Virtual Excavations: A study on how video game mechanics influence the portrayal of archaeology in games

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BA Thesis

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Abstract

Video games have grown significantly over the past few decades, into largely influential popular media of the twenty-first century. Due to this, their representations of archaeology and the past are increasingly important to shaping the understanding of the public. While archaeology occasionally appears in historical games, it is often reduced into adventure and discovery. This thesis examines how archaeology is portrayed, enacted and reimagined in contemporary video games, communicated not only through narrative or imagery but actively through game mechanics, shaping the perception of players.

Through a mixed methods approach, a quantitative analysis studied video games tagged as "historical" within the digital distribution platform Steam, combined with qualitative case studies which focused on game mechanics. From Steam, 60 games were reviewed to identify broader patterns in how archaeology is portrayed across genres and historical settings. The majority of reviewed games did not portray archaeology in any capacity, and when it did appear it took a context-specific role. Based on this analysis, a tripartite framework was created to categorize each game on the role of archaeology in it. It distinguishes archaeology as identity (archaeologists as characters), ability (performing archaeology), and engagement (portraying heritage institutions such as museums). This was then applied to a close reading of three case studies selected from my initial database: *Indiana Jones and the Great Circle*, *Civilization VII*, and *Workers and Resources: Soviet Republic*.

The findings demonstrate that archaeology in video games is experienced mainly through player actions. While these expose players to aspects of archaeology, its practices are simplified, portraying archaeology as something to extract and compete over. Additionally, the study highlights the potential games have as tools for public engagement with archaeology. By focusing on what players do over what games depict, this thesis contributes to the field of archaeogaming by focusing on game mechanics and their impact on portraying the discipline, showing how digital play both distorts and reflects public perception.

Keywords: Archaeogaming, Historical video games, Game studies, Game mechanics, Digital Archaeology

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1. Introduction

1.1 Video games and archaeology

In the past 50 years, video games rose to one of the most influential means of entertainment of the twenty-first century (Knezovic, 2025). From early arcade and console systems like Atari's Pong in 1972, video games quickly entered many households, rising into a global form of entertainment (Recordhead, 2021). Due to the growth of internet, personal computing and digital distribution platforms, like Steam, gaming transformed into a multi-billion dollar industry, surpassing culturally the impact of film and music (Christofferson et al., 2025, p. 3). Therefore, video games are an important part of culture for study, as they entertain but also shape the understanding audiences have about disciplines such as history, cultural heritage, and archaeology (Zeiler & Thomas, 2020, p. 266; Reinhard, 2018, p. 9).

Because games often simulate historical themes, they also intersect with other disciplines that study the past (Zeiler & Thomas, 2020, p. 265). From the antiquarian pursuits of collectors like Giovanni Belzoni to the legendary exploits of Indiana Jones, the discipline has often been linked to exploration, discovery, and possession (Procter, 2020, p. 28). This association has further popularized archaeology as a theme in games, as both its visual and conceptual appeal easily translates to systems of quests, collection and world-building through those links to possession and discovery (Champion, 2004, p. 55). In this case, archaeology becomes a very accessible way to connect video games to our history, due to its focus on material remains and their interpretation (Zeiler & Thomas, 2020, p. 265).

Yet, these portrayals often rely on pseudoarchaeological or colonial tropes, presenting excavation as treasure hunting and archaeologists as explorers (Champion, 2004, p. 55; Dennis, 2019, p. 166, 259). This is being studied in the emerging field of archaeogaming, which explores both the archaeology observed in games as well as the archaeology of games as physical and digital objects themselves (Reinhard, 2018, p. 2). However, it is important to note the emerging nature of this subdiscipline, as another limitation. This is because currently, most of the literature for archaeogaming is relatively recent and theories being published are often not entirely comprehensive (Politopoulos & Mol, 2023, p. 113) . According to Bogost (2007, pp. 28–29), there is a general lack of "procedural literacy", which refers to the understanding of "computational media" such as video games by looking at how processes can be created and operated inside the game. That of course makes any body of research based on it hard to adequately explore or justify.

Hageneuer (2024, p. 162) highlights how popular titles continue to perpetuate false stereotypes of archaeological practice, especially when referring to Indiana Jones and the link to colonial practices. However, Chapman (2016, pp. 60–61, 234) highlights that games also function as interpretative tools that invite players to engage critically with history and heritage. Recent work by Politopoulos and Mol (2023, p. 119) has furthered this perspective, framing archaeogaming within the sector of public outreach and as disciplinary reflection. The VALUE Foundation's survey showcased players' preference for accuracy and interactivity in the way the

media represents the past (Mol et al., 2020, as cited in Politopoulos & Mol, 2021, p. 85).The findings demonstrate that video games do not simply portray archaeology, but that they also actively shape attitudes toward it, often with political and ethical implications, for example by either reproducing or contesting colonial narratives (Hageneuer, 2024, p. 171). These dynamics reveal that representation and themes alone cannot fully explain and accurately recreate how archaeology works within video games.

To understand how video games construct these portrayals, it is crucial to move beyond imagery and narrative and examine the mechanics structuring play. This happens because game mechanics, while only being a part of a videogame, often are the connection between a player's actions and its themes or narrative (Hageneuer, 2024, p. 170). For this thesis, we consider game mechanics as defined by Sicart (2008, as cited in Lo et al., 2021, p. 3) "methods invoked by agents for interacting with the game world". This is done to maintain focus on the in-game actions which a player can take, and to what degree those relate to archaeology.

A player's immersion is also a key reason behind the importance of game mechanics. For example, through controlling the movements of a character, or shaping its decision-making, a player effectively becomes the character (Hageneuer, 2024, p. 170). Despite there often being a "controlled" sense of freedom, due to the game having limits to the player's movement or only selected phrases within dialogues, a player almost always has agency over how he wants to play the game (and subsequently control and interact with its characters) (Chapman, 2016, p. 46). Beyond that, immersion can be shown also with a very large and detailed in-game environment and map, or even in the accuracy by which the time-period and themes are portrayed (Reinhard, 2018, pp. 189–190).

Games are systems of processes, as they communicate meaning through rules, constraints and interactions (Bogost, 2007, p. 35). As Bogost (2007, p. 40) argues, game mechanics are never neutral, because they embody certain ideological assumptions about how the world functions. In the context of archaeogaming, we can see how these assumptions work to translate archaeological practice into forms of digital actions such as exploring, discovering, and collecting through systems of input and feedback (Reinhard, 2018, p. 75). Thus, in order to study archaeology as portrayed in-game we need to study how the discipline is performed by the player through game mechanics. Specifically, this involves how the player's actions, decisions and limitations reconfigure what it means to "do" archaeology in video games.

This thesis investigates how archaeology is represented, enacted, and reimagined in contemporary video games through their game mechanics. However doing this across the currently existing wide catalogue of games is hardly a possibility within our field of scope. Besides there being thousands of titles that would need to be studied, even when limited to "historical" games or games that contain archaeology, every game utilizes archaeology both to a different degree and context specific to the needs of the game. Adding this to the variety by which "immersion" can exist within video games, conducting a faithful and exhaustive study of them is a large undertaking.

By taking a manageable group of games, found in the online platform and marketplace Steam, this thesis seeks to understand how video games incorporate archaeological themes, identities, and practices. Furthermore, through a tripartite framework incorporating identity, ability, and engagement, it examines how these games transform archaeology into fully playable systems of actions, both mirroring and distorting the reality of its practices.

1.2 Aim

The aim of this thesis is to analyse the portrayal of archaeology in video games, focusing on how game mechanics convey the experience of archaeological work. By analyzing how archaeology, as a discipline, and archaeologists, as figures, are represented in historical-themed video games, I seek to understand the relationship between game design, player engagement, and the public perception of archaeology.

The topic is explored in the main research question: *How can video games portray and influence the perception of archaeology among general audiences, through their game mechanics?*

The central question will be explored through the following sub-questions:

- What are the existing representations of archaeologists and their work in video games?
- How do players experience archaeology, through the game mechanics of historically themed video games?
- How can game mechanics reflect or translate the methods and values that archaeologists identify as central to their discipline?

Through this thesis, I aim to investigate how digital representations in video games relate with the realities of working in archaeology. By doing so, I want to contribute to a more nuanced understanding of how public knowledge and engagement with archaeology can be shaped by video games. Additionally, this thesis seeks to identify ways in which game mechanics can portray archaeological work more ethically and accurately.

2. Understanding game mechanics

2.1 Existing archaeology in video games

Historically, video games have often drawn on themes of archaeology to provide entertainment (Zeiler and Thomas, 2020, p. 266). This connection between archaeology and adventure has created many well-known figures, such as Indiana Jones and Lara Croft (Hageneuer, 2024, p. 162; Reinhard, 2018 p. 62).

However, this kind of representation perpetuates its own set of stereotypes. Within video games, game developers often use recognizable visual cues to "evoke" the feeling of archaeology while avoiding excessive written exposition (Reinhard, 2018, p. 62; Holtorf, 2007, p. 82). For example, characters are typically dressed in beige tones, fedora hats, and collared shirts or dress trousers (Hageneuer, 2024, p. 162; Reinhard, 2018, p. 63). This form of attire nods both to nineteenth-century academics, who combined formal and fieldwear, and to the now iconic image of Indiana Jones (Holtorf, 2007, p. 80).

As one of the earliest depictions of an archaeologist and a professor in video games Indiana Jones has inspired many later titles, including the Uncharted series, as highlighted during an interview with Amy Hennig, its creative director (Hawken, 2019, as cited in Dennis, 2019, p. 162; Evans-Thirlwell, 2019). Specifically, the Indiana Jones games series is the first example of a video game with an archaeologist as the main character, combining adventure with the occasional academic commentary (Hawken, 2019, as cited in Dennis, 2019, p. 162).

Nevertheless, *Indiana Jones* is also known for perpetuating problematic stereotypes relating to issues of archaeological accuracy and ethics (Dennis, 2019, p. 170). As stated by Meghan Dennis, pseudoarchaeological tropes are often included in its narrative, such as the portrayal of Atlantis as a "Greek-associated" place and its connection to aliens (Dennis, 2019, p. 166). From an ethical point of view, Jones is often accompanied by female colleagues who are rarely given credit for their contributions or acknowledged as equals (Dennis, 2019, p. 170). This reflects the persistent stereotype of archaeologists as exclusively male explorers or excavators, a concept far from reality. Combining these stereotypes with visual cues goes beyond the evoking of archaeology, reducing the discipline to certain flagship visual elements and minimizing players' effective interaction (Reinhard, 2018, p. 63).

By 2018, Reinhard attempted to formally frame these studies collectively as "archaeogaming", a sub-discipline of archaeology which has been coined by him in 2013 (Reinhard, 2018, p. 2). He identified two main directions for archaeogaming: applying archaeological methods to game worlds and studying games archaeologically as both physical and digital forms of material culture (e.g. by researching the material culture around video games) (Reinhard, 2018, p. 2).

Reinhard has further studied how games influence public perceptions of archaeology. By analyzing models that describe the relationships between science and society (educational, public relations and democratic), he classified video games within the public-relations model, arguing

that they can effectively serve as tools for outreach and public awareness in archaeology (Reinhard, 2018, p. 74) . Specifically focusing on public relations “connects the “elites” and the interested public”, removing archaeology from the ivory tower of academia and into a more “democratic angle” which invites the general public to “do” archaeology (Reinhard, 2018, p. 74).

Other ways of public outreach have managed to veer more into the educational aspect. Namely, projects like Romeincraft; the use of Minecraft as a platform to recreate to scale Roman age fortresses and walls in the Netherlands (Politopoulos et al., 2019, p. 167). This started as a series of 11 events, placed along the former Roman border and specifically where Roman remains existed but were not directly visible (Politopoulos et al., 2019, p. 167). By focusing on a generally faithful recreation of the places, play was combined with sharing knowledge in an engaging manner (Politopoulos et al., 2019, p. 167). As observed, studies on video games thus far have focused on the general perceptions of archaeology that video games portray and as well as their use for public outreach.

However, no substantial body of work within archaeogaming has examined how game mechanics and player input alone are used to perform or simulate the action of archaeological practice in games. In most cases archaeology appears in games as a theme, used to evoke mystery, adventure, or discovery (Champion, 2017, pp. 109–110). While this exposes players to archaeological imagery and ideas, it rarely engages them with the processes that define the reality of archaeological work. This raises questions about what actions players actually perform in-game when advancing narratives, and to what degree these relate to the activities of field or academic archaeologists. Hence, this thesis focuses on how game mechanics define a set of actions which influence how players perceive and understand archaeological practices.

2.2 How can we “play” archaeology

Building on this, it becomes necessary to clarify what it actually means to “play” archaeology. If video games represent the discipline not only through imagery but also through player action, then play itself becomes a form of archaeological performance.

Video games also give the player a degree of agency over the narrative, as both action and decision are left at the player’s hands, making the aspect of play an experience which influences his beliefs and perceptions (Wackerfuss, 2015, p. 38; Chapman, 2016, p. 46). To understand how archaeology can be “played”, it is useful to view games as systems that translate real-world practices into structured, interactive forms (Bogost, 2007, p. 35). As Ian Bogost (2007, p. 3) notes, game systems communicate meaning through procedural rhetoric, defined as “using processes persuasively”, namely the way that rules and processes express ideas. By playing archaeology, players are exposed to a specific version of the discipline which is shaped by the design constraints and ideological assumptions present in the game (Bogost, 2007, p. 236). In the context of archaeology, this means that games can simulate certain elements of archaeological work through game mechanics which recreate discovery, classification, excavation or curation (Reinhard, 2018, p. 75). Actions such as digging, cataloguing, and reconstructing are translated into playable gestures, which are then simplified into processes to support the game’s narratives (Reinhard, 2018, p. 75).

Taken together, these perspectives show that “playing” archaeology involves far more than archaeological imagery or storylines. It requires engaging with the procedures through which games translate real-life aspects of archaeological work into interactive systems (Bogost, 2007, p. 46; Reinhard, 2018, p. 157). Through mechanics, rules, and player input, games turn archaeology into a set of learnable and repeatable actions, shaping how players experience the discipline at a procedural level (Chapman, 2016, pp. 50–51). Understanding this shift from representation to performance is essential for analysing archaeological practice within digital media (such as video games), and forms the foundation for the methodological approach of this study.

2.3 Method

This research uses a mixed-methods (quantitative and qualitative) approach to examine initially the existing representations of archaeology within video games, and how they are experienced through game mechanics. For this, games were primarily selected from Steam, a well-known digital distribution platform for video games (Politopoulos & Mol, 2021, p. 84). While game descriptions are posted by the developers, Steam also allows players to assign categorical "tags" to each game (such as "historical", "strategy", etc.). This makes this platform a great tool to also observe how players experience games.

Regarding the quantitative approach, games from the entire Steam database were filtered using the "historical" category, as there is no dedicated "archaeology" category. This tag was chosen as an entry point because it allowed me to cluster together games that engage with the past, because of their theme, visuals, or narrative. The initial Steam query resulted in 5.651 games under the "historical" tag (Figure 1). For the purposes of this study, the first 60 titles in the list were selected, both for reasons of practicality and because Steam sorts results by relevance. Downloadable content (DLC) entries were manually excluded, as these do not represent standalone games and therefore fall outside of the scope of this study.

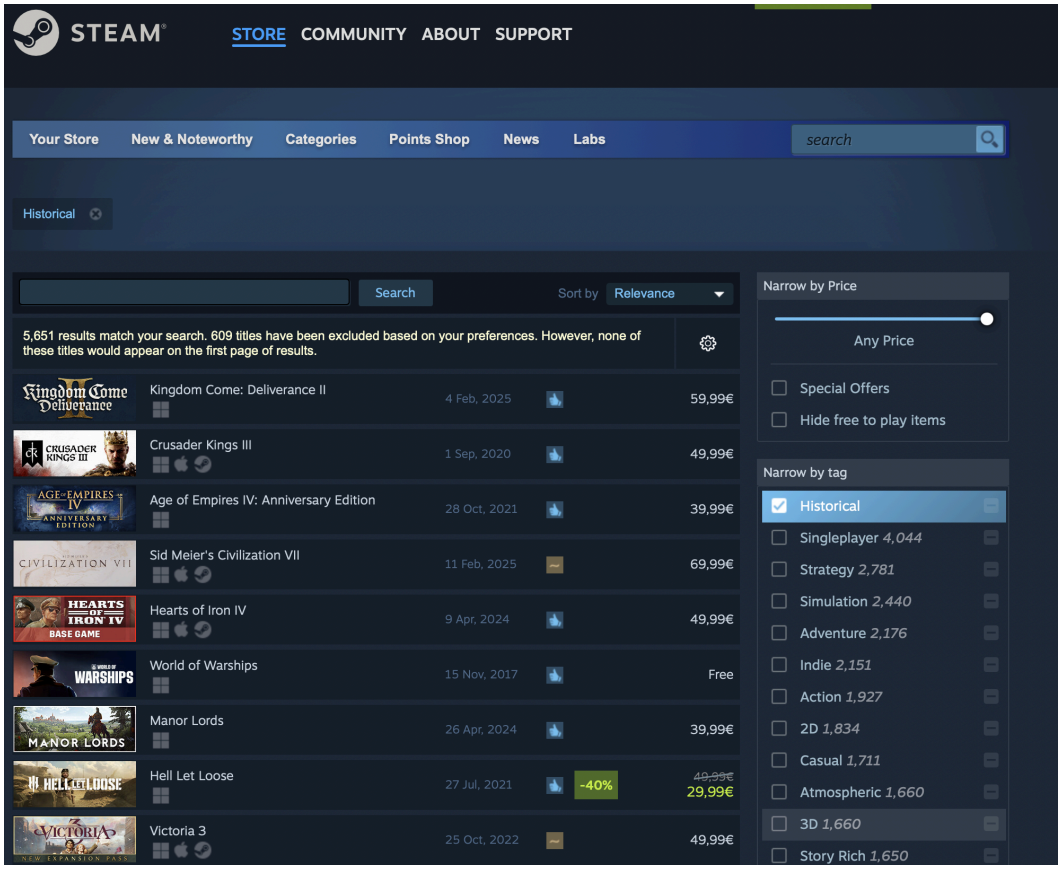

Figure 1: *A screenshot of the games tagged "historical" within Steam.* (Screenshot: Alexia Kaperoni)

Using Google Sheets, a spreadsheet database was created in which each game was sorted using several basic metadata fields to allow for comparison and analysis. This included categories such as release year, game genre, and number of players, as well as the “historical period” depicted in each game. However, this remains a wide category of titles, ranging from war simulations to ancient city builders, and not all may include archaeology.

Therefore, after the selection of games, a manual "verification" was conducted to identify which games had a credible connection to archaeology. By introducing two additional binary (yes/no) columns, I focused on whether the main character of the game is an archaeologist and if the game contains archaeology. Here, all aspects of archaeology were taken into account, including possible in-game actions such as artifact collection and the ability to excavate and thematic use. If a game contained archaeology, its role in-game would be summarized in a third column. Lastly, a fourth column depicting input methods was added, to focus on game mechanics and the actions a player can take in relation to archaeology.

By also utilizing community-generated tags on Steam, the games were further sorted by type into broader categories. This is done to identify which game types are visible within historical or archaeological games. For example, tags like “RPG” (Role-Playing Game), “Strategy”, or “Simulation” often overlap, but they also provide insight into how game developers might try to position games between market expectations and player preferences.

To visualize the relationships between game types and perceptions of archaeology, a network analysis graph was created using Python. In this analysis, the first one or two (depending on availability) player-provided tags for each selected game in the spreadsheet were grouped based on their frequency of appearance throughout the database. Through mapping these connections, we could determine the extent by which archaeology is portrayed in our database and how it intersects with popular game genres such as simulation, strategy, or action adventure. It is important to note here that in the network analysis, all 60 games were included, as they were also relevant in understanding the general role of archaeology in historical games.

However, the main component being studied here is game mechanics. As each game has its own, context-specific, mechanics, it goes beyond the scope of this research to individually analyse and understand each one. While this could provide further data on which game mechanics may currently exist that represent archaeology, it becomes difficult to group them due to their unique role in each game. Therefore, to get a richer understanding of both game mechanics and their roles and influence, I combined quantitative with qualitative research. Through qualitative research, I attempted to look into the details of how game mechanics enable a player to “do” archaeology and the accuracy of that representation.

For this purpose, I developed a theoretical framework to divide games based on the role archaeology has in each game. The wide variety between how each game utilizes archaeology, can be described in 3 different categories. Specifically, games which utilize archaeology do so either as an identity, an ability or by engagement. Archaeology as an identity is mainly a theme (e.g., a game in which you are playing as an archaeologist), while archaeology as an ability occurs when a game allows the player to become an archaeologist or perform archaeology as a

skill with narrative progression. Lastly, engagement with archaeology looks at all the games in which the player can build monuments, curate or protect heritage. Through this framework, 3 representative games were selected as case studies on the premise of how they reflect different modes of engagement with archaeology:

- Identity - portraying an archaeologist as the main character (Indiana Jones and the Great Circle)
- Ability - allowing players to acquire archaeological skills or perform excavations (Civilization VII)
- Engagement - featuring mechanics for curating, protecting or displaying heritage (Workers and Resources: Soviet Republic)

Following Reinhard (2018, p. 75) and Chapman (2016, p. 207), this analysis treats video game mechanics like the rules, interfaces, and actions available to the player as a means to simulate archaeological practice. Instead of focusing on narrative or imagery, it examines players' actions within the games like the buttons pressed, the loops repeated, and the decisions rewarded or punished (Chapman, 2016, p. 207). Through these materialized gestures of play, this study investigates the potential of games to transform archaeology from a descriptive theme into an enacted practice. Understanding mechanics as the methods that enable player interaction further reveals how play reconfigures the perception of the discipline's processes, ethics, and public image (Sicart, 2008, as cited in Lo et al. 2021, p. 3).

By combining quantitative pattern recognition and qualitative interpretation, the role and perception of archaeology within historical video games as influenced by game mechanics, can be analyzed.

3. Game mechanics and communication of archaeology

3.1 Results

A total of 60 games were processed using the checklist and entered into the database (seen in Appendix A). Of these games, 45 were excluded via manual filtering, because they lacked any meaningful engagement with archaeology, as a theme, mechanic, or narrative element. This filtering highlights the disconnect between "historical" and "archaeological" as categories: although they often overlap in popular classification, they represent distinct concepts.

25% (n = 15) of the games tagged as "historical" on Steam contained some degree of archaeological content. These games ranged from titles that center on archaeological excavation and heritage protection, to those that include archaeology in less direct ways, such as placing artifacts in museums or referencing excavation sites. Additionally, the historical periods that the selected games represented were diverse, set in periods anywhere from ancient civilizations and medieval kingdoms to World War II, and even speculative prehistory (eg. Ancestors: The Humankind Odyssey). This shows that tags visible on Steam, such as "historical", do not stick to a chronological timeframe but rather broadly describe games based on their themes.

Additionally, of the 60 games, only one game features an archaeologist as a main character. By contrast, 14 games incorporate archaeological elements within their gameplay systems or narrative contexts. As a result we see that the majority of games (n = 45) generally engage with the past, and not archaeology as a discipline, while some games include archaeological actions as an optional or secondary mechanic within them. This suggests that many games engage with the past without engaging with archaeology as a discipline, while others may incorporate archaeological actions only as secondary or optional mechanics within a broader gameplay structure.

In several titles, players can navigate through excavation sites or monuments (e.g. Farthest Frontier, or Assassins creed mirage), while others allow players to examine artifacts such as the collectible Mongol artifacts in the Ghost of Tsushima. Therefore, players may not directly experience archaeology while furthering the narrative, but only through personal choice. Lastly, the median release year observed in the database was 2021, meaning many of the selected games are recent releases. This reflects the expansion of the video game market, with a high number of annual releases, pushing studios to rely on historical themes in hopes of capturing the interest of potential players.

Another way in which the games were evaluated was by the tags given to them by the players within the Steam community. Specifically, I recorded the first two tags associated with each game (to avoid distortion from tag oversaturation) as these provide insight into the genres players associate with each title. Frequently recurring tags also suggest preference and higher engagement, as well as which categories may shape developers' decisions in an increasingly competitive market. Thus, a network analysis was conducted, using the "key themes" column of the database to determine tag frequency.

For that, Python was used to generate frequency counts of the tags (seen in Appendix B). In fact, 41 unique tags appeared across the database, including thematic tags like “World War II” and “zombies”, and tags centered on mechanics such as “RPG” or “sandbox” (games involving an open environment to explore). This frequency was then visualized in Figure 2, in which the size of each node reflects the frequency of appearance of each tag. The lines connecting nodes represent which tags appeared together when describing games.

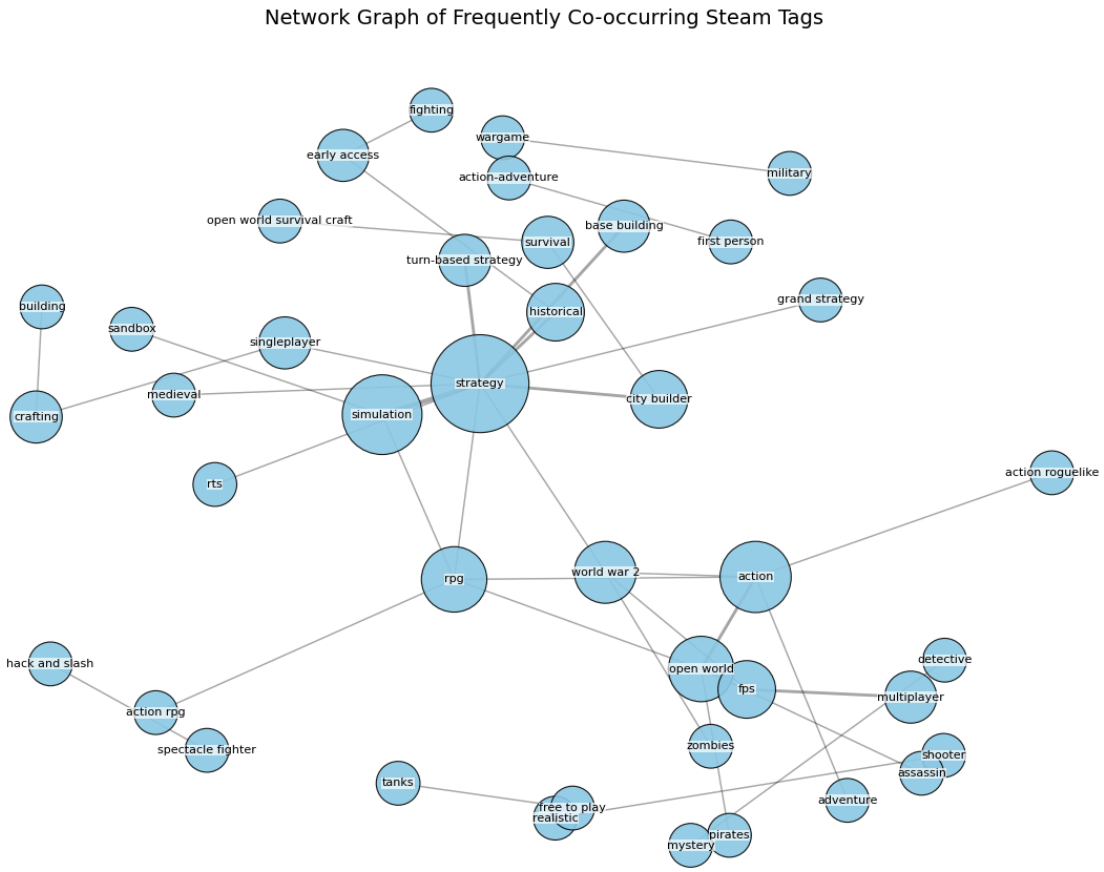

Figure 2: *The Tag Network Graph generated by 1–2 player-given tags*. It shows a cluster of various tags centered around “strategy” which has the largest node (blue circle). (Graph generated by Alexia Kaperoni, using data from Appendix A and code from Appendix B)

The graph shows that the most common tags associated with the selected games were “strategy”, “simulation”, and “action”. Additionally, “strategy” has both the largest node as well as the most connections, indicating it is a central aspect to many historical games. This trend can be seen in games within the database like Age of Empires and Civilization VII, as they show that historical themes are often used together with strategic gameplay, empire-building, and resource

management. Tags linked to “strategy” are “simulation”, “RPG”, and “action”, showing an overlap in the structure of game mechanics.

As stated above, in method, the identity/ability/engagement framework seeks to explain the various roles of archaeology observed in the database. While we can clearly observe the frequency by which archaeology appears in these video games, the quantitative results do not explain how a player can engage with archaeology through actions and experiences. These results validate the need for qualitative analysis through the framework describing the roles of archaeology in video games. This is addressed on a smaller scale through the case studies, focusing on game mechanics and their procedural meaning.

3.2 Case Studies

3.2.1 Indiana Jones and the Great Circle

Our first case study, *Indiana Jones and the Great Circle,* released in 2024, is the latest game released in the world of Indiana Jones (Bethesda, 2025). It draws inspiration from the original films, and takes place between the movie "Raiders of the Lost Ark" (1981) and "Indiana Jones and the Last Crusade" (1989) (Franklin, 2024). Set in 1937, the game follows Jones as he attempts to prevent authoritarian forces from obtaining the power of the "Great Circle" (MachineGames, 2024). This refers to a fictional circle which connects certain archaeological and historical sites around the world, for example the Vatican City and Siam, Thailand (MachineGames, 2024). The game blends real-world geography and elements of mythology, which follows the iconic cinematic tradition of the *Indiana Jones* franchise (Franklin, 2024).

Indiana Jones, portrayed as a professor of archaeology, is arguably one of the most recognizable fictional archaeologists in popular culture, and the first to appear in a videogame (Reinhard, 2018, p. 63; Dennis, 2019, p. 162). Because the main character is himself an archaeologist, *The Great Circle* represents the category of games where archaeology functions as identity, central to both narrative and player perspective. His identity is constructed through a set of visual and behavioural tropes that have currently become synonymous with the public image of archaeology: a fedora hat, a whip, a cross-body bag, and beige toned semi-formal clothing (Reinhard, 2018, p. 63). These features reflect both cinematic and historical contexts, and create a version of archaeologists as heroic adventurers, which often hints to colonialist behaviours and looting (Holtorf, 2007, p. 80).

Moreover, the game reflects the historical underrepresentation of women in archaeology, with important female characters limited to Gina Lombardi and Nawal Shafiq (MachineGames, 2024). Even in earlier installations of the Indiana Jones series, women that have solid archaeological credentials and progress narratives are still treated as inferior and oftentimes objectified (Dennis, 2019, p. 170). Dennis notes that in *Fate of Atlantis*, the female side character faces heavy discrimination, and her objectification can also be seen in the game's mechanics as you can choose to pick her up or push her (Dennis, 2019, p. 171).

Indiana Jones and the Great Circle is a first-person experience game that occasionally shifts into third person during interactions (MachineGames, 2024). Like many of the recently released video games on the market such as the Uncharted series, it combines story-driven sequences with wider exploration environments, offering players both guided narrative progression and a degree of "freedom" in-game (MachineGames, 2024; Evans-Thirlwell, 2019). The controls map archaeological activity onto physical action: pressing a key to collect an object, rotate it, or read accompanying field notes. Within exploring there are also combat mechanics, where the player is able to fight enemies using Jones' signature whip, which doubles as both a weapon and means of navigation as it can be used to swing across gaps or in certain in-game puzzles (MachineGames, 2024). The whip's dual function highlights the game's tension between discovery and domination, as it can grant access to new spaces but also instigate violence.

From a mechanical perspective, this design translates archaeology into an extractive loop of discovery, acquisition, and accumulation. Each button press to pick up, examine, or store an artifact performs a form of digital excavation, however, focused on possession rather than interpretation. Within the game's inventory, archaeological objects become collectibles used to unlock achievements or progress the narrative. This procedure mirrors the antiquarian and imperial collecting practices described by Procter (2020, p. 29), where archaeological artefacts were valued as trophies of exploration rather than as contextualized sources of knowledge. These tropes ultimately normalize many unethical archaeological behaviours, such as looting or destruction of heritage sites, and are used to provide entertainment to the player (Dennis, 2019, p. 281).

Figure 3 represents a scene from the game, in which the player can observe various artifacts (MachineGames, 2024). There are options to collect the artifact, rotate it, designating all possible physical actions (MachineGames, 2024). Alongside the object, a text column appears, providing background to the object investigated such as what is written on it, and a general title, identifying the object (MachineGames, 2024).

This example highlights a key mechanic in the game, its object inspection mechanic. Here, the player is invited to "act" as an archaeologist by means of analyzing the object (aka reading the notes on where it was discovered, what craftsmanship it may have and other physical characteristics such as its weight). For the game, this is done in the context of a break-in, in order to solve a puzzle, but it is not far from the truth. While the player does not note these observations themselves, this game mechanic simulates an aspect of real archaeological practice. In the field, archaeologists visually observe, describe, and record artefacts in detailed notes so others can interpret them later (Renfrew & Bahn, 2016, pp. 49–50). The game's design thus exposes players to a surface level of scientific observation, even if interpretation and contextual reasoning are absent. It transforms what archaeologists do, such as handling, describing, reading objects, into gamified player actions.

Figure 3: *A still shot from the game during when an artifact is being examined.* Screenshot taken from a Youtube video. (theRadBrad, 2024, 28:06)

The classroom sequence in Figure 4 offers another example of how game mechanics align with archaeological behaviour. When engaging with the game's mechanics of movement, through a first-person perspective, the player explores the space, searching for artifacts and notes within it (MachineGames, 2024). While the setting differs from fieldwork, the behaviours encouraged by the game such as observation, attention to material details, and composition of clues reflect real-life archaeological skills. This segment allows players to act upon both Jones's academic identity and his exploratory one, reinforcing how the game utilizes archaeology not only as story but as practice. The mechanics of Jones' movement, though simplified, encourage players toward forms of seeing and knowing that characterize archaeological work such as noticing small details, making connections, and reading objects as evidence.

Figure 4: *A still shot from when entering a classroom in Marshall College in-game.* Screenshot taken from a Youtube video. (theRadBrad, 2024, 27:45)

In Figure 5, we examine the ability of capturing photographs in-game. This is a mechanic with which the player can engage with throughout the game (namely, to hold the camera and look around the landscape) (MachineGames, 2024). However, when the camera lens is centered on a significant object or location, the game demonstrates its potential narrative or archaeological value. This occurs by the appearance of a camera frame, identifying title, and a star rating indicating significance, alongside the centering and zooming controls (MachineGames, 2024). Here, besides its aesthetic value, the act of taking a picture becomes important for narrative progression and documentation in-game, and the lens becomes a filter between heritage and general background.

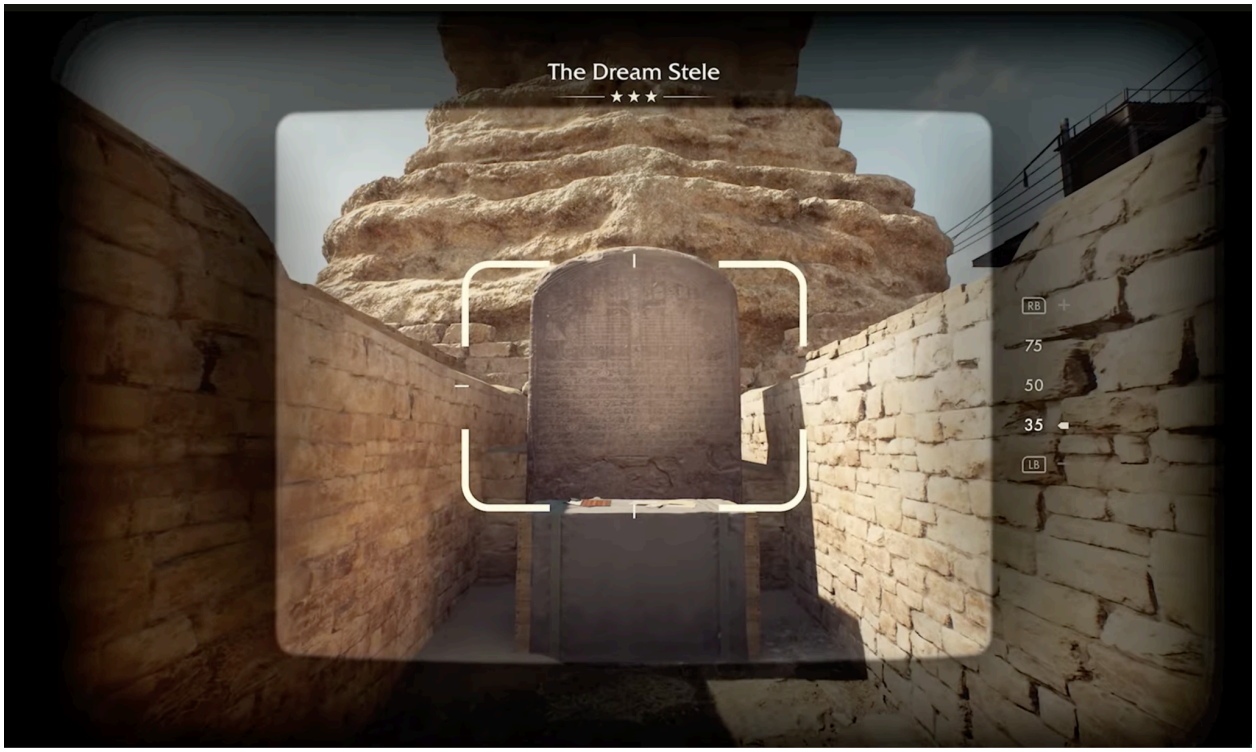

Figure 5: *A still shot from the game, in which Indiana captures the Dream Stele on camera.* Screenshot taken from a Youtube video. (UntilTammaro, 2024, 2:30)

The game mechanics of the camera relate to the archaeological practices of documentation and recording, in which pictures of a site are taken throughout the excavation. For example, when opening an excavation unit, it is common practice to take detailed photographs on each stratigraphic layer and every time a feature or artifact may be discovered (Renfrew & Bahn, 2016, p. 125). Like in field photography, *The Great Circle* allows the player to choose a correct angle and center the subject of the image, and produce a record which marks the object or location as significant.

By embedding archaeology into the identity and actions of the player-character, *The Great Circle* enables a form of procedural embodiment in which players "become" archaeologists through play (Hageneuer, 2024, p. 171). This is furthered by the immersive mechanics of the game, namely the ability to look down onto yourself, highlighted in an interview with Jerk Gustafsson, studio director of MachineGames (the developers of *The Great Circle*) (Franklin, 2024). However, the game still portrays archaeology as a discipline rooted in adventure, something which translates to its mechanics. Specifically, it trains the player to see the past and its material remains as things to be uncovered and individually possessed, rather than contextualized and preserved.

Ultimately, the game combines actions that stay faithful to archaeological practice with those driven by narrative or rewards, demonstrating how games can both reveal and distort archaeology. Artifacts in *The Great Circle* become stepping-stones in a linear progressing quest

rather than elements of a contextual narrative. This material-centric focus, common practice to museum displays, often emphasizes the wonder of artifacts as isolated "objects" rather than their life cycles of creation, use, and deposition (Dudley, 2018, p. 426; Renfrew & Bahn, 2016, p. 54). Therefore, we can see how the game enables the player to experience archaeology through a lens of mystery, travelling the world and collecting artifacts, rather than the scientific approach conducted within the discipline.

Through these examples, *Indiana Jones and the Great Circle* achieves a quasi-accurate portrayal of archaeological practice. Through its game mechanics, players focus on the sensory and observational aspects in archaeological practice, by engaging with artifacts in a tactile and visual manner. However, the game utilizes these actions as means to further narratives and reward players, not allowing the player to follow archaeological methods. As Mol (2014, p. 155) argues, game mechanics create certain "socio-material" networks between players and virtual things, referring to the material culture of the game. Here, those networks center on *mastery and collection* to progress in-game, rather than scientific interpretation (Mol, 2014, p. 155). The player's embodied actions, grasping, rotating and collecting, are used for ownership, and perpetuating the heroic and extractive behaviours long-established in the franchise (Hageneuer, 2024, pp. 170–172).

3.2.2 Civilization 7

The game selected for the second case study is Sid Meyer's Civilization VII, a turn-based strategy game in which players guide a civilization from its early stages all the way to an advanced society (al-Kanyali, 2024). Through both military and civilian units, the player can explore an expanding map and also create new settlements (Firaxis Games, 2025). Players can select from a wide range of civilizations available such as Greece, each with varying attributes that influence strategic possibilities and model historical development influencing the outcome of the game (al-Kanyali, 2024). Each civilization is led by well-known historical figures, such as Augustus Caesar or Catherine the Great, whose additional traits further influence gameplay (Firaxis Games, 2025).

Within this installment leaders have also been more refined, as philosophers and scientists were added, suggesting a wider recognition of culturally significant figures (Firaxis Games, 2025). Unlike narrative-led games, Civilization VII has multiple victory conditions, including military, scientific, and cultural dominance, portraying in-game development as a system of strengths and attributes (Firaxis Games, 2025). An important note for this game however, is its strategic complexity. Namely, there are many different aspects and elements to the game, all of which differ in every age the civilization goes through. Therefore, to utilize this game effectively as a case study, many narrative and mechanical elements will not be explained in depth.

Furthermore, the ability to combine civilizations, leaders and other features is a strategic element, which allows the player to select freely and prioritize certain aspects when evolving the civilization. This is enhanced by the use of "mementos", small artifacts which can be used alongside the player's selected leader to enhance certain attributes (such as the ability to gain extra points for city-building) (Firaxis Games, 2025). As Mol et al. (2023, p. 3) note, strategy games like *Civilization* frame historical development as a process of experimentation, inviting players to test and reconfigure narratives of progress within bounded systems.

Additionally, the game presents a rather simplified version of human chronology, such as antiquity or modern ages, which essentially serves as a placeholder to indicate the passage of time (and evolution) to a player, chosen to avoid portraying deliberate historical or political standings by the developers. This design choice reflects what is called by Chapman (2016, p. 4) the procedural rhetoric of history, namely the way games translate complex historical processes into playable actions while in this case avoiding deliberate political positionings by the developers.

Generally, *Civilization* is based around a (varied size and seed) tile style map, in which landscape elements are not known to the player (Firaxis Games, 2025). Through the game, the player is invited to move various types of troops through the map, to reveal the landscape of more tiles, expand territory or gain additional resources (Firaxis Games, 2025). *Civilization VII* is relevant as a case study in this category, due to its inclusion of archaeology as an in-game ability during the Modern Age. Within Civilization VII, archaeology is realized as a cultural "upgrade", starting with unlocking the Natural History civic and the "explorer" type of troops

(Firaxis Games, 2025). Once this ability is acquired, players can use their "explorers" in museums or universities, and research the location of artifacts, namely available dig sites (Firaxis Games, 2025).

The act of discovering dig sites is directly seen in Figure 6. Namely, by conducting research inside of a museum or university, some tiles are transformed into "dig site" tiles and are marked by a small shovel (Firaxis Games, 2025). Here, the shovel is a shorthand for the ability to dig there, forcing the player to interact with the game's mechanic of observation. By placing "explorer" troops to these dig sites, artifacts can be obtained from the site after several turns and subsequently be placed in museums (Firaxis Games, 2025). This mechanical sequence transforms archaeology into a structured action, encouraging players to "click" to excavate and "drag" to display artifacts, realizing a procedural simplification of the real-life archaeological practices of excavation and curation.

Figure 6: *A still shot showing recently discovered dig site locations.* Screenshot taken from a Youtube video. (UrsaRyan, 2025, 10:10)

In Figure 7, we notice in one tile an archaeological dig site, with a randomized image of a ruin (Firaxis Games, 2025). In Civilization VII, dig sites are not portrayed as sites of active excavation (with trench holes or other excavation equipment), but as heritage sites. Here the developers focus on the significance of this tile, rather than display the excavation as an archaeological practice. These cues function as simplified symbols that allow players to decode complex concepts quickly (Reinhard, 2018, p. 63). They also point to a tension in archaeogaming between accuracy and player understanding. While images of ruins may invoke the thought of "ancient" to a player, the images remain generic and not faithful representations of the diversity present in real-life material culture.

Figure 7: *A close up view of the "dig site" tile in Civilization VII.* Screenshot taken from a Youtube video. (Ursa Ryan, 2025, 10:12)

Similarly, the museums (shown in Figure 8) that can be constructed in-game adopt the visual language of grand neoclassical institutions, echoing real-world landmarks such as the British Museum or the Louvre. These visual parallels are not random as they anchor the concept of the museum as a universal symbol of knowledge and cultural prestige. As van Aalst and Boogaarts (2002, p. 196) note, such institutions historically have functioned as both educational and economic forces of cultural capital. Within *Civilization VII*, the player's decision to build museums operates as a mechanical realization of that logic by transforming heritage into a measurable source of national power. The player recognizes these standardized forms instantly, allowing for efficient game play but also reinforcing the idea of cultural uniformity.

Figure 8: *A close-up of what museum tiles look like in Civilization VII.* Screenshot taken from a Youtube video. (Sid Meier's Civilization, 2025, 0:20)

Another mechanic, the player's movement through the map, also correlates to archaeological practice. The map begins in darkness as *Terra Incognita*, and in each turn of exploration it can be converted into property by the player (Firaxis Games, 2025). Sending scouts across the grid is not a neutral action, but deeply enacts a procedural colonization of in-game space, reproducing the same imperial ideas that historically followed exploration, excavation and collection (Procter, 2020, p. 28). As Mol et al. (2023, p. 8) argues in "On Being Stuck in Sid Meier's Civilization", the game's structure embodies a political stance to movement as to "explore" is linked to claiming, making the unknown legible and usable. There, to move is to expand, and expansion inherently becomes an act of erasure of prior histories, landscapes, and inhabitants.

The player in *Civilization VII* is thus compelled to strategically explore the map, seeking freshwater, coastlines and contested regions to secure settlement sites. This process mirrors not archaeological prospection work but the exploratory thoughts of empires: a cycle of discovery, naming, and possession (Procter, 2023, p. 28). What the game celebrates as curiosity and progress is inseparable from in-game domination, as every revealed tile represents potential resource extraction. Even before the introduction of explicit archaeological mechanics, *Civilization VII* provides a procedural worldview where the world exists to be charted, discovered, and owned.

In terms of game mechanics, then, *Civilization VII* portrays archaeology as an automated and heavily productive process. The game's systems reward efficiency, not archaeological interpretation. The logic of reward here mirrors both the public perception of archaeology as well as the disciplinary "reality". As in reality, discovering and displaying artifacts increases a civilization's "Culture" score, representing accumulated knowledge and cultural prestige (van Aalst and Boogaarts, 2002, p. 196). Yet this portrayal is also reductive, flattening excavation into production, while the priority of context becomes less important. What archaeologists treat as contextual evidence becomes, through game design, a quantifiable resource that fuels in-game progress. Hence, *Civilization VII* enacts a *procedural rhetoric* of accumulation that teaches players that the past is valuable primarily for its contribution to imperial achievement (Bogost, 2007, p. 3).

Ultimately, *Civilization VII* presents archaeology as both a process and a metaphor as it equates excavation with in-game progress and heritage with a state of productivity, encoding a view of archaeology that is both recognizable and ideologically loaded. By transforming the archaeologist's toolkit into a set of mechanics through clicking, excavating, and displaying, it teaches a procedural understanding of archaeology as cultural extraction. Specifically, it reveals the ability of game mechanics to make archaeology playable, but also the habit of reducing inquiry to production and culture to capital due to the need of commercializing games.

3.2.3 Workers and Resources: Soviet Republic

Workers and Resources: Soviet Republic is a building sim game, released in 2019. It's described as a "real-time soviet themed city builder tycoon game", and in essence involves the creation of new infrastructure and buildings in order to economically boost a virtual nation into a larger "superpower" (3DIVISION, n.d.). This involves handling trade, logistics, industries, and citizen needs, through the thematic lens of a Soviet era republic (3DIVISION, 2019). It is important to note here the attempted simulation of the Soviet era, through the lens of a Slovak game developer, 3Division (Danylov, 2024). While the developer states the game is apolitical, due to free trade and focus on success by planning rather than political ideology, this still impacts the lens through which archaeology is portrayed in this game, compared to other contemporary video games (Danylov, 2024).

The economy of the game is defined in production and consumption of several elements, like heat, electricity and waste (3DIVISION, 2019). One of the types of infrastructure available to the player for construction is museums (3DIVISION, 2019). Their inclusion here transforms archaeology into an "administrative" play, in which heritage is quantified, planned and optimized instead of being studied. This makes Workers and Resources a good example within the framework of the thesis under engagement, showing how games can represent the material and ethical dimensions of archaeology into ways of policy-making, control and productivity.

Museums work by improving the mood of the workers living in the city it's built, and also provides rudimentary income from tourism (3DIVISION, 2019). However, this stands as another example of the distance between in-game representations and the reality of museology and archaeological practice. Currently, museums stand as powerful institutions, with authority over the curation of finds as well as the creation of narratives (Dudley, 2018, p. 418). While they also provide a powerful source of entertainment, the narratives created and portrayed are for many also a means of education. The game however, reduces this to quantifiable metrics such as happiness, profit and visitor count.

Regarding the game mechanics, the player's main actions are done by clicking and selecting (e.g. purchasing, placing future buildings, harnessing resources) (3DIVISION, 2019). These actions relate mainly to governance and planning. The rules set out in the game, consistent to its genre, define what you can/cannot build in certain areas often based on spatial restraints like available land or proximity to certain infrastructure. These actions, clicking to build, dragging to allocate and monitoring statistics, translate the complex real-life mechanics of heritage management to in-game legible and simplified processes. These simplifications are not neutral, as they contain ideological assumptions about how systems work in games (Hageneuer, 2024, p. 171). In *Workers and Resources*, the assumption is that heritage can be planned, optimized, and monetized like any other civic element.

A moment in gameplay, seen in Figure 9, demonstrates this procedural logic well. When constructing the National Uprising Museum, the player views a pop-up window showing the building's cost, attraction type, and "expected visitor score" (3DIVISION, 2019). This is important as it essentially informs the player of how many visitors (and how much money) the

museum will be receiving upon completion (3DIVISION, 2019). Additionally, there are lines engaging the player regarding the distance from the existing buildings (such as hotels and other buildings, by meters, for all the visitors of his museum), visualizing accessibility and profitability (3DIVISION, 2019). This further indicates the focus of the game towards efficiency, as heritage becomes an input-output system. Mechanically, this frames culture as data, transforming heritage into a logistical problem to be solved through optimization.

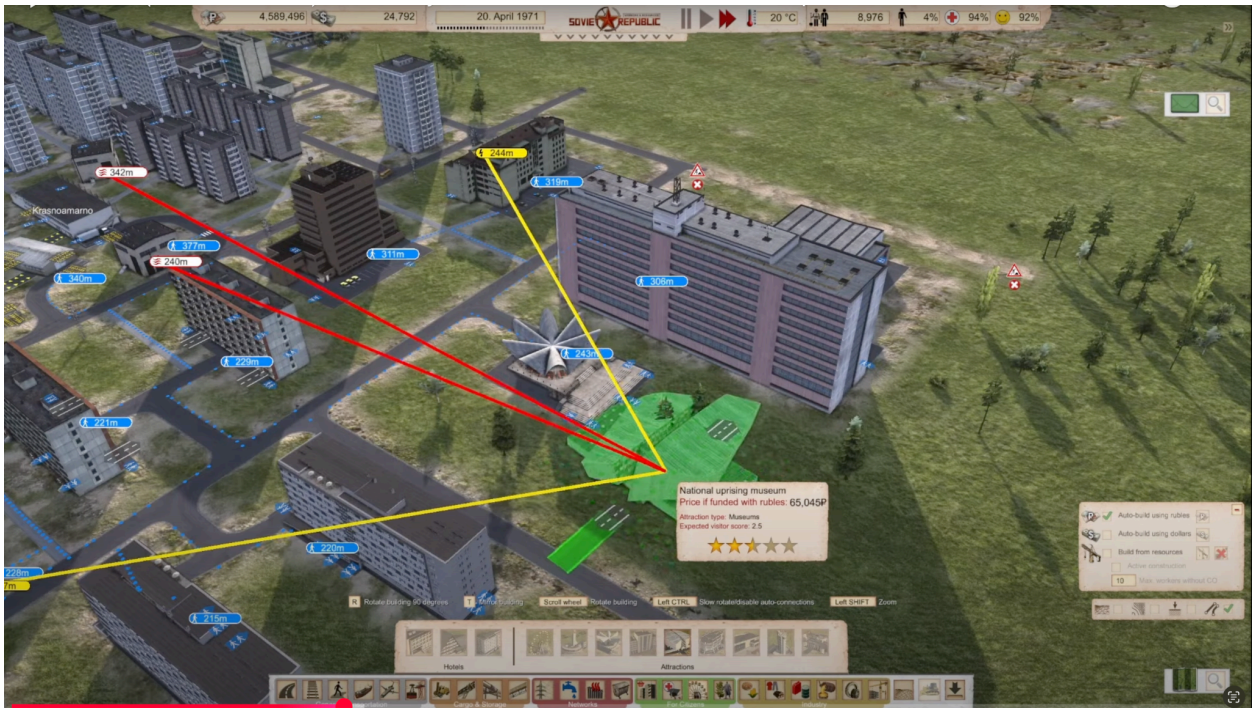

Figure 9: *A still shot of the moment a museum is placed on the map for construction.* Screenshot taken from a Youtube video. (Stephen Silverbeard, 2024, 13:00)

To create the museum, the player needs to consider distance from residential buildings, and maintain a constant flow of paid advertisements (which would increase the number of visitors to the city and subsequently, the museum)(3DIVISION, 2019). Additionally, a variety of museums can be constructed, each with a different theme (than for example the National Uprising museum mentioned before)(3DIVISION, 2019). This design simulates the bureaucratic processes in heritage development, where themes, collections and budgets must align urban and political priorities. Looking at the museums in relation to policies in the Soviet era, we see a clear relation to the role they have in *Workers and Resources*, serving the nation's ideological goals (Zabalueva, 2017, p. 40). Another connection is seen in the proximity mechanic, informing the player of distance to residential quarters (and hinting at the importance of workers and their happiness in-game).

Thus, the player's engagement with archaeology takes the form of administrative action by selecting and managing rather than excavating or interpreting. This procedural framing aligns

with van Aalst and Boogaarts' (2002, p. 197) discussion of museums as engines of urban entertainment and tourism. By converting cultural infrastructures into ones of productivity, *Workers and Resources* exposes the tension between the academic and practical aspects of archaeology.

The game also reproduces the connection between museums, public wellbeing and cultural engagement, a real-world dynamic. The importance of museums was observed during the pandemic of COVID-19, in which museums shifted to utilizing also various digital methods (Luck & Sayer, 2023, p. 172). Many actions that museums globally took involved online lectures/exhibitions or 360 degree tours, as well as interactive talks, which all engaged the public and maintained the interest towards museums despite the inability for most to visit museums physically (Luck & Sayer, 2023, pp. 170–171). Namely, through the Museum Engagement and wellbeing study, the digital approaches of museums during that period allowed for increased accessibility (even to groups of people that would normally not be able to visit museums; eg disabled groups) as well as maintained wellbeing to those who engaged with it (Luck & Sayer, 2023, p. 174). Returning to *Workers and Resources*, this is reflected in the fact that museums are not only profit-driven infrastructures, but also improve happiness scores.

Still, the game's city-building focus reflects in part contemporary urban policy. Many cities today invest in new museums or "museum clusters" as cultural or economic revitalization strategies (van Aalst & Boogaarts, 2002). The player's task to construct museums to increase tourism and civic happiness mirrors reality. Here, *Workers and Resources* comments indirectly on how heritage functions in many current economies as both cultural infrastructure and drivers of ideology. The game here rewards planning and growth over curiosity or conservation.

3.2.4 Concluding remarks

These case studies show how video games can translate archaeology, through various game mechanics, into systems of actions which can influence how a player perceives it. *In Indiana Jones and the Great Circle*, archaeological practice is placed within the game's identity through exploration, documentation and collection. *Civilization VII* includes archaeology as an ability within its complex economy, where clicking to explore, discover and exhibit hints at an understanding of archaeology as extraction. Lastly, Workers and Resources: Soviet Republic engages with the administrative side of archaeology, where heritage infrastructure becomes resource management and maintains its value through workers' happiness and profitability. Each game, through its specific game mechanics, constructs a narrative of archaeology whether adventure, accumulation, or management, and thereby reveals the impact of game design in shaping public perceptions of the past.

Taken together, these examples show that archaeology in digital play is never merely visually represented but that it is actively performed through mechanics. The player's actions like pressing buttons, managing resources, expanding territory, or selecting museum sites become ways to represent various aspects of archaeology. Following Bogost's (2007, p. 3) notion of *procedural rhetoric*, the case studies make arguments through their rules and mechanics, teaching players that exploration equates to discovery, that discovery equates to ownership, and that heritage equates to growth. Therefore, understanding the politics and ideas behind such mechanics helps archaeologists to see digital play as both a distortion and an extension of their own practices. Games can then become a space where the habits of the discipline are simulated, simplified, and sometimes criticised.

4. Discussion

The results of this study provide an important entry point into understanding how video games embed, communicate, and distort archaeology. Methodologically, this research relied initially on filtering the vast catalogue of Steam and interpreting both tags and game mechanics. The reliance on community-driven categories reflects market logics as well as player expectations more than the expected scholarly definitions of history or archaeology. Yet this reliance reveals that games tagged as “historical” often draw more from cinematic depictions of adventure or mythology than from archaeological reality. The method also excluded games being outside of Steam, meaning that the results of this study can be further expanded upon.

Through the development of the framework including identity, ability and engagement, I attempted to capture the different roles in which archaeology is approached in digital play. Certainly, this framework maintains limitations. Initially, as first seen on the tags assessed in the platform of steam, this again imposes categories on things inherently diverse and shifting. Games often blur the lines between those three categories. For example, Indiana Jones is an archaeologist (identity) that also performs archaeological actions (ability), while Civilization’s dig sites both grant ability and serve as a form of engagement with cultural heritage. The framework simplifies a messy reality, but it also highlights patterns that might otherwise remain invisible. These limitations however, further reinforce the need for combining methods with a qualitative approach.

4.1 Games as Mirrors and Distorters of Archaeology

The case studies show how games can both reflect and distort archaeology simultaneously. In Indiana Jones and the Great Circle, playing as an iconic fictional archaeologist allows the game to utilize archaeology as its identity. The character of Jones has defined the popular perceptions of the discipline since the 1980s with the whip, fedora, and exotic adventures becoming a visual shorthand for "archaeology" (Reinhard, 2018, p. 63). But this representation is entangled with images of colonial legacies and gender stereotypes (Holtorf, 2007, p. 80). As Meghan Dennis (2019, p. 278) has shown, games and films often collapse archaeology into the normalization of looting and unethical behaviours. This is done through the portrayal of Jones' female companions as romantic partners, the reduction of locals to helpers, and lastly the "flattening" of archaeological discipline serving as an adventurous distortion. Despite occasionally exposing players to accurate moments of object analysis, *The Great Circle* continues this tradition as the game's broader framing is still focused on treasure-hunting and heroic adventurism.

By contrast, *Civilization VII* places archaeology within the mechanics of cultural development. Here, archaeology becomes an "ability" in which players unlock dig sites and museums that contribute to cultural victory points. While this mechanic reflects real archaeological practices like excavation, it also simplifies them into nothing more but resource extraction. Through digging, artifacts are produced that are placed into an abstracted sense of in-game "culture". The player struggles to comprehend concepts such as context, destruction or even ethical responsibility, as the act of digging supports the natural progression of the game itself. At the same time, the game visualizes dig sites with realistic cues like ruins and shovels. These images reinforce the concept of archaeology in players' minds through recognisable tropes, echoing Reinhard's (2018, p. 74) observation that games often assist educational outreach for the sake of improving public relations.

Finally, *Workers and Resources: Soviet Republic* displays engagement with archaeology through the construction of museums. Museums here contribute to the economy and are indicators of happiness to the in-game population. Despite this reflecting associations between museums, tourism, and urban branding also observed in real-life, it reduces cultural authority to mere utilitarian mechanics (van Aalst & Boogaarts, 2002, p. 197). Museums hold power and compose narratives of the past, expand on collective memory, and their colonial aspects (Dudley, 2018, p. 418). In the game however, these roles are only seen through their value of entertainment and profitability. Despite that, Workers and Resources can be seen as an example to how minor engagement with archaeology can still make strong statements about its important relation to society.

4.2 Dialogues with Theory and Public Perception

Mol (2014, p. 155) argues that objects, despite being digital or material, structure social relations through networks of use, exchange, and meaning. Here, archaeology in games functions as a socio-material node where whips, dig sites, or museums are never just a mere representation, but also prompt the action and interpretation of players. The dialogue between Hobbesian scarcity and Maussian gift economies that Mol (2014, pp. 147–148) applies to online networks can be connected to the studied game mechanics. Namely, *Indiana Jones's* artefacts are scarce treasures fought over in a Hobbesian struggle under the premise of adventure, *Civilization's* artifacts are gifts to the cultural capital of a civilisation and *Workers and Resources'* museums become part of an attempted civic gift to its own citizens, generating happiness. These analogies remind us that archaeology in games is not neutral but instead influences public perception of the past, as something to extract and compete over.

Furthermore, stereotype and accuracy remain a central point when studying the portrayals of archaeology inside video games. As mentioned before, many stereotypical portrayals about archaeology are still used in video games as they invoke familiarity to its intended audience. In a survey done by the VALUE Foundation, however, participants indicated a preference towards accuracy and detail over stereotypes (Mol et al., 2020, as cited in Politopoulos & Mol, 2021, p. 85). Projects like *RomeinCraft*, which reconstructed Roman fortresses in Minecraft with archaeological precision, generated lasting impact and interest to its participants (Politopoulos et al., 2019, p. 167). Such studies show the wide gap between game developers, recycling familiar tropes, and the public which seeks more authentic content.

Another dialogue focuses on the topic of scientific communication. Archaeology has long struggled with gaining institutional support for public outreach, especially within video games, and the attempt to make its practices easily accessible without oversimplifying (Politopoulos & Mol, 2023, p. 123). Video games further this challenge because their mechanics directly engage players to conduct certain actions (Chapman, 2016, p. 46). If a game mechanic normalises and encourages looting under the context of "gameplay," does it also normalise it as acceptable behaviour? This question cannot be answered in this work, but it still stresses the ethical stakes within archaeogaming. While normalisation through play may not directly transfer to real-world looting, it still influences the perceptions of what archaeologists "do" in reality. Instead of documentation, interpretation, and collaboration, video games promote a connection of archaeology to single-player adventures and instant rewards.

4.3 Societal Relevance and Future Directions

Video games remain a significant opportunity for the discipline of archaeology (Politopoulos & Mol, 2023, p. 119). Their appeal as a means of entertainment gives them worldwide reach, while the combination of visuals and mechanics engages players with a natural curiosity about the past. To move beyond the issue of inaccuracy, archaeologists should also actively collaborate with game developers to provide nuance to their portrayals. Politopoulos et al. (2023, pp. 172–173) also argue that archaeogaming can work as both research and outreach for archaeologists. To support this, games can function as tools for hypothesis testing, modelling past societies or communicating academic findings in playful forms.

The relevance of this research in a societal framework is in recognizing that the public image of archaeology goes hand-in-hand with its image in popular media. Games like *Civilization* and *Indiana Jones* are not exemptions to the rule, and rather shape how millions of people imagine archaeologists, artifacts, and heritage overall. Namely, they influence whether the public sees archaeology as scientific, exploitative, adventurous, or educational. Understanding this helps archaeologists anticipate controversies, address the challenge of conducting ethical work, and use digital media for positive impact.

This thesis can be expanded by future research done in several fields. Initially, ethnographic methods can be examined together with the perspective of the player, to further our understanding of how individuals interpret archaeological content. Secondly, by doing cross-platform research (console, mobile, indie), we could investigate how different mechanics and physical limitations (computers vs consoles) shape representations. Lastly, archaeologists can experiment further with assisting in game design, highlighting ethical practices such as conservation, and creating discussions about heritage. *Buried* (2014), is an example of such a collaboration, made with archaeologists and exploring the archaeological record of burials (Copplestone, 2017, p. 93). This allows us to move beyond analysis of video games and directly influence the representations reproduced in video games.

5. Conclusion

This thesis explores how video games portray archaeology through the lens of game mechanics, analyzing three case studies and situating them within broader debates in archaeogaming and cultural representation. It further demonstrates that video games influence perceptions of archaeology primarily through the actions they require players to perform, translating archaeological practice into procedural systems of play.

Through reviewing 60 titles described as "historical" in the online market Steam, I explored existing representations of archaeology, specifically seeing the divide between what is seen as historical and archaeological. To further understand these representations I focused on their roles in the selected games, creating a theoretical framework to determine the extent by which archaeology is used. By applying the categories of identity, ability, and engagement on these titles, I demonstrated that game mechanics actually facilitate the appearance of archaeology in games besides a thematic backdrop and engage the player to act as an archaeologist in various capacities.

To understand more accurately the impact of these game mechanics, I focused on three case studies, aligning these with my framework. Mechanics of discovery, such as those in The Great Circle and Civilization VII reflected the methods by which archaeologists survey and excavate through highlighting the importance of observation and documentation. Meanwhile mechanics of construction, such as those in Workers and Resources translate the importance of heritage to societal wellness.

The discussion highlighted that such portrayals are not neutral. Instead, they often amplify colonial ideas, pseudoarchaeological myths, through simplified mechanics that shape the public view of archaeology as a discipline. At the same time, object analysis in *The Great Circle*, dig sites in *Civilization*, or museum building in *Workers and Resources* all expose players to certain aspects of archaeological practice, enabled through physical action. Through these we can see the potential, although currently limited, in video games, as accurate and ethical representations of archaeology.

This study obtains its significance by recognizing that games are both mirrors and distorters of archaeology. While they reflect the public's fascination with the past seen in popular media, they often lack the reality of archaeological practice. This creates both a challenge and an opportunity to archaeologists. Beyond the oversimplification of archaeological practices, games are still key tools for inspiration, education and meaningful engagement with heritage. Therefore, by moving beyond simply rejecting or embracing games, archaeologists can work together with developers towards improving these existing portrayals.

Looking at limitations, we must consider that the research focused on a small number of Steam's historical game collection, and did not directly incorporate player studies. As previously mentioned, expanding the scope in this way can provide more insights into the experience and engagement of players with archaeological content. Through the framework introduced in this

thesis, future research can be conducted in archaeogaming, especially in connection to game mechanics and perceptions of archaeological practices.

In conclusion, the importance of video games lies in their ability to influence players' perceptions of the past and how it's studied. Hence, it is crucial for archaeologists to notice the ways in which their discipline is represented in digital media, not only to correct misconceptions, but in this case utilize the ability of video games to engage broad audiences. In reality, the true power of video games lies in their ability to portray archaeology as action, embodying archaeological practices through their mechanics.

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Appendix A

The database of 60 historical games selected from Steam, created by Alexia Kaperoni (Data from Steam.com)

#	Game Titles	Game release:	Genre:	Game type:	Historical Period:	Players:	Main character being an archeologist: (y/n)	Contains archeology: y/n	Role of archeology in game:	Input Method (what does the character do in the game)	Key Themes: (eg tags)
1	Kingdom come deliverance II	2025	RPG	Action RPG	Medieval Europe (15th century)		1 no	no	-		action, RPG
2	Crusader Kings 3	2020	Strategy	Grand Strategy	Middle Age		1 no	no	-		RPG, Simulation
3	Age of Empires IV: Anniversary Edition	2021	Strategy	Real Time Strategy	-		1 no	no	-		Strategy
4	Civilization VII	2025	Strategy	Turn Based Strategy	-		1 no	yes	able to collect artifacts, identify dig sites and conduct excavations in them	By moving around the character, certain sites may be discovered in which excavation is possible (basically the player must place a person there, and after some turns the game rewards him with artifacts)	strategy, turn-based strategy
5	Hearts of iron IV	2016	Strategy	Grand Strategy	WW2		1 no	no	-		strategy, world war 2
6	World of Warships	2017	Strategy	Multiplayer online ga	-	Multiplayer	no	no	-		action
7	Manor Lords	2024	Simulation	City-Builder	Medieval		1 no	no	-		simulation, strategy
8	Hell let loose	2021	FPS	Multiplayer online ga	WW2		1 no	no	-		shooter, realistic
9	Victoria 3	2022	Strategy	Grand Strategy	19th century		1 no	yes	explicit museum creation	The museum is a possible selection, and you can place artifacts discovered in the game there to increase prestige and propaganda	simulation, strategy
10	World of Tanks	2021	FPS	Multiplayer online ga	-	Multiplayer	no	no	-		tanks, free to play
11	Europa Universalis IV	2013	Strategy	Grand Strategy	Late Middle Age - Napoleonic Era		1 no	no	-		simulation, strategy
12	Anno 1800	2019	Simulation	City-Builder	Industrial age		1 no	yes	invest in and create museums and exhibitions, also provide some information about findings	Can build a museum, which increases the "attractiveness" factor of the in-game island and is visited by tourists	city builder, strategy
13	Age of Empires II: Definitive edition	2019	Strategy	Real Time Strategy	1492-1876AD		1 no	yes	artifacts, religious archeology mainly	Do relic collection count as archeology?	strategy, rts
14	Company of Heroes 3	2023	Strategy	Real Time Strategy	WW2		1 no	no	-		singleplayer, strategy
15	Mount & Blade II: Bannerlord	2022	RPG	Strategy Action RPG	1084		1 no	no	-		medieval, strategy
16	Commandos: Origins	2025	Strategy	Real Time strategy	WW2		1 no	no	-		strategy
17	Assasins creed: Valhalla	2022	RPG	Action RPG	England's Dark Ages		1 no	yes	able to unlock archievement "archeologist"	Achievement which the player can complete by exploring the map and discovering all 50 available artifacts, he can then visit the museum and return them there	action, adventure
18	Workers and resources: Soviet Republic	2024	Real Time	City-Builder	soviet union era		1 no	yes	museums can be built to preserve artifacts	Museums here can be constructed as a possible infrastructure, offering some profits from tourism and increasing the happiness score of city inhabitants. It must be placed near a residential area and connected to the road network to allow for visibility.	strategy, simulation

19	Ghost of Tsushima: Director's cut	2024	RPG	Action - Adventure	Feudal Japan	1	no	yes	mongol artfacts can be collected in the entrance of temples	The player can collect mongol artifacts around the map, which provide information about the "previously existing" mongol empire	action, open world
20	Assasins Creed: Odyssey	2018	RPG	Action RPG	Ancient Greece	1	no	no	-		open world, RPG
21	WARNO	2024	Strategy	Real time Turn base	1989	1	no	no	-		wargame, military
22	Easy Red 2	2020	Simulation	Action	WW2	1	no	no	-		world war 2, action
23	Battlefield 1	2016	Action	Multiplayer Shooter	WW1	1	no	no	-		fps, multiplayer
24	Medieval Dynasty	2021	RPG	Simulation RPG	medieval	1	no	no	-		crafting, building
25	Indiana Jones and the great circle	2024	Action	Adventure point and	1937	1	yes	yes	Archaeology seen as the identity of the main character and an active component of gameplay	the player may choose to take photographs and read through collected artifacts to further the in-game progress and "solve" certain puzzles and challenges	action-adventure, first person
26	Old World	2022	Strategy	Grand Strategy	-	1	no	no	-		strategy, simulation
27	Call of Duty: WWII	2017	Action	FPS	1939-45	1	no	yes	"excavation" map in a game expansion pack	The player fights enemies through a gold mine which containts some artifacts and money to loot	World War 2, FPS
28	Assassin's Creed: IV Black Flag	2013	Action	Action - Adventure	1715	1	no	no	-		pirates, open world
29	Battlefield V	2018	FPS	Multiplayer	-	1	no	no	-		fps, multiplayer
30	Empires of the Undergrowth	2024	Strategy	City-Builder	-	1	no	no	-		strategy, simulation
31	Warriors: Abyss	2025	Action	Hack and Slash	-	1	no	no	-		action, action roguelike
32	Sengoku Dynasty	2024	RPG	Adventure	feudal japan	1	no	no	-		city builder, survival
33	Norland	2024	Strategy	Simulation RPG	medieval	1	no	no	-		strategy, simulation
34	Age of Empires III: Definitive edition	2020	Strategy	Base Building	-	1	no	no	-		strategy, base building
35	Rise of the Ronin	2025	RPG	Action - Adventure	Bakumatsu	1	no	no	-		rpg, action rpg
36	Dynasty warriors: Origins	2025	Strategy	Action RPG	14th century China	1	no	no	-		hack and slash, spectacle fighter
37	Total War: Rome II - Emperor Edition	2013	Strategy	Turn Based Strategy	Roman Empire	1	no	no	-		strategy, historical
38	Assasins Creed Mirage	2024	Action	Adventure	Islamic Golden Age	1	no	yes	possible to visit an excavation site	excavation site as a place to visit to complete quest. can "walk through" a site with the character	action, open world
39	Total War: Three kingdoms	2019	Strategy	Action	China, 109CE	1	no	no	-		strategy, historical
40	TABS	2021	Strategy	Simulation	-	1	no	no	-		sandbox, simulation
41	Farthest Frontier	2022	Strategy	Simulation	-	1	no	yes	excavation sites in game	players may discover "excavation sites", which can be excavated after constructing a temple. Here excavation is instantaneous and provides bonus points for your settlement, hence only actions are selection and temple construction	early access, historical
42	Hellish Quart	2021	Action	Simulation	17th century Poland	1	no	no	-		early access, fighting
43	Assassins Creed: Origins	2017	RPG	Action - Adventure	Ancient Egypt	1	no	yes	"archeologist" achievement	Walking through certain "tours" in-game that show life and religion in Ancient Egypt	open world, assassin
44	Stronghold: Definitive Edition	2023	Strategy	Simulation	-	1	no	no	-		city builder, strategy

45	Battle Brothers	2017	Strategy	Simulation RPG	medieval	1	no	yes	"legendary locations" of which an ancient temple exists and can be explored	Player can physically walk through locations and explore them, sometimes aquiring items for doing so	strategy, rpg
46	Humankind	2021	Strategy	Turn Based Strategy	-	1	no	yes	archeological dig site available as a playable place	This is a district which can be built in the Egyptian culture in-game and provides bonus points on "Influence", by placing it near cities with multiple districts.	strategy, turn-based strategy
47	Cataclismo	2025	Strategy	Simulation	Current Era	1	no	no	-		strategy, base building
48	Ancestors: The Humankind odyssey	2020	RPG	Action - Adventure	Neogenic Africa	1	no	no	-		open world survival craft, survival
49	Potion Craft: Alchemist Simulator	2022	RPG	Simulation	-	1	no	no	-		crafting, singleplayer
50	Total War: Rome Remastered	2021	Strategy	Simulation	Roman Empire	1	no	no	-		strategy, grand strategy
51	Call of Duty: World at War	2008	FPS	Action	WW2	1	no	no	-		zombies, world war 2
52	The case of the Golden Idol	2022	Adventure	Puzzle	18th century	1	no	no	-		mystery, detective
53	Railway Empire II	2023	Strategy	Simulation	1800's	1	no	no	-		simulation, strategy
54	News Tower	2024	Strategy	Simulation	1093's	1	no	no	-		management, simulation
55	Arms Trade Tycoon: Tanks	2024	Simulation	Tycoon	Current Era	1	no	no	-		early access, simulation
56	Assassins Creed: Unity	2014	RPG	Action - Adventure	French Revolution	1	no	yes	not explicit, some functions used in mission "ancient history"	Not in the main plot, one mission involves the retrieval of first civilization artifacts by the character physically discovering them and collecting them	open world, parkour
57	Total War: ATTILA	2015	RPG	Action Adventure	395AD	1	no	no	-		strategy, historical
58	Total War: PHARAOH	2023			LBA	1	no	no	-		Strategy, RTS
59	Assassins Creed 2	2010	RPG	Action - Adventure	The Renaissance	1	no	no	-		action, open world
60	Steel Division 2	2019	Strategy	Turn Based Strategy	World War 2	1	no	no	-		Strategy, RTS

Appendix B

The Python script used in network analysis graph creation, created by Alexia Kaperoni (run on Google Colab)

```
from collections import Counter
import networkx as nx
import matplotlib.pyplot as plt
import itertools
import math

# Data preparation
tag_lines = [
    "action, RPG", "RPG, Simulation", "Strategy", "strategy, turn-based strategy",
    "strategy, world war 2", "action", "simulation, strategy", "shooter, realistic",
    "simulation, strategy", "tanks, free to play", "simulation, strategy",
    "city builder, strategy", "strategy, rts", "singleplayer, strategy",
    "medieval, strategy", "strategy", "action, adventure", "strategy, simulation",
    "action, open world", "open world, RPG", "wargame, military", "world war 2, action",
    "fps, multiplayer", "crafting, building", "action-adventure, first person",
    "strategy, simulation", "World War 2, FPS", "pirates, open world", "fps, multiplayer",
    "strategy, simulation", "action, action roguelike", "city builder, survival",
    "strategy, simulation", "strategy, base building", "rpg, action rpg",
    "hack and slash, spectacle fighter", "strategy, historical", "action, open world",
    "strategy, historical", "sandbox, simulation", "early access, historical",
    "early access, fighting", "open world, assassin", "city builder, strategy",
    "strategy, simulation", "strategy, rpg", "strategy, turn-based strategy",
    "strategy, base building", "open world survival craft, survival",
    "crafting, singleplayer", "strategy, grand strategy", "zombies, world war 2",
    "mystery, detective", "simulation, strategy"
]
```

```
all_words = []
co_occurrences = []

for line in tag_lines:
    tags = [tag.strip().lower() for tag in line.split(',')]
    all_words.extend(tags)
    co_occurrences.append(tags)

word_counts = Counter(all_words)

# Build graph
G = nx.Graph()

for word, count in word_counts.items():
    G.add_node(word, size=count)

for tags in co_occurrences:
    for a, b in itertools.combinations(set(tags), 2):
        if G.has_edge(a, b):
            G[a][b]['weight'] += 1
        else:
            G.add_edge(a, b, weight=1)

# Layout
plt.figure(figsize=(12, 9))
pos = nx.spring_layout(G, k=0.7, seed=42)

# Node sizes (non-linear scaling)
sizes = [math.sqrt(G.nodes[n]['size']) * 900 for n in G.nodes]
```

```
# Edge widths (capped)
weights = [min(G[u][v]['weight'], 3) for u, v in G.edges]

# Draw nodes
nx.draw_networkx_nodes(
    G,
    pos,
    node_size=sizes,
    node_color="#8ecae6",
    edgecolors="black",
    linewidths=0.8,
    alpha=0.9
)

# Draw edges
nx.draw_networkx_edges(
    G,
    pos,
    width=weights,
    alpha=0.35
)

# Label nodes
labels = {n: n for n in G.nodes}

nx.draw_networkx_labels(
    G, pos, labels,
    font_size=8,
    bbox=dict(facecolor="white", edgecolor="none", alpha=0.7, pad=0.2)
)

plt.title("Network Graph of Frequently Co-occurring Steam Tags", fontsize=14)
plt.axis("off")
plt.tight_layout()
plt.show()
```