receive a S\$10 Steam gift card as reimbursement for your participation in interviews. If you withdraw from the research before it is concluded, your gift card amount will be pro-rated. You can receive the reimbursement only once.
- 11. What are the possible benefits to me and to others?**  
There is no direct benefit to you by participating in this research study. The knowledge gained may benefit the perception of digital games in the future and you might critically reflect on representations in digital games.
- 12. Can I refuse to participate in this research?**  
Yes, you can. Your decision to participate in this research study is voluntary and completely up to you. You can also withdraw from the research at any time without giving any reasons, by informing the principal investigator and all your data collected will be discarded.
- 13. Whom should I call if I have any questions or problems?**  
Please contact the Principal Investigator, Simon Wellisch at telephone [removed] and email [simon.wellisch@u.nus.edu](mailto:simon.wellisch@u.nus.edu) for all research-related matters and in the event of research-related injuries.  
For an independent opinion specifically regarding the rights and welfare of research participants, you may contact a staff member of the National University of Singapore Institutional Review Board at telephone (+65) 6516 1234 [Mondays to Thursdays from 8.30am to 6pm, and Fridays from 8.30am to 5.30pm, except public holidays] or email at [irb@nus.edu.sg](mailto:irb@nus.edu.sg).

**Consent Form**

**Protocol title:**

Playing Geopolitics: The Geopolitical Imaginations in Digital Games, among Consumers and Content Creators

**Principal Investigator:**

Simon Wellisch  
[telephone number removed]  
simon.wellisch@u.nus.edu  
National University of Singapore  
Department of Geography

**I hereby acknowledge that:**

1. I have agreed to take part in the above research.
2. I have received a copy of this information sheet that explains the use of my data in this research. I understand its contents and agree to donate my data for the use of this research.
3. I can withdraw from the research at any point of time by informing the Principal Investigator and all my data will be discarded.
4. I will not have any financial benefits that result from the commercial development of this research.
5. I wish to remain anonymous and only agree to be known as \_\_\_\_\_.  
If my data is used, I prefer one of the following options:
  - I want my nickname and communicative text used for data analysis only (no publication of nickname or text).
  - I consent to having either my nickname or communicative text published in an academic work, but never together (i.e., no identifiers).
  - I consent to having both my nickname and communicative text published in academic work, thereby being credited as the author of my own words.
6. I *agree / do not agree\** to the audio and video recording of my participation in the research. I understand that although my name will be not associated with the recordings used in publication/presentation, I may still be identified.
7. I *want / do not want\** to participate in a focus group discussion with other players.
8. I *want / do not want\** to read the write-up of any data related to me prior to publication.

*\*please delete as appropriate*

\_\_\_\_\_  
Name and Signature (Participant)

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name and Signature (Consent Taker)

\_\_\_\_\_  
Date

## Appendix B: Interview Guideline

1. What is/are your favourite countries to play in the game?
  - a. Why?
2. How long do you play in a session?
3. What do you like about the game?
  - a. What do you dislike?
4. Why are you playing the game?
  - a. Does the game have influence on your everyday life/perceptions?
5. How would you define geopolitics?
  - a. Does the game correspond/challenge your definition?
  - b. How does it so?
  - c. What could be improved?
6. Do you think another game has better representations of geopolitics?
  - a. Why?
7. Are you missing a feature or mechanic?
8. What is the role of Singapore in the game?
  - a. Why has Singapore this role?
  - b. Would you like more content for Singapore?
9. Do you think representation matters in games?
  - a. Do you feel represented in the game?
  - b. What is the audience of the game?
  - c. Do you know any female players of the game?
10. Do you play alone?
  - a. Or with friends?
11. Are you engaged in the game community, e.g., on Reddit?
  - a. Do you post content yourself?
12. Would you be interested in developing your own modification?
13. May I ask your age?
14. May I ask your occupation?
15. May I ask your gender identification?

## Appendix C: Questionnaire

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### **Introduction**

Q1: Hello! Thank you for your helping me out in my PhD research. In this survey, I will ask you about your experiences with ARMA and the Merlion Battalion. It takes around 20 to 30 minutes to complete. I am very interested in what you think about these topics! Your responses are anonymous. The first 30 respondents will receive a S\$10 Steam gift card! Before you begin, please read the Participant Information Sheet. Do you agree to the conditions laid out in the Participant Information Sheet?

I agree

---

### **Basic ARMA**

Q2: Let's start with your general ARMA 3 experiences. Since when do you own ARMA 3?

▼ 2024 to 2013 to choose from

Q3: How many hours have you played ARMA 3?

\_\_\_\_\_

Q4: Have you played ARMA 2 or any other previous titles?

No

Yes, I have played \_\_\_\_\_

Q5: What do you like about ARMA 3? You can choose more than one.

Realism

Sandbox

Multiplayer

Graphics

Difficulty

Singleplayer

Community

Campaigns

Map design

Player interactions

Other: \_\_\_\_\_

Q6: What do you dislike about ARMA 3? You can choose more than one.

DLC policy

AI behaviour

Difficulty

Performance

Graphics

Vehicle/weapon behaviour

Network issues

Map design

Game balancing

Player interactions

Other: \_\_\_\_\_

---

### **Playing ARMA**

Q7: Now, I want to know more about you playing ARMA in general. Do you role-play in ARMA?

- Never
- Sometimes
- About half the time
- Most of the time
- Always
- Prefer not to say

*Q8 is displayed if the answer to Q7 is not Never and if the answer to Q7 is not Prefer not to say*

Q8: What do you mostly role-play? You can choose more than one.

- Commanding officer
- Common soldier
- Vehicle crew
- Special forces
- Irregular troops
- Civilian
- Other: \_\_\_\_\_

*Q9 is displayed if the answer to Q7 is not Never and if answer to Q7 is not Prefer not to say*

Q9: Why do you role-play?

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Q10: Have you played any official campaign in ARMA 3?

- No
- Yes

*Q11 is displayed if the answer to Q10 is Yes*

Q11: What official campaign(s) did you play?

- East Wind (base game)
- Apex Protocol (Apex DLC)
- Remnants of War (Laws of War DLC)
- Beyond Hope, Stepping Stone, Steel Pegasus (Tac-Ops DLC)
- Altis Requiem (Tanks DLC)
- First Contact (Contact DLC)

*Q12 is displayed if the answer to Q11 is Remnants of War (Laws of War DLC)*

Q12: Did you enjoy the Remnants of War campaign?

- No
- Somewhat
- Yes
- Don't know

*Q13 is displayed if the answer to Q11 is Remnants of War (Laws of War DLC)*

Q13: Did you learn something from playing Remnants of War?

- No
- Somewhat

- Yes
- Don't know

*Q14 is displayed if the answer to Q11 is Remnants of War (Laws of War DLC)*

Q14: Do you want more campaigns similar to Remnants of War?

- No
- Somewhat
- Yes
- Don't know

*Q15 is displayed if the answer to Q10 is Yes*

Q15: What do you think of the campaign(s) you played?

	Strongly disagree				Strongly agree		Don't know
Warfare is realistic.	<input type="radio"/>						
The conflict scenario is plausible.	<input type="radio"/>						
I care about the story.	<input type="radio"/>						
A similar conflict can break out in real life.	<input type="radio"/>						

Q16: Have you played any player-created campaign(s)?

- No
- Yes

*Q17 is displayed if the answer to Q16 is Yes*

Q17: What player-created campaign(s) have you played?

\_\_\_\_\_

*Q18 is displayed if the answer to Q16 is Yes*

Q18: What do you think of the player-created campaign(s) that you played?

	Strongly disagree				Strongly agree		Don't know
Warfare is realistic.	<input type="radio"/>						
The conflict scenario is plausible.	<input type="radio"/>						
I care about the story.	<input type="radio"/>						
A similar conflict can break out in real life.	<input type="radio"/>						

*Q19 is displayed if the answer to Q10 is Yes or if the answer to Q16 is Yes*

Q19: What aspects did you learn about in the campaigns? You can choose more than one.

- I did not learn about anything.
- Gameplay mechanics

- Tactical manoeuvres
- Warfare
- Geopolitics
- Military equipment
- Resistance tactics
- International relations
- Military lingo
- History
- Military communication
- Map orientation
- Other: \_\_\_\_\_

*Q20 is displayed if the answer to Q10 is Yes or if the answer to Q16 is Yes*

Q20: How do official and player-created campaigns compare?

	Official	Equal	Player-created	Don't know
What campaigns are better?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What campaigns are more realistic?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What campaigns are more convincing?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What campaigns do you play more often?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***Presentations***

Q21: Next, I want to know what you think about the relation of ARMA and real life. How often do you hear about ARMA in real life?

- Never
- Sometimes
- Often
- Most of the time
- Always
- Don't know

Q22: How often do you talk about ARMA in real life?

- Never
- Sometimes
- Often
- Most of the time
- Always
- Don't know

Q23: How often do you relate to real life events, e.g. from news articles, through ARMA?

- Never
- Sometimes
- Often
- Most of the time
- Always
- Don't know

Q24: Does the presentation of weapons, vehicles, etc. in ARMA 3 matter in real life?

- No

- Somewhat
- Yes
- Don't know

Q25: Does the presentation of factions in ARMA 3, e.g. NATO or CSAT, matter in real life?

- No
- Somewhat
- Yes
- Don't know

*Q26 is displayed if the answer to Q10 is Yes*

Q26: How are base game factions presented?

	Extremely negative			Extremely positive		Don't know
NATO	<input type="radio"/>					
CSAT	<input type="radio"/>					
AAF	<input type="radio"/>					
FIA	<input type="radio"/>					
CTRG	<input type="radio"/>					

*Q27 is displayed if the answer to Q10 is Yes*

Q27: How are base game countries presented?

	Extremely negative			Extremely positive		Don't know
Republic of Altis and Stratis	<input type="radio"/>					
Horizon Islands	<input type="radio"/>					
USA	<input type="radio"/>					
Great Britain	<input type="radio"/>					
China	<input type="radio"/>					
Iran	<input type="radio"/>					

*Q28 is displayed if the answer to Q10 is Yes*

Q28: Is your country featured in base game ARMA 3?

- No
- Yes
- Don't know

Q29: Do you use mods, e.g. loadouts, to play as your country?

- No
- Yes
- There are no mods for my country.

*Q30 is displayed if the answer to Q29 is Yes*

Q30: How often do you play with mods that feature your country?

- Never
- Sometimes
- About half the time
- Most of the time
- Always
- Prefer not to say

Q31: Is it important for you that your country is featured in ARMA 3?

- No
- Somewhat
- Yes
- Don't know

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**Merlion Battalion**

Q32: The next questions cover your experiences in the Merlion Battalion. When did you join MB?

▼ 2024 to 2013 to choose from

Q33: What is your role in MB? You can choose more than one.

- Admin
- Moderator
- Trainer
- Member
- Rookie

Q34: What squad roles do you prefer? Please sort from most favourite (top) to least favourite (bottom):

- \_\_\_\_\_ Zeus
- \_\_\_\_\_ Platoon Commander
- \_\_\_\_\_ Section Leader
- \_\_\_\_\_ Grenadier / Ammo Bearer
- \_\_\_\_\_ Autorifleman
- \_\_\_\_\_ Anti-Tank
- \_\_\_\_\_ Section Medic
- \_\_\_\_\_ Asset

Q35: What do you like about playing as [choice with lowest value from Q34]? You can choose more than one.

- Weapons
- Role in team
- Leading others
- Following commands
- Role-playing
- Other: \_\_\_\_\_

Q36: What do you dislike about playing as [choice with highest value from Q34]?

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Q37: What is your favourite loadout to play with MB?

▼ 170 loadouts to choose from. Additional options: I don't remember the name. and You can write your own response in the next step.

*Skip to Q39 if the answer to Q37 is I don't remember the name. or You can write your own response in the next step.*

Q38: Why do you like [selected answer from Q37]? You can choose more than one.

Aesthetics  
Weapons  
Personal identification  
Role-playing  
Other: \_\_\_\_\_

Q39: What other loadout(s) do you like?

\_\_\_\_\_

Q40: What is your favourite map to play with MB?

▼ 31 maps to choose from

Q41: What do you like about [selected choice from Q40]? You can choose more than one.

Environment  
Atmosphere  
Possibilities  
Details  
Setting  
Other: \_\_\_\_\_

Q42: What other map(s) do you like?

\_\_\_\_\_

Q43: What is important for you when playing ARMA 3 with MB? Please sort from most important (top) to least important (bottom).

\_\_\_\_ Chatting with others  
\_\_\_\_ Having fun  
\_\_\_\_ Realistic missions  
\_\_\_\_ Role-playing  
\_\_\_\_ Getting better at the game  
\_\_\_\_ Playing out scenarios  
\_\_\_\_ Exchange about NS experiences  
\_\_\_\_ Suitable loadout  
\_\_\_\_ Other:

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### **Content Creation**

Q44: Half-way done! Let's go into your creations. What ARMA 3 content have you created? You can choose more than one.

I have not created any content.  
Memes  
Videos/pictures  
Modifications (including loadouts)  
Other: \_\_\_\_\_

*Q45 is displayed if the answer to Q44 is Modifications (including loadouts)*

Q45: What modifications have you created? You can choose more than one.

- Mechanics
- Loadout
- Terrain
- Animations
- Sounds
- Campaigns
- Vehicles
- Weapons
- Characters
- Other: \_\_\_\_\_

*Q46 is displayed if the answer to Q45 is Loadout*

Q46: What loadout(s) did you create?

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*Q47 is displayed if the answer to Q45 is Terrain*

Q47: What terrain(s) did you create?

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*Q48 is displayed if the answer to Q45 is Campaigns*

Q48: What campaign(s) did you create?

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*Q49 is displayed if the answer to Q44 is Modifications (including loadouts)*

Q49: What are your motivations for modding?

	Strongly disagree			Strongly agree			Prefer not to say
I mod because I hope to get a job in the gaming industry	<input type="radio"/>						
I felt something was missing from the game.	<input type="radio"/>						
I mod because it's a challenge.	<input type="radio"/>						
I mod to have more fun with the game.	<input type="radio"/>						
I mod to improve the game.	<input type="radio"/>						
I have responsibility for what I create.	<input type="radio"/>						

I create something from my own experiences.

*Q50 is displayed if the answer to Q44 is Modifications (including loadouts)*

Q50: Do you have any other motivations for modding?

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**Production**

Q51: Let's talk about the developer of ARMA 3, Bohemia Interactive. Did they do a good job with ARMA 3?

- No
- Somewhat
- Yes
- Don't know

Q52: Is ARMA 3 biased, e.g., how factions are portrayed?

- No
- Somewhat
- Yes
- Don't know

*Skip to Q56 the answer to Q52 is No and Don't know*

Q53: What biases do you see in ARMA 3?

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Q54: Does Bohemia Interactive add biases to the game on purpose?

- No
- Somewhat
- Yes
- Don't know

Q55: Does their background (Czech Republic) matter for biases?

- No
- Somewhat
- Yes
- Don't know

Q56: If ARMA 3 was developed in Southeast Asia, would it be different?

- No
- Somewhat
- Yes
- Don't know

Q57: Would a "Southeast Asian" ARMA be biased?

- No
- Somewhat
- Yes

Don't know

Q58 is displayed if the answer to Q57 is Somewhat or Yes

Q58: What biases would a Southeast Asian ARMA have?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Q59: Are biased games problematic?

- No
- Somewhat
- Yes
- Don't know

Q60 is displayed if the answer to Q59 is Somewhat or Yes

Q60: Why are biased games problematic?

\_\_\_\_\_

**Community**

Q61: Let's talk about the community of ARMA 3. Is the community important for the success of ARMA 3?

- No
- Somewhat
- Yes
- Don't know

Q62: How does the community of ARMA 3 look like?

	Strongly disagree				Strongly agree	Don't know
ARMA players are interested in military affairs.	<input type="radio"/>					
More men than women play ARMA.	<input type="radio"/>					
ARMA players are different compared to other communities.	<input type="radio"/>					
The ARMA community can be toxic.	<input type="radio"/>					
The community of ARMA is diverse.	<input type="radio"/>					

Q63 is displayed if the answer to Q62 is Strongly Agree or Agree to More men than women play ARMA.

Q63: What are the interests of men and women in ARMA 3?

	Men	Equal	Women	Don't know
Who is the target audience of the game?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who is more interested in military affairs?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Who spends more time playing ARMA?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who has more experience with military affairs?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*Q64 is displayed if the answer to Q63 is Men at least once.*

Q64: Why are men more interested in ARMA 3?

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**Military Experience**

Q65: Just a few questions left! Please share your personal experiences. Have you served or are you currently serving in the military?

- No
- Yes
- I will serve in the future
- Prefer not to say

*Q66 is displayed if the answer to Q65 is Yes*

Q66: What is the relation between ARMA and your military service?

	Strongly disagree				Strongly agree	Don't know
My military experience helps me in ARMA.	<input type="radio"/>					
I reenact in ARMA what I experience in real life.	<input type="radio"/>					
ARMA has prepared me for military service.	<input type="radio"/>					
Playing ARMA is not related to my service.	<input type="radio"/>					
I explore in ARMA what I can't experience in real life.	<input type="radio"/>					
ARMA helps while serving in real life.	<input type="radio"/>					
ARMA shows real-life service realistically.	<input type="radio"/>					

*Q67 is displayed if the answer to Q65 is No or Prefer not to say or I will serve in the future*

Q67: Does ARMA prepare you for military service?

- No
- Somewhat
- Yes
- Don't know

*Q68 is displayed if the answer to Q65 is No or Prefer not to say or I will serve in the future*

Q68: Is military service realistically presented in ARMA 3?

- No
- Somewhat
- Yes
- Don't know

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**Sociostatistics**

Q69: Almost done! Any personal information you offer in the following will be confidential. How old are you?

\_\_\_\_\_

Q70: What is your occupation?

- Student (secondary school)
- Student (JC, Poly, ITE)
- Student (university)
- Employed
- Unemployed
- Other: \_\_\_\_\_
- Prefer not to say

Q71: What is your nationality? You can choose more than one.

- Singaporean
- Other (living in Singapore): \_\_\_\_\_
- Other (not living in Singapore): \_\_\_\_\_
- Prefer not to say

Q72: What gender do you identify as?

- Male
- Female
- Other
- Prefer not to say

Q73: Please create a given name that I can use when writing about your responses. Please do not choose your actual given name! This name will be also used to identify those who receive the reimbursement. It does not need to be an English name. Example of how it will look like: *Out of all respondents, Shaun spent the least hours playing ARMA 3.* What given name do you create?

\_\_\_\_\_

Q74: Do you want to share anything else?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_