

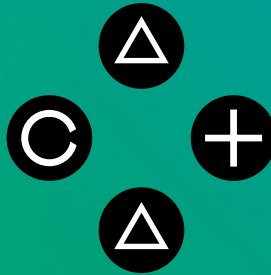


# Acta Ludologica



Faculty of Mass Media Communication

Vol. 7, No. 2



Theory  
Education  
Design  
Development  
Research  
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## December 2024



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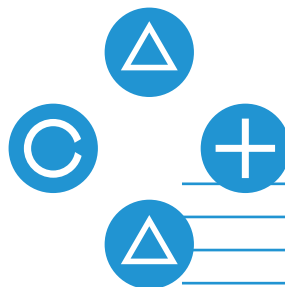
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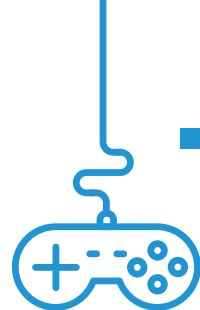
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# Journal Orientation

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Acta Ludologica is a scientific journal in the field of games and digital games. The journal contains professional scientific reflections on digital games; it also offers academic discourses on games, especially media and digital competencies, creation, design, marketing, research, development, psychology, sociology, history and the future of digital games and game studies.

Acta Ludologica is a double-blind peer reviewed journal published twice a year. It focuses on theoretical studies, theoretical and empirical studies, research results and their implementation into practice, as well as professional publication and scientific reviews of digital games.

## Acta Ludologica

**Vol. 7, No. 2, December 2024**

### **Publisher**

Faculty of Mass Media Communication  
University of Ss. Cyril and Methodius in Trnava  
Námestie Jozefa Herdu 2  
917 01 Trnava  
SLOVAK REPUBLIC

IČO: 360 789 13

Price: 4,99 €

### **Published twice a year.**

ISSN 2585-8599  
e-ISSN 2585-9218  
EV 5620/18  
EV 29/22/EPP

## Games Industry Today: Flops, Layoffs, and the Fear of AI

The digital games industry is currently experiencing a turbulent period, characterised by massive layoffs, unexpected failures of high-profile projects and significant challenges associated with the adoption of generative artificial intelligence (AI). These issues reveal a more fundamental structural fragility, demonstrating the vulnerability of a sector that has long been regarded as a symbol of innovation, growth and modern entertainment.

In 2023, over 10,000 workers were laid off, a number that has already been surpassed by mid-2024. It has a considerable impact on roles across the fields of programming, design, and quality assurance. Industry executives attribute this situation to economic pressures, including market corrections and rising costs, despite the annual game market's multibillion-dollar revenues. Overhiring during production, followed by mass layoffs after game launch, has resulted in a situation where skilled professionals struggle in a saturated job market, amplifying instability.

Furthermore, layoffs have been accompanied by an increasing number of commercial failures among high-profile AAA titles. Games developed with considerable budgets, anticipated to exert a dominant influence on the market and generate high profits, are beset with technical deficiencies, delays, or unconvincing content. The popularity of service-driven game platforms that facilitate user-generated content has resulted in a shift in player behaviour. It has led to a reduction in opportunities for newer or riskier projects, additionally, it creates pressure on game studios to adopt live-service models. Consequently, even long-developed, highly-anticipated projects fail to gain traction due to the volatile nature of game production, delays and insufficient marketing, and ultimately turn into commercial flops within days. This is happening regardless of established brands or game franchises.

AI complicates this game industry's landscape even further. While the potential of AI tools for streamlining production and enhancing gameplay is significant, concerns have been raised about the impact on copyrights, market saturation and the displacement of creative roles, which could result in further job losses. The use of AI in monetisation strategies, such as behaviour-targeted offers, could also lead to a backlash from players who are already wary of exploitative practices. It is therefore becoming increasingly urgent to strike a balance between innovation, the importance of human capital and permanent job security.

In summary, the attempt to meet the expectations and demands of the contemporary gaming market while generating profit has resulted in dissatisfaction among employees, consumers, and gaming companies themselves. Moreover, the potential of generative AI tools to facilitate these processes has made it possible for anyone to become a game developer, which could lead to an oversaturation of the market with lower-quality game titles, consequently reducing consumer trust, and leading to a decline in both purchases and revenues. Once again, history provides a valuable lesson in this regard, and it would be wise to consider its insights before the situation reaches a critical point. One can only hope that the events of the early 1980s will not be repeated.

A certain advantage of the current situation in the gaming market is that new topics and questions arise that need to be researched, as this issue of *Acta Ludologica* discusses. Georgios Liapis and Ioannis Vlahavas explore the use of machine learning in the context of serious games and smart NPCs with personality. Michaela Fikejzová and Martin Charvát investigate the game *Bloodborne* in terms of the medicalisation and dissemination of cosmic horror. Amin Heidari examines the various strategies for incorporating emojis into digital game design. A pilot study by Átila Gonçalves Barcelos da Silva Duval and Domingos Savio Coelho focuses on the development of young people's socio-emotional repertoires through TTRPGs. Marshall Needleman Armintor explores looter shooter games from the perspective of capitalist surrealism. Anshika Garg, Jyoti Prakash Pujari and Aditi Namboothiri examine digital narratives of oppression related to the White Terror in Taiwan through the games *Detention* and *Devotion*. Aaron Oldenburg explores walking simulators and self-playing games in the context of death meditation. The latest game study by Hana Pravidová and Monika Cihlářová deals with the innovation of game mechanics across the *Sid Meier's Civilization* series.

The following sections include an interview with Marek Rosa about AI, games and the future of mankind, by Michal Kabát, and reviews of the Slovak game *Vivat Slovakia* by Mária Dolniaková and the books *Eureka! Pocket guide to creativity* by Martin Engler and the *Routledge handbook of eSports* by Mária Koscelníková. The issue closes, as always, with Add-ons, a reflection by Kevin Rebecchi on the topic from *homo spiendens to homo ludens*.

I wish the readers of this issue of *Acta Ludologica* a playful but also scientifically enriching experience.

**assoc. prof. Mgr. Zdenko Mago, PhD.**

*Acta Ludologica* Editor-in-Chief

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# Smart NPCs with Personality in a Serious Game Using Machine Learning

Georgios Liapis, Ioannis Vlahavas

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Ioannis Vlahavas is a professor at the School of Informatics at the Aristotle University of Thessaloniki. He has been a visiting scholar at the Department of CS at Purdue University and in 2017 was elected EurAI Fellow from the European Association for Artificial Intelligence. He specializes in knowledge based and AI (machine learning) systems and he has published over 350 papers and book chapters, and co-authored 9 books in these areas. Google Scholar gives a number of 19,066 citations and an h-index of 58. He teaches AI, machine learning, and DSS. He was the chairman of numerous conferences and leads the Intelligent Systems Lab in the department of informatics at Aristotle University of Thessaloniki.

## ABSTRACT:

Gaming technology's potential extends beyond entertainment, providing a powerful platform for learning and evaluation, and for that, NPCs with static movement and conversation behaviours are often used. To make them more human-like and emulate actions, technologies such as artificial intelligence are utilized. This work proposes smart NPCs to imitate personality traits in a serious escape room setting. For their development, labelled personality profiles are normally required from human players to define their standard behaviours. As this is rather difficult, deep reinforcement learning is a feasible and effective alternative for generating the necessary dataset. Each NPC is an AI agent that simulates a specific personality according to the OCEAN 5 model. Our escape room environment also includes Raven-inspired intelligence tests and a custom communication system that allows the development of smart NPC teams. Analysis of gameplay data and metrics uncovered behavioural patterns affecting performance, stability, and task completion times. Such progress has potential across multiple digital game types for smart NPCs with specific personality, as well as for the creation of standard gameplay style profiles that can be used for players' assessment.

## KEY WORDS:

agents, deep reinforcement learning, machine learning, NPC, serious games.

## DOI:

10.34135/actaludologica.2024-7-2.4-25

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# Introduction

As technology advances rapidly, it opens new opportunities and pushes numerous scientific fields to unprecedented new heights. One such area undergoing deep transition is gaming, which has evolved beyond simply amusement. Gaming aspects are easily integrated into approaches in various disciplines, including human resource management and education, to increase efficacy and widen vistas.

This paradigm shift is encapsulated within gamification-based systems, a concept harnessing gaming characteristics to influence behaviours within non-game contexts (Robson et al., 2015). Central to gamified systems are rewards, challenges, profiling, and leaderboards, seamlessly woven into numerous sectors spanning education, businesses, and marketing endeavours (Dicheva et al., 2015).

This approach heralds significant potential in another area, for the assessment of individuals across diverse domains, as their profiles naturally emerge through immersive gameplay experiences. Leveraging gamification techniques, organizations can glean nuanced insights into individuals' capabilities, fostering more informed decision-making processes and catalysing ongoing improvement endeavours. The overarching goal of gamification is multifaceted, aiming not only to enhance player skills and critical thinking, but also to yield valuable metrics and insights into gameplay styles and profiles within the context of serious gaming (Abt, 1987). There are games that are designed for purposes other than only entertainment.

One such case are *escape room* (ER) games, whether in physical or virtual formats. ERs challenge players or teams to surmount physical and mental obstacles within a constrained

timeframe to secure their escape. Given the paramount importance of effective teamwork and communication for success, companies increasingly turn to ERs for team-building exercises and comprehensive assessments of individual and collective performance.

However, conventional methods employed in real-life ERs to gauge team or personal dynamics and individual effectiveness often fall short, relying predominantly on post-room questionnaires susceptible to biases and limitations. Monitoring each player's movements, actions, and interactions throughout an entire ER session, typically lasting an hour for teams comprising 4 to 7 members, presents logistical challenges (Fotaris & Mastoras, 2019).

In this work an innovative solution is developed in the form of *MindEscape*, a serious ER digital game that not only provides an immersive gaming experience but also a comprehensive simulation environment. *MindEscape*, created with the Unity game engine, incorporates intelligence tests and a custom communication system, allowing for in-depth monitoring of player interactions. *MindEscape* encapsulates the main aspects of serious games in the form of ER and can assist in many gamified processes with its results and generated data, like the assessment of player profiles.

It must be noted that a vital part of games are NPCs, performing a variety of duties such as delivering missions, offering aid, acting as foes or friends, or just adding dimension to the game environment. Most of the times NPCs can be written characters with predefined behaviours and conversations. They add to the immersion and storyline of the game, making the virtual environment feel more alive and dynamic. Additionally, AI can produce characters that are more dynamic and human like.

Using *deep reinforcement learning* (DRL) agents, a revolutionary tool was developed capable of imitating template behaviours based on the OCEAN 5 personality model, subject to predefined reward functions. Through recurrent training cycles across multiple scenarios and behavioural profiles, these agents create abundant labelled gaming data, eliminating the need for considerable human-player engagement. This results in the formation of agents who may function as NPCs in the ER scenario, each with their own personality.

Furthermore, the work of Durupinar et al. (2011) is a foundation for this work by using the default behaviours generated within simulated environments to validate and contextualize the trained agents' gameplay styles. This ensures fidelity in correlating simulated behaviours with emulated personality traits, providing valuable insights into individual intelligence scores and behavioural tendencies.

These final NPCs with specific personality traits can be evaluated in different kinds of scenarios and game types, so that results may be drawn of how behaviours play a crucial role in game analysis. Moreover, the custom reward functions can be also utilized as a basis for a new way to develop smart NPCs in any digital game environment.

The ramifications of our findings extend beyond mere player assessments, offering insights into group dynamics and collaborative problem-solving approaches across diverse demographics, from children to corporate teams. By elucidating commonalities and disparities in how individuals and teams navigate shared objectives and diverse scenarios within a controlled environment, our study lays the groundwork for an ethical and reliable assessment framework ("Ethics guidelines for trustworthy AI", 2019). The contributions of this work are new methodologies for:

- the design and implementation of NPC in the form of DRL agents, each emulating a personality trait.
- encapsulating personality in a reward system for DRL agents that can be used in other dynamic environments and games.
- developing intelligent NPCs that can solve IQ tests.
- evaluation of teams of agents' efficiency based on their personality.



# Related Work

The role of ERs in fostering team cohesion and serving as a gamification tool across various scientific domains has garnered significant research attention. Clarke et al. (2017), for instance, highlight the utility of ERs in educational settings, showcasing their effectiveness in cultivating soft skills through puzzle-solving experiences. In their study, participants engaged in a real-world pilot room, tasked with defusing a bomb within a 15-minute timeframe. Post-game, teams provided feedback on the educational value of the experience via surveys. A distinguishing aspect of our work lies in the creation of a simulated ER environment, providing a virtual platform (i.e. a video game) to compute and assess multiple evaluation metrics, thereby offering deeper insights into each player's gameplay style and overall performance. Moreover, the integration of DRL agents enables the simulation of diverse gameplay styles and behaviours, enriching the dataset compared to real-life player data collection.

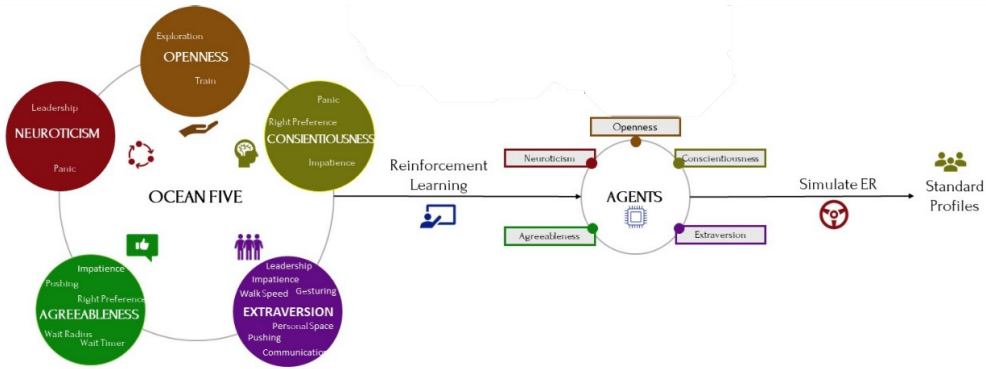
Furthermore, online ERs have also been leveraged in educational contexts, as demonstrated by Vergne et al. (2020). Utilizing online document editors, presentation software, and video conferencing tools, their game served as a remote learning method during 2020. Players navigated various challenges presented as rooms within a factory-themed environment, communicating via video to solve problems within a 20-minute timeframe. While this online game facilitated direct communication, it lacked the depth of 3D exploration and interaction found in *MindEscape*. Additionally, the implementation of DRL agents in *MindEscape* yields a rich array of diverse gameplay data and outcomes, enabling a more comprehensive evaluation of the game's efficacy. In addition, prior efforts are acknowledged in utilizing game environments to model behaviours. Liapis et al. (2021) explored how a single agent could emulate basic in-game behaviours, focusing on movement influenced by the agent's openness personality trait within a simplistic room setting. Similarly, another study proposed the theoretical use of an ER to capture specific gameplay data and metrics indicative of a player's personality through tailored puzzles and riddles (see Liapis et al., 2022).

In contrast, this work extends beyond these approaches by implementing a single and team agent system. A reward function methodology was introduced tailored for teams, facilitating the measurement of efficiency within a gamified environment. By incorporating complex behaviours influenced by multiple personality traits, our approach provides a more comprehensive assessment of individual and team dynamics within the game setting.

Lastly, research has also explored personality trait assessment methodologies. While self-evaluation questionnaires remain prevalent, they are susceptible to biases and linguistic variations. Notably, models such as the OCEAN 5 and Personality Inventory and their revisions are widely used, and being assessed with questionnaires like the NEO PI-R (Costa & McCrae, 2008) and TPQue (Tsaousis, 1998). These tests offer insights into individuals' personality traits, facilitating a more holistic understanding for assessment purposes.

# Methodology

In this section, the main aspects of our game are presented, i.e. the intelligence tests and the personality traits model while also delving into the intricate gameplay mechanics of *MindEscape* as a playground for the NPC agents, detailing the framework for administering IQ tests, defining metrics for measuring personality traits and analysing the implementation of DRL agents. The workflow of the paper and how the final standard profiles are generated is graphically represented in Picture 1.

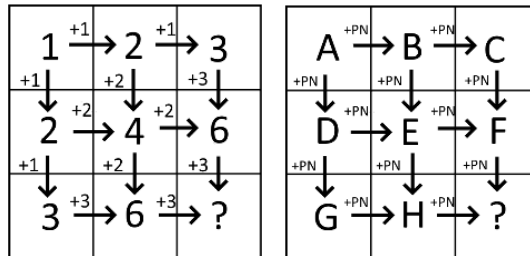


Picture 1: System workflow: The OCEAN 5 Personality traits are modelled as mathematical equations and are used as ground truth for the reinforcement learning agents' rewards systems

Source: own processing

### a) Background

The intelligence tests embedded within the gameplay draw inspiration from the renowned Raven Intelligence tests (Raven, 2000), resembling interactive mini games. These tests mirror the structure commonly found in traditional IQ assessments, featuring grids comprising nine shapes arranged in patterns across rows and columns. As depicted in Picture 2, exemplifying an arithmetic Raven IQ test, the numerical values ascend by increments of 1, 2, or 3 within each row or column, culminating in the solution represented by the number 9.



Picture 2: Raven IQ test example and the methodology it follows

Source: own processing

In *MindEscape*, the OCEAN 5 (Jang et al., 1996) personality traits model is integrated. This acronym encompasses Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism, constituting one of the most established frameworks in the field.

Personality assessment is a multifaceted domain, encompassing traits such as temperament, emotional disposition, and cognitive tendencies, among others. The precise enumeration of these traits remains a subject of considerable debate, prompting an extensive investigation by numerous researchers. The OCEAN 5 model emerged from this body of research, synthesizing key dimensions for comprehensive personality evaluation.

While further modifications and alternative models have emerged, such as the Psychopathic Personality Inventory (Uzieblo et al., 2010) and its iterations, they share fundamental concepts with the OCEAN 5 framework. These newer models often refine and restructure subcategories within each feature. However, for *MindEscape*, OCEAN 5 model was chosen because of its extensive adoption, universal acceptance, and broad application across multiple situations.

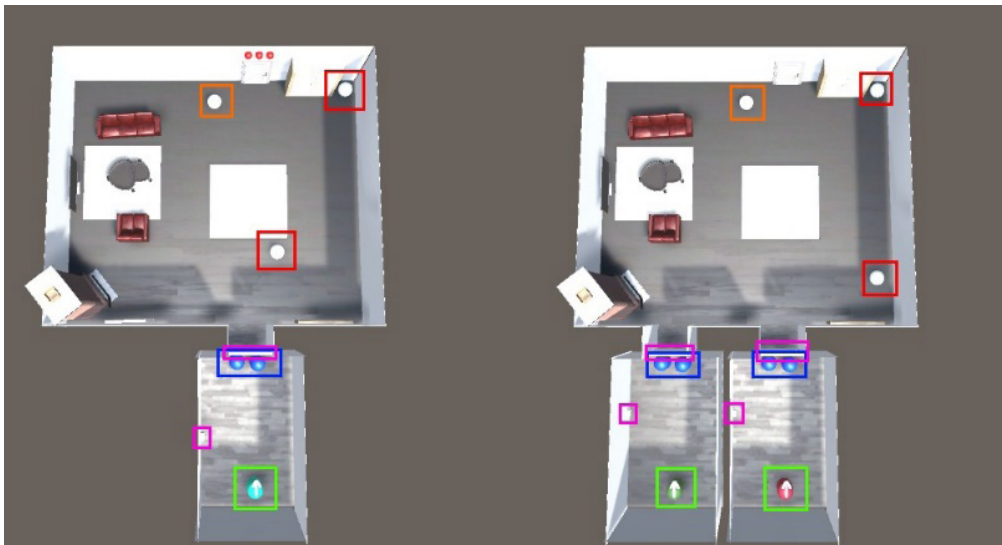
Reinforcement learning stands as a pivotal domain within machine learning, centred on training agents to navigate and learn from interactions within unfamiliar environments. Typically, these agents strive to select actions that maximize a predefined reward function within a given scenario or environment, leveraging past experiences to inform their decision-making process. Through iterative feedback loops, agents learn to refine their strategies to optimize reward acquisition, thus evolving their capabilities through self-learning (Goldman, 2020).

In our endeavour, agents facilitated by the Unity Machine Learning Agents (ML-Agents) developed a package, utilizing the Proximal Policy Optimization (PPO) algorithm (see Schulman et al., 2017). In subsequent chapters, the methodology was employed in our research as well as the related works in the realm of serious ER games, elucidating their respective objectives. Finally, a comprehensive analysis of the outcomes derived from agent training is analysed and pertinent conclusions are drawn from our findings.

## b) Implementation

*MindEscape* is structured around several rooms, each meticulously themed (e.g. an office), and adorned with furniture and assets. These rooms are further categorized into five levels of difficulty, contingent upon factors such as the intricacy of individual rooms, furniture arrangements, and test complexities.

Within each room, players embark on a mission to discover a set number of test panels, typically four in number. Upon interaction with each panel, players are presented with an IQ test, the successful completion of which enables progression within the room. To escape a room, players must locate and solve all four tests. To accomplish this, they must uncover the initial two or three (depending on difficulty) visible puzzle panels and solve the respective tests. Any hidden panels necessitate discovery via uncovering buttons or inputting hidden numbers on a keyboard scattered throughout the room. Upon resolving all preceding tests, the final one is unveiled, signalling the culmination of the room's challenges.



Picture 3: Single and agents' team environment. Agents are marked by the green box, default NPCs by the blue box, buttons and doors by the purple box, and goals in red (the visible ones) and orange (the hidden ones).

Source: own processing

Finally, two separate modes have been developed: a single-agent and an agent's team environment, both following a similar structure but with subtle variances, as shown in this section. Picture 3 shows graphic depictions of these gaming worlds. Here, the agent(s) can be seen, default NPCs/bots, a button, and the opened door. Additionally, three objectives or goals are visible, signifying the targets the agent must meet. These chambers are designed using simplified escape-the-room game logic.

It must be noted that the second environment is not multi-agent, but rather a team consisting of individually trained agents since there is no team reward or team training involved, so that the behaviour of pre-trained agents in a different environment can be examined, where they try to cooperate.

Initially, the agent finds themselves confined within the starting room, where they must locate a dynamically positioned button in each playthrough. Upon discovering the button, the agent must either await the departure of default NPCs or manipulate their movements to gain access to the main room. Within the main room, the agent must seek out two goals, also situated in varying locations, before uncovering the final hidden goal and executing their escape. It is worth noting that in the agents' team environment, expansion possibilities include incorporating multiple starting rooms or introducing additional agents into the existing setup.

The primary distinction between the two environments lies in the mechanics surrounding the button-door interaction. In the agents' team environment, each button unlocks a door in the adjacent room, fostering collaborative gameplay dynamics. Moreover, the number of goals remains independent of the number of players, serving as a fundamental gameplay feature consistent across all ER, whether physical or virtual.

Given our focus on developing a serious game, a suite of metrics was meticulously devised, collected, and analysed. The subsequent session delves into the methodology utilized to define and extrapolate these personality metrics.

The IQ test environment was created using the Python programming language, while the tests were created by random numbers depending on the difficulty of the puzzle. To solve these tests, agents must first identify and engage with certain objects (panels) in the room, either via exploration or by solving other riddles that reveal the corresponding panel.

Next, an example based on Picture 1 is presented, where variables from A to H represent numerical values, each following a discernible pattern. Specifically, variables A, B, and C adhere to a predetermined mathematical progression, exemplified by  $B = A + 1$  and  $C = B + 1$  (or equivalently  $A + 2$ ). Similarly, variables D, E, and F exhibit a parallel pattern, as do G, H, and (?). Hence, it can be inferred that a consistent pattern is applied horizontally across the puzzle.

The player is tasked with identifying the element (?) of the puzzle from a set of six choices. Notably, the starting numbers (A, D, G) always fall within the range of 0 to 50, while the pattern for addition varies between 0 and 10, and for multiplication between 2 and 4. The puzzles are stratified into five difficulty levels: easy (E), easy to medium (EM), medium (M), medium to hard (MH), and hard (H), each characterized by distinct rules as delineated in Table 1.

A key distinction in the Hard level difficulty tests is the introduction of contrasting patterns, rendering them more challenging. Specifically, in this category, the second number (B) is twice the value of the first ( $B = A * 2$ ), while the third (C) is the result of multiplying the first two numbers ( $C = A * B$ ). Additionally, it is customary in Raven figure puzzles for the pattern to be applied not only horizontally but also vertically. Adhering to this rule,  $B = D$ ,  $C = G$ , and  $H = F$ . Furthermore, alongside the generation of the variables A to H, six possible answers are generated for each test, with one being correct.

Table 1: IQ tests difficulty levels

Difficulty	Operation	First Number	Pattern Number (PN)	Example
<i>E</i>	+	$\leq 50$	$< 10$	$B = A + PN, C = A + PN$
<i>M</i>	+	$> 50$	$< 10$	$B = A + PN, C = B + PN$
<i>M</i>	*	$\leq 50$	$< 4$	$B = A * PN, C = B * PN$
<i>MH</i>	*	$> 50$	$< 4$	$B = A * PN, C = B * PN$
<i>H</i>	*	$> 50$	-	$B = A * 2, C = A * B$

Source: own processing

### c) Personality Agent Creation Methodology

To obviate the necessity for diverse gameplay data from human players exhibiting varying behavioural characteristics, DRL agents are introduced. Initially, these agents were tasked with emulating the personality traits model, albeit after mastering the Escape room's mechanics through training. Subsequently, metrics from the High-Density Autonomous Crowds system (HiDAC) (Durupinar et al., 2011) were leveraged to adjust rewards for the agents, a process elucidated in subsequent paragraphs. HiDAC serves as a sophisticated crowd simulation system, adept at modelling local behaviours and pathfinding within dynamically evolving environments. An agent's personality  $\pi$  is encapsulated within a five-dimensional vector, with each dimension representing a distinct personality factor,  $\Psi_i$ . The distribution of these personality factors across individuals is modelled via a Gaussian distribution function, characterized by mean ( $\mu_i$ ) and standard deviation ( $\sigma_i$ ) parameters:

$$\pi = (\Psi_O, \Psi_C, \Psi_E, \Psi_A, \Psi_N) \quad (1)$$

$$\Psi_i = (\mu_i, \sigma_i) \text{ for } i \in \{O, C, E, A, N\} \text{ where } \mu \in [0, 1], \sigma \in [-0.1, 0.1] \quad (2)$$

The overall behavior  $\beta$  for an individual is a function of different behaviours and is defined as:

$$\beta = (\beta_1, \beta_2, \dots, \beta_n), \text{ where } \beta_j = f(\pi), \text{ for } j = 1, \dots, n \quad (3)$$

Given the dynamic nature of each personality trait, the dimension  $\Psi_i$  encompasses a spectrum of values, spanning from positive to negative. Furthermore, behaviours may manifest across multiple personality dimensions, exhibiting varying positive or negative impacts (Table 2). For instance, Leadership might predominantly manifest as a positive trait in individuals exhibiting positive conscientiousness. Conversely, it may manifest as a negative attribute in individuals demonstrating negative agreeableness traits. Alternatively, in individuals with neurotic tendencies, leadership behaviour may simultaneously yield both positive and negative influences.

In Appendix A, mathematical equations delineating each behaviour are provided, derived through meticulous analysis and drawing upon the formulas employed by Durupinar et al. (2011). Importantly, these equations are formulated under the assumption of independence among behaviours. For instance, the behaviour  $\beta_{tr}$  (where "tr" denotes trained) is defined as 1 if the value of  $\Psi_O$  (representing Openness) exceeds or equals 0.5 in the agent's distribution.

Subsequently, the actions and characteristics of the agents are defined, allowing them to exhibit a spectrum of behaviours (refer to Table 3). Subsequent to this, the focus

was the practical implications of each behaviour, forging connections with the agents' actions and characteristics. Previous research has provided indications that agents are indeed capable of emulating personality traits within gamified environments (Liapis et al., 2021).

Table 2: Impact of behaviours on personality traits (positive and negative behaviour impact of behaviours to the responding traits)

Behaviour \ Traits	O		C		E		A		N	
	+	-	+	-	+	-	+	-	+	-
Leadership			X		X	X		X	X	X
Trained	X	X								
Communication					X					
Panic			X						X	X
Impatience			X		X		X	X		
Pushing			X	X			X	X		
Right Preference			X	X			X	X		
Avoidance/personal space					X	X				
Waiting Radius							X	X		
Waiter Timer								XX		
Exploring environment	X	X								
Walking speed					X	X				

Source: own processing

## State Space

In our Unity implementation, agents leverage a sophisticated observation mechanism centred around Ray-cast observations. This advanced technique harnesses the capabilities of physics functions to cast a ray into the environment scene, providing agents with vital insights upon successful intersection with a target object.

Before embarking on any decision-making process, the agent class diligently invokes this method, enabling agents to gather pertinent information about their surroundings. By harnessing this observation vector, agents can effectively assess their environment, empowering them to make informed choices and navigate through the virtual world with precision and efficiency.

In our system, agents are tailored to consider all relevant information from their environment to make informed decisions. This encompasses details such as the location of buttons, keys, and doors, along with their current state, whether they are pressed, found, or unlocked. Moreover, when one agent interacts with an object, such as picking up a key or pushing a button, this information is promptly relayed to all other agents through their observations.

To capture this comprehensive information, ray-cast arrays are employed projecting a total of 15 rays. Each ray checks for the presence of the 5 specified tags and the 3 vectors representing the environment state. Consequently, the final state space size amounts to 78, encapsulating all pertinent details about the environment essential for the agents' awareness.

Interpreting this wealth of information involves utilizing Boolean values for each tag and vector. This enables the agents to extract knowledge from their sensors and environment, facilitating a deeper understanding of their surroundings and enabling them to make more informed decisions. Throughout the training process, rewards were assigned based on interactions with each element of the environment, as outlined in the subsequent section.

### Agent Actions

The agents' actions are dynamically determined during gameplay, while their underlying mechanics are preconfigured based on the personality trait being emulated. For clarity, Table 3 showcases the behaviours as defined by Durupinar et al. (2011) with the corresponding actions exhibited by our agents.

Table 3: Actions to information/description relations

Agent Actions	Information/Description
<i>Walk speed</i>	<i>3 speeds (step, walk, run)</i>
<i>Communication system</i>	<i>"Y" button for Yes</i>
<i>Indication system</i>	<i>"N" button for No</i>
<i>Push actions</i>	<i>"Q" button to indicate</i>
<i>Movement information</i>	<i>"E" button</i>
<i>Previous knowledge</i>	<i>Directions angle in each step</i>
Agent characteristics	Information/Description
<i>Collider size</i>	<i>x, x1,5. X2 scale</i>
<i>Waiting time</i>	<i>1,3 or 5 seconds</i>

Source: own processing

The subsequent phase involves utilizing the accumulated insights, including equations, definitions, etc., to delineate rewards within the game and establish the characteristics of the agents, contingent upon the specific personality trait being assessed (refer to Table 4). Fundamentally, the agents, guided by their actions (outlined in Table 3), generate gameplay data and metrics. Post-completion of each room or episode, rewards are allocated to the agents based on the corresponding trait under evaluation.

Table 4: Behaviours to game mechanics

Original Behaviour	Clarification	Our Actions/Mechanics
<i>Leadership</i>	<i>Extraversion and stability</i>	<i>Movement info</i>
<i>Trained</i>	<i>Previous knowledge</i>	<i>Knowledge of the map and key element positions</i>
<i>Communication</i>	<i>Communication between the team</i>	<i>Communication system</i>
<i>Panic</i>	<i>Increased walk speed and not waiting</i>	<i>Run and pushing</i>
<i>Impatience</i>	<i>Route change</i>	<i>Running</i>

<i>Pushing</i>	<i>Use force to clear the way</i>	<i>Use of push button</i>
<i>Right preference</i>	<i>Avoiding something from the right side</i>	<i>Movement info</i>
<i>Personal space</i>	<i>Comfortable territory</i>	<i>Collider size</i>
<i>Wait radius</i>	<i>Available space needed to move</i>	<i>Collider size with need of no collision</i>
<i>Wait timer</i>	<i>Wait time in queue</i>	<i>Wait time</i>
<i>Explore</i>	<i>Numerous actions and increased exploring time</i>	<i>Number of actions</i>
<i>Walk speed</i>	<i>Movement speed</i>	<i>Walk speed</i>
<i>Gesture</i>	<i>Nonverbal communication</i>	<i>Use of indication</i>

Source: own processing

## Rewards

The following stage involves utilizing the gathered information, including equations, definitions, etc., to delineate the rewards within the game and the attributes of the agents, contingent upon the personality trait under examination (see Table 5). More precisely, the agent, via their actions (see Table 3), generates gameplay data and metrics. Upon the completion of each room episode, the agent receives a reward corresponding to the trait they are being trained on.

A key difference from the equations presented in Appendix A is our amalgamation of calculations for each trait's behaviours into a consolidated framework. Furthermore, the assumption was made that each behaviour exerts an equal percentage of influence on its associated trait. For instance, traits like Leadership and Panic contribute equally, each having a 50% (or 0.5) influence on Neuroticism.

Table 5: Traits to rewards, based on actions and characteristics

Personality Trait	Behaviours (Original)	Reward (custom)	Agent Characteristic
<i>Openness</i>	<i>Train</i>	-	<i>Knowledge of goal positions</i>
	<i>Explore</i>	<i>num of correct actions*10</i>	
<i>Conscientiousness</i>	<i>Panic</i>	<i>0.3 * -2 * <math>\Psi C</math> + 2 if run &amp; push</i>	
	<i>Impatience</i>	<i>0.3 * (1 - <math>\Psi C</math>)</i>	
	<i>Right Preference</i>	<i>If <math>\Psi C &gt; 0</math> then <math>\Psi C * (\text{times right}/\text{time}) * 0.3</math></i>	
<i>Extraversion</i>	<i>Leadership</i>	<i>0.3 * mean speed * <math>\Psi E</math></i>	
	<i>Communication</i>	<i>1 if num of communication actions used <math>\geq \Psi E \geq 0.5</math></i>	
	<i>Impatience</i>	<i>0.3 * 2 * <math>\Psi E</math> - 1 if <math>\Psi E &gt; 0</math></i>	
	<i>Pushing</i>	<i>1 if num of push actions used <math>\geq 0.3 * \Psi E \geq 0.5</math></i>	
	<i>Personal Space</i>		<i>Collider Size</i>
	<i>Walk speed</i>	<i>Max walk speed+1</i>	
	<i>Gesture</i>	<i>Num of correct gestures * 10</i>	



Agreeableness	Impatience	$0.3 * (1 - \Psi A)$ if run each step	
	Pushing	1 if num of push actions used $\geq 0.3 * (1 - \Psi A) \geq 0.5$	
	Right Preference	$0.3 * (\text{Times right}/\text{time}) * \Psi A$	
	Wait Radius		Collider Size
	Wait Timer		Wait timer
Neuroticism	Leadership	Mean speed * $(1 - \Psi N) * 0.5$	
	Panic	$\Psi N * 0.5$ if run and push	

Source: own processing

#### d) IQ Agents Creation Methodology

As previously analysed, each IQ test consists of 8 numbers, except for the last one, with six possible choices. The agent has to analyse these 8 numbers to find the hidden patterns while also reading the 6 possible choices. So their state space is 15 integers. Their possible action is to choose from the 6 available numbers they have as input and they have to find the correct one, while the reward is +1 if they find it correctly and -0.2 if they are wrong, while the IQ test is changed anew when it is solved.

## Experimental Results

#### a) Training Methodology

To begin with, simple agents were developed with specified tasks, such as activating buttons, opening doors, and familiarizing themselves with the communication system. This unique communication system was designed to meet the needs of the OCEAN 5 personality characteristic model. A major element of this system is the 'indicate' action, which allows agents to highlight certain items in the room.

Table 6: Expected agent behaviours based on HiDAC

Personality	Expected Behaviour
Openness	As openness increases, individuals tend to explore more places, ultimately leading them to exit the building at a later time
Conscientiousness and agreeableness	The shortest time occurs when conscientiousness and agreeableness are highest, as agreeable and conscientious individuals tend to be more patient, avoid pushing each other, and exhibit predictable behaviour, favouring cooperation. Conversely, the longest time is observed when both values are minimal.
Extroverts and introverts	Extroverts exhibit quicker movement towards the attraction point, often reaching it in less time. Furthermore, when encountering obstacles such as other agents blocking their path, they tend to resort to pushing them aside in order to achieve their objective.
Neuroticism and non-conscientiousness on panic behaviour	Agents characterized by neuroticism and lower conscientiousness levels demonstrate a tendency to panic more frequently. This behaviour manifests in their inclination to push other agents aside, forcefully navigating through the crowd in a rush to reach the door.

Source: own processing

Initially, agents are entrusted with opening doors by identifying buttons in small, confined areas, then graduating to more complex situations as their expertise grows. Agents are then rewarded for helping other players by recognizing buttons, followed by facing barriers meant to help them learn about queuing and/or to use the 'push' action.

After this initial phase, agents undergo independent training on each personality trait, leveraging the established reward model (refer to Table 3). For effective assessment of the agents' performance, certain behavioural ground truths must be established. As an initial benchmark, experimental results from Durupinar et al. (2011) are utilized for comparative analysis, as delineated in Table 6. Last but not least, the IQ agent was trained to solve the designated IQ tests. To introduce variability in experimentation, the Unity ML-Agents package was used which includes the PPO algorithm and also incorporated the A2C algorithm from the OpenAI platform in the Gym environment.

### b) Training Results

After configuring the agents' reward models, each agent was trained within the same ER environment for a total of 25 million steps, with the results depicted in the following diagrams. Along the horizontal axis, the steps of the training regimen are delineated, while the vertical axis showcases the rewards of the behaviour metrics obtained. To facilitate comprehensive training, the values of the Gaussian distribution  $\Psi$  are varied on each occasion, allowing us to train agents across different levels of each trait. Specifically, agents were trained with distributions set to one for positive traits and minus one for negative traits.

Chart 1 illustrates the cumulative rewards garnered by all agents throughout the training process. Notably, the Extrovert emerges as the best-performing agent with a positive aspect, achieving the highest reward of approximately 12,000. Conversely, the non-agreeable agent achieves the highest reward, reaching around 8,000. It is apparent that all agents are capable of navigating and completing the room, albeit with varying reward trajectories. Given the diverse approaches employed by each agent to accrue rewards, direct comparisons between their performances are not feasible.

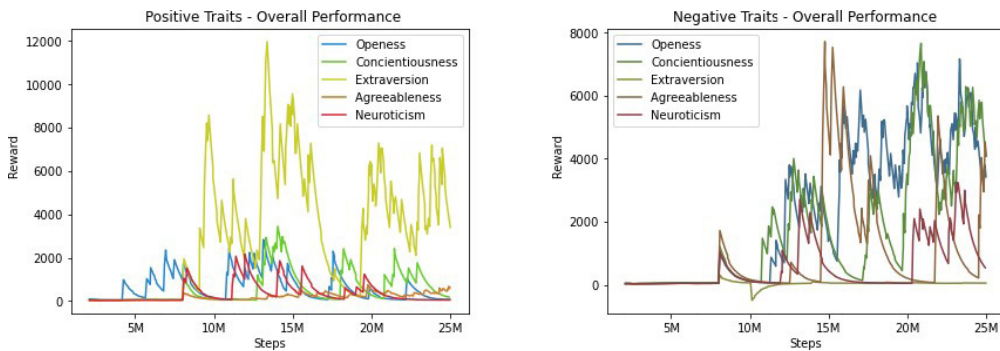


Chart 1: Cumulative rewards for agents

Source: own processing

Chart 2 illustrates the outcomes of the Exploration behaviour exhibited by the Openness agent. Notably, the agent with a positive trait demonstrates consistently high and stable rewards throughout the training process. Conversely, the agent characterized by a negative aspect displays more erratic and negative progress. This stark contrast vividly illustrates the divergent ways in which two agents can interact with the environment, highlighting the profound impact of personality traits on their behaviours and performance.

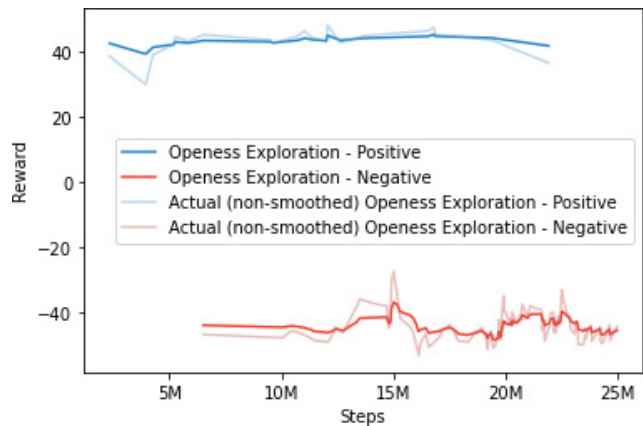


Chart 2: Exploration results for Openness agent  
Source: own processing

Picture 4 provides a snapshot of the agents' team environment, depicting two agents both emulating Openness behaviour, albeit with one possessing a positive aspect and the other a negative one. Notably, the agents have successfully unlocked the corresponding doors. However, a clear disparity in behaviour is evident: the agent with a positive Openness aspect is actively exploring the main room, while its counterpart with a negative Openness aspect appears to be proceeding cautiously, displaying hesitancy in venturing out. This visual representation underscores how individual personality traits can influence agents' actions and decision-making processes within the shared environment.



Picture 4: Agents' team environment with positive (light blue) and negative (dark blue) Openness agents and the targets (red)  
Source: own processing

In Chart 3 the panic behaviour exhibited by the trained agents possessing both positive and negative aspects are shown. It is evident that the conscientious agent has been significantly impacted, experiencing the most pronounced manifestations of panic behaviour, followed closely by the neurotic agent. Conversely, on the negative spectrum, the non-agreeable agent displays panic behaviour akin to that observed in the introverted and non-open agents. This correlation underscores the destabilizing effect of panic behaviour on efficiency within the room, highlighting its detrimental impact on agent performance.

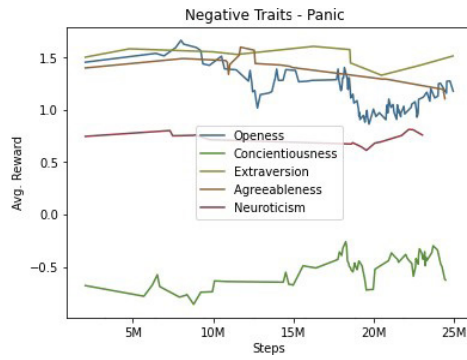
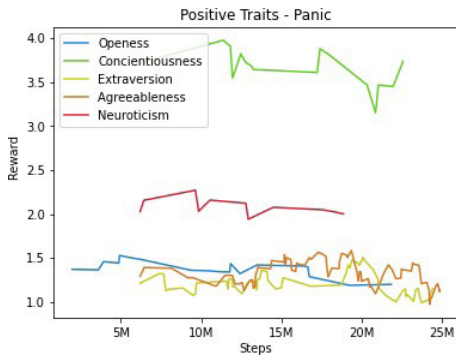


Chart 3: Panic results for all agents

Source: own processing

Chart 4 presents the metrics depicting the impatience levels of the agents. Notably, the extroverted agent exhibits the highest degree of impatience among those with positive traits, while the non-conscientious agent displays even greater impatience with elevated values. This suggests a propensity for these agents to push others when faced with obstacles blocking their path.

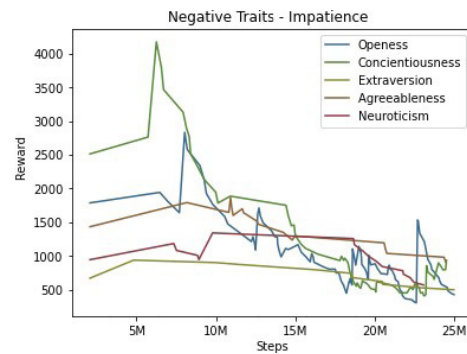
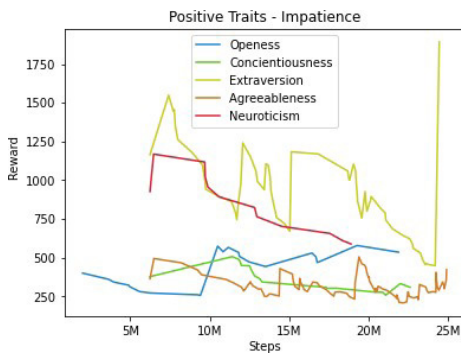
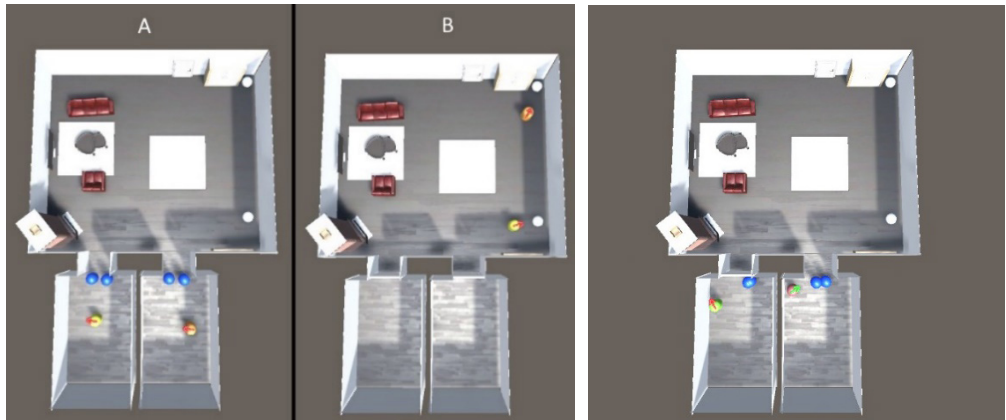


Chart 4: Impatience results for all agents

Source: own processing

In Picture 5, a scenario within a agents' team system featuring two distinct agents is featured. The extroverted agent (depicted in orange) initiates from the right room, whereas the agreeable agent (highlighted in yellow) occupies the left. According to Table 6, these two agents are anticipated to demonstrate high efficiency. True to expectation, they exhibit exemplary collaboration: both agents promptly proceed to locate the button (state A) without resorting to pushing NPCs at the outset. Subsequently, in the main room, each agent efficiently progresses toward the two goals (state B). This synchronized behaviour underscores their adeptness and effectiveness in navigating the environment.

Additionally, Picture 5 depicts a collaborative effort between a conscientious agent (depicted in green) and a neurotic agent (illustrated in red) in their escape endeavour. Remarkably, the conscientious agent is observed opening the door for the neurotic counterpart. However, contrary to expectations, the neurotic agent not only neglects to press the button but also resorts to pushing NPCs within the starting room in an apparent rush to depart. This scenario highlights the contrasting behaviours and priorities of agents characterized by conscientiousness and neuroticism, showcasing the complexities of collaboration within the agents' team environment.



Picture 5: Agents' team environment with Extrovert (orange) and Agreeable (yellow) agents at two different times inside the room (A – close to start; B – close to end) and Conscientious (green) and Neurotic (red) agents at the start of the room  
Source: own processing

In Chart 5, the training results of the DRL agent utilizing both the Unity package, and the Gym Environment is showcased. Initially, the agent struggles to find the correct answer, typically requiring several attempts before success. However, as the training progresses, the agent gradually learns to solve the puzzles with fewer attempts, demonstrating consistent improvement in performance over time. Notably, it takes approximately 850 thousand steps for the DRL agent to reliably find the correct answer on the fourth attempt.

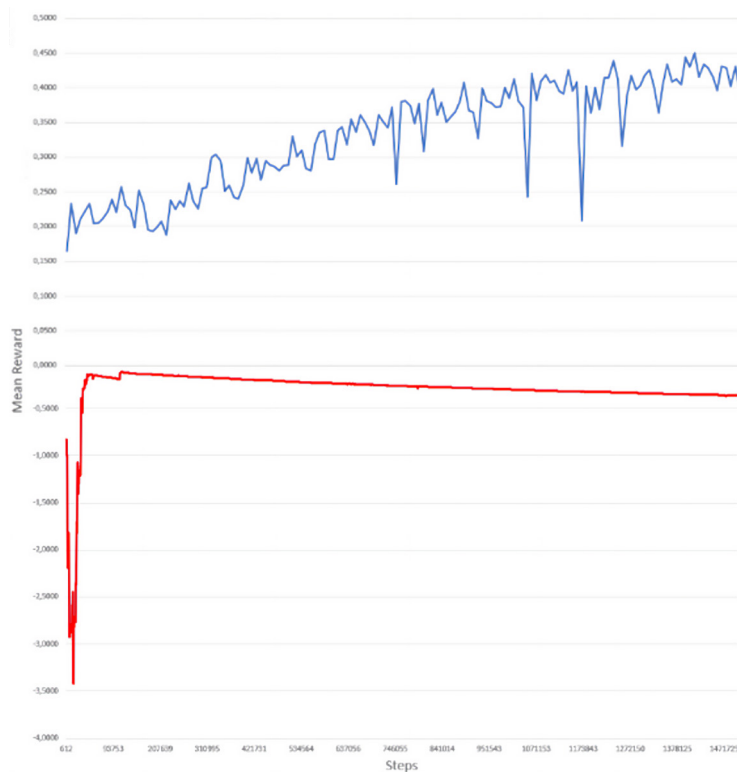


Chart 5: IQ Agents training results – Unity ML-Agents (blue) and Gym environment (red)  
Source: own processing

Conversely, the agent trained in the Gym environment initially makes numerous mistakes but swiftly learns to find the correct answer on the second or third attempt, typically within less than 100 thousand steps. However, as training advances, the agent's efficiency plateaus, resulting in less stable rewards.

Overall, these results illustrate the learning capabilities of DRL agents in solving puzzles, showcasing their ability to improve performance over time through iterative training processes. By adapting these elements to different action spaces of other game types, developers can create agents with distinct personality types, tailored to the specific dynamics of each game. The results clearly demonstrate that this methodology successfully produces agents with defined personalities, exhibiting unique and diverse behaviours.

## Discussion

The outcomes of the training process validate the initial hypothesis, affirming the agents' capability to emulate human behaviours effectively. This confirmation stems from two distinct perspectives: the rewards obtained and their corresponding values, and the visual inspection of agents' behaviours within the game environment.

Each agent exhibited a diverse array of behaviours, shaped by their respective reward functions, which mimic, in a simplified manner, individual human behaviours. While some agents showcased more intricate actions and gameplay styles due to the coexistence of multiple personality traits, each trait was simplified to its essence. These agents could adapt their behaviours based on varying levels of each trait, reflecting the dynamic nature of human personality. Although personality is inherently complex, each trait and its corresponding behaviour was successfully implemented, culminating in agents that effectively simulate fundamental personality traits.

Furthermore, the agents demonstrated the ability to comprehend mathematical patterns akin to those found in Raven-inspired IQ tests. This ability bodes well for their potential to learn and solve other Raven-like IQ tests, showcasing their aptitude for logical reasoning and pattern recognition involving shapes and colours. These promising results underscore the agents' capacity for learning and adaptation, marking significant progress in the field of artificial intelligence and behavioural simulation.

These findings indicate that these agents could be effectively employed as NPCs in a gaming environment, such as in an ER environment. By integrating these agents into such settings, they can be programmed to exhibit a diverse range of behaviours, characteristics, and decision-making processes, simulating real-world complexities. This approach not only enhances the realism and depth of the gameplay experience but also generates valuable data regarding NPC interactions, responses, and performance.

This data can be systematically analysed to build standard gaming profiles, which define typical patterns of behaviour, decision-making, and outcomes within the game. In a serious game environment – where the goal extends beyond entertainment to include training, education, or skill assessment – these profiles can serve as benchmarks. The generated NPC data can be compared against real player data, providing a meaningful way to assess a player's actions, decisions, and overall performance. Such comparisons could be used to evaluate a player's ability to handle various scenarios, identify gaps in knowledge, and track improvements over time, making these agents a powerful tool in both game design and educational assessment as well a set high scores based on the best performance the NPC can set (e.g. based on the rewards showcased in the previous section).

Lastly, these NPC agents can be adapted for use in a wide range of game types beyond serious games or simulations. They could serve as dynamic characters in role-playing games, strategy games, or even open-world adventure games, where their complex behaviours would enrich the gaming environment by providing more lifelike interactions. Whether it's guiding players through a storyline, challenging them with strategic decisions, or simulating realistic environments, these agents have the potential to enhance immersion and engagement across various genres.

## Conclusion and Future Work

This paper introduces intelligent NPC agents that play *MindEscape*, a 3D ER game, and simulate characteristics of OCEAN 5 Personality Traits models. Our game design enables the agents to showcase different playstyles and generate data and standard profiles, regarding their interactions within the room and their behavioural tendencies, alongside their approach to solving Raven-like IQ tests.

Utilizing DRL agents, extensive gameplay data was generated and diverse profiles by emulating characteristics and behaviours associated with personality traits. This approach facilitated the collection of ample and varied data to comprehend the spectrum of human play styles contingent upon the personality model. The analysis of results indicates the agents' capability to emulate these behaviours effectively, encompassing tasks such as navigating complex 3D environments, identifying numeric patterns, and collaborating within a agents' team system.

The successful training of ten agents, with five representing the positive aspect and five representing the negative aspect of each personality trait, revealed substantial diversity in reward values and distinct play styles. These agents displayed a wide range of behaviours, each shaped by their specific personality traits, resulting in varied decision-making approaches. Many agents demonstrated unique, adaptive behaviours, showcasing their ability to collaborate effectively with others in solving room puzzles and facilitating successful escapes. This diversity in behaviour confirms that agents can emulate actions and decision-making patterns based on the OCEAN 5 Personality Traits (Openness, Conscientiousness, Extraversion, Agreeableness, Neuroticism).

This adaptability suggests that personality-based NPC design could significantly enhance the realism and complexity of gameplay in various settings, particularly in ER environment. Whether acting independently or in a team, the personality-driven actions and problem-solving techniques of these agents create a dynamic, engaging environment that mimics real-world social interactions and decision-making, paving the way for more sophisticated AI-driven gaming experiences and NPCs.

Looking ahead, our implementation will expand to include more complex agents in increasingly diverse environments and game types, featuring new types of tests and puzzles for escape, including various IQ tests and mathematical challenges. Moreover, the development of agents with differing traits will aim to simulate more nuanced and human-like gameplay styles. These future endeavours will further enhance the sophistication and applicability of our approach to creating complex NPC agents and offer a new experience in different kinds of games to the players.

Beyond serious games, these personality-driven NPCs have the potential to greatly enhance other game genres as well. In role-playing games, they can introduce more nuanced character development and interactions, reacting differently to player actions based on their personality. In strategy games, they could take on the roles of teammates

or opponents with distinct approaches to problem-solving, resource management, or combat. In open-world or adventure games, NPCs could create a more dynamic and engaging world, with each agent responding in unpredictable ways based on their traits, leading to emergent gameplay.

The ability of these agents to adapt and display varied gameplay styles opens new possibilities for enhancing game realism, player engagement, and challenge across multiple game genres, making them a valuable tool for both entertainment and educational purposes.

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## Appendix A: Personality Traits Behaviours Equation Based on Durupinar et al. (2011)

### Openness

*Trained*

$$\beta_{tr} = 1 \text{ if } \Psi^N \geq 0.5 \text{ else } 0$$

*Exploring*

$$\beta_{ex} = 10 * \Psi^O$$

### Conscientiousness

*Panic*

$$\beta_{pa} = W^{CP} * f(\Psi^C)$$

where  $f(\Psi^C) = -2 * \Psi^C + 2$  if  $\Psi^C \geq 0$  else 0

*Impatience*

$$\beta_{imp} = W^{CI} * (1 - \Psi^C) * 0$$

*Right Preference*

$$\beta_{rp} = 1 \text{ if } P(\text{right}) \geq 0 \text{ else } 0$$

Where  $P(\text{right}) = 0.5$  if  $\Psi^C < 0$  else  $W^{CR} * \Psi^C$

While  $W^{CP} + W^{CI} + W^{CR} = 1$

### Agreeableness

*Impatience*

$$\beta_{imp} = W^{AI} * (1 - \Psi^A)$$

*Pushing*

$$\beta_{pu} = 1 \text{ if } W^{AP} * (1 - \Psi^A) \geq 0.5 \text{ else } 0$$

*Right Preference*

$$\beta_{rp} = 1 \text{ if } P(\text{right}) \geq 0 \text{ else } 0$$

where  $P(\text{right}) = 0.5$  if  $\Psi^C < 0$  else  $W^{AR} * \Psi^C$

*Wait radius*

$$\beta_{wr} = 0.25 \text{ if } \Psi^A \in [0, 1/3] \text{ else } 0.45 \text{ if } \Psi^A \in [1/3, 2/3] \text{ else } 0.65 \text{ if } \Psi^A \in (2/3, 0]$$

*Wait timer*

$$\beta_{wt} = 1 \text{ if } \Psi^A \in [0, 1/3] \text{ else } 5 \text{ if } \Psi^A \in [1/3, 2/3] \text{ else } 50 \text{ if } \Psi^A \in (2/3, 0]$$

While  $W^{AI} + W^{AP} + W^{AR} = 1$

### Extroversion

*Leadership*

$$\beta_{le} = W^{EL} * \Psi^E$$

*Communication*

$$\beta_{co} = 1 \text{ if } \Psi^E \geq 0.5 \text{ else } 0$$

*Impatience*

$$\beta_{im} = W^{EI} * f(\Psi^E)$$

where  $f(\Psi^E) = 2 * \Psi^E - 1$  if  $\Psi^E \geq 0$  else 0

*Pushing*

$$\beta_{pu} = 1 \text{ if } W^{EP} * \Psi^E \geq 0.5 \text{ else } 0$$

*Walk speed*

$$\beta_{wp} = \Psi^E + 1$$

*Gesture*

$$\beta_{ge} = 10 * \Psi^E$$

*Personal space*

for Agent  $i$  and  $j$  on a queue

$$\beta_{ps} = 0.8 * f(i,j) \text{ if } \Psi^E \in [0, 1/3] \text{ else } 0.7 * f(i,j) \text{ if } \Psi^E \in [1/3, 2/3] \text{ else } 0.8 * f(i,j) \text{ if } \Psi^E \in (2/3, 0]$$

Where  $f(i,j) = 1$  if  $i$  before  $j$  else  $0.4/0.7$

While  $W^{EL} + W^{EI} + W^{EP} = 1$

## Neuroticism

*Leadership*

$$\beta_{le} = W^{NL} * (1 - \Psi^N)$$

*Panic*

$$\beta_{pa} = W^{NP} * \Psi^E$$

While  $W^{NL} + W^{NP} = 1$

# The Medicalisation and Dissemination of Cosmic Horror in *Bloodborne*

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## ABSTRACT:

The aim of the paper is to interpret the themes of dissemination of cosmic horror via the transformation of human bodies in the *Bloodborne* digital game. The analysis' central operative concept is the medicalisation process introduced by Michel Foucault, when he described the birth and emergence of biopolitics at the end of the 18th century and showed how medical science, built on new paradigms, led to a specific control of the population, especially its natality and mortality. Within *Bloodborne*, we can see the mechanisms of medicalisation through the constitution of a powerful institution, which subsequently introduced the ritual of transfusion when experimenting with blood. However, this led to the transformation of human/mortal bodies by means of the beastly scourge, and thus to the alteration of the properties of mortal bodies, into a form of *becoming-of-the-monster*. As a result, medicalisation allows for the dissemination of cosmic horror and the loss of humanity. This type of analysis seeks to expand our understanding of the intersection of digital games and sociocultural phenomena at the level of representation, and their involvement in the construction of game fictional worlds.

## KEY WORDS:

affect, *Bloodborne*, cosmic horror, inhuman, medicalisation, monster.

## DOI:

10.34135/actaludologica.2024-7-2.26-37

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# Introduction

The digital game *Bloodborne* (FromSoftware, 2015) falls under the umbrella of 'souls-like' games (Caracciolo, 2024), which arrived with a radical transformation of design, narrative and gameplay mechanics in the early 2010s. With its iterations, the *Dark Souls* series is based on the player being thrown into a world fraught with danger, where their progression through the game is not linear. The player gradually discovers a horizontally and vertically connected environment, with individual locations being constrained hubs, and containing shortcuts and secret areas. Highly challenging boss fights mark transitions between locations, and the player is forced to learn the enemy's moveset to successfully defeat them.

*Dark Souls* (FromSoftware, 2011-2016) games belong to the genre of (medieval) fantasy. The visual structure of the world corresponds to this – it is full of ruins, half-decayed old castles or underground dungeons, and the protagonist has different swords, spears or magic at their disposal, being often dressed in armour reminiscent of medieval attire. In contrast, the enemies are skeletons, wyverns, dragons or other mythical creatures (Dooghan, 2023). The games are also narratively innovative. Developers restructured previously standard narrative conventions and storytelling in digital games. The information the player learns is brief, delivered in aphorisms, metaphors, and vague messages, while the NPCs can never be fully trusted. Aside from vague hints, the descriptions of the items the player acquires are the primary source of familiarity with the world's lore.

*Bloodborne* adopts many elements from the *Dark Souls* series (Hoedt, 2019), such as the hazardous and high-paced combat system, the boss fight design and the narrative

structure, but the overall setting differs. *Bloodborne*'s locations are aesthetically akin to Victorian London:

*Bloodborne* is largely set in the city of Yharnam, resembling a dark and sinister rendition of a Victorian London cityscape especially dominated by Gothic architecture. Towering spires and clock towers loom over the streets, and arabesque gargoyles watch over a realm of ruin and desolation. Grotesque monsters roam the streets that are lined with broken carriages, coffins, and bodies of the hunted beasts pinned to wooden crosses and set ablaze. It is eternally dusk or night all through the duration of the game. The design of the city is akin to a maze. (Mukherjee, 2024, p. 101)

Miyazaki, the game producer behind both *Dark Souls* and *Bloodborne*, has explicitly stated in an interview that there is an intentional adoption of gothic tropes in *Bloodborne* (Hoedt, 2019, p. 53). In a recent book, Kirkland (2022) points out that the combination of gothic and digital games is logical and intuitive. As he notes:

Videogames have always featured labyrinthine spaces, patrolling ghouls, locked doors, secret rooms, hidden passageways, arcane puzzles, and death. Games designers working across different series, cycles and genres have incorporated dungeons and dragons, neo-medieval fantasy, spooky houses, dark industrial spaces, detective protagonists and narratives of traumatic pasts into their work. The prominence of these tropes, all traceable back to traditions within Gothic fiction, shows how the Gothic mode suits the particular requirements of the videogame format. (Kirkland, 2022, p. 4)

In the present text, we focus on the dissemination of cosmic horror through mortal bodies. In particular, we analytically employ the concept of *medicalisation*, which Foucault (2003; 2006; 2009) established when he described the birth and emergence of biopolitics at the end of the 18th century, and showed how medical science, built on new paradigms, led to a specific control of the population, especially its natality and mortality. Within *Bloodborne*, we can see the mechanisms of medicalisation through the constitution of a powerful institution, which subsequently introduced the ritual of transfusion when experimenting with blood. However, this led to the transformation of human/mortal bodies by means of the beastly scourge, and thus to the alteration of the properties of mortal bodies, into a form of *becoming-of-the-monster*. As a result, medicalisation allows for the dissemination of cosmic horror and the loss of humanity. This type of analysis seeks to expand our understanding of the intersection of digital games and sociocultural phenomena at the level of representation and their involvement in the construction of game fictional worlds. Specifically, we are interested in adapting nineteenth-century medical knowledge in its various forms into digital games, and we consider *Bloodborne* to be an appropriate example of this phenomenon.

## The Old Ones and the Human World

For the following interpretation, a basic explanation of the narrative and the cultural and mythological setting of *Bloodborne* is necessary (Redgrave, n.d.). The game takes place in Byrgenwerth and its surrounding area, particularly in the town of Yharnam. A long time ago, a group of disciples discovered the blood of the Old Ones, cryptic beings from outer space, in a secret labyrinth. Scholars used the blood to conduct experiments that led to the establishment of the Healing Church. This powerful organisation

founded a new religion and promised a cure for any disease using the miraculous Blood Ministration. Both the townspeople and strangers from distant places were drawn to the blood and became addicted to it. The healing effect was quickly replaced by transforming human individuals into different life and animal forms, resulting in the emergence of monsters – beastly scourge. This transformation elevated their humanity in a problematic way, as they became non-human creatures. The disease spread through blood dissemination, infecting all bodies that encountered it.

The Old Ones, their discovery by scholars and their presence in the game world are similar to Lovecraft's Cthulhu mythos (see Joshi, 2001). In his writings, the Old Ones are a cosmic force from the outer universe that came to planet Earth tens of thousands of years ago, creating a cult of worshippers around them who preached the violent end of the world, absolute submission to these gods, and the making of a whole host of human sacrifices. Their description is also offered in the forbidden book *Necronomicon*, which presents the secret knowledge and methods of communicating with the Old Ones. The Old Ones are indifferent to the human world; while they use human subjects for their purposes, this does not prevent them from brutally disposing of them at any time; they feel no obligation to their worshippers. Finally, the world that the Old Ones inhabit is characterised by the fact that, at first glance, it appears normal, like the everyday ordinary world. However, this is only an illusion; behind this veil of normality, those select individuals who glimpse it find a world of terror, horror, and inhuman darkness that often leads to the madness of those who peek the world's true nature. Hiranya Mukherjee's writing on *Bloodborne* is primarily concerned with the inspiration of Lovecraft and the gothic genre. In addition to the overall setting, he shows that both classic Lovecraftian and Gothic elements, such as concepts of "doubling/ doppelganger", "imposter", and the "monstrous child" motif, are present in both the digital game and Lovecraft's writings (Mukherjee, 2024, p. 96). Nor does he leave aside the moment mentioned above, the moment of awakening or seeing that the world is not what it seems to be but that it is a place dominated by the Old Ones.

The adaptation and remediation of Lovecraft's work into digital games is characterised by a particular variation, partially dependent on the genre within which the transposition unfolds (Garrad, 2021). For example, the seminal *Call of Cthulhu: Dark Corners of the Earth* (Headfirst Productions, 2005) is based on Lovecraft's short story *Shadows over Innsmouth* (Lovecraft, 1936) and combines first-person action with survival horror. The game inventively incorporates the mechanics of the gradual loss of sense of reality through the shocks the character experiences, namely blurred vision, impaired coordination or hallucinations. Similarly, *Call of Cthulhu* (Cyanide Studio, 2018) uses the first-person perspective, but the story is interwoven with detective elements, fights are almost absent, and at the same time the town – Darkwater – where the playthrough takes place is not a place from Lovecraft's stories, but all the motifs, characters and situations take various elements from Lovecraft's work. Even the main character follows one of Lovecraft's conventions: the player takes on the persona of a detective who suffers from terrifying dreams and has a strong propensity for drinking. A combination of the approaches mentioned earlier is represented by a third-person action-adventure game called *Sinking City* (Frogwares, 2019), where the main character finds himself in a slowly sinking city and is thrown into a sequence of events that explicitly draws on Lovecraft's stories. The end of the game follows the leitmotif, common in Lovecraft, that the conclusion or solution of the mystery is not even remotely positive.

*Bloodborne* finds a different path to Lovecraft. Kerry Dodd primarily focuses on narrative differences, where, in contrast to other Lovecraftian games, in *Bloodborne*, the player has to perform a robust interpretive activity: "the player becomes the Weird explorer who

must piece together dissociated knowledge or lore from object descriptions, arguably a more faithful adaptation or even development of this original ontological interrogation” (Dodd, 2021, p. 10). But there is also another distinction between *Bloodborne* and ‘typical’ Lovecraftian games. In particular, this is a structural inspiration (Hoedt, 2019): the overall setting and arrangement of the game world is interwoven with allusions to Lovecraft, but *Bloodborne* builds its own mythological framework that adheres to the ideological legacy of so-called ‘cosmic horror’, which takes place in a city inspired by an era of Victorian London stripped of the pervasiveness of the Industrial Revolution and modern machines.

In the case of *Bloodborne*, the realisation that the world is not what it seems to be happens gradually; it is a specific narrative construction and a narrative shift that appears about halfway through the game. At the start of the game, the player is narratively in the position of a person suffering from a disease, which is the motivation for going to Yharnam, a city famous for its healing methods. The player’s first encounter with an enemy is terrifying; they are forced to fight a werewolf, which they succumb to as this is the beginning of the gameplay (Sen, 2024). They subsequently find themselves at a local medical clinic, where they are revived through a blood transfusion. The player is transported to a specific location called Hunter’s Dream, where they meet the legendary retired hunter – Gehrman. Hunter’s Dream is a safe space where the player is not in danger; it is a primary hub from which they travel to different locations and can also level up. At the same time, in Hunter’s Dream, they receive a single, and from the perspective of the gameplay, main task from Gehrman: as the moon is about to descend, the city is becoming full of beasts that need to be got rid of to protect the inhabitants from possible death. This is not a overly challenging situation; beast hunting happens regularly and periodically, and Gehrman tells the player that they have become one of many hunters whose goal is to kill as many monsters as possible while finding special blood that can cure them. The player then ventures into the heart of Yharnam, killing bosses and slowly unravelling the mysterious and terrifying history of the place. A skill called *insight* helps them to learn its true nature. Once their *insight* reaches a certain threshold, the player is

able to perceive gigantic spider-like creatures called “Lesser Amygdala” clinging to the tall buildings of Yharnam, silently, unmoving, and unabashedly observing the PC [player’s character] down below. This revelation seems to hint that these creatures were there all along, but were not perceivable to the player because of the lack of insight that the PC possessed. (Mukherjee, 2024, p. 108)

The player hears distant echoes of other mysterious creatures weeping and other strange noises. This disrupts the initial facade of the world, which is shattered entirely after a boss fight with Rom, the Vacuous Spider, on a vast lake. Once the player successfully survives the fight, they fall through the lake, and the entire environment takes on a completely different complexion: the moon descends, and it becomes clear that everything is far more complicated than it might first appear. At the very end of the game, the player will face Gehrman, and has two options; once they kill the final boss, they can be freed by Gehrman, i.e. killed, thus escaping this nightmare, or challenge him to a duel, kill Gehrman and take his place. Both endings, however, do not change the primary mechanism around which the events in Yharnam revolve: the player discovers that the Old Ones created the entire concept of the hunt. This repetitive cycle reinforces and extends their power. The Old Ones cannot be defeated. If the player dies at that time, all events will repeat themselves, and another hunter will take his place; if the player replaces Gehrman, they themselves will become a guide for the other hunters, constantly experiencing the nightmarish miasma of the endless dialectic of the descent of the moon and the only temporary restoration of order. The cosmos is always determined by those whose existence must not be spoken of.



# Transformation of Mortal Bodies

Regarding the mechanism of the dissemination of cosmic horror in Byrgenwerth and Yharnam, the primary vehicle of this mechanism is the blood transfusion, i.e. the use of human bodies as vessels for the spread of non-human contagion. As is often the case in Gothic and Lovecraftian narratives, they did not abandon the find after the disciples and scholars discovered the Old Blood. They began experimenting with it while creating a cult around the Old Ones, as Alfred, Hunter of Vilebloods describes:

Byrgenwerth is an old place of learning. And the tomb of the gods, carved out below Yharnam, should be familiar to every hunter. Well, once a group of young Byrgenwerth scholars discovered a holy medium deep within the tomb. This led to the founding of the Healing Church, and the establishment of blood healing. (FromSoftware, 2015)

The Healing Church, led by Master Willem (other main characters include Laurence, Micolash, Carryl, Gehrman and Maria), sought to gain secret knowledge, and its goal became to push further the evolution of humanity, the expansion of human intellect and communication across space and time with cosmic beings. Some scientists were convinced that evolution would occur primarily through studying the newly discovered materials, while others argued that it would only occur through mixing human blood and the Old Blood. There was a schism, but this did not change the fact that the experiments underway were beginning to take on a frightening tone. Strange and non-human creatures began to move around in the underground crypts and occasionally appeared in the city streets.

Micolash was one of the most active experimenters. He attempted to initiate a secret ritual that would unleash the entire existence of the Old Ones upon the *Bloodborne* world. The encounter with his failed medical experiments takes the shape as a boss fight with an entity called One Reborn. The One Reborn is an amalgamation of the bodies of the abducted inhabitants, a monstrous creation that came about when humans wanted to create their version of the Great One – the giant mass of human remains is an index of the failure of the attempt to ascend to the new level of being.

On the other hand, the Old Blood proved very effective in curing various diseases. Therefore, the townspeople voluntarily came under the control of the Healing Church, which invented with the mechanism of *blood ministration*, that is, the differentiation and distribution of the Old Blood in medical facilities using blood vials. The Old Blood thus functions as a *pharmakon* (Derrida, 1981), as a cure and a poison at the same time because, on the one hand, it allows for a certain period to cure human ailments and on the other hand it paves the way for the spread of the beastly scourge or the transformation of the human body into phantasmagorical forms. To interpret the conception of the body thus presented, we turn to the philosophy of Deleuze (1988), respectively to Deleuze's reading of Spinoza. Spinoza was convinced that we do not know in principle what the body is, or instead that it is never possible to determine a priori what the (human) body is capable of. We can only make inferences based on how the body reacts to what it encounters. The body is a modular organic entity that actively responds to its environment. Deleuze refers to the body's reactions, transformations, and transmutations as *affects* or the distinction between *affect* and *affection*.

Affections are all situations where there is an increase or decrease in the strength of the body. A typical example would be that if we eat a poisoned apple, the strength of our body decreases until we die. However, we cannot predict what this contact will do to our

bodies. And vice versa; if we eat nutritious food, the strength of our body increases. This is why Spinoza says that we can compare or observe similarities primarily between bodies that work and operate with similar types of forces and show similar reactions to situations. There is a more significant difference between a racehorse and a draft horse, as opposed to a draft horse and a bull working in the field: the bull and the draft horse produce similar movements because they operate with similar material (Deleuze, 1988, pp. 48-51).

In contrast, the racehorse simply runs. At the same time, Spinoza adds that every organism is inherently perfect and that there are certain variations of increasing and decreasing the body's capacities. But here comes, in the case of *Bloodborne*, the miscalculation of human nature by the Healing Church, which believes that humans are "idiotic" creatures whose present existence does not allow them to know the deeper truths about the nature of the universe. That is why the rituals and the Old Blood are so important; from the Healing Church's perspective, they expand the body's capacities and the human intellect.

However, once the experimentation occurs, the (human) body changes and transforms, but to the point where it loses its humanity and takes on monstrous shapes. It is possible to hold the line of interpretation that there is an increase in the body's strength; only then does the body lose its resemblance to the human body and become one resembling the Old Ones. Thus, in this respect, experimenting with the Old Blood expands the body's abilities and the influence of the Old Ones, not the human body. That could be why Willem and Laurence eventually claim to "fear the Old Blood" (FromSoftware, 2015). They have become non-human monsters, bloodthirsty entities that the player must deal with in boss fights. To interpret the body transformation, we turn to the concept of affect. Affect refers to a description of the transition between two states based on affect. The state before "blood transfusion" is the zero point of the transformation, and the result, i.e. the infection of the 'beastly scourge' and thus the transformation into a monster, is the resultant state. The passage leading from the zero-point state to the final state is an affect. In this respect, it can be argued that the transformation is explicable as a becoming-of-the-beast/monster (Deleuze & Guattari, 1987), in which there is a loss of humanity and the acquisition of "monster" status, which is characterised by rampage and savage attacks on everything human.

Once an individual becomes a monster, all the abilities and powers of their body are rearticulated on a new plane of being, for which the intimate connection with cosmic horror and the Old Ones is determinative. To put it another way, becoming-of-the-beast means getting to the level of the attribute of cosmic essence, where cosmic horror is disseminated through the Old Ones not only in the form of their physical existence but also through the individual lower bodies of monsters/beasts. This gradual extension of the influence of the Old Ones is also present in *Bloodborne*'s setting. The appearance of beasts and monsters gives Yharnam a new twist; militia, hunters and terrifying creatures roam the streets, striding among burning carts or defending the entrances to churches and temples. At the same time, each location is "inhabited" by a different kind of enemy, which can be understood as indexical or territorial signs (Deleuze & Guattari, 1987, p. 55) of the domination of the Old Ones over the whole city. The inhabitants, the part of them that the player can encounter, mostly crouch quietly behind the barricaded windows of the Victorian houses in terror and horror, lest they accidentally interfere with the hunters' ongoing hunt. The whole town has become an embodied nightmare for all those the beastly scourge has not yet struck.

Although all the inhabitants of Yharnam are at risk of contracting the beastly scourge, it is essential to mention that this also applies to the player's character. Thus, monstrosity is simultaneously coded in "terms of morality" and degeneration (Hoedt, 2019, p. 31), where becoming a *beast* is a sign of the loss of being human. Hints throughout the gameplay

indicate that the protagonist is always close to becoming a *beast*. An example of this is the so-called 'visceral attack', which momentarily turns their character's hand into a beast-like hand when used by the player. Here, we point out that the player has depended on blood vials since the beginning of the game. They are an item that replenishes their health and keeps the player alive, but they are also an item that they gain for killing enemies, and thus, it is an endless sequence of fighting, healing, and gaining blood vials. On a meta-level, the blood vials symbolise the narrative structure on which *Bloodborne* is based: even if the hunter defeats all the enemies, the moon will still descend again, and the whole process must be repeated.

## Medicalisation and Dissemination of Cosmic Horror

The dissemination of the beastly scourge, secret rituals, blood ministration, and experimentation with cosmic dimensional knowledge led at some point to the Healing Church establishing a section of hunters whose sole purpose was to purge monsters and beasts, in the interest of keeping the people of Yharnam safe. Firstly, it is essential to describe the power monopoly of the Healing Church, which has made Yharnam a significant place for treating all ailments. Medicine is dependent on socio-economic-political spheres of influence, which, for example, Foucault and others explain through the concepts of biopolitics and medicalisation (Ballard & Elston, 2005).

The concept of medicalisation, as described in Busfield's review article, appears in the context of the problem of social control in the 1960s. The primary assumption is that illness itself is the result of the social construction of reality, or there is no 'natural illness', because what is labelled as 'illness' is the result of a range of cultural, scientific, political and power practices that find expression in various medical taxonomies of illness. These taxonomies constantly change depending on the social and historical context (Busfield, 2017). Foucault emphasised in particular the power aspect of medical knowledge: the designation of such and such a person as 'sick' was, in particular, an act of exercising power and control over subjects who did not seem to belong to a 'healthy' society (Busfield, 2017, p. 762). As Foucault continues, the modern regime of biopolitics focuses on the health of the whole population, or the population becomes the object of the exercise of power, and biopolitics operates through statistical data to prevent and or, with the help of codified procedure, quickly resolve threats that can radically shake human health on a large scale. Hand in hand with biopolitics is medicalisation, or the fact that more and more problems are becoming the subject of medical insight and diagnosis. Life itself is biopolitical and, therefore, it is a medicalised life (Lock, 2004).

In addition to the cultural, social, and medical contexts, there was repeated experimentation with blood transfusion in the 19th century, particularly in England during the second half of Victorian Era. A whole range of devices and instruments were improved to make transfusion successful and to avoid inflammation; the use of the syringe, in particular, can be highlighted, and especially after 1865, the emphasis on disinfection and sterilisation of instruments under the influence of Louis Pasteur. Logically, until the discovery of the various blood groups, transfusions were only successful to a lesser extent. At the same time, interspecies blood transfusion was also considered. Although this was

supposed to be lethal, for example, sheep-to-human transfusion “resulted in symptoms of dyspnoea, cyanosis, back pain, chills, vomiting and convulsions”, the German physician Oscar Hase argued that these were symptoms of stimulation and “over-activation of the patient by the animal’s fresh spirits” (Learoyd, 2012, p. 375).

The concept of medicalisation can be used as an analytical tool to interpret how *Bloodborne*’s experimenting with blood expresses the power tendencies of a small group of individuals who subsequently form themselves into an institution (the Healing Church), thereby consolidating their rule over others by creating a hierarchical social order. The power struggle is then exemplified by the conflicts within the Healing Church and its separation into several factions that battle each other. As Watson points out, *Bloodborne* illustrates

the ways in which both desire for communion with divinity and desire to police the forms of this communion are characterised by paradoxical ambivalence. Within the game’s universe, the desire to transcend creaturely limitation catalyzes bestial transformation: desire for divine communion effects a collapse in humanity. (Watson, 2024, p. 173)

Medicalisation and its institutionalisation are evident within the hierarchy of the Healing Church itself, where the Healing Church nuns play an important role. If the player obtains an item called Blood of Adella, who was one of the nuns, the in-game description reads as follows: “The Healing Church nuns are chosen for their merit as vessels for blood, and groomed as Blood Saints. The mere chance of being treated with their blood lends legitimacy to the Healing Church and communion” (FromSoftware, 2015). Nuns are the media that transmits, disseminates and reinforces the ideology and the very position of the Healing Church, and their actions and behaviours are the embodiment of the techniques and practices formed by the Healing Church, which means that they are not ordinary members of the church, but are an important tool for maintaining its power. Even the visual representation of the nuns conforms to the gothic mode of narration. They are dressed in robes and embody the dialectic of death and life (or its transcendence) as they distribute and operate with blood (blood treatment) while at the same time transgressing the boundaries of the human and the non-human as they can become monsters (see Milbank, 2009). Adella is full of devotion to the church and innocent; on the other hand, when the player repeatedly prefers the blood of the prostitute Arianna to her blood, Adella becomes jealous and murders Arianna. It is also possible to interpret this act as an attempt at purification. However, it is purely a power struggle as the (Old) Healing Church describes Arianna’s blood as “what was once forbidden” (FromSoftware, 2015).

The transfer of blood between humans and animals or non-human creatures is framed in *Bloodborne* as part of the process of medicalisation, following the example of Oscar Hase. Humans are elevated to a new plane of being when they connect with the universe and its creators. If, in some cases, the infection by beastly scourge occurs, and the contagion spreads, it is only a slowing down or marginal obstacle to the achievement of the primary goal of scientific engineering: advancement to another plane of existence: “Now, let’s begin the transfusion. Oh, don’t you worry. Whatever happens ... you may think it all a mere bad dream,” says the Blood Minister (FromSoftware, 2015).

In the case of *Bloodborne*, we encounter a model of medicalisation based on both the acquisition and gatekeeping of secret knowledge, where, at the same time, using the Old Blood for medicinal purposes is essentially an act for which positive results cannot initially be predicted. Indeed, in the first phase after the application of the Old Blood, the patient/sick person feels better; however, not long after, the beastly scourge slowly begins to manifest itself with relentless certainty. Lastly, almost all of Yharnam’s inhabitants

depend on a regular blood supply, and while alcohol is forbidden in the city, the only substance enabling the intoxicated state is that very blood. Thanks to this, however, there is a continuous expansion of the disease or transformation into an inhuman form: "Prepare yourself for the worst. There are no humans left. They're all flesh-hungry beasts, now" (FromSoftware, 2015). That's why hunt and hunters were 'invented' as a tool of biopolitics, as a tool to maintain society, when closures or quarantines, which we know from the Middle Ages and modern times, were also part of contemporary society at the moment of the spread of deadly contagious diseases. Once a quarantine is imposed on a city, hunters take to the streets to deal with the threat. In some cases, entire neighbourhoods have been burned (as was the case of old Yharnam), and very often, the hunters themselves were infected and slowly lost awareness of their humanity, becoming machines for killing not only random inhabitants but also their loved ones.

As mentioned, the grandmaster of twisted medicalisation was Micolash. His experiments were driven by a desire to communicate with the Old Ones, with the cosmic force itself: "Ahh, Kos, or some say Kosm ... Do you hear our prayers?" (FromSoftware, 2015). Micolash founded the School of Mensis, in a place called Yahar'gul, where he experiments with the remains of the Old Ones, especially the umbilical cord, which he hopes will allow humans to know other dimensions. However, based on all sorts of rituals, the entire environment of Yahar'gul is filled with moaning and bloodthirsty creatures.

This can be illustrated by one of the first quests. A female resident behind a barricaded window asks the player if he can find her mother, who has entered the inner city, to find her husband, one of the dreaded hunters. After some peripeteia, the player stumbles upon a boss fight with an enemy identified as Father Gascoigne, who is wanted, for they have killed their companion in a fit of beastly scourge. One of the many motifs in the *Bloodborne* lore develops here: some time ago, Father Gascoigne came to Yharnam because he suffered from voices in his head that led him to violent behaviour. He became a hunter to acquire a supply of the Old Blood, but over time, he transformed into a monster longing for blood: "Ohhhh. What's that smell? The sweet blood... Oh, it sings to me. It's enough to make a man sick" (FromSoftware, 2015). By killing him, the player removes the cosmic curse.

Father Gascoigne is not the only one to suffer such a fate. Similarly, the player arrives in Yharnam to cure their illness. To do so, they must become a hunter: hunting monsters and beasts is their only chance of a cure, but as they discover during the game, the whole mechanism of the hunt is the creation of the Old Ones, who thus maintain and extend their domination over the world. That is why one of the huntresses, who has seen the world's true nature, says: "The hunters must die... The nightmare must end" (FromSoftware, 2015).

## Conclusion

This paper demonstrates how the digital game *Bloodborne* builds on themes borrowed from the work of H. P. Lovecraft. Specifically, the focus of the analysis was how cosmic horror is disseminated in the virtual world of *Bloodborne*, with an emphasis on the cultural technique of medicalisation, which in the material analysed is contextualised primarily by the 'blood ministration', through which the population of this virtual world is seemingly healed. Medicalisation is here interpreted in Foucault's terms, i.e. the very concept of 'illness' is a construction of biopoliticised life, which is seen as diseased in some form, thus becoming medicalised, i.e. a life and body that must, for the sake of the socio-political system, be healed, and in a way that is beneficial to that system, not necessarily to the needs of the individual being treated.

We traced the way in which the mythological mechanisms of *Bloodborne* interpret experiments in nineteenth-century, that is, Victorian England, related to blood transfusion. Both blood transfusion and the blood itself are drivers of the mythological framework. Blood ministrations are here, as analysed in the present text, the way in which cosmic horror transforms human/mortal bodies into monster form, a process of becoming-of-the-monster. For the process of transformation of mortal bodies we use Deleuze's analytical concept of affect, describing the transition between two states based on affect. In *Bloodborne* there is a transition between body blood transfusion and the subsequent infection of the beastly scourge. This becoming-of-the-monster consists in the loss of humanity and the acquisition of monster status, characterised by rampage and savage attacks on everything human.

Medicalisation itself is here described as a hierarchical, power-based operation following Foucault's interpretation of this concept. Specifically, we show how medicalisation is an expression of the power of a small group of individuals who subsequently form an institution, thereby institutionalising the processes of medicalisation itself, primarily associated with blood transfusions. This institutionalised ideology is disseminated in *Bloodborne* through the nuns, who are also the embodiment of that institutionalisation and the position of the Healing Church, thus maintaining the power position of this small group of people. We consider that an important part of the medicalisation mechanism in *Bloodborne* is that it involves both the acquisition and gatekeeping of secret knowledge, even though the positive outcomes of applying this knowledge are fundamentally unpredictable. At its core, then, *Bloodborne* is a tragic tale of failed medicalisation that always turns into a power struggle.

**Acknowledgement:** *This paper is the result (50%) of Metropolitan University Prague research project no. 110-1 "Political Science, Media and Anglophone Studies" (2024) based on a grant from the Institutional Fund for the Long-term Strategic Development of Research Organizations; and (50%) elaborated within the research project supported by Cultural and Educational Grant Agency of the Ministry of Education, Research, Development and Youth of the Slovak Republic (KEGA) No. 027UCM-4/2024, titled "Implementation of educational digital games into the educational process in primary schools".*

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# Gaming with Emojis: A Look at Different Strategies of Emoji Inclusion in the Design of Digital Games

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## ABSTRACT:

This theoretical study explores the strategies of emoji implementation in digital games, influenced by emojis' cute aesthetics. The effects of the Cute have been discussed from two perspectives. While some consider it as a sweet coating around the bitter pills of everyday life under capitalism, others regard it as a true mental refuge, capable of teasing, harshness and seriousness. By categorising emojis' functions in digital games into five groups (personification, aesthetic substitution, doubling the fun, instrumentalization, and self-enhancement), it will be posited that sometimes emojis' function is primarily rooted in their solacing power, and that at other times their role is more directly tied to reinforcing the rationale behind the capitalist market. Their role in personification (*Emoji Quest*), aesthetic substitution (*Disney Emoji Blitz*) and doubling the fun (*Emoji Kitchen – DIY Emoji Mix*) aligns with the comforting power of the Cute. Meanwhile, their role in instrumentalization (*Emoji Clickers*) and self-enhancement (*Mirror Fun Emoji Face Stickers*) can bolster ideological components of the capitalist market, namely greed and self-obsession.

## KEY WORDS:

aesthetics, capitalism, cuteness, digital games, emoji, mobile games.

## DOI:

10.34135/actaludologica.2024-7-2.38-51

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# Introduction

Emojis consist of a collection of small digital symbols that depict various ideas, concepts, facial expressions, body language, and other elements. They were first designed in 1999 by a Japanese artist and designer, Shigetaka Kurita. The primary purpose of their curation was for a Japanese mobile company NTT DoCoMo. After being widely embraced in Japan, emojis were standardised by the Unicode Consortium in 2010 and have since expanded globally in use and appeal. The popularity of emojis has made them an integral part of many forms of communication and content production in our digital era. Their implementation in cinema, e.g. in *The Emoji Movie* (Leondis, 2017), advertising (Danesi, 2017), political propaganda (Robertson, 2019), educational surveys (Massey, 2022) and many other different contexts can well manifest the current prominence of the set. The world of digital games is not excluded from this trend. The cute aesthetics of emojis provide a wide range of possibilities for game designers to include these familiar icons in their gaming narratives, enhance engagement, and elicit positive sentiments from their audience. By investing in emojis' indisputable place in popular culture (Ebel & Dutra, 2022; Kiaer, 2023), game designers can capitalise on the set's conspicuous position to increase engagement and entertainment.

The use of emojis in gaming is an aspect of a game's narrative design which is "the art of using gameplay and the sum of visual and acoustic methods to create an entertaining and engaging experience for players" (Heussner et al., 2023, p. 1). According to Heussner et al. (2023) since the space of mobile games is limited to small screens, strong visual or audio clues must be implemented to communicate bits of story effectively in a finite space. Looking at the subject from this angle, the review of emoji inclusion in gaming

environments can unfold the popular manners in which these visual objects are regarded and utilised. Despite the insufficiency of the data to discuss the popularity 'rate' of each strategy, it is safe to say that all the roles emojis play in the narrative design of the games under discussion here are rooted in a degree of popularity of emojis' function in that manner. Otherwise, it would be unwise, and unsuccessful in terms of game development to allocate the finite space of a mobile game to an unwelcome role or facet of emojis.

Consequently, different gaming strategies and ways of including emojis in the environment of games (personification, aesthetic substitution, doubling the fun, instrumentalization and self-enhancement) could mirror the broader politics of emoji usage in everyday life – or at least the 'imaginable' and 'desirable' directions of emoji usage. The politics of emoji usage, in turn, is tied to their aesthetics. The intentional design of emojis charges the series with specific aesthetic traits, creating a set of pictographs that can communicate emotions and sentiments in an engaging manner. At the same time, those aesthetic attributes have the capacity to transform emojis beyond just whimsical pictographs into vehicles of cultural, social and even political significance in digital culture. While the aesthetics of emojis can be discussed from a number of different perspectives, one prominent approach is the consideration of them as a set of Cute images (Gn, 2018; May, 2019; McMahon & Kirley, 2019; Herring & Dainas, 2020).

*Cute* aesthetics refer to a visually pleasing and charming style characterised by adorable and endearing elements, often featuring soft colours, playful motifs, and sweet, innocent designs (Brown, 2023). As the aestheticisation of minoriness, powerlessness, and vulnerability (Ngai, 2022), *Cute* reinforces a malleable look that facilitates a favourable perception and extracts a warm-hearted response. The cute object consistently symbolises an abstract form of a deeply affectionate bond with another (Gn, 2016), and plays a crucial role in 'affective capitalism' which converts the everyday bodily experiences of the population into quantitative metrics that can be observed, measured, and processed subconsciously, transforming individuals into 'dividuals' ready to respond to specific information at any given moment (Lee, 2023). This way, *Cute* can be considered as a "cruel relief" with the power of normalising neoliberal capital and work (Page, 2016, p. 79), or a "'sweet coating' that makes it easier to swallow bitter pills" (Brzozowska-Brywczyńska, 2007, p. 213).

However, the *Cute* can also be interpreted as a way of taking refuge from the harshness of reality. Highlighting the advantages of cute aesthetics, Birlea (2021) argues that *Cute* "brings benefits to social and civic life, as a means of involving citizens in various activities and maintain group cohesion and harmony" (p. 95). In a more expansive discussion on *Cute*, May (2019) explores the concept and its unique allure, emphasising its inherent "teasing indeterminacy" (p. 27). This kind of indeterminacy is not characterised by hesitation but by an open and multifaceted nature, often expressed in a playful or self-deprecating manner. According to May (2019), this blend of characteristics neutralises the threat of danger while infusing a sense of edginess into safety. Debating the tradition of thinkers such as Nietzsche and Foucault for whom the power paradigm defines all aspects of life, May (2019) asks, "does it [power] enable us to explain and evaluate as much about those relations as we tend to think it does?" (p. 125), and concludes,

what if *Cute* is a miniature Trojan horse in the citadel of power: in the intellectual citadel that for over three centuries has increasingly interpreted even the most altruistic, compassionate, freedom-giving human relations in terms of power and the will to power? What if its real "master trope" is not personification strategies understood as projections of power, whether for good or ill, but rather playful unpindownability: the carefree evocation of uncertainty as a fundamental characteristic of life and world? (May, 2019, pp. 126-127)

The debate pertains to a more fundamental question that the limited space of the current study cannot address comprehensively. Although it is hard to dismiss the fact that power dynamics are at play in every corner of societal interactions and details of human relationships, the consideration itself could at times lead to a paralysing determinism instead of progressive activism – if everything is already under the influence of power relations and if everything we do reinforces another series of power relations, then what does it mean to think or act freely or seek liberation or solace in everyday life? Nevertheless, what is important to the present discussion is the fact that the modes of emoji implementation in gaming designs manifest both sides of the spectrum of scholarly reflections on Cute. On the one hand, sometimes emojis' Cute function enhances the light-heartedness of the space in a game. On the other hand, their cuteness sometimes appears overtly associated with the rationale behind the capitalist market economy.

Examples of the first approach include games such as *Emoji Quest* (Cappy1 Games, 2016), *Disney Emoji Blitz* (Jam City & Disney Interactive, 2016), and *Emoji Kitchen – DIY Emoji Mix* (Braly, 2024), hereinafter referred to as *Emoji Kitchen*. In this cohort, one can see emojis that personify different characters and objects in a storyline where the player is an adventurous persona (*Emoji Quest*), observe that emojis are used as an aesthetic substitute for Disney characters in a gaming environment (*Disney Emoji Blitz*) similar to *Candy Crush Saga* (King.com, 2012), and finally witness emojis as an opportunity for players to practice digital creativity by combining different images from the series and doubling the fun inherent in the emoji world (*Emoji Kitchen*). The second approach includes games such as *Emoji Clickers* (Gimica, 2022) and *Mirror Fun Emoji Face Stickers* (Mirror AI, 2017), hereinafter referred to as *Mirror Fun*. In this cohort, emojis' cuteness is instrumentalised in an idle environment designed for coin collection (*Emoji Clickers*). Moreover, emojis and their brand name have been appropriated for the purpose of digital self-enhancement and transforming the self into a cute picture within the bigger frame of mainstream beauty standards (*Mirror Fun*).

## Personification - *Emoji Quest*

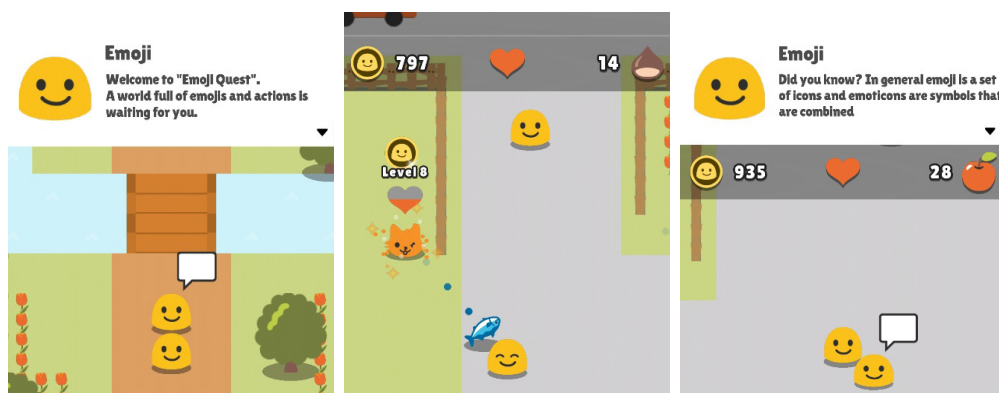
Released on January 9, 2016, *Emoji Quest* is a digital game designed by a German game developer, Cappy1 Games. This game immerses the player in a vibrant world made entirely of emojis, complete with hidden secrets waiting to be discovered. As the player explores, they will solve quests to unlock new emojis, battle against emoji foes to gain experience and strength and find unique items that they can use strategically. The adventure is all about uncovering mysteries, growing stronger, and cleverly using the unique items one comes across. The player begins with a simple smiley emoji. This emoji is transformable throughout the game in different transformation bases designed in the game. By swapping different directions on the screen, the player leads the emoji on different paths. The total map of the game includes six places: Springwater Town, Emoji National Park, Greenview City, Mojified City, Monkey Mountain, and Space Centre. The diverse places provide a space for different emoji characters to spring into action and play a role in the adventure plot of the game.

Characters play both negative and positive roles. For instance, the Bear emoji (🐻) throws Chestnut emojis (🌰) and the cat face emoji (😺) tosses fish emojis (🐟) at the main character to reduce the level of red in the red heart emoji (❤️) that symbolises its life.

Notwithstanding, the negative characters remain cute throughout the game by showcasing a positive smile, which is one of the main attributes of emoji images in general (Picture 1). The preservation of cuteness in the game, in spite of the adverse role assigned to the emoji characters, exhibits the power of cute in fostering an environment marked by an obsession with child-like attributes (Cross, 2004).

*Emoji Quest* is an example of the 'personification' role that emojis play in digital games. Here, personification highlights giving human characteristics to non-human elements by drawing them in ways that recall human agents or placing them in situations reminiscent of the human environment. This technique adds humour, relatability, and emotional appeal through anthropomorphism. In *Emoji Quest*, each emoji has a distinct character in the game's environment, interacting with other characters and the general atmosphere of the game. They are personified in that they do human things. They walk through the city, buy bus tickets, ride the bus, cross the street, can be hit by cars, and can enter buildings. By imbuing these expressive symbols with distinct personalities, emotions, and characteristics, the game transforms them from mere digital icons into relatable and engaging characters. Each emoji becomes a potential ally, adversary, or guide, contributing to the narrative and gameplay.

*Emoji Quest* leverages the personification of emojis to create a unique and immersive experience. To contextualise the personification of emojis, the game has designed a setting similar to an urban space, where buildings such as a post office, bank, and convenience store can be found. The offices and buildings have certain officers and clerks working there who provide pieces of information to the player. The main character is not permitted to enter certain areas of office buildings. Emojis are modelled on the patterns of human behaviour in an urban environment. When the main character approaches similar emojis, a dialogue box forms between them. Through the dialogue box, the other character provides some information for the lead persona. Occasionally, the information exchanged between the characters has a pedagogical aspect that seems to be directed at the younger generations (Picture 1).



Picture 1: *Emoji Quest* gameplay screenshots

Source: the author's screenshots from the game *Emoji Quest* (Cappy1 Games, 2016)

# Aesthetic Substitution - *Disney Emoji Blitz*

On July 13, 2016, Jam City and Disney Interactive introduced the mobile game *Disney Emoji Blitz*, which quickly became popular. *Disney Emoji Blitz* combines classic match-3 puzzle gameplay with the charm of Disney characters and emojis. Players match three or more emojis of the same type to clear them from the board and earn points. Each emoji has special powers or abilities that can be triggered during gameplay, adding a strategic element to the matching process. The game features various Disney and Pixar characters, each represented in emoji form. Events and challenges offer players the chance to unlock exclusive emojis and rewards. Players can collect and level up their favourite Disney characters in emoji form. The game often ties in with Disney movie releases or other significant events, introducing special emojis and themes. *Disney Emoji Blitz* demonstrates an aesthetic intermingling. It converges the aesthetics of emojis with that of Disney productions. Disney characters are represented in the form of emojis – as icons depicting facial expressions. Moreover, Disney characters are sometimes merged with specific emojis in their representation, e.g. Mickey Mouse with the smiling face with heart-eyes emoji (😍) (Picture 2). As with most gaming environments, *Disney Emoji Blitz* also features in-app purchases for using new characters in the game.



Picture 2: *Disney Emoji Blitz* gameplay screenshots

Source: the author's screenshots from the game *Disney Emoji* (Jam City & Disney Interactive, 2016)

In addition to the combination of Disney aesthetics with emoji aesthetics, *Disney Emoji Blitz* demonstrates the substitution of the aesthetics of a preceding game, *Candy Crush Saga*, with the magnet of emojis. The similarities between the two games are evident. They share commonalities in their core gameplay mechanics as both are match-3 puzzle games. In both games, players must match three or more similar items (emojis in *Disney Emoji Blitz*, candies in *Candy Crush Saga*) to clear them from the board and earn points. Additionally, both games feature power-ups and special abilities tied to the matched items, providing players with strategic options to tackle challenging levels. The progression system involves completing levels to unlock new characters or advance through the game, and both titles often incorporate events or challenges to keep the gameplay experience dynamic and engaging. Replacing the aesthetics of *Candy Crush Saga* with emoji forms can be looked at as an investment in the values that emojis maintain. Integrating the term 'emoji' into the game title and portraying characters as emojis can bind the game with the prevailing popularity of emojis, their "origins in teen and commercial culture" (Lebduska, 2015, p. 4) and their "cultural appeal across the world" (Seargeant, 2019, p. 183).

## Doubling the Fun - *Emoji Kitchen*

Emojis are generally associated with an atmosphere of fun and unseriousness (Maa & Taguchi, 2022; Wirza et al., 2020; Leslie, 2019; Li & Yang, 2018). As linguist Jieun Kiaer (2023) suggests, the utilisation of emojis for emotional expression can be a lifesaver by fostering an atmosphere where individuals can communicate without concerns about the reactions of others. One common reason for using emojis is the safe space they create where *kawaii*<sup>1</sup> elements take centre stage. This environment allows parties to unwind without the necessity of maintaining a serious demeanour, promoting a more unserious atmosphere. A game such as *Emoji Kitchen* builds its philosophy upon this dimension of emojis and encourages players to double the fun by facilitating different combinations between the icons.

Launched on January 8, 2024, *Emoji Kitchen* was designed by the Vietnamese studio Braly as a cool game where the user's mission is to craft new emojis through the combination of diverse emoji characters. Players can employ swiping, and matching techniques with emojis of the same kind to merge them together and unlock a plethora of new blends. The results will be stored in a game section labelled 'collection' (Picture 3), allowing users to save or share each outcome across various applications. By featuring emoji mixtures, *Emoji Kitchen* can amplify the fun for users by introducing a dynamic and creative element to gameplay. The process of combining and matching different emoji characters not only adds a layer of creative thinking, but also sparks the joy of discovery as players unveil new combinations. The 'collection' section further enhances the enjoyment by providing a sense of achievement and allowing users to share their creativity with others. The player is

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1 Remark by the author: *Kawaii* is a Japanese aesthetic and cultural phenomenon that celebrates cuteness, often characterised by the use of charming and endearing elements such as soft colours, round shapes, and adorable characters. It extends beyond appearance to encompass a sense of innocence, purity, and childlike charm, influencing various aspects of Japanese pop culture, fashion, and design. *Kawaii* is not just a visual style; it represents an appreciation for the sweet and lovable aspects of life, encouraging a playful and positive outlook on the world. *Kawaii*'s influence on emojis is evident through an emphasis on expressing emotions and ideas in cute, simple, and universally relatable symbols, aligning with the core concept of conveying feelings succinctly and visually, which is at the heart of emojis' design and purpose.

drawn into a rich and expressive mosaic where each amalgamation becomes a miniature artistic creation. The appeal lies not just in the visual novelty, but also in the endless possibilities for self-expression and communication that arise from the creative interplay of diverse emojis.



Picture 3: *Emoji Kitchen* gameplay screenshots

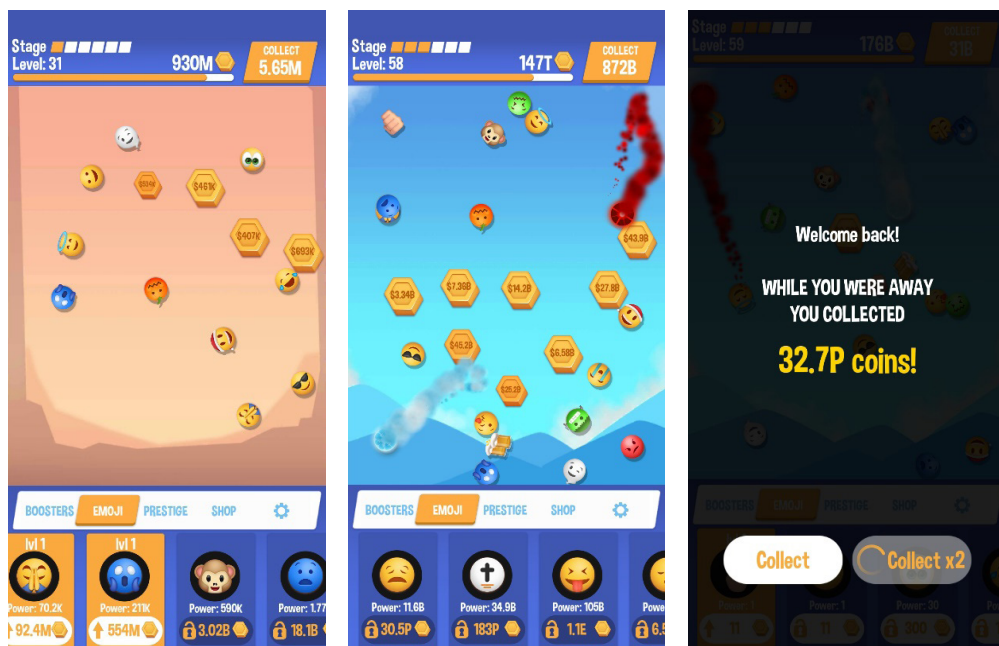
Source: the author's screenshots from the game *Emoji Kitchen - DIY Emoji Mix* (Braly, 2024)

## Instrumentalization - *Emoji Clickers*

Released on June 28, 2022, *Emoji Clickers* is, as its German developer Gimica suggests, “an endless idle clicker game that combines the fun of idle build-up with all the fun of Emojis” (“Emoji Clickers”, n.d.). In a game like *Emoji Clickers*, emojis serve as instrumental tools, transforming from mere symbols into strategic resources that drive the core mechanics. The game leverages the universal recognition and emotional resonance of emojis to engage players in a bouncing frenzy. The utilisation of emojis goes beyond mere aesthetics, as they play a functional role in the gameplay dynamics, creating a visually stimulating and emotionally resonant experience. The incorporation of emojis in *Emoji Clickers* serves as a means of merging simplicity with effectiveness, turning these familiar symbols into interactive elements that drive engagement and progression within the game (Picture 4).

*Emoji Clickers* primarily functions as an automatic game, minimising user interaction. The game's unique feature lies in the limited choices available to players, focusing on unlocking and incorporating new emojis into the animated array. In *Emoji Clickers*, each emoji holds a distinct power in the coin-collecting process. When the player proceeds in

the game, they can unlock new emojis with new powers. In the early stages, there are emojis such as the face screaming emoji (😱) which accumulates 211k with every impact, or the monkey face emoji (🐵) which collects 590k with each knock. Later, the player can activate emojis such as the enraged face (😡), oncoming fist (👊), clicking beer mugs (🍻) with higher powers to gather more coins. This diverse range of emojis not only adds an element of variety to the gameplay but also introduces a cute aspect to the task of money collection. As a user puts it on the game page on Google Play, “seeing those emojis that we all love bounce around with they’re classic faces is priceless!! and make some change! 🙌😄😄” (Alvers, 2023). Another player points out the integration of cuteness and market rationale in the game: “This emoji game is just like becoming an adult, an adult that’s cool and exciting. With it’s fun fast pace money making and collecting emojis while using our thinking skills” (Moore, 2024).<sup>2</sup>



Picture 4: *Emoji Clickers* gameplay screenshots

Source: the author’s screenshots from the game *Emoji Clickers* (Gimica, 2022)

In symbolic terms, *Emoji Clickers* can manifest how emojis and their associated concepts, objects, and emotions can be instrumentalised in the direction of greed. Here, instrumentalization refers to the act of using or treating something as a means to achieve a specific goal or purpose, often toward financial gain, without regard for other possible aspects. Instrumentalization involves employing an entity, concept, or resource as a tool or instrument to serve a particular function or objective. The implementation of emojis as a means to reach the goal of money collection in the game, even in the absence of any meaningful activity from the player, can also demonstrate the feeling of mastery over cute entities. As Harris (1992) and Ngai (2005) suggest, cuteness can often correspond to a desire for sadistic dominance through an overemphasis on the thingness of things. This sense is stressed in this game by instrumentalising the cuteness of emojis in collecting coins.

<sup>2</sup> Remark by the author: The grammatical and typo errors in both comments are retained from the original.



Applied linguist Philip Seargeant (2019) points out that emojis are a writing system “birthed into a culture of hypercapitalism and privatised regulation” (p. 168). It is arguable that *Emoji Clickers* is built on this notion. It overemphasises the ‘thingness’ of emojis while giving the player a mastery position. By situating emojis’ cuteness in a blatantly capitalist context, the game communicates the message that these diverse emotive depictions must operate as animated tools within the context of the digital environment to gather financial benefits. The reduction of emotional expressions to mere bouncing instruments underscores the primary focus on monetary gain, emphasising a pragmatic and transactional aspect within the larger framework of the depicted scenario. One can argue that the implementation of emojis in the narrative design of *Emoji Clickers* renders a ‘cute’ picture of greed – the aestheticization of greed in a cute wrapping that emojis provide.

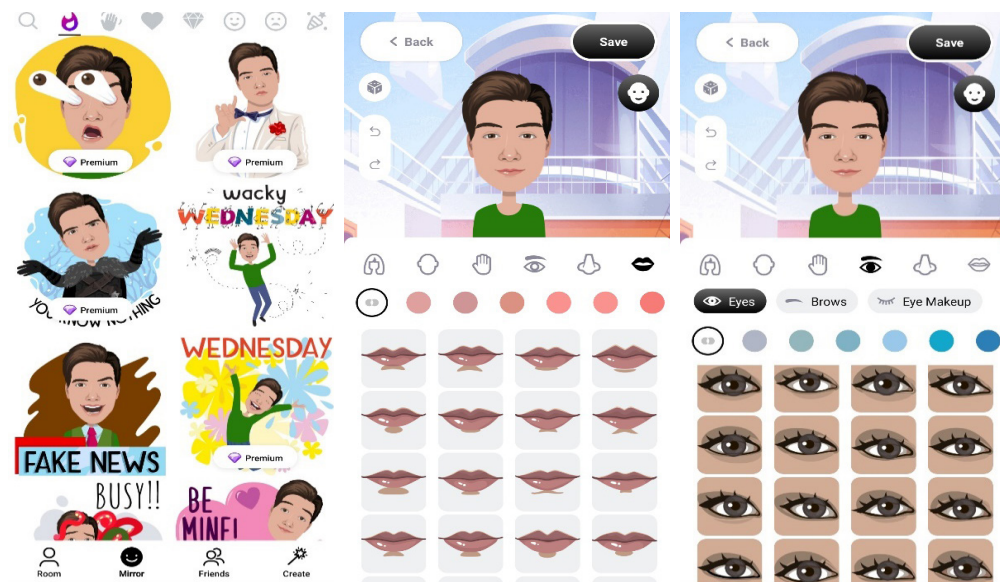
## Self-enhancement - *Mirror Fun*

Emojis can play a prominent role in shaping an individual’s sense of self by serving as digital expressions of emotions, sentiments, and personal identity (Ge, 2019; Li et al., 2020; Robertson et al., 2021; Ge-Stadnyk, 2021). The selection and use of emojis contribute to the creation of a unique online persona, allowing individuals to convey aspects of their personality, mood, and communication style in the digital realm. The ability to choose from a vast array of emojis enables users to curate a visual language that resonates with their emotional state and personal preferences, fostering a sense of self-expression and authenticity. Emojis, in this context, become tools for self-representation, aiding in the nuanced communication of feelings and contributing to the construction of a digital identity that aligns with one’s self-perception and how one wishes to be perceived by others.

Released on June 19, 2017, by Mirror AI, *Mirror Fun* serves as a personalised and expressive extension of one’s digital identity, offering users a cartoony version of the self in the virtual space. Users can create customised avatars that resemble their physical appearance, allowing for a more personalised form of self-representation. This not only propels a sense of individuality but also enhances the connection between the user and their online presence. The ability to integrate these personalised avatars into various digital communications, from messaging to social media, adds a layer of fun and creativity to interactions. By enabling users to inject their virtual presence with a distinct and customisable visual identity, *Mirror Fun* can play a pivotal role in shaping the way individuals express themselves and engage with others in the digital realm (Picture 5).

The app appropriates the emoji brand to offer an opportunity for cartooning the self and imbuing it with cuteness in digital representations. This way, *Mirror Fun* can have a profound impact on how individuals represent their online identities. The use of cute and cartoonish elements can serve as a form of self-expression, allowing individuals to highlight specific aspects of their physicality in a visually engaging manner. The use of adorable avatars or emojis can contribute to an idealised self-image by emphasising endearing qualities and downplaying any perceived flaws. By exaggerating visual features that they aspire to maintain, players can focus on their likeable attributes, render a fictitious image of the ‘self,’ and share it with other users online. While the playful and creative nature of cartooning the self can enhance a sense of individuality and agency in shaping one’s online identity, it can also lead to false representations with possible negative effects on an individual’s body image. In a sense, *Mirror Fun* and other similar applications can enact

a cute version of online beauty filters with their adverse effects on the perception and acceptance of body image (Mihăilă & Branîște, 2021; Fioravanti et al., 2022; Cug et al., 2022; Mancin et al., 2023). By playing within such environments, players practice representing a cute version of the ‘self’ while adhering to mainstream beauty standards.



Picture 5: Mirror Fun gameplay screenshot

Source: the author's screenshot from the game Mirror Fun Emoji Face Stickers (Mirror AI, 2017)

## Conclusion

This theoretical study looked at the integration of emoji images with digital games. The incorporation of emojis in various gaming narratives showcases their versatile appeal, transcending mere symbols to become integral components of storytelling, engagement, and expression. The utilization of emojis in the design of digital games demonstrates how game designers capitalise on a popular phenomenon of the digital age to enrich engagement and entertainment. It was discussed that the politics of emojis' role in the environment of digital games is an outcome of their aesthetics, namely their Cuteness. Cute itself can be read on the two sides of a spectrum. One may see Cute as a quality as opposed to the seriousness of reality, or else, it can be conceived as a sweet layer around the bitterness of the components of capitalist ideology. Both considerations of the Cute are traceable in the ways emojis are used in digital games.

The manners of emoji incorporation in digital games were classified into five strategies: personification, aesthetic substitution, doubling the fun, instrumentalization and self-enhancement. While the first three strategies (personification, aesthetic substitution, doubling the fun) may demonstrate the solacing power of the Cute in fostering a sweet and creative environment, the two other strategies (instrumentalization and self-enhancement) can be associated more explicitly with the ideological elements of the capitalist market. An example of each strategy was given for each strategy. *Emoji Quest* brings emojis to life through personification, turning these digital icons into relatable characters in an emoji world. *Disney Emoji Blitz* substitutes the aesthetics of a former digital game,

*Candy Crush Saga* with a mixture of iconic Disney characters in the form of emojis. The act of combining emojis together, as explored in *Emoji Kitchen*, appeals to viewers by unlocking new dimensions of creativity and storytelling, thereby doubling the fun of the emoji world. *Emoji Clickers*, on the other hand, instrumentalises emojis as strategic tools in the task of collecting coins in the game's environment. Finally, *Mirror Fun* enables users to enhance their virtual self-image with numerous customising options.

The diverse applications of emojis across various gaming settings highlight the profound impact of the Cute, which embodies the essence of emojis as a brand and their set of icons. In certain instances, like *Emoji Kitchen*, this influence leans towards a light-hearted and entertaining nature, contributing to a playful gaming experience. On the contrary, in games like *Emoji Clickers*, the utilisation of emojis takes on a different tone, aligning with a broader capitalist rationale that prioritises the pursuit of profit at any cost. Likewise, while titles like *Emoji Quest* and *Disney Emoji Blitz* may offer a delightful hour of immersive engagement within the charming universe of emojis, providing players with a light-hearted experience, games like *Mirror* may introduce a context potentially yielding adverse effects on players' self-perception and body image. Such contrasts underscore the versatile nature of emojis and their Cute aesthetics, illustrating how their use can range from whimsical and entertaining to embodying more significant socio-economic themes within the gaming landscape. Future research can shed light on how these contradictions within the realm of emojis are perceived by the audience, which is likely comprised mostly of younger generations.

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# Developing Socioemotional Repertoire in Youth through TTRPGs: A Pilot Study

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## ABSTRACT:

Gamification has been investigated in various fields, including education. And tabletop role-playing games (TTRPGs) provide a playful and yet safe space for unique learning experiences to take place. However, the literature on the use of TTRPGs is limited, notably in behavioural science, and particularly in the Brazilian context. This study begins to explore the use of this type of gaming for the development of behavioural repertoires, especially socioemotional, in young people. The auto-efficacy of university students and individuals from the external community regarding their own social and emotional abilities was assessed before, during, and after their participation in a TTRPG campaign. A TTRPG system developed in a psychology research course was used, with mechanics designed to evoke social and emotional behaviours as challenges were faced. Comparative results before and during the campaign showed an increase in comfort to handle social situations and in confidence to handle emotional issues within the gaming environment. Comparisons before and after the campaign suggest a transfer of learning from the game experiences to their individual repertoires. Despite the promising results, the study addresses its limitations. Finally, the potential of TTRPGs as a psychoeducational tool was highlighted, and further investigations in different areas were suggested.

## KEY WORDS:

psychoeducation, skills, socioemotional, tabletop role-playing games.

## DOI:

10.34135/actaludologica.2024-7-2.52-62

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# Introduction

Skinner (1938) presents a glimpse of his behaviourism in *The behavior of organisms*, from which it is understood that behaviours are shaped and maintained by their consequences. In practice, this implies that the control of the consequences, or the management of reinforcements and punishments in contingencies, can be used for behaviour modification. Since then, areas of knowledge involving behaviour as a subject of study have adopted this philosophical foundation in their theoretical frameworks, such as psychology with behaviour analysis, as well as gamification methodology (Morford et al., 2014).

The term *gamification*, coined by Nick Pelling, is an active methodology that applies game elements in non-playful contexts (Marczewski, 2013), and has been increasingly prominent in areas involving behavioural changes, such as education (Borges et al., 2013; Klock et al., 2020; Raposo Neto et al., 2023) and health (Bassanelli et al., 2022; Damaševičius et al., 2023; Nurtanto et al., 2021; Riar et al., 2022; Xie, 2022), showing promising empirical results. However, being a relatively new concept, there is much to explore in its different branches, such as role-playing games or RPGs (Morford et al., 2014).

The analogical version of RPG, a *table-top roleplaying game* (TTRPG), traditionally played around a table, is defined as a collaborative storytelling with defined rules (Tychsen, 2006). Important structural aspects form the basis for it to happen, such as a shared premise among participants, a style of setting where the story will take place, a starting point for everyone, a system of mechanics governing the functioning of the game,

and a person serving as a narrative guide. In an TTRPG campaign, each participant takes control of one or more characters, using them as a 'vehicle' to interact with the fictional reality of the game, interpreting them using verbal and non-verbal behaviours for one or several sessions called a *campaign* (Saldanha & Batista, 2009).

Unlike the growing literature on gamification, TTRPGs have been approached with resistance and limited research, especially in Brazilian and behavioural studies. Only recently has it received positive attention in elementary education (Lima, 2021), while in health, there are timid occurrences (Araujo et al., 2011; Lima, 2021; Saldanha & Batista, 2009), but rarely with a behaviourist focus, even though there are already known ways to intervene and expand behavioural repertoires through TTRPGs (Lima, 2021).

However, games in general are initially designed for entertainment. Skinner (1986) sees contingencies that are purely reinforcing as problematic for the maintenance of culture and the human species. There is also a famous quote often attributed to the psychologist Piaget which states that "play is the work of children" (Wilkinson, 2016, p. 18). The enjoyable nature of games, therefore, may be one reason for the apparent lack of interest in prominent investigations into TTRPGs by academics. On the other hand, then, it is inferred that demonstrating the usefulness of TTRPGs beyond fun, such as in facilitating the planning of teaching contingencies, that is, the evocation, reinforcement, and suppression of behaviours (Skinner, 1968), can begin to arouse the interest of these researchers in this tool. After all, there is already enough interface between the main concepts of TTRPGs with psychological and behavioural analysis itself (Menezes et al., 2014; Morford et al., 2014; Lima, 2021), opening up comfortable theoretical space for the production of joint knowledge between these areas.

It is perceived in the literature that, when TTRPG is studied, rare are the works that develop their own systems for non-game purposes (Kurutz et al., 2020), even more so those that measure their results (Coelho, 2017; Lima, 2021). In most cases, studies with TTRPG in education go through adaptations of existing recreational RPGs for some context of interest (Salvado et al., 2022), yet are lacking the methodological aspects of academic research.

This absence of scientific works on TTRPG can be seen as a symptom of delay in the development of teaching technologies, as Skinner (1968) defines them. This playful tool could be strengthening culture, in the form of schemes and methods for the instruction of skills and knowledge, instead of eroding it by purely reinforcing purposes (Skinner, 1986).

Another perspective concerns the specific development of skills in young people. Inserted in a context of increasing social and emotional pressure, many of these individuals lack sound mechanisms to face daily adversities. Family, academic, professional, and even technological tensions, among other common spheres of modern life, can be intense sources of stress for this group (de Faria et al., 2012). Emotional regulation and the development of social skills are areas of urgent need for many of them, yet they are poorly explored in the educational context that shapes them, leaving this learning to the uncertainties of life (Borges et al., 2013). This demand can often lead to anxiety-inducing experiences and the traumatic processing of them, as there may be a lack of adequate coping repertoires to deal with their distress and frustrations (Nunes, 2013; Arenas et al., 2022).

Experiential games, such as TTRPGs, address this demand by providing safe and controlled environments to test limits and face ambitious challenges, where the consequences of mistakes do not have direct repercussions in the individual's reality (Blackmon, 1994; Matsuo, 2021). This can reduce, for example, the fear of failure and encourage experimentation and risk-taking (Teodoro, 2010). Experienced players, who are already familiar with the safe perspective of TTRPGs, even seek increasingly challenging fictional contexts (Poeller et al., 2023).



TTRPGs also provide a natural alignment with social learning. Players often have to cooperate with each other to achieve common goals. Thus, they can learn to value diversity (Costa et al., 2022), deal with social anxiety (Varrette et al., 2022), negotiate, and resolve conflicts (Grando & Tarouco, 2008; Gutierrez, 2017), which are valuable and skills transferable to real life (Arenas et al., 2022). This hypothesis is based on the Skinnerian view that people can only respond to their environments' stimuli, even when fictional, from their individual pre-existing reinforcement experiences (Skinner, 2015). Thus, as players experience the reinforcing and punishing consequences of an TTRPG campaign, they are actually expanding their own behavioural repertoire.

In 2022, civil engineer Átila Duval launched the *Ludecário* TTRPG system, following his research as an undergraduate psychology student at the University of Brasília. His work aimed to bridge the worlds of psychotherapy and TTRPGs, leveraging his engineering background to create tailored game mechanics and skill rolls with fairer probabilities. The system is inspired by Skinner's (1938) theory on behaviourism, Ekman's (1992) theory on the basic emotions, Lynch's (2012) findings on the factors influencing successful psychotherapy outcomes, the dialectical behavioural therapy (DBT) practices on group therapy (Rathus & Miller, 2015), McRae and Gross' (2020) findings on emotional regulation, Bowman's (2018) view on immersion in RPGs, Yee and Bailenson's (2007) theory of the *Proteus effect* and other famous TTRPG systems, such as the generic universal role-playing system or GURPS by Steve Jackson Games (2004), the 5<sup>th</sup> edition of *Dungeon & Dragons* (D&D) by Wizards of the Coast (2014) and *Vampire: The Masquerade* by White Wolf Publishing (1991), that are renowned for their emphasis on character development, categorizing of skills, combat mechanics, and storytelling elements. In *Ludecário*, for the initial character creation process, all participants are guided to delve deeply into specific directives, in order to help with immersion: age, important NPCs (non-player characters) in their history (childhood, adolescence, etc.), their likes and dislikes, main aversive emotion (anger, sadness, fear or disgust), motivations, and the underlying reasons for these motivations. *Ludecário* incorporates an emotion mechanic designed to serve therapeutic purposes. Whenever a player fails their dice rolls, their character experiences aversive emotions, which accumulate up to a certain threshold. If this threshold is reached and not addressed, it can lead to the character entering a crisis state. To avoid a crisis, the player must strategically use specific abilities, based on the main aversive emotion they've chosen for their characters, to effectively regulate them. If a player fails to regulate their character's emotions, the ensuing crisis renders the character incapacitated, unable to act until they *process* these emotions. This processing involves the player having a moment solely to narrate the effects of the emotion on the character, fostering an understanding of their own feelings, and reflecting on the choices that led to the crisis, promoting a sense of responsibility for the consequences of their character's actions. This process is intended to facilitate learning from the characters' experiences, the development of self-awareness among players, and the prevention of future crises in their characters. The players can also help each other, with the use of two other mechanics, either through inspiring their fellow companions or assisting their regulation processing. The inspiration mechanic is also a social mechanic, along with other social skills available for their use (such as rhetoric and leadership). Through this system, players are expected to gain insights into their own emotional regulation and social engagement, translating these skills from the game into their real lives.

This study aims to be a pilot study for future research and a provocation to the academic community regarding the normalization of TTRPGs in behavioural research, inspiring both the creation and exploration of these playful tools for intentionally psychoeducational purposes. The goal is to gain an initial insight into how the configuration of a TTRPG,

with mechanics specifically designed to evoke social and emotional behaviours in characters facing fictional challenges, can affect players' perception of their own socioemotional performance. With this scope, it is hoped to nurture favourable views on the potential of this type of game in behavioural modification contexts, such as education and health.

## Methodology

Building upon the suggestions of Liapis and Denisova (2023) on how to assess the TTRPG player experience in game creation and research contexts, this study explored how participants in a recurring extension program at the University of Brasília perceived their own socioemotional resourcefulness and interest in TTRPG before, during, and after engaging in a TTRPG campaign with mechanics specifically designed to address these themes. A within-subject experimental design would be suited for an extended study of this matter in psychology, since the effects of some dependent variables in skills training are best analysed when comparing the performance of each participant within themselves (Brown et al., 1998; Charness et al., 2012). However, for this pilot study, a simple group analysis was employed in order to verify paths for further in-depth studies.

Following the presentation of this study's proposal during a semester activity of the extension group, four university students from different undergraduate courses at the University of Brasília and two individuals from the external community volunteered to participate in the playing sessions. This resulted in a total of six players aged between 20 and 25 years. Among them, only one participant was male, and there were varying degrees of experience in RPG and knowledge of the basic psychological processes.

The *Ludecário* TTRPG system developed by Duval in 2022 was used, due to its socioemotional mechanics. A tablet and computer screens were utilized to present character sheets, rules, and maps. Speakers provided means for immersive soundtracks. Six-sided dice were used to resolve in-game situations. The Google Forms platform was employed to create questionnaires and gather feedback on the participants' experience.

The sessions took place on Wednesdays and Fridays between 4:00 PM and 6:00 PM throughout the academic semester, amounting to 25 game sessions or 50 hours of adventures for this TTRPG campaign. Players gathered around a table in the living room of the first author's residence, who also served as the narrator. Everyone had access to both the computer and tablet screens for the visual elements of the game throughout the sessions.

The game's story unfolded in an apocalyptic scenario, where half of the population turned into hungry undead hordes in an instant, while the other half tried to perceive, process, and protect themselves from the situation. The characters were introduced to the story on a typical day at the University of Brasília and had to cooperate to face the challenges. Each character was equipped with abilities of varying degrees, according to the players' preferences. In the face of these challenges, their abilities were tested through dice rolls, and in the event of failures, players dealt with the accumulation of aversive emotions. The players had to regulate these emotions in their characters, using the advantages and avoiding the disadvantages that each emotion presented.

Participants responded to three questionnaires applied respectively before, during, and after the TTRPG campaign, to assess their perceptions of their socioemotional self-efficacy and their familiarity with and interest in TTRPGs. The responses collected before the campaign began served as the baseline, reflecting the participants' real-life context. During the campaign, players were asked only questions about socioemotional self-efficacy, but were instructed to respond as their characters. After the campaign concluded,

they answered all the questions again, this time as themselves. The questions were based on the Mindfulness-Based Self Efficacy Scale Revised or MSSES-R (Cayoun et al., 2022), which measures the perceived self-efficacy of respondents in overcoming daily stressors, using a Likert scale, ranging from 1 (“not at all”) to 5 (“completely”). Key areas of inquiry included how players handled common TTRPG social and emotional dynamics like participating in group settings, expressing ideas, controlling their own emotions, dealing with pressure, and handling failure.

It is important to clarify that these questionnaires were designed not to assess the efficacy of the TTRPG system itself, but rather to gauge the players’ perceptions of their own socioemotional efficacy at three different points in time. The surveys were taken on-line with Google Forms. One participant’s data were excluded due to missing the last survey’s deadline.

## Results and Discussion

The results were compiled in Table 1, showing the percentage of players who selected the indicated rating on the scale. Similar to the MSSES-R, a rating of 1 means “not at all”, while 5 means “completely”.

Table 1: Percentage of players who selected the indicated number for each question

No.	Question	Moment of the questionnaire	Responses (%)				
			1	2	3	4	5
1	How comfortable do you currently feel working in group settings?	Pre-campaign, as themselves			60	40	
		Mid-campaign, in character			20	60	20
		Post-campaign, as themselves				80	20
2	How comfortable do you currently feel expressing your ideas and opinions to others?	Pre-campaign, as themselves			80	20	
		Mid-campaign, in character			20	40	40
		Post-campaign, as themselves			60		40
3	How confident do you currently feel in handling your emotions and thoughts?	Pre-campaign, as themselves			60	20	20
		Mid-campaign, in character			40	40	20
		Post-campaign, as themselves			40	20	40
4	How confident do you currently feel in dealing with pressure and stress situations?	Pre-campaign, as themselves			20	80	
		Mid-campaign, in character			20	40	40
		Post-campaign, as themselves			20	60	20
5	How confident do you currently feel in handling failure and frustration?	Pre-campaign, as themselves		40	20	40	
		Mid-campaign, in character		20	40	20	20
		Post-campaign, as themselves			40	40	20
6	How familiar do you currently feel with TTRPG mechanics and rules?	Before the campaign started	60		20		20
		After the campaign finished			20	60	20

7	What is your current level of interest in TTRPG for entertainment and fun?	Before the campaign started	20	20	20	20	20
		After the campaign finished			20	40	40
8	What is your current level of interest in TTRPG for developing skills?	Before the campaign started	20		20	20	40
		After the campaign finished				40	60
9	What is your current level of expectation / satisfaction regarding the system and setting proposed for this TTRPG?	Before the campaign started		20		40	40
		After the campaign finished		20	20	20	40

Source: own processing

Questions 1 and 2 gauge the player's perception of their social skills efficacy, while questions 3 to 5 focus on their emotional skills efficacy. Questions 6 to 9, unrelated to the MSSES-R, assess their interest in and familiarity with TTRPGs. These questions were not asked in the mid-campaign survey as respondents were instructed to respond in character, making a question about TTRPGs incongruous to the task at hand. The group's mean responses for each question are presented in Table 2, offering a summary of the outcomes.

Table 2: Mean group responses to each question

No.	Question	Moment of the questionnaire	Mean Response (1 to 5)
1	How comfortable do you currently feel working in group settings?	Pre-campaign, as themselves	3.4
		Mid-campaign, in character	4.0
		Post-campaign, as themselves	4.2
2	How comfortable do you currently feel expressing your ideas and opinions to others?	Pre-campaign, as themselves	3.2
		Mid-campaign, in character	4.2
		Post-campaign, as themselves	3.8
3	How confident do you currently feel in handling your emotions and thoughts?	Pre-campaign, as themselves	3.6
		Mid-campaign, in character	3.8
		Post-campaign, as themselves	4.0
4	How confident do you currently feel in dealing with pressure and stress situations?	Pre-campaign, as themselves	3.8
		Mid-campaign, in character	4.2
		Post-campaign, as themselves	4.0
5	How confident do you currently feel in handling failure and frustration?	Pre-campaign, as themselves	3.0
		Mid-campaign, in character	3.4
		Post-campaign, as themselves	3.8
6	How familiar do you currently feel with TTRPG mechanics and rules?	Before the campaign started	2.2
		After the campaign finished	4.0
7	What is your current level of interest in TTRPG for entertainment and fun?	Before the campaign started	3.0
		After the campaign finished	4.2

8	<i>What is your current level of interest in TTRPG for developing skills?</i>	<i>Before the campaign started</i>	3.6
		<i>After the campaign finished</i>	4.6
9	<i>What is your current level of expectation / satisfaction regarding the system and setting proposed for this TTRPG?</i>	<i>Before the campaign started</i>	4.0
		<i>After the campaign finished</i>	3.8

Source: own processing

Comparing the pre-campaign and mid-campaign contexts, there is a clear increase in all mean responses. This trend indicates that the group likely experienced enhanced comfort navigating social situations and greater confidence in addressing emotional challenges within the game, relative to real-life scenarios. These findings align with the view that TTRPGs may reduce the fear of failure and subsequently encourage experimentation and risk-taking (Teodoro, 2010).

Analysing the pre-campaign and post-campaign contexts also shows a significant increase in all mean responses. This trend suggests that participants' average perceived self-efficacy in social skills and emotional processing improved following their engagement in the gaming experience. This observation aligns with the learning transfer process, indicating that the simulated socioemotional scenarios experienced through their game characters may have generalized to their real-life behavioural skills (Arenas et al., 2022; Skinner, 2015).

Interestingly, when comparing the mid-campaign and post-campaign contexts, questions 1, 3, and 5 showed an increase in the mean responses. These findings may suggest that, not only might the group have experienced improvements in their socioemotional self-efficacy following their engagement with TTRPG, but also some of the comfort and confidence felt mid-campaign may have transferred into their everyday lives.

Participants' interest in and familiarity with RPGs for entertainment and skill development grew by the end of the semester. However, their expectations regarding the scenario and system employed may not have been fully met, indicating a need for potential adjustments in mechanics or enhancements in the narrator's storytelling abilities to better align challenges with participants' individual realities (Poeller et al., 2023).

## Conclusion

This pilot study aims to contribute to academic literature by demonstrating the potential of tailored TTRPG systems in therapeutic, educational, and health applications, with the goal of stimulating further research in this area. The selected TTRPG system in this study showed promise in fostering social skills and emotional management by immersing participants in fictional challenges through their characters, opportunities they might not encounter similarly in real life without risking consequences.

Due to the preliminary nature of this exploration, the study did not fully explore the extent of these effects. However, initial findings suggest that learning experiences from the game may translate into participants' daily lives, highlighting the necessity for additional research into the use of TTRPGs in behavioural modification contexts.

Future studies could expand on these findings by examining a larger and more diverse sample, assessing a wider range of social, emotional, and cognitive skills training outcomes. Further investigation could also explore how immersive elements such as physical settings, props, and character backgrounds enhance the benefits of TTRPGs

in skill development. Moreover, research could investigate the potential of TTRPGs in behavioural modification within psychological counselling or intervention settings, particularly for adolescents and young adults facing behavioural challenges. Such studies could help to identify game scenarios that effectively evoke and train social and emotional behaviours.

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# Digital Narratives of Oppression: Surveillance and Control in *Detention* and *Devotion* Depicting Taiwan During the White Terror

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## ABSTRACT:

Fang Ray-shin, a Taiwanese teenager during the White Terror, faces a harrowing choice: expose her classmates in a forbidden book club or remain silent, a decision that highlights the pervasive surveillance of the era, where silence equates to betrayal. This moral dilemma lies at the heart of Red Candle Games' *Detention*, a digital game that immerses players in the atmosphere of suspicion and distrust prevalent in Taiwan under martial law. Alongside its successor, *Devotion*, these games are meticulously crafted narratives that reflect the paranoia and psychological trauma caused by constant monitoring. While existing studies have explored the historical context of these games, they often overlook their engagement with Foucault's surveillance theories presented in *Discipline and punish*. This study bridges this gap by analysing the games as virtual representations of Taiwan during the 1960s-80s, investigating the portrayal of historical events under authoritarian rule and the concept of 'playable surveillance'. This paper also argues that these games challenge and reinforce players' perceptions of agency, morality, and resistance in the face of systemic oppression.

## KEY WORDS:

*Detention*, *Devotion*, *Discipline and punish*, Michel Foucault, surveillance, White Terror.

## DOI:

10.34135/actaludologica.2024-7-2.64-79

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# Introduction

Public Announcement – Due to our ongoing war with mainland China, instructor Bai is asking students to rat out anyone who may be pro-communist or show signs of treachery. There are big rewards for informants.

– *Detention*

This announcement within *Detention* (Red Candle Games, 2017) serves as a poignant reminder of the historical period when students were incentivized to report individuals suspected of communist ties – a period which was characterized by an atmosphere of apprehension and mistrust, where the possibility of treachery was always looming. It symbolizes the extensive surveillance that was prevalent in Taiwan during the White Terror era (1949-1987), a period marked by the suppression of dissent and the violation of human rights. Red Candle Games masterfully translates the abstract shadows of Foucault's (1977) *Discipline and punish* into tangible gameplay mechanics. The warped perspectives, intrusive radio broadcasts, and omnipresent spirits in *Detention* externalize the constant gaze of the state, immersing players in a society where living under surveillance has become second nature to its people. Two years later, Red Candle Games launched *Devotion* (Red Candle Games, 2019) which delves even deeper. Its fractured narrative and unreliable memories mirrored the fragmented identities formed under the White Terror's relentless gaze. Here, the most chilling prison was not the regime's, but the one built within, brick by brick, from years of surveillance and self-policing. This paper argues that the game displays complex layers of surveillance, as in Foucault's (1977) *Discipline and punish*

in the tapestry of 1960s and 1980s Taiwan. The inclusion of Taiwanese perspectives in this research is important for preserving and promoting Taiwanese voices in the global discourse, particularly in the realm of digital media and interactive storytelling.

By dissecting the layers of surveillance, this paper explores how these games translate the lived experience of paranoia and surveillance into tangible gameplay mechanics. This research employs discourse analysis to explore how *Devotion* and *Detention* illustrate the power relationships inherent in Taiwanese society during the White Terror period.

Discourse analysis, as articulated by Foucault, examines how power is exercised through language, symbols, and cultural artifacts. In the context of game studies, however, discourse extends beyond traditional textual analysis; it encompasses the multimodal elements of games – visuals, mechanics, player interactions, and narratives – creating a dynamic space where meaning is negotiated between the game and the player. According to Gee (2015), the syntax of a game refers to its underlying structure – how various elements combine to create a coherent experience. This includes the game's mechanics, rules, and narrative flow. The semantics, on the other hand, encompass the meanings assigned to these elements within the game's context, shaped by players' interactions and the cultural knowledge they bring to the gaming experience.

By viewing games through this dual framework, we can analyse how they communicate meaning and engage players in unique ways. For instance, in *Detention* and *Devotion*, the representation of surveillance is not merely a narrative device; it is embedded in the mechanics and interactions that players experience. The way players navigate through environments, interact with objects, and confront challenges offers a means to critique real-world surveillance systems. Foucault's concepts of biopolitics, biopower, and governmentality will be central to understanding how these games depict the intricate ways in which power operates and is internalized by individuals. Both games insightfully capture the representation of horror in response to socio-political turmoil and cult culture in the specific historical contexts of the local community.

## The White Terror in Taiwan

White Terror's origin can be traced back to World War II. According to Shattuck (2017):

In Taiwan, the period immediately following the 228 Incident is known as the "White Terror" for the massive suppression, murder, and imprisonment of political dissidents, or anyone who the Kuomintang (KMT), known as Nationalists in English, perceived as a threat to its one-party rule. The Martial Law that was implemented in the aftermath of the incident was not lifted until 1987. The story of the 228 Incident – named after the day on which the terror began, February 28 – can be traced back to 1945 and the rampant dissatisfaction that local Taiwanese had for the governing officials of the Republic of China after the end of World War II. (Shattuck 2017, paras. 1-2).

However, within two years of this transition, the KMT government, the ruling party of China and Taiwan faced numerous allegations of corruption while their economy was deteriorating alarmingly. This was largely because the KMT struggled to tackle the charismatic Mao Zedong's growing influence in mainland China and stay in power. Following their defeat by the Communist forces led by Mao, the KMT, under the leadership of Chiang Kai-shek, strategically retreated to Taiwan. Taiwan became the last bastion for the KMT, marking the commencement of a complex and repressive chapter in the island's history. To counter KMT's policies, the local population organized a protest, which was

met with severe suppression from the government. The February Twenty-Eighth (228) Incident in 1947 marked a pivotal moment in the history of the country. It was a violent uprising against the ruling Kuomintang government, sparked by an altercation between a cigarette vendor and a government official. The protests, fuelled by frustration with corruption, economic hardship, and a desire for self-determination, quickly spread across the islands. Shih and Chen (2010) note that Generalissimo Chiang Kai-shek, the leader of the KMT, responded with ruthless force. He sent 50,000 troops to Taiwan to quell the rebellion, leading to widespread arrests, executions, and disappearances. The exact number of people killed during the 2-28 Incident in 1947 remains unknown, but estimates range from 10,000 to 20,000.

The government then imposed martial law in 1949, which lasted till 1987 and came to be known as the White Terror. This period between 1949-1987 was characterized by political repression, censorship, and widespread human rights abuses, and had a profound impact on the social and cultural fabric of the country. Over the ensuing decades, the KMT government employed a multifaceted approach, utilizing informants, propaganda, and censorship to oversee and control its citizens. Numerous Taiwanese residents were apprehended, detained, and exposed to brutal treatment, including coercion for confessions, without receiving fair trials, often leading to their execution. The KMT government effectively implemented a network of informants to monitor and report on the activities of citizens, subjecting suspected dissidents to surveillance at all societal levels. This pervasive surveillance created a "state of conscious and permanent visibility that guarantees the programmed functioning of power" (Foucault, 1977, p. 201).

During this period, citizens in Taiwan existed under the constant gaze of surveillance, living in perpetual fear of being observed and reported upon. This 1984-esque situation permeated from the political sphere to the personal and public spheres very effectively with operatives infiltrating schools, workplaces, and religious institutions (Chen, 2008). As Foucault (1977) aptly observed, "the school tends to constitute minute social observatories that penetrate even to the adults and exercise regular supervision over them" (p. 211). This comprehensive monitoring discouraged active participation in public life, fostering a society marked by apprehension, suspicion, and social isolation.

After the death of the KMT's longtime leader, Chiang Kai-shek, in 1975, his son, Chiang Ching-kuo, who succeeded him, was more open to reform and initiated gradual political liberalization measures. His successor, Lee Teng-hui began to try to settle accounts of Taiwan's past; Ching-kuo was portrayed as the initiator of democracy, and his followers – collaborators with the repressive regime, even if they had not all been perpetrators of abuses themselves – stayed in power during a period when the truth about the past was starting to become a matter of public discussion (Shih, 2014). After the end of the White Terror in 1987, efforts were made to give voice to the victims through personal narratives and critical examination of historical records. For instance, Chen Yingzhen's (1988) *Lingdang hua* [Bell Flowers], first released in the April 1983 edition of *Wenxue Jikan* [Literary Quarterly], sheds light on Taiwan's post-Nationalist retreat situation. Following the KMT's complete retreat to Taiwan, they would utilize the declaration of martial law to maintain an ongoing state of emergency on the island, and in conjunction with other legislation, they would wield authoritarian control over its citizens and government (Cheung, 2016). Subsequently, various films and novels were created to recount numerous tales of disappearances, punishments, and death. Films such as *Super Citizen Ko* (Jen, 1995), and *A City of Sadness* (Hou, 1989) cinematically portrayed the condition of Taiwan during that time. These multimedia platforms played a major role in bringing the accounts of White Terror's victims into the limelight.

# Playable Surveillance: Oppression in Digital Games

One specific medium that emerged to explore the impact of White Terror in Taiwan on individuals and society was digital games. Digital games not only allow exploration of White Terror's impact in Taiwan but also provide an experiential view of its effects on individuals and society. Lima (2019) considers digital games to be a highly political medium. This is attributed not only to their ability to expose political content but also to their capacity to question hegemonic thought through their stories and mechanics. Additionally, digital games are capable of mobilizing the public towards action.

Within this landscape, digital games like *Detention* and *Devotion* have provided a distinctive digital portrayal of Taiwan's White Terror regime, marked by pervasive surveillance, control, and psychological consequences. The two critically acclaimed games from Red Candle Games have recently been added to the collections of the Harvard-Yenching Library at Harvard University for preservation and educational purposes (Carpenter, 2020). These games provide an immersive platform that offers unique perspectives on the intricate facets of White Terror and how power was implemented through surveillance. Players of these games first-hand experience the consequences of surveillance, experiencing the fear and paranoia that the characters undergo and grappling with the psychological toll it extracts. *White Day: A Labyrinth Named School* (Sonnori, 2001) is a similar survival horror game developed in South Korea, drawing its terror from the school's former use as a hospital during the Korean War. The disruption of feng shui from associating with the morbid setting transforms the school from a safe space into one fraught with danger. As with *Detention*, players experience the consequences of the site's tragic history first-hand, preserving the historical narrative in a distinctive and immersive manner. Rather than providing simplistic answers, these games invite players to navigate the complex and often contradictory dimensions of surveillance, making surveillance playable. This concept integrates Foucault's theory of discipline and surveillance within the interactive domain of digital games, offering a means to understand how these digital environments simulate, critique, and reconfigure real-world systems of power and control. It highlights the active, participatory nature of surveillance within games, where players engage with and, at times, become agents of these mechanisms. In doing so, *playable surveillance* reveals how games can simulate the tension between agency and control, drawing attention to how these dynamics unfold in a game. This framework is particularly useful for analyzing games with themes of surveillance, especially those situated in historical, political, or dystopian contexts. For instance, the security camera mechanic utilized in *Five Nights at Freddy's* (Cawthon, 2014), and the documented experiments performed on unwilling asylum inmates in *Outlast* (Red Barrels, 2013) shows the powerful impact of surveillance as a tool, revealing how it can backfire on those who use it. The concept of playable surveillance functions not only as an analytical tool but also as a comprehensive methodology for examining the ways games simulate and critique power, control, and authority. It emphasizes identifying the specific mechanics that simulate surveillance and mechanics that are embedded within the narrative – whether they reinforce or challenge the surveillance theme and how player agency is shaped by these dynamics. This study will examine these elements to demonstrate the effectiveness of this framework.

*Detention* and *Devotion* respectively address the traumatic past of Taiwan's White Terror period and the rise of religious cults, these horror games offer their players immersive experiences by reintroducing them to the past in hopes of reshaping their

relationships to the living present - given the fact that such terrors still loom over Taiwan in alternative forms today (Tse, 2022). The spectres of surveillance, self-censorship, and repression introduced during the White Terror era still echo today in alternative forms, such as heightened government monitoring in public spaces, tensions around national identity, and a complex relationship with powerful neighbouring states. This subtle, yet pervasive influence shapes Taiwan's cultural and political landscape, where fears of external control and ideological suppression still resonate. Both *Detention* and *Devotion* revolve primarily around puzzles and adventures set in liminal spaces. These games focus on the players' ability to escape from ghostly apparitions and disturbing memories by deciphering clues scattered throughout the gameplay. Flashbacks, seamlessly integrated into various cutscenes, offer glimpses into the past, revealing the profound complexities of surveillance and control during the White Terror era. Playable surveillance in *Detention* and *Devotion* is a multifaceted concept that manifests through gameplay mechanics, narrative structure, and environmental design. By integrating surveillance into the core gameplay, these games create an atmosphere of pervasive watchfulness, where players must constantly monitor their actions and decisions.

In *Detention*, which immerses players in a world where characters grapple with the spectres of their past and the oppressive forces of a surveillance state, white terror is represented using its narrative and horror setting. In *Detention*, players navigate a school under martial law, where every corner could hide a monitor or informer. The gameplay forces players to be cautious and stealthy, embodying the experience of living under a regime of surveillance. Two years after the release of *Detention*, Red Candle Games released *Devotion* on Steam, a global platform for digital video game distribution. *Devotion* explores the psychological consequences of surveillance within a family. According to Wu (2022), *Devotion* approaches historical horror and gaming politics more subtly than *Detention*, which focuses explicitly on the White Terror theme. While the primary theme of *Devotion* revolves around the religious fervour in Taiwan during the martial law, it conceals a political subtext that has ignited heated debates regarding cross-strait relations.

The game's protagonist, Du Feng Yu, is a scriptwriter entangled in a web of devotion to a cult, exerting control over his daughter, Mei Shin. *Resident Evil 7: Biohazard* (Capcom, 2017), another survival horror game, has used this premise to a similar effect, as its protagonist Ethan Winters, who is determined to recover his missing wife, is caught in the schemes of Eveline, a young girl who is fixated on the notion of having the couple as her 'parents'. Feng Yu's actions epitomize the biopolitical aspect of power, where control extends not only over bodies but also over minds. A discourse analysis is required to understand how these games use their narrative, gameplay, and symbols to explore themes like surveillance and control during the White Terror in Taiwan. In this context, Foucault's (1977) seminal work, *Discipline and punish* becomes indispensable. His comprehensive analysis provides an essential framework for comprehending the operational mechanisms of control, pervasive surveillance, and the manifestations of authority during the White Terror era. Chen (2008) argues that the theories of discipline, punishment, and domination in Foucault's (1977) *Discipline and punish* can help explain the KMT's success in dominating Taiwanese society. According to Chen (2008):

When one examines the history of Taiwan, the 228 massacre and the initial capture and execution of Taiwanese community leaders solidified Taiwan's Damien experience, whereas the consequential KMT oppressive control methods fits with the Foucault's over all theory on successful management to oppress by modern authoritarian regimes. The Taiwanese learned through gaining the knowledge from the collective experience that the consequence of violating the power of the KMT was either imprisonment or death. (Chen 2008, pp. 191-192)



Foucault's work is particularly relevant to understanding how the KMT regime managed to maintain its grip on power during the White Terror period in Taiwan. Applying these theories to digital games can provide a more nuanced understanding of the complexities surrounding Taiwan's dark period. By examining the Taiwanese digital games, *Detention* and *Devotion*, this study will explore how these games navigate the intricacies of Taiwan's tumultuous past. Through a careful analysis of the games' themes, narratives, and gameplay mechanics, this study seeks to explore how digital games can be used to engage with historical events and facilitate a deeper understanding of complex historical contexts. Through the analysis of these game, the study also seeks to introduce a new methodology of playable surveillance for games with themes of surveillance, especially those set in historical, political, or dystopian contexts.

## Monitoring the Space of Learning: Depiction of Surveillance and Power during the White Terror Period in *Detention*

*Detention* quickly accumulated hundreds of thousands of downloads on the digital platform and attracted a large group of loyal gamers domestically and internationally (Wu, 2021). Lee (2019) highlights that *Detention* draws inspiration from an actual incident occurring in 1949 at Keelung Middle School, where the discovery of an underground newspaper led to the execution of the school principal and the imprisonment of hundreds of students. The game takes some elements from this incident and many other incidents of that period. According to Foucault (1977), surveillance is a tool to exercise control and implement a particular ideology.

The game is a mix of nostalgia and horror with religious and horror themes drawn from Buddhist, Taoist and Chinese mythology as well as Taiwanese culture of the 1960s to depict the psychological and emotional torment experienced by the people of Taiwan. The horror in the case of *Detention* stems from its recollection of events of White Terror whether it is in the form of the image of a prisoner handcuffed in the background or the disturbing scene of Wei ChungTing's body – Ray's junior, whose death she envisions as part of her guilt – hanging upside-down.

Foucault's concept of the Panopticon is central to understanding the mechanisms of surveillance depicted in *Detention*. The Panopticon, a design for a prison by Jeremy Bentham, allows a single guard to observe all inmates without them knowing whether they are being watched, creating a state of conscious and permanent visibility that ensures the automatic functioning of power. This idea is evident in this game's setting, where the constant threat of being observed by authorities, even in the absence of visible guards, instills a sense of perpetual surveillance among the characters. In *Detention*, the school functions as a microcosm of the larger surveillance state. The character Ray navigates through the corridors, classrooms, and hidden spaces of the school, which are imbued with the haunting presence of surveillance. This design ensures that students are aware they could be under observation at any time, fostering a sense of being constantly watched. This leads to

self-regulation and compliance with the regime's ideology. The environment itself becomes a tool of discipline, as described by Foucault (1977): "The perfection of power should tend to render its actual exercise unnecessary" (p. 201). Throughout the game, players interact with various characters who embody different responses to the surveillance state. Dialogues often reveal fears, compliance, and resistance, highlighting how individuals internalize the expectations of authority figures. The conversations players engage in are not just passive; they require choices that can influence the narrative. This aspect of playable surveillance allows players to reflect on the moral complexities of collaboration versus resistance, echoing the pressures faced by individuals in authoritarian regimes.

The main character, Ray, is trapped in the school and must solve puzzles to free herself. Players go on a journey with Ray as they piece together her memories and uncover what must have happened in the school. There is no one in the school, but there are patches of blood. Lingered spirits, reminiscent of hungry ghosts of Buddhist lore and images of prisoners form the background. Ray is alone but her memories are here to remind her why. Even though she is trapped in school, the rules of time and space are suspended. Ray is not in an ordinary realm; the school has transformed into Diyu – the Chinese underworld. Ray's memory embodies the darker side of a state that claims to just remove the evils of Japanese education. There are benches with blood, clues revealed after cutting Wei's throat, and prohibition of some books. The approaching typhoon is a metaphor for the dangers awaiting students inside and outside the school during martial law.

There is a propaganda movie playing and we see Ray openly admitting to how the military plays this movie as part of the government's ideology. They are not allowed to read certain books, they are not allowed to listen to certain music, and anyone who dares to defy it is labelled a 'communist spy' and punished. By 1958, KMT established 28 newspapers, 498 journals, and magazines to be used in schools. Their ideology was extensively promoted in schools. Foucault argues that power and knowledge are intertwined, with power producing knowledge and knowledge reinforcing power (Chen, 2008). This relationship is evident in *Detention* through the control of information and the propagation of state ideology. The game depicts how the KMT used education as a tool to shape the minds of young Taiwanese, promoting pro-Chinese and anti-Communist narratives while suppressing Taiwanese culture and language. The game's use of journal notes, symbols, and puzzles reveals the hidden history and forbidden knowledge that the regime sought to erase. Ray's journey to uncover these truths mirrors Foucault's assertion that power operates by concealing certain realities and constructing an official narrative that serves its interests. The presence of forbidden books and the clandestine book club led by Miss Yin represent acts of resistance against the state's control of knowledge, challenging the hegemonic discourse imposed by the KMT.

Teachers from mainland China were favoured and Taiwanese teachers were treated as secondary. Even the songs and anthems in schools such as "I am a Chinese", and "Fight our war back to the mainland" promoted the KMT's ideology. Taiwanese culture was repressed and even the use of the Taiwanese language was not allowed. Mandarin became the official language of Taiwan and KMT justified its repressive policies by stating that communist organizers were able to deceive the Taiwanese because of 'evil education from Japanese' (Chen, 2008). These measures ruled the lives of all the people living in Taiwan. The situation in Taiwan was that of Jeremy Bentham's Panopticon coming to life. Foucault (1977) discussed Jeremy Bentham and his modern prison design, talking about how removing those who are considered 'trouble-makers' from society and rehabilitating and disciplining them is one of the best ways to maintain control over the rest of society. Ray and her friends are not allowed to study the other side of the Chinese Civil War, they are not allowed to read books apart from those approved by the system. They are prisoners waiting to be punished the moment they fail to follow the path laid down for them by the

KMT. To achieve this, it is at once too much and too little that the prisoner should be constantly observed by an inspector: too little, for what matters is that he knows himself to be observed; too much, because he has no need in fact of being so (Foucault, 1977).

Statues of Chiang Kai-Shek are in every institute, a reminder of who people need to obey. There is a note on the school board with a message about instructor Bai requesting students to report individuals displaying pro-Communist sentiments or indications of disloyalty. Generous rewards are promised for informants. Instructor Bai stands for Chiang Kai-shek here. Rewards are a testament to the KMT's deep entrenchment in Taiwan's society and a clear indication of their capabilities. Foucault's notion of discipline involves the meticulous control of bodies to produce docile and obedient subjects. In *Detention*, this is depicted through the school's strict regulations and the severe punishments meted out for any deviations from the prescribed norms.

Instructor Bai's announcement requesting students to report individuals displaying pro-Communist sentiments or indications of disloyalty is a direct reflection of the disciplinary measures employed by the KMT regime. The promise of generous rewards for informants further incentivizes surveillance, turning individuals into agents of the state's disciplinary apparatus. This aligns with the idea that discipline imposes a relation of docility-utility on individuals, transforming them into compliant subjects who serve the interests of the power structure (Foucault, 1977).

Ray finds pieces of her past scattered and hidden, puzzles putting together the horrors of living in a society where fostering dreams became a crime. Ray's home is in disarray, her mother reports her father, and he is jailed for crimes unclear. The only bright spot in her life is the counsellor in whom she finds love and solace. The stability in Ray's life, however, is threatened when the counsellor, Mr. Chang, stops seeing her, and Ray fears losing him for good. This fear is exacerbated when she eavesdrops on a conversation between Mr. Chang and Miss Yin and misinterprets their discussion. Mr. Chang, believing that Ray is old enough to make her own decisions, takes her to see a movie, crossing professional boundaries and blurring the lines of their relationship. This budding affair, though kept relatively private, is problematic due to the significant power imbalance and Ray's emotional vulnerability. The relationship comes to an abrupt end when Miss Yin intervenes, asserting that Mr. Chang should not date a student. This intervention underscores the ethical boundaries that Mr. Chang has overstepped and highlights the potential harm in such an imbalanced relationship. The situation leaves Ray feeling abandoned and misunderstood, intensifying her emotional turmoil and sense of isolation. According to Ray, Miss. Yin was the reason behind her loneliness and separation from Mr. Chang. Lonely and angry, she picks the way she feels would provide her with revenge. She became the 'merciless patriot'. In anger, she submits to instructor Bai GuoFang the list of books that the Miss Yin-led hidden book club is reading. She did this by using Wei ChungTing, her junior, by telling him she wanted to read the books as well, but all she wanted was the list. Wei and his fellow book club members, in an attempt to dispose of the banned books, set them ablaze. Ray has become what she initially recognized as part of propaganda, she becomes the spy that will lead to the arrest and imprisonment of her classmates. Chang, implicated in the crime, faces execution. The game's narrative explores practices of exclusion, as those who do not conform to the regime's expectations are ostracized or punished. This is evident in the fate of Fang Ray Shin's classmates, who suffer under the weight of societal and political pressures. The disciplinary mechanisms at play, which exclude deviant behaviours and enforce conformity, echo Foucault's analysis of how power operates through exclusion and normalization. Instructor Bai, acknowledging Ray's role in informing on her friends, rewards her with an accolade. This reward has two purposes, showcasing the KMT's ability to track any hidden activity and punish people who are not following the right path.

Ray's actions render her an outcast, ostracized by her peers. This leads to Ray taking her own life. Surveillance here not only harms the people incriminated but also the very harbingers of surveillance suffer. The player is revealed to be Ray's tormented spirit, trapped in a cycle of guilt and unable to find solace. People who commit suicide cannot pass through Acheron and reincarnate, according to Taiwanese and Chinese tradition. As a ghost confined to Earth, one may only relive the horrific memories. After being refused many times, Ray's spirit shattered, and she lost her memories. Ray aims to use this game to absolve her guilt, confront her past crimes, and move beyond her sorrow to achieve reincarnation. The shift from overt physical control to more subtle forms of psychological manipulation and internalized control is depicted through the characters' experiences. The gameplay ultimately invites players to reflect on their own responses to authority and the choices they make under pressure. This evolution of power dynamics aligns with Foucault's idea that modern power operates more through normalization and self-regulation than through direct coercion. As Wu (2022) claims, beyond being a victim of historical forces, Ray embodies the agonizing question of individual responsibility within a repressive system. This internal turmoil is mirrored in the game's haunting interrogations: "Have you forgotten...? Or do you not want to remember?" and "Forgotten? Or just too afraid to remember?" These questions challenge Ray, and by extension, the player, to confront the complex relationship between personal choice and systemic oppression. Fang Ray Shin's journey is one of both complicity and resistance. Her involvement with the book club, which is a front for anti-regime activities, represents a form of resistance against the oppressive power structures. The game portrays her internal conflict and the heavy price of dissent, reflecting the assertion of Foucault (1977) that where there is power, there is resistance.

The only survivors of this incident are Miss Yin, who sought refuge across the waves, exiled for half a century, and Wei Chung Ting, who was imprisoned for fifteen years, his youthful curiosity condemned as radical. As Chen (2008) argues, the KMT employed a four-pronged strategy to control and mold Taiwanese civil society into its vision: brutal coercion, pervasive indoctrination through education, a reshaping of social hierarchies, and the fabrication of a 'pro-Chinese' identity for indigenous peoples. *Detention*, a politically astute game, transforms these KMT methods into unsettling spectres haunting the player's supernatural journey. As the game concludes, *Detention* raises questions about the extent of the violence and surveillance it depicts, prompting reflection on just how brutal and suppressive that era must have been for the people of Taiwan.

## Monitoring the Homestead: Representation of Surveillance and Control during White Terror in *Devotion*

In 2019, two years after the haunting exploration of Taiwanese history in *Detention*, Red Candle Games released *Devotion*, a chilling first-person psychological horror game that immerses players into the heart of 1980s Taiwan. The game delves deep into the socio-political landscape of 1980s Taiwan, juxtaposing personal tragedy with broader

historical narratives. The game is set in the 1980s when the KMT's rule came to an end. At face value, the main setting of *Devotion* fixates on the religious frenzy that occurred in Taiwan as the island was approaching the lifting of martial law. However, the political message hidden behind the storyline of the video game has fuelled raging controversies over cross-strait relations (Wu, 2022).

While its narrative revolves around the intimate ties of family, it expands outward to embrace the island nation itself as a home for its citizens. Through this lens, *Devotion* reflects upon the effects of white terror on the psyche, societal structure, and the very essence of Taiwanese society. However, the game's rapid success faced a halt when it caught the eye of the Chinese Communist Party (CCP). Just two days later, the digital game was accused of featuring a Taoist charm that intentionally mocks Chinese President Xi Jinping. It was discovered that the charm combined two written parts: "Xi Jinping Winnie the Pooh" (Xi Jinping xiao xiong Weini 習近平小熊維尼) in Chinese cursive writing and "Ni ma ba qi" (呢嘛叭唎) in Chinese, which sounds like "Your mom is an idiot" in Taiwanese dialect (Wu, 2022). Cultural memes featuring Xi and Pooh went viral on Chinese social media back in 2013, but this comic parallel has been censored by the Chinese government for years, perhaps because Pooh describes himself as a "bear of very little brain" (AFP, 2017, para. 2). Consequently, *Devotion* faced swift repercussions: banned in China and removed from the Steam platform.

But amidst the controversy, the impact of *Devotion* on the global gaming landscape remained undeniable. As of today, *Devotion* is only available for download on the official website of Red Candle Games (Wu, 2022). The story revolves around Du Feng Yu, the patriarch, who clings to tradition and unwavering faith, his mind clouded by a past he struggles to confront. Gong Li Fang, his wife, sacrifices her dreams for the family's sake, her resilience masking a simmering resentment. Du Mei Shin, their daughter, trapped in a web of her psychological battles becomes a tragic pawn in their desperate game of devotion. Foucault's concept of the "docile body" describes individuals molded through constant, internalized surveillance – not just by physical forces, but through social norms, cultural expectations, and the fear of reprisal. *Devotion*, the family members are positioned within a discourse of devotion and control, where their roles are dictated by societal and familial expectations. As Foucault (1977) noted, individuals are 'effects' of power, created by and within discourse. The concept of playable surveillance is particularly significant in *Devotion*, as it allows players to experience the oppressive dynamics of the household and societal expectations through interactive gameplay.

Du Feng Yu and his family's tragedy stems from external pressures and the insidious panopticon they had built within themselves. Feng Yu becomes his own most vigilant jailer. Li Fang, burdened by unspoken resentments and the weight of expectations, polices her desires, turning inward like a prisoner in a self-made cell. Disciplining the soul via the medium of religion is another tactic explored in the game. It would be wrong to say that the soul is an illusion or an ideological effect. Discipline:

is produced permanently around, on, and within the body by the functioning of a power that is exercised on those punished – and, in a more general way, on those one supervises, trains and corrects, over madmen, children at home and school, the colonized, over those who are stuck at a machine and supervised for the rest of their lives (Foucault, 1977, p. 29).

Religion, often seen as a space for liberation and individual growth, can under certain circumstances morph into a powerful tool for shaping docile bodies. The pressure to conform to specific doctrines, the internalization of religious authority, and the fear of divine retribution can all contribute to creating individuals who readily self-regulate and comply with prescribed norms. In this way, *Devotion* becomes a powerful allegory for the

psychological impact of political control, where the fear of external surveillance becomes internalized, shaping the very fabric of family dynamics and ultimately leading to the tragic consequences of blind devotion. The television, posters, and religious artifacts reflect the omnipresence of external and internalized surveillance. These cultural artifacts serve as constant reminders of the power structures that shape the family's life.

Beadle (2022) notes that the spaces and dimensions of the game are in a constant state of flux and displacement, throwing players disorientingly between the domestic (Feng Yu's flat), textual (in one scene, players inhabit the 2D illustrations of a children's book), televisual/intra-digital (players piece much of the plot together by watching Mei-shin on television), and the spirit realm (afterlives, Palace of the Primordial Soul, sanctuary). The game begins with the TV blaring a weather report of an approaching typhoon which seems appropriate considering 1985 was the year the Pacific typhoon season came. The flickering gaze of television becomes Feng Yu's sole window to the world beyond these walls. There are moments when static swallows the picture whole, the hiss a chilling echo of Feng Yu's fractured mental state. Feng Yu's screenwriting career, once promising, was choked by censorship, his words deemed subversive, his voice silenced. The fear of being constantly watched and judged influences characters' behaviours and decisions, aligning with the assertion that "power is everywhere" and comes from everywhere (Foucault, 1977, p. 205). The KMT regime, determined to forge a unified Chinese identity on the island, wields television as a weapon of assimilation, chipping away at the vibrant tapestry of Taiwanese voices and replacing them with a single, homogenizing melody. Soon after the establishment of the KMT regime, all indigenous languages and Japanese were banned from use in public. As a result, many public offices were given to the Chinese population since most Taiwanese could not speak the national language (Tsao, 2000). This linguistic silencing was not confined to the radios and televisions. The KMT regime banned public performances of Taiwanese songs, music and theatre. The KMT prohibited the performance of Taiwanese opera and replaced it with the Peking Opera, which was the favourite of Chiang Kai-Shek (Chen, 2008).

Li Fang, the mother, is introduced as a former movie star and singer, embodying beauty and talent. Her daughter, Mei Shin, aspires to follow in her footsteps, dreaming of singing competitions and stardom. As time passes, it becomes evident that Feng Yu's desperation grows with each passing year. His career stagnates, and the pressure he puts on his daughter Mei Shin to succeed intensifies. Blinded by his love and fear, Feng Yu refuses medical advice for Mei Shin's anxiety, clinging instead to the promises of Mentor Heuh's cult of Cigu Guanyin. In *Devotion*, the dissemination of cult beliefs and the suppression of medical knowledge regarding Mei Shin's condition illustrate the struggle between different forms of knowledge. Feng Yu's reliance on the cult's teachings over medical advice reflects how power can shape and distort knowledge. The game portrays how ideological power can manipulate individuals, making them complicit in their subjugation. Even when she discovers a potentially healthier coping mechanism for her mental health, the fear of disrupting the fragile family ecosystem and disappointing her father keeps her silent. The effects of a biopolitical environment, in which familial control operates in tandem with societal pressures to repress human autonomy and impede healing, are embodied in the stillness. This feeling of desperation culminates in a ritual involving snake wine and confinement, which ultimately leads to Mei Shin's death. Her silence is a testament to the effects of panopticism within the family, where the fear of disrupting the delicate equilibrium of power supersedes individual needs and critical thinking. While Feng Yu enters the bathroom, a symbol of his controlling gaze, only to be engulfed by light and Mei Shin's ethereal melody, the preceding events paint a grim picture of Mei Shin's demise. This subversion, where surface appearances mask a horrifying truth, echoes Foucault's critique of disciplinary

power's hidden mechanisms, where control operates through subtle manipulations rather than overt force. In terms of the ludic experience, *Devotion* reaches high levels of "engrossment" and "empathy" that are made possible through players' "emotional investment" and "attachment to the game" (Hook, 2015, p. 317).

However, a glimmer of hope emerges in the final, spectral dialogue. Mei Shin's forgiveness, embodied in her invitation to 'go home', offers a potential path for Feng Yu to break free from the cycle of guilt and self-torture. This ambiguous resolution, where even death does not provide definitive answers, resonates with Foucault's notion of power's enduring presence, even in the afterlife. The static-filled television, Feng Yu's final companion, becomes a haunting symbol of the empty promises and inescapable gaze of oppressive systems. Heuh's fate, like the game's ending, remains shrouded in ambiguity. Did she face justice for her manipulative practices, or vanish with her ill-gotten gains? This uncertainty mirrors the elusive nature of power in Foucauldian analysis. Heuh's absence reinforces the notion that power structures themselves are often diffuse and unattributable, operating through networks of influence and societal norms rather than singular entities.

## Conclusion

The psychological horror games *Detention* and *Devotion* highlight the deep scars left by oppression, showing how these experiences shape individual lives and national identities over time. These games encourage important conversations about healing and reconciliation while stressing the need to protect democratic values from the dangers of forgetting history. By depicting the widespread surveillance and control found in authoritarian regimes, *Detention* and *Devotion* challenge players to engage with the complex moral issues and psychological impacts of political persecution. In *Detention*, the constant surveillance reflects Foucault's idea of the panopticon, where power operates through ongoing observation and normalization of behaviour. This theme continues in *Devotion*, which explores how internalized surveillance within families and society can turn individuals into compliant subjects. The main characters, Fang Ray and Feng Yu, exemplify the 'docile body', as their actions and thoughts are shaped by both external pressures and internal fears. By immersing players in the struggles of these characters, the games make the horrors of the White Terror feel real and relatable, fostering empathy and encouraging reflection on past injustices.

The central contribution of this paper is the concept of playable surveillance, which we have framed as a critical and interactive methodology for analysing how surveillance, power, and control are embedded within digital games. This framework demonstrates that surveillance in these games is not just a visual or narrative device but is intricately tied to the mechanics of player choice, agency, and consequence. By requiring players to engage directly with these systems of control, the games transform abstract concepts of surveillance into embodied experiences. This perspective offers new insights into how digital games simulate societal power dynamics, encouraging players to actively negotiate their roles within these oppressive structures. The implications of playable surveillance extend beyond the specific examples of *Detention* and *Devotion*. As a framework, it provides a robust methodology for game researchers to analyse other games that explore similar themes of authority, compliance, and resistance, particularly within historical, political, or horror genres. Future research can build upon this framework to investigate how different game mechanics, such as player choice, environmental constraints, or the

design of non-playable characters (NPCs), create immersive experiences that challenge or reinforce players' perceptions of agency and morality.

Looking forward, the potential for further research on playable surveillance is substantial. By broadening the scope of analysis, this concept can contribute to a deeper understanding of the interactive experiences that shape cultural narratives and individual identities, ultimately fostering a more comprehensive examination of the role of digital games in reflecting and critiquing societal structure.

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# Capitalist Surrealism: Grind, Loot Boxes, and the Work of the Looter Shooter

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## ABSTRACT:

The last decade has seen the rise of a mini-genre of digital games colloquially known as 'looter shooters'. Looter shooters such as the games in the *Borderlands* series swamp the player with guns, cash, armour and powerups to the point that an important game mechanism becomes converting the loot into liquid capital at various in-game repositories. Aside from the garish critique of late-capital overproduction, the endless fountain of ordnance and flashy goods is a 'grind' of its own which requires the player to perform labour to sort out the best loot. This article also formulates a theory of grind based on the mechanics of opening loot boxes. Although gacha can tempt the player to gamble on exciting mystery loot containers, by contrast, the grind is all about the predictable and the mundane, where narrative fails to appear on the horizon. The looter shooter continually upends the possibility of story, seamlessly deploying a twin grind/gacha mechanic to obviate both narrative and game, flattening it all into unlosable, yet 'unwinnable' work.

## KEY WORDS:

accumulation, *Borderlands*, disaster capitalism, FPS, gacha, grind, late capital, lootboxes, looter shooter, narratology, procedurality, roguelite.

## DOI:

10.34135/actaludologica.2024-7-2.80-93

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# Introduction

Weapons are like money: no one knows the meaning of enough.

– Martin Amis, *Einstein's monsters*

Fisher's (2009) declaration that "capitalism is what is left when beliefs have collapsed at the level of ritual or symbolic elaboration, and all that is left is the consumer-spectator, trudging through the ruins and the relics" (p. 4) rings especially true for digital games known as 'looter shooters', with lone warriors struggling through the remains of hyperactive material production, waste, and decay. The release of the first *Borderlands* (Gearbox Software, 2009) title introduced this particular form of shooter which incorporates a distinct mix of pray-and-spray mechanics, tons of treasure and guns, lightning-fast pacing and cartoony aesthetics. Other examples of the looter shooter include *Destiny 2* (Bungie, 2017), *Risk of Rain 2* (Hopoo Games, 2019), *The Cycle: Frontier* (Yager Development, 2022), *The Ascent* (Neon Giant, 2021) and *Warframe* (Digital Extremes, 2013). This term has so far been loosely applied as a generic label to describe the titles already mentioned (and many more), but there are still the unanswered questions of what looter shooters *do* in terms of gameplay and their tweaking of traditional 'shooter' game dynamics. The primary distinguishing feature of the looter shooter, that of *loot*, subsequently organises the order and priorities of gameplay, and subordinates everything else to it. As such, the preponderance of loot and the mechanic of its discovery in 'loot boxes' substantially compromise the prospects for digital game narrative; the constant stream of low-grade suspense in opening loot boxes supplants any narrative tension provided by story beats. Loot thus becomes the sole dramatic fulcrum of both the procedure of gameplay and the unfolding of narrative.

With the looter shooter, the judiciously paced reward structure of a typical FPS game is blunted by the player's ever-present search for the next loot box. Even further, the looter shooter can short-circuit the idea of in-game priorities and strategy by allowing the gacha conventions of gaming to loom larger than any story. This is thus an extension of the loot box convention to carry the player through the game space by obviating in-game labour. By the same token, the acquisition and management of so much loot accumulated over time by the player threatens to tip the balance of the game experience toward 'grinding', namely playing with a view to accumulation as an end in itself. As Galloway observed, the realism of digital games resides in "revisiting the material substrate of the medium and establishing correspondences with specific activities existent in the social reality of the gamer" (2006, p. 84). In this sort of game, the excessiveness of the game's distribution of both rewards and challenges distorts the usual balance of combat-based games, and in the case of the typical rogue-like, the difficulty should be enough to enthrall and also disappoint the player: the 'psychology' of the genre intends to crush the player into a state of grief and futility (Szabados et al., 2023). Yet, in the looter shooter, the rogue-like elements are reversed, such that the concepts of 'obstacle' and 'desire' are altered completely; each game space throws preposterously large hordes of enemies at the player, who is still able to dispatch them easily and nonchalantly with their preferred style of firearm. In this study, we shall also look at the RPG roots of the looter shooter, along with a consideration of the loot box as the motif for this style of digital game, whether virtual or real currency (as with gacha) is at stake. We shall also consider the world and narratives of the *Borderlands* (Gearbox Software et al., 2009-2022) series in particular, and its thematic definition of the looter shooter as a site for wallowing in the ravages of extraction capitalism. Along the way, we argue everything the looter shooter does is an expression of the grind aspects of digital games, an inevitable consequence of the looter shooter's surrender of narrative tension to the ever-present lure of loot, itself the cast-off detritus of the capitalist landscape.

## Characteristics of the Looter Shooters

In the spirit of what Cartlidge (2024) calls the 'prototype theory' grounded in the experience of a game genre, I propose the following earmarks of this newly named genre of game. The looter shooter is a hybrid of various digital game genres centred around combat, whether presented in a first-person, third-person, or isometric gameplay perspective. Though the looter shooter contains elements of the roguelike, roguelite, traditional RPGs, the classic first-person shooter, and the coin-op arcade shoot 'em up, in hard-and-fast terms it is a rogue-derived game with shooter elements lacking a turn-based system of play. A key idea of looter shooter gameplay is that of *speed* above all else; no matter how many traditional RPG elements are present, there are no real allowances made for strategy or contemplation. The results of combat are seen in real time, usually with arcade-style numbers floating above the enemy hordes to indicate damage. The player character of a looter shooter is invariably embodied in a class: typical ones are the generic soldier, the heavy gunner, the explosives expert, the stealth-based martial artist skilled with melee weapons, and so on. Gameplay can be either cooperative or single-player: franchises and standalone environments such as *Destiny 2*, *Borderlands* and *Warframe* can be played in cooperative mode, and the team ethic can make the whole enterprise seem like a

dungeon-crawling adventure with a classic “D&D party”. As in an RPG, a player character levels up by earning experience points through repeated success in combat. Depending on the game, XP can be funnelled through skill trees by acquiring points through combat and the achievement of benchmarks or mission objectives.

Though the description above conforms fairly well to the broad idea of the generic shooter, there are at least five significant factors that distinguish looter shooters from other similar digital games:

1. A pre-emptive collapsing of game narrative possibilities into simple game-state resolutions, always about dispatching the next enemy or opening the next loot box. Aarseth (2014) has suggested that the ludological-narratological divide is erased with the ‘interchangeable’ nature of violent games, and in this instance, the looter shooter would seem to be an ideal example of this, given that both combat and its reward structure tend to be both repetitive in quality and overwhelming in volume. According to the “Berlin Interpretation” from the International Roguelike Development Conference (Lait, 2008), which outlined the basic characteristics for roguelike games, the procedural generation of a rogue game world should allow for the emergence of different solutions to complete levels. In addition, the perpetual repopulation of the gamespace with enemies and other obstacles provides constantly renewed challenges, playthrough after playthrough. This accommodation of varying approaches is part of the looter shooter’s essential character as a fluid game environment that has relatively few immutable narrative markers to achieve. The distinct lack of iconic weaponry to achieve in-game goals (for example, the Master Sword in the *Legend of Zelda* [Nintendo, 1986-2023] series) underscores the dim possibility of a looter shooter mimicking a narrative-heavy quest structure. The narrative base-note of the looter shooter is to encourage players to run-and-gun no matter what, with little overall attention to narrative impacts. For example, the *Risk of Rain 2* HUD gauge tracking enemy difficulty constantly reminds the player to ruthlessly balance the operation of picking up loot and powerups with finding the portal to exit the level; if a player takes too long collecting loot, they could potentially face an insurmountable boss fight. Therefore, the environment of this game cannot typically be fully *explored* at the player’s leisure, a clear break with roguelike and some roguelite conventions.
2. A scarcity of ‘savability’, such that the player can only save at certain points and location markers on the map, a convention shared with roguelites in general, which do not permit the player multiple save slots within one playthrough for specific game states. The player continues where they left off and returns to the same state when they come back, picking up at or near the same save point. The rhetoric of savability is such that the ‘life’ of the player, and not the game state or the narrative decisions made at that point in the world, is the only entity worth ‘saving’. The world is eternally in the same infinitely replayable state, with new crops of revived enemies to be slaughtered.
3. Generosity, excess, and ultimate ease in the progression of play. Unlike an arcade exercise, where the player can be stuck forever at one point due to a lack of skill, with a typical looter shooter the player is practically guaranteed to succeed as long as they persist. The familiar pay-to-win dynamic of freemium mobile games can be present, and also taken as a suggestion that the looter shooter *desires* the player to succeed. Baerg (2012) described the rational nature of risk through D&D player decision making, weighing the ‘costs and benefits’ of certain actions. Whenever a typical roguelite game is saved and restarted, the player finds its world re-populated with new enemies to fight on rejoining the game. Similarly, roguelites differ from roguelikes in that a player character’s items and powers can carry over from run to

run. This is also why looter shooters are rich team-play environments; in fighting those teeming hordes, there is more than enough of the labour of slaughter to go around, as the baddies burst with loot like so many piñatas.

4. Narrative is dictated by accumulation of points and levelling up. The weapons and other artifacts of the looter shooter are irrelevant to the game's pacing. With *Borderlands*, players are sometimes bequeathed weapons and armour of too high a level for them to use (a convention *Cyberpunk 2077* [CD Projekt RED, 2020] also observes), giving the players an incentive to keep playing and growing more powerful so that they can aspire to deploy their new toys. This is not a convention in an immersion sim, where weapons (the gravity gun in *Half-Life 2* [Valve, 2004], as well as the fully-assembled portal gun in *Portal* [Valve, 2007]) are given to the player only when narratively appropriate, given the problems that need these tools in order to solve them. At the same time, owing to the acceptance of different play styles, there is no true quest item to be used as a weapon in *Borderlands*, even though all weapons in loot boxes are procedurally (and therefore uniquely) generated.
5. The looter shooter characteristically takes place in an environment marked by 'disaster capitalism', Klein's (2007) famous label for exploitation endemic to neoliberal capitalism as its most basic level. Although the looter shooter concept can be set in any game world, the looter shooter typically takes place in a ruined world already depleted by the machinations of capital or empire, the plunder always already committed by corporate avarice. The fabula of *Borderlands 2* (Gearbox Software, 2012a) explicitly turns on the ascendancy of the Hyperion Corporation, fuelled by the mining of Eridium, the magic purple substance that can be used as both a weapon and currency for trade. The player in this series entry is lured to its Vault, a storied repository of alien weapons technology promising riches beyond everyone's wildest dreams, by taking part in a rebellion against Handsome Jack, a former Hyperion temp employee turned its sadistic CEO. The player character in *The Ascent* takes the position of a humble sewage worker leading a counterforce against warring factions out to seize power in the massive, decaying corporate 'arcology' they all inhabit. Similarly, even a game such as *Destiny 2* traces the narrative arc of a re-conquest of the wreckage of rusting wartime capital production, with missions oriented toward fighting back against the alien menace blocking human exploration of the solar system.

The characteristics of the looter shooter listed above are easy to recognize, and although rigid boundaries do not fully suit this nascent genre whose qualities were buried within the conventions of the roguelike, the RPG, and the shooter, the overall spirit of the looter shooter is that of an adventure game grounded in accumulation as its primary attraction. We will revisit this last point, that of disaster capitalism at the end of our study as it betrays the most telling detail of the looter shooter: the endless stream of cast-off and second-hand goods, the surfeit of powerups, and the spectacle of capital's self-consumption.

## Loot: The Original Sin of the RPG

In all, the ordering of play through loot in the looter shooter overwhelms and minimises all its other aspects. A study published in 2020 asserted that around 56 to 59% of the top selling mobile games on all mobile platforms featured loot boxes, compared to

36% for desktop games (Zendle et al., 2020). The production and maintenance of game titles often depends on the developer catering to the desires of players funnelled through loot box content in order to keep them engaged: “compared to Triple-A game development, mobile game development and circulation are much more intertwined and form a constant feedback-loop rather than the more linear production-circulation process” (Nieborg, 2015, p. 234). As Baerg (2012) has noted, the aspirational characteristic of loot itself is evident with the non-narrative quality of weapons acquisition. According to Cole (2020), the procedural generation of *Borderlands* loot boxes constantly threatens to upset the balance of play by giving out either too-powerful weaponry, or redundant or under-powered ones. The plenitude of loot available in the looter shooter hearkens back to one of the dilemmas present during the emergence of TTRPGs in the 1970s – how much loot should a Dungeon Master provide and how much is too much? And when does the presence of loot begin to compromise the project of running a compelling campaign?

The idea of the Monty Haul DM, a dungeon master who would allow players to have maximum treasure for sometimes minimal effort, is one present from the very early days of TTRPG culture. By punningly referencing the famous long-time host of *Let's Make a Deal* (Hatos, et al., 1963-present), the name also invokes the idea of winning big or losing in an embarrassing fashion with little in the way of skill or decision-making mechanics. James Ward earned the “Monty Haul” nickname from Gary Gygax himself after Gygax criticised Ward's liberal distribution of loun stones and magical sashes to a party of first-level starter characters (Ward, 2019). Ward nevertheless embraced this moniker, writing a long-running column in *The Dragon* magazine under this nickname. Some of the campaigns described in the column featured imaginative, exotic, highly contrived narratives with routine god-fighting; one extreme campaign freely offered powerful weaponry for the party to use against a group of fifteen gods from the Norse pantheon (Ward, 1978). In one of the early texts on fantasy RPG gaming, Galloway (1982) perceptively remarks that the opposite of a too-generous DM would be one who liquidated most of their players in short order, forcing the latter group to cheat: “players will appear with wonderfully high level characters they ‘just happen to have.’ Either way, the game suffers and both [DM] and players rapidly lose interest” (p. 100). If a sufficient number of obstacles is needed in order to make players feel the struggle of a game experience is worthwhile, by contrast a game where every obstacle, no matter how slight, bears a reward compromises the very idea of that struggle's value. As a result, the looter shooter often resembles an overactive, colourful slot machine where every move is a winning one, with numbers and icons flying through the air at the player.

The conventions of loot are further complicated by the presence of in-game chances to open special loot boxes, sometimes requiring the player to use real money to buy them, effectively providing players with gacha-style play options. Drummond et al. (2020) assert that the mere opening of loot boxes can be enough to stimulate the player's happiness, regardless of the action of the game they are playing. The *Borderlands 2* DLC *Tiny Tina's Assault on Dragon Keep* (Gearbox Software, 2013) even places a pair of giant 20-sided dice on top of special loot chests such that the player has an explicit aleatory role in deciding the outcome of a chest's contents. With *Warframe* (which can be played otherwise for free) one can purchase items with real money, representing the player's efforts to pay-to-win, rather than spending time grinding for loot otherwise. Gan (2021) has posited that a gacha system skews the player's ability to value even in the simplest loot-box transaction, as the player can deem the box's contents to have ‘infinite’ value. Although the microtransaction in this case is one where the quality of the item is known to the player, it still represents an exchange of time-in-game for a superior item, eliminating the need to grind.

Even with the grind of opening hundreds of loot boxes, the same kind of relationship to loot obtains in that the player's expectations for success are uncoupled from the grind-time put in. According to Woods (2022b), these grind outcomes need to be rationalised by the player, "causing the [logic] governing playing behaviours to extend beyond the gamespace" (p. 1077). Time is always a tangible investment that needs consideration, and just as with 'real' work, Woods deems this type of activity to be 'playbour', where the game qualities of a game would seem completely nullified (2022b). Woods (2022a) has also theorised the player's *feelings* about their chances of winning also impair their ability to make rational sense of the transaction. The major problem for the looter shooter, then, is understanding how the player carves out a satisfying experience with regard to either the ludological or narratological characteristics of a typical game. The idea of playbour does not necessarily obviate play itself, but the primacy of the loot box compromises the definition of both of these dominant analytic categories with regard to these games.

The concepts of accomplishment and difficulty when applied to any kind of shooter indeed correspond to the player's affective relationship to the game experience and what they expect to achieve in or learn about the game world within that context. Without the traditional consequences of gameplay, the dynamics of unexpected reversals of fortune, and high stakes to strive *for*, the looter shooter's dramatic curve threatens to approximate the shape of a flat line. In the remainder of this article, I shall propose that the looter shooter reduces everything to grind, the sometimes-annoying counterpart to engaged, thoughtful gameplay. In order to analyse this, we need to understand how a looter shooter's combination of characteristics contorts received understandings of how shooters typically work. There is no better example than that of the foundational game series of this nascent genre, *Borderlands*.

## Borderlands: The Definitive Looter Shooter and Its Characteristics

*Borderlands* typifies the approach and themes of the looter shooter through its mechanics, aesthetics and narrative. The player is openly welcomed by the game into a parody of heroic fantasy by means of the gestures it uses to beckon the player through its paces, often bending over backwards to allow the player to succeed. The premise of the first game in the series is that of the player being deposited on the barren planet of Pandora, its dusty ghost towns dotting the bleak landscape. The player first chooses a character from several different classes (the stealth warrior, the heavy berserker, the generic commando, the sniper) and the opening cinematic depicts a bus ride to Firestone, a town overrun by *Mad Max*-esque bandits. After being figuratively shoved off of the bus by Marcus Kincaid, the voice and face of the gun-vending franchise across Pandora, the player is greeted by the robot Claptrap. Claptrap's purpose is to lead the subsequent tutorial, and to that end, he proudly delivers to the player a wrist-interface, giving a diegetic excuse for the player's corporate-sponsored HUD overlay, which provides information about player health, shields, weapon selection, map location, and so on. The player thus takes in the cast-offs of overbuilt capitalism – the crumpled containers, the tattered plastic used-car lot pennants, the heaps of twisted metal and giant slag piles, while corporate scavengers dole out ordnance to all comers so they can find the Vault.



The backdrop of *Borderlands* is that of an ever-failing wasteful corporate enterprise engaged in extraction, with no thought to the welfare of the thousands of people stranded in the sacrifice zone. The familiar tropes of the Hollywood Western that meet the player accurately mimic the ethos of a gold rush, and this idea is developed further in *Borderlands 2* with the introduction of Eridium as a resource for the player to exploit. One side mission in *Borderlands 2*, “Minecart Mischief”, features the following monologue from the NPC archaeologist Patricia Tannis informing the player about the Dahl Corporation’s abandonment of its workers:

As it turns out, Dahl turned tail when the Crimson Lance showed up and flexed their various muscles. The central issue being that Dahl brought many workers here, including myself, and left without evacuating most of us. The bandits you fight out there used to be family men, workers, scientists.... We’re all broken because of them. (Gearbox Software, 2012a)

With corporate profligacy having left behind this world of loot, the entire apparatus for exploiting the environment through violence and wanton extraction is left open to the player. In the wake of a world harrowed by mass trauma, the game that is played within it is the opposite the scarcity found in the survival-horror genre. The endless bounty of XP and boxes of cash, ammo, and weapons just ripe for the taking are indistinguishable from the landscape and the built world that surrounds the player. Anything in the *Borderlands* universe can be a loot receptacle – dented filing cabinets, old-fashioned cash registers, cardboard boxes, ammunition racks, and even abandoned chemical toilets. The rarer loot boxes produce randomly generated level-appropriate loot for the player; even if out-of-player-class items are found, they can be exchanged at one of the many vending machines for in-game currency. Every object that can be collected by the player is exploitable for XP, cash, or different pieces of loot.

The explicit character of the looter shooter as a meta-narrative exercise in collecting loot is thus constantly before the player, and in tune with the satirical aspects of the plunder, *Borderlands* often plays up its lack of narrative heft to comic effect. The extradiegetic characteristics which call attention to the paucity of narrative in *Borderlands* are sometimes the only narrative strategies in evidence. In the *Borderlands 2* DLC *Mr. Torgue’s Campaign of Carnage* (Gearbox Software, 2012b), Mr. Torgue himself exhorts the player to embark on a mission for comically, deliberately unspecified reasons; one side mission in the base game of *Borderlands 2* has the player side mission “Shoot This Guy in the Face”, which takes a brisk three seconds to complete. Even at the start of *Borderlands 2*, the pompous NPC Sir Hammerlock recounts the terrorist reign of Hyperion, calls for the defeat of Handsome Jack, then immediately apologises to the player, “Bah–I’m spouting exposition again, aren’t I?” (Gearbox Software, 2012a).

The central issue of loot in the looter shooter calls into question the idea of possession, theft, and power, not only for the player, but for the drama of capital circulation. The detritus the game world relentlessly proffers seems to *belong* to no one, and the player’s appropriation of the bounty is without any real consequences. The distribution of treasure in D&D only tends to spur players to think about the original possessors of the treasure being plundered if there is a strong narrative component. In a sense, the primacy of loot effaces even the idea of the player’s *life* retaining any value or importance. In early digital rogue games, such as *NetHack* (NetHack DevTeam, 1987-2020), bones files contain information about previous players’ caches of loot, reposing in graves around the game world. Digging up such graves to recover the loot within usually results in cursed items, which would complicate anyone’s playthrough. By contrast, the now-defunct looter shooter *The Cycle: Frontier* explicitly urged the player to loot the corpses of previous explorers to find anything useful. The latter game’s extraction mechanic, where the player goes to a

central hub in order to take on missions to recover minerals, equipment, and other precious objects before returning to a mine a planet's surface, allowed players to reserve a special space in their backpack to save acquired loot and have it transported back to the hub in case of their inevitable, immanent, and always untimely death.

As opposed to a classic immersive sim (such as *System Shock 2* [Looking Glass Studios & Irrational Games, 1999], *Deus Ex* [Ion Storm, 2000] or the *Dishonored* [Arkane Studios, 2012-2017] series), the player is never allowed to lose themselves in the *Borderlands* world fully. The order of play is not so much adventure, but rather the management and calculation related to the work of extraction. Thus, *Borderlands* in particular effaces the heroic narrative idea of the player character being the chosen one, despite the game's diegetic reassurances. From Claptrap's engagement of the player as a minion in *Borderlands* to the grunt-level work assignment of *The Ascent*, and even the convoluted rescue mission of *Risk of Rain 2*, the single player narrative experience of the looter shooter is about engaging in some kind of *work* detail, with plentiful rewards strewn along the way. The HUD overlay in the *Borderlands* series continuously comments on the experience of the player down to the spelling out of enemy health, shields, experience level, map position, and so on, giving the player quantitatively updated expectations about the management of combat, even down to the number values of the damage dealt, as with typical roguelites. For *Borderlands*, there is something of an overall quest for loot (of course). But because the Vault is shown to be, in the end, an elaborate MacGuffin out of the reach of the player, that ultimate quest is for nought in the end.

In every possible sense, both the main questline and the numerous side quests in *Borderlands* treat the player character as very much a worker, either as a freebooting speculator or a humble hired hand. The latter point is driven home by the game's hub-location convention of hosting a job board (a physical bulletin board) for these missions. These discrete tasks, like those for *Skyrim* (Bethesda Game Studios, 2011) or the *Grand Theft Auto* series (Rockstar North et al., 1997-2021), relate back to the main mission somewhat, but only just to build XP and level up: areas and weapons that may be barred to the player thus become their own incentive for action, completing the demolition of the barrier between gameplay object and narrative. As always, the loot is the story, with the prospects of heroism often painted as a hollow joke.

## Grind and the Burlesque of Capital

The struggle of *Borderlands* to present a narrative to the player would be a clue to the hidden grind at the heart of its game experience. Grind can be defined as repetitive gameplay with a goal that falls short of a winning game state, but nevertheless represents a goal achieved through work on the player's part. This could be something like digging for diamonds in *Minecraft* (Mojang, 2011) in order to fabricate a suit of armour, or farming for in-game currency by fighting monsters in order to exchange the fruits of that labour for profit. Grinding represents a player's resistance to the concept that a game must always be narratively compelling in order to play it; grinding is then patently an anti-narrative conceit, and can be undertaken for a number of reasons. Game players use the word *grind* in a very casual way, talking about things getting too 'grindy', or the difference between grinding and doing something else as worthwhile gameplay. Usually, grind is undertaken to obtain something in the game that cannot be gotten otherwise through the labour of play,

then resuming meaningful play once that objective is achieved. This grind goal should be related to the object of the game, supporting the player's progress, which usually means getting an item or the means to purchase an item. One could also say that grind has nothing to do with a game strategy, but rather betrays the player's willingness to simply put in quantities of time in order to achieve a goal. As Jukić (2024) notes in his study of trophies in digital games, such a goal, ostensibly an ancillary sidelight, becomes more important than the game itself. An outside observer could look at grinding activity and not be able to distinguish it from playing a game, but nevertheless determine that it is work, which takes skill, grit, and a decided lack of strategy or tension. The sorting of loot as the ever-present challenge of *Borderlands* can be deemed an example of grind. The endless loot boxes scattered around Pandora, which do take time to rifle through, very often contain redundant weapons that the players then either liquidate or throw away. Aside from the capitalistic fetishism of in-game objects, the focus on loot forces another game mechanic on the player: that of the continual evaluation and reselling of loot. The player's work becomes separating the wheat from the chaff in an endless stream of material wealth and weapons.

The concept of disaster capitalism, a phrase made famous by Naomi Klein, lies at the root of each looter shooter's chaotic game economy. For Klein (2007), the term describes the exploitation of any place suddenly transformed by any kind of calamity, either natural or human-caused; this exploitation is carried out by the fused forces of capitalism and governmental action. For each looter shooter's world, there is always some kind of mythical cataclysm bearing the residue of a bottomless stockpile of weapons, armour, and cash. In *Borderlands*, the rush to mine Eridium and hunt for the Vault has left the planet an utter mess, with the leftover human wreckage of the invasion poking around on the surface for anything of value the corporate plunderers may have left behind. The sheer amount of ordnance is a testament to the environmental trauma of exploitation, and the player's isolation amid the collapse of the corporate enterprise (another trauma in itself) to sort through the detritus as a scavenger is the sad endgame of the disaster capitalism narrative. The ultimate consequences of calamity are always a repurposing of the fruits of overproduction. Klein (2007) remarks that as the trauma of 9/11 opened up a new market for consumer surveillance goods, and the commodification of these tools allowed them to take on a life of their own, permitting them to be used by their owners for uses other than their own personal security. David Harvey's concept of "accumulation by dispossession" lies at the heart of the disaster capitalism phenomenon, one which cannot avoid waste on a titanic scale. Harvey (2004) notes if capital cannot be "absorbed internally," goods and labour must be sent "elsewhere" to avoid devaluation (2004, p. 66). In the end, the particular situation has to do with production gone hyperactive:

Accumulation by dispossession can occur in a variety of ways and there is much that is both contingent and haphazard about its modus operandi. Yet it is omnipresent in no matter what historical period and picks up strongly when crises of overaccumulation occur in expanded reproduction, when there seems to be no other exit except devaluation. (Harvey, 2004, p. 76)

The player of the looter shooter is thus trapped in this world of overproduction, an infinite recovery operation that can never exhaust all that treasure on the verge of complete devaluation. The player is thus the last, lone, harried arbiter of value of a broken hierarchy of goods.

When thinking about the idea of the looter shooter and what makes it distinctive, it definitely features a built world that reflects the all-consuming nature of capitalism. This world not only provides endless choice and player incentives but diminishes those incentives by requiring the player to navigate the tsunami of loot. Baudrillard (1988) writes

pointedly about the self-reinforcing cycle of capital in *The consumer society*, likening the continual oscillation of production and consumption to that of the spectacle and operation of a pinball machine. Memorably, Baudrillard elaborates on the idea of a pinball machine with its wires exposed as being like the machinations of capital; once opened, the frenzied drive to *consume* is found to have nothing at the bottom:

This ludic activity may give the appearance of being a passion. But it never is. It is consumption – in this case, abstract manipulation of lights, ‘flippers’ and electrical reaction times, in other cases, the abstract manipulation of marks of prestige in the variants of fashion. Consumption is combinatorial investment: it is exclusive of passion. (Baudrillard, 1988, p. 114)

Elsewhere in the same work, Baudrillard (1988) identifies the cycle of production and consumption as being two ends of the same Lacanian movement: “this flight from one signifier to another is merely the superficial reality of a desire which is, for its part, insatiable because it is based on lack” (p. 77). With the impulse to *consume* so much at the fore of the looter shooter, the prospect of the grind threatens to lay bare the pretence at the heart of this style of game, that the player will never be *truly* satisfied. The spectacle of consumption is rendered meaningless in real time as the game is played. Unlike the projects of building in *Minecraft*, the player of the looter shooter builds nothing, but acquires accoutrements to decorate and aid the avatar. The narrative gravity of the looter shooter is thus very different than the expected crescendo of a narrative game; with the desires of the player at the centre, the only mainspring for action is consumption.

There is *too much* of everything in the looter shooter to value properly, whether mobs, ammo, currency, or guns, and the only real narrative pull is the endlessly replayable procedural quality of it all, either in single player or cooperative mode. The player can very easily lapse into experiencing the looter shooter as a series of exercises related to inventory management, and the decisions required to undertake that can displace the more traditional ones of combat, strategy, and exploration. These distinctive characteristics of the looter shooter give a new meaning to grind, where the search for the weapons that best suit the player can often lead to side quests being the main attraction.

## Conclusion

In this study, we have investigated the capability of the looter shooter to do and represent many things, particularly how its apportionment of incentives in the gamespace – money, weapons, or other prizes – distorts a typical FPS’s order of play and collapses both narratology and ludology into the same plane of immanence through the perpetual sorting of loot. Given the looter shooter’s reduction of plot to the extraction of loot, the gameworld exhibits a kind of proleptic narrative hopelessness; the anti-hero bent of the looter shooter makes it ideally suited for settings such as cyberpunk and the Western, broadcasting the utter defeatism at the heart of both of these narrative genres. Both genres also provide apt metaphors for environmental degradation and corporate malfeasance, as well as underscoring the ultimate powerlessness of the lone protagonist as they attempt to right a corrupt and broken world. The hero is not able to overcome or conquer anything; the protagonist remains very much within the economy it establishes. The looter shooter is the perfect genre for casual cooperative play, with no real narrative convolutions to interfere with its purity. In all, the principal characteristic of games such as *Borderlands* remains that of the quest for weapons and armour, bringing the RPG shooter back to its conflicted ‘hauling’ roots. In the end, the player is merely a fractious, disruptive worker, rather than

a conquering hero. Therefore, looter shooters are wildly incompatible with the concept of heroic fantasy, as in the typical sword and sorcery RPG; though loot is always a draw with the latter type of game, the looter shooter betrays the roots of the unimaginative dungeon crawl, as the simple act of looting is taken as an end in itself.

The environment of the looter shooter thus brings forth the unconscious secret of such games, that of the ultimate nothingness of loot. The conventions of loot boxes exacerbate this feature of the traditional tabletop RPG, overtly demolishing the separation between game and narrative. In *Theory of the gimmick*, Ngai (2020) notes the problem of the “gimmick” – the novelty of a material object, gesture, trick or idea – as revealing the heart of capital production itself to be “an entire system of relations based on the mismeasurement of wealth” (p. 51). The sustained invention of the looter shooter, its aleatory surprise, and possibly new, unique weapons and armour in every box is grounded in the concept of the novelty of those loot boxes rather than dramatic narrative twists. Procedural generation of all types ensures that there is something that can always keep the player engaged and countersigns the commodification of said novelty. The looter shooter is neither a narrative that is punctuated by gameplay, nor a pure, static arcade experience, but rather a vague, liminal ever-expanding space devoted to the task of resource management. With no heroic destiny, there is no dramatic tension, no hope of ‘winning’. The looter shooter thus provides the perfect example of an experience where there are no real narrative beats to be fulfilled, but rather a constant grind for rewards, which in themselves harbour fleeting value.

The looter shooter is a uniquely positioned genre of satirical digital game without peer. We have already seen how some high-profile games such as *Cyberpunk 2077* have drawn from the hyperbolic character of pure looter shooters to implement a similar kind of hyperactive in-game economy, one which can distract, obsess, and entrap the player, de-incentivizing them from completing the game’s narrative. In a sometimes caustic and dismissive way, the looter shooter reveals what similar shooter games are all about, reducing all the action to one loot box operation after another. In other words, there are no limits on the amount of treasure that one can collect; it is infinite, infinitely playable (given its roguelite repopulation dynamics) and also infinitely novel, given its tendencies toward procedural generation. The looter shooter is the epitome of capital production gone grievously wrong, inevitably burying the player under the thing the game thinks the player really wants: mountains of loot.

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# Observing the World without You: Automatic Walking and Death Meditation

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Aaron Oldenburg is a Baltimore-based game, interactive and video artist. His work has exhibited in festivals and galleries in New York, Johannesburg, London, Buenos Aires, São Paulo and Los Angeles, including SIGGRAPH, A MAZE. International Games and Playful Media Festival, the LeftField Collection at EGX Rezzed, Slamdance DIG, Game On! – El arte en el juego, and FILE Electronic Language International Festival. His games have been written about in *Kill Screen*, *Baltimore City Paper*, *BmoreArt*, and *Rock, Paper, Shotgun*. He teaches game design as a professor in the University of Baltimore's Simulation and Game Design program and has an MFA from the University of Maryland, Baltimore County (UMBC). His writing on games has been published in *Game Studies*, *Journal of Gaming and Virtual Worlds*, *Hyperrhiz*, and the proceedings of the International Symposium on Electronic Art (ISEA). In October 2003 he finished two years as an HIV Health Extension Agent for the Peace Corps in Mali.



## ABSTRACT:

This article discusses walking simulators and self-playing games in the context of the spiritual practice of death meditations. It explores states of mind that walking simulators may have the ability to provoke and how these can be furthered through automation. Although the focus is on potential benefits of a niche approach to game design, the article also discusses ways that this form of experimentation illuminates elements of main-stream games. The author discusses the process and design choices involved in creating their own self-playing walking simulator. Work is analysed in AAA and indie games, including *Death Stranding* and *Proteus*, as well as contemporary art, including the work of Ian Cheng, in the context of walking and death meditation. The article draws from game design theory and philosophy in exploring the arguments for specific experiential aspects of walking simulators and self-playing games. The benefits of games and other walking-focused artwork provoking meditations on death are argued from the perspectives of psychology and spirituality. It looks at the theme of death meditation from an individual as well as collective/environmental perspective.

## KEY WORDS:

AI, automation, death, meditation, procedural, simulator, spirituality, walking.

## DOI:

10.34135/actaludologica.2024-7-2.94-108

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# Introduction

One of the pleasures of walking can be moving through a space that exists regardless of us and will continue to exist when we are gone. Aside from the footprints we leave and the air we filter, we often leave little impact on the space we move through. If we choose, our engagement with the space can be primarily cognitive. If this is the case, then it mainly impacts us through the stimulation of thought and muscle, and through our perpetual, and possibly final (if we are not coming back to our starting point), locational displacement.

It is a meditative experience, and even if we are not consciously focused on our own death, can be a form of subtle death meditation. It is difficult to imagine our own consciousness ending, or the experiential aspects of a transition to an afterlife we may or may not believe in, but it is not difficult to imagine the world unaffected by our bodies moving through it. Walking, particularly a solitary walk in a forest or an anonymous one in a city, where our presence may go unacknowledged, can give us a sense of a world continuing to breathe when we do not. However, like a ghost, our consciousness on a walk can remain a witness.

Death meditations can be a powerful form of release through surrender. A Buddhist meditation asks one to focus on the possibility of dying in the near future (Shonin & Van Gordon, 2014; Moon, 2019). A dervish of a Sufi order might chant *Al-Mumit*, “the One who gives death, the one who allows to die”, one of the 99 names of Allah, as a way to focus on the limits of one’s material existence (Al-Rawi, 2015, p. 229). Many forms of prayer and meditation, if not explicitly about death, bring one closer to its reality. In artistic tradition,

a memento mori reminds one of one's certain end. Studies have shown that people with a clear focus on their own death can better “live up to positive standards and beliefs” and “build positive relationships with friends, family, and loved ones” (Vail et al., 2012, p. 18), among other changes that arguably lead to a more meaningful life. Meditation, art (including games), and walking can bring this into focus for those whose life circumstances make it easy to forget our mortality.

A *walking simulator* is a form of videogame where a wandering form of exploration takes precedence over challenge-based mechanics. Originally a term of derision, it is now an acknowledged genre in both industry (as a common tag on the online game store Steam) and academic discourse. Kagen (2022) defines them as “exploratory, nonviolent video games without points, goals, or tasks, in which the undying, third-person player character (PC) wanders around a narratively rich space” (p. 10).

This article discusses walking simulators and death meditation, focusing in particular on what making a walking simulator autonomous potentially lends to this quality of the simulation. It will look at examples of walking simulators, self-playing games, as well as projects at the intersection of the two genres, and what specifically they lend to the powerful spiritual and psychological practice of death meditation. An original project will be discussed, and the article will detail its conceptual and technical development process. The article will explore the particular potential benefits of this unusual format, and how it may illuminate aspects of more common game approaches and genres.

## Mental Spaces Created through Simulated Walking

In *Dear Esther* (The Chinese Room, 2012), one of the first works given the name walking simulator, the developers attempt to simulate the reflections and thought processes of someone in mourning by layering the audio of the player character reading letters to his wife, who is deceased, over the audiovisual and minimally interactive movement of the player's first-person perspective walk over a rocky island. The movement through the dramatic space provides a shifting backdrop for the narrative. There is very little for the player to do besides stroll through a somewhat limited environment and listen to the narrative.

One benefit of a walking simulator can be the potential to stimulate thought in a manner similar to a walk as they let their intuition guide them to various points on a landscape. However, gaming magazine *Rock Paper Shotgun's* Alice and Pip argue that the narrative audio layer in *Dear Esther* suppresses the player's thoughts, making it more like listening to a ‘radio drama’ than a simulation of the act of taking a walk (“Alice and Pip”, 2016). They believe that to push the player to add their thoughts to the experience, the player needs freedom from dialogue or narration, or at least gaps therein where they can project their own. In their view, it is the act of moving through space, allowing oneself to be pulled consciously or unconsciously toward points of interest, undistracted by potential consequences, that creates a space for players to safely insert their contemplations.

Key and Kanaga's (2013) *Proteus* creates this space silent of narrative authority. Its quality as a space of ‘nature’ is reinforced by the surprising and ever-changing procedural geology, flora, and fauna of the island environment. It also simulates a walk through time as the seasons change. The world can continue to exist after the game has ended, as a player can continue to revisit a ‘completed’ world by loading a screenshot (possibly

through its containing of the random seed that generates the world). This subtly allows us to appreciate the world as one that continues to exist without our actively playing the game. The changes in season show the passage of time, which implies a world where death exists, even if player death is not a mechanic. In addition, various unexplained sculptures, often found at the highest point of the island, may encourage spiritual reflection through association with magic or animist belief or ritual. Although filled with life that responds to the player, elements of this experience point to the possibility of walking simulator as death meditation.

Interaction here may be limited, but the player in these games is still actively controlling their presence in the world. What if player agency here were removed entirely? We will argue for ways in which making this simulation autonomous can enhance the qualities of death meditation.

## Autonomous Gameplay

There are several ways to arrive at a game without a player in order to simulate a stroll through a world without us or self. The most obvious category of self-playing games is a traditional game, like *Super Mario Bros.* (Nintendo R&D4, 1985), where an artificial intelligence (AI) has been developed, often through machine learning, to control the player character in a way that successfully completes the level (Feng et al., 2024). The purpose of the original game was not to be self-playing, so that aspect of the experience is not reinforced through the game's theme. Creating an AI player character for an existing game is often used as simply a demonstration of AI ability (Togelius, 2019). However, sometimes it is used for the purposes of art and narrative, as is the case of Arcangel and Paper Rad's (2005) *Super Mario Movie*. As a poetic narrative created through a hacked Nintendo Entertainment System cartridge, Mario in this work is not so much programmed to play the game as it is to emphasize the contemplative text and fall or stroll through the glitchy environment. This environment might be read as decaying, existentialist, or simply Mario's mind unravelling. There is potential in using a self-playing hack or machine learning algorithm as a way to rhetorically engage with the original material.

Alternatively, many games are released that already contain some self-playing aspect embedded in them. Demo scenes run while the game 'waits' for the player to press start. A participant in a networked multiplayer game dies and loses control of their player character, and now watches the action through a floating, in-game camera that wanders the action. More and more cutscenes are played procedurally using game assets (though still linear and scripted). Idle games, and many strategy games, may include long spans where the player sits back and watches the action after making a few decisions.

Another direction autonomous gameplay can take is to create an original game where the main character is not playable. This is done via a group of tools and programming practices used to give non-playable characters (NPCs) AI. These may consist of finite state machines where certain factors dictate which state an NPC is in at a particular moment, such as walking or conversing. It can also include the use of pathfinding to traverse around obstacles, as well as strategic decision-making. Occasionally these may also incorporate machine learning.

Here we have examples that may fall into the category of autonomous walking simulators. In *Panoramical* (Ramallo & Kanaga, 2015), the player chooses a set of parameters with which to create a procedurally-generated environment that responds to the player's touch. While the player changes the environment, the view moves automatically through

the space. However, one could not call this an AI player character, as it only moves continuously in one direction without any simulation of decision-making.

Cheng's artwork from 2015, *Emissary in the squat of gods*, is a third-person walking simulator which he describes as a "video game that plays itself" (Clayton, 2017, para. 4). It involves constantly-changing, emergent AI characters. The world is governed by laws and its characters by motivations that Cheng wrote (Clayton, 2017), however the simulation is complex enough to be unpredictable. Cheng talks about the play between the 'meaningless simulation', akin to 'indifferent nature', and 'meaningful' prompts that have been programmed into character motivations to form a potential storyline.

Walking can be an encounter with the indifference of nature. Sometimes this nature observes and responds to one's presence and movements, and often does not. One's own storyline is up for re-evaluation in the push of thoughts that come after leaving the routine of another activity to go for a stroll. It is a moment to clearly see one's own narrative in the context of the 'meaninglessness' of the environment through which one is strolling. Putting a storyline into the hands of an automaton may bring the story more fully into dialogue with chaos and meaninglessness.

It might strike some as perverse to take one of the least interactive forms of gameplay, the walking simulator, and eliminate all interaction. The power of the walking simulator is through the procedural replication of various aspects of walking, which usually involves at the very least some work or participation from the one experiencing it. In general, walking simulators afford players with the agency to explore, investigate, converse, and/or propel a narrative forward. Traditionally, some element of player choice has been a key element of a walking simulation.

A simulation never simulates all aspects of an experience (Salen Tekinbaş & Zimmerman, 2003), however, but highlights specific areas. As discussed earlier, one of the feelings one can experience on a walk is that of the world moving on without us. That area of the experience can be highlighted even more by the removal of agency from the player, and replacing their interface with a simple, peripatetic AI. When this is done, not only is the world moving on without us, but the representation of our material body is leaving us behind.

Could removal of the sense of agency allow the player to more clearly focus on another form of engagement? Salen Tekinbaş and Zimmerman (2003) list cognitive interactivity as a form of interaction that happens within the audience's head when engaging with a creative work. The game *Her Story* (Barlow, 2015) provides a good example of this. Here, gameplay involves the player sifting through fragmented video recordings of police interviews in an attempt to figure out what happened in the game's narrative. The player observes the actor's body language, tone, and whether the content of what she says matches our own mental map we have built so far of the events she is describing. We must decide which elements of her narrative to trust, what elements to disregard, and what elements to interpret non-literally as an unreliable narration that can still help us to get to the truth through our own interpretation. This all happens in our head as we watch videos. The main interaction is searching for new videos via keywords that the player guesses would be relevant based on clues that the interviewee drops. The gameplay hinges on the player mentally navigating ambiguity. One does not hear the questions spoken by the police interviewer and must infer the context from the interviewee's responses. This is an example of prioritizing cognitive engagement with limited interaction. Removing the audience's control over the player character entirely may allow for methods of further increasing their cognitive participation.

Fizek (2022) argues that "mediated distance" is "central to how we experience and make sense of games and play in computerized forms" (p. ix). She challenges the idea

that interactivity is “the pivotal concept necessary to understand digital media and video games” (p. xix). Newman (2002), in a claim that reinforces this position, states that the “pleasures of videogames are frequently enjoyed by those that commonsense might encourage us to consider as non-players – ‘onlookers’ that exert no direct control via the game controls” (p. 1). If so, what pleasures or benefits are they getting from the experience? Fizek’s research places importance on our sense of the underlying systems at play rather than just the surface representations and reactions to our input. We imaginatively experience these systems through our cognitive interactions.

Fizek (2022) explains that the idea of “ambient actions” (p. 56) can shine a light on what players get from this type of distant engagement in games. Galloway (2006) writes of games that “settle into a moment of equilibrium” when left alone. This may consist of scheduled or AI-instigated events such as birds chirping, cars riding by, or an NPC repeating a task. He calls this an ‘ambient state’, and these discrete actions *ambience acts*. What this state does not have is action from the side of the player, and there is nothing outside of the player pushing the game state forward either, aside from changes in environmental audiovisuals. Time may pass, but if “the passage of time means anything at all, then the game is not in an ambient state” (Galloway, 2006, p. 10). These small actions, or ‘micro-movements’, are what distinguish this from a game pause. Fizek (2022) argues that not only do games produce “representational ambience”, but “operational ambience (through algorithmic background operations)” (p. 35). The viewer experiences something differently when they know that it is a result of an underlying process, they are experiencing a moment of procedural creation (of action) rather than something that was fixed in stone by a human creator.

If one is using a walking simulator to stimulate thought, then focusing intensively on the aforementioned cognitive interactivity, with complex systems to imaginatively explore, may be of benefit. In the next section, the article will describe a project that puts walking simulation and self-playing game design in the service of death meditation.

## Design Discussion

*Night Walks* (Oldenburg, 2023) is an autonomously-walking death meditation that we completed from 2022-2023. In it, the player is wandering lost in a semi-wilderness, on the edge of a once-inhabited environment. They go from area to area, trees, marsh, empty roads, in each place experiencing the world through their senses as well as their thoughts. They also sometimes encounter bodies on the ground. Sometimes they bury these bodies. Occasionally they encounter mounds where someone or thing has been buried. They are wandering at night and at the break of dawn they lie down to sleep, dream, and then die. The position where they died is uploaded to a server to potentially be found and buried by another instance/repetition of the software, another ‘player’.

This project was partly inspired by *Lost person behavior* (Koester, 2008), a handbook for park rangers detailing the various psychologies and strategies of people who lose their orientation. While we initially contemplated an AI character who would simulate multiple lost person strategies, such as “route travelling”, “direction sampling”, or “discarded gear”, we eventually chose to simulate only “random travelling”, partially described here:

Totally confused, and usually experiencing high emotional arousal, the lost person moves around randomly, following the path of least resistance, with no apparent purpose other than to find something or some place that looks familiar. (Koester, 2008, p. 53)

The project shares descriptive and visual elements with text adventures or interactive fiction, as well as the goalless exploration of walking simulators. However, there is no human player, as the main character, who is a non-playable character (NPC), is controlled entirely via code. The player character moves along a grid of procedurally-generated areas:

You look at the sky and assume your next steps take you south.  
The ground slowly disappears.  
The moon is gone.  
You close your eyes and everything is clearer.  
But you can't do anything. (Oldenburg, 2023)

When the NPC enters an area, the software draws from a text file of descriptions matching the qualities of that area and the current world or environment state:

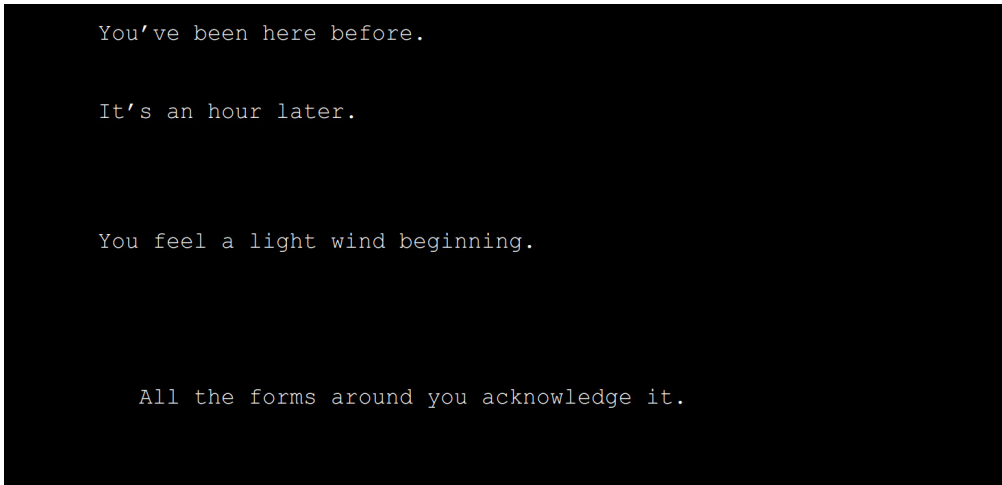
You've entered a museum of growth.  
A strongly animal scent.  
A far hum.  
You touch a tree's eye scar.  
There's something sticky. (Oldenburg, 2023)

It pulls one description for each of four senses: sight, hearing, touch and smell. It also pulls a brief description of a thought (most descriptions are only one sentence), as well as descriptions of any events or encounters that might happen.

The software checks a server to see in what cell coordinates previous NPCs have died and are not yet buried. The textual description changes depending on the number of bodies in a particular cell. The NPC will randomly decide whether or not to bury one, and that decision is sent to the server. The software also checks the server to see how many bodies have been buried in each cell. A description is pulled from the text file and displayed depending on how many mounds are in a particular cell:

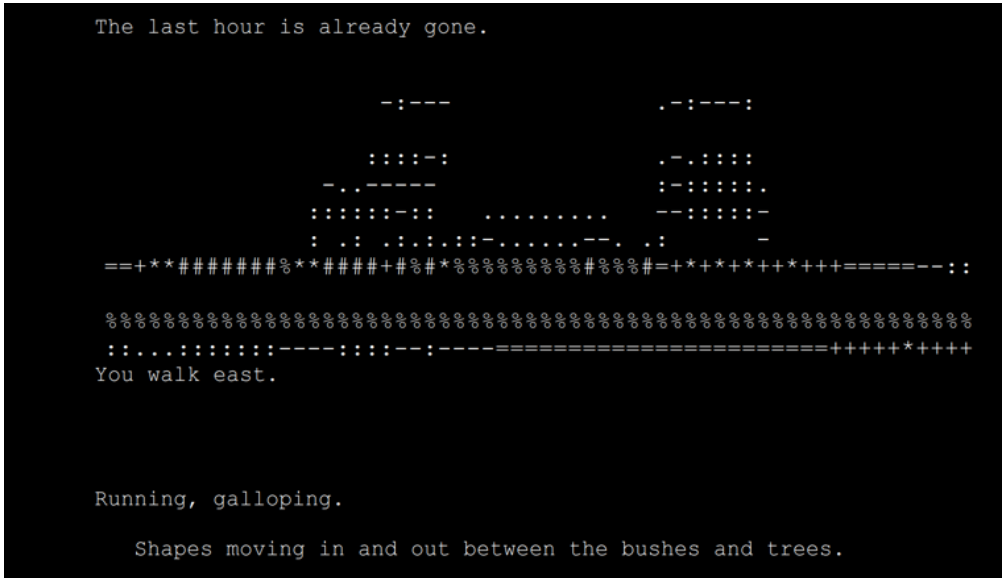
The rain activates an unfamiliar landscape.  
You feel an evil hug over your whole body.  
You realize you've been walking in a dry streambed, not a trail.  
There are two bodies here.  
There are a couple of mounds of dirt here.  
You bring one of the bodies into a dark, living pit.  
Then you cover it. (Oldenburg, 2023)

Each piece of text is given a certain number of pauses. Every second, the narrative crawls up one line. Each pause results in a blank line inserted into the crawl. Game time also moves forward based on the seconds since the game started. The real-time playthrough lasts about ten minutes. In game time, play starts at 6 p.m. and ends at 6 a.m. Descriptions alert the audience to an hour passing, and the time of night is indicated by descriptions of the level of darkness (Picture 1). Weather is simulated through wind and rain semi-randomly beginning and ending, increasing and decreasing in force. The software draws from a text file of descriptions to indicate the current state of the world's weather.



Picture 1: Text from a Night Walks playthrough depicting time change and weather  
Source: the author's screenshot from the game Night Walks (Oldenburg, 2023)

Initially, this project was connected to another separate project over the server. The other project was a visual auto-arranging scene. Similarly to this project, it also referenced climate chaos, as well as grief for the future. We drew on imagery that evoked those feelings. When the two projects were connected over the server, events in the other software triggered events in this software. These events were visualized through the display of ASCII art to which we had converted images from the other project (Picture 2). Now that the two projects are separated, we kept the ASCII images in to appear semi-randomly on a timer to serve to free-associatively illustrate the text.



Picture 2: Text from a Night Walks playthrough depicting abstract ASCII visuals  
Source: the author's screenshot from the game Night Walks (Oldenburg, 2023)

As stated previously, at the end of the night, the NPC goes to sleep, dreams and dies, and their location is uploaded to the server. Then the software ends:

Each dream gives birth to two more dreams.  
You can't wake until they're finished.  
You're a vine.  
You lose feeling, beginning with the top of your head. (Oldenburg, 2023)

If the NPC in this case can be said to have a goal, it is to pass time and arrive at death, so they can become a part of the networked system. Or perhaps they are searching for a way to avoid death. Games researcher Kagen (2022) writes that walking, or wandering, in games can be a form of “digression”, a way to “cheat death” (p. 17), as no matter what the narrative end of a game is, the ending, itself, is a form of player death.

For this project, we created a relatively simple game engine in C++, using CURL for networking. The project only runs in a Linux terminal, and outputs directly to the command line. We created three text files for descriptions, one for area descriptions, one for events that happen locally and a third for events that happen over the network. The C++ software reads from these text files and interprets them based on keywords and symbols in the file. The following is one example from a data text file:

```
TEXT:You look through the slats of the bridge's boards at the shadow below.  
PAUSE:2  
AREA:bridge  
SENSE:visual  
---
```

As there is no player character, only a main NPC, the only decision a human makes is whether to run the software once or on a loop. This is done via two shell scripts we wrote, one of which restarts the software after it ends. For networking, we set up a virtual private server (VPS), on which we created a database using the open-source SQL software MariaDB. This is accessed and updated via PHP.

It is probably no coincidence that as we became more aware of how dire our predicament is as a civilization and a species due to our ongoing environmental catastrophe, we began to remove the player's interactive agency from the games we were making. A series of games that was fully interactive eventually was mostly not, to the point where we stopped calling some of them games. This may be mirroring the process that we are going through as a species, as, through the passage of time, we continually lose agency to correct our path (although it is not completely lost). In a way, we are looking at the possibility of a collective death, either through extinction or loss of a way of life (Wallace-Wells, 2019).

## Death Meditation beyond the Individual

There is an aspect of death that persistent networked data storage can emphasize, and that is death of individuality, or ego. In this section, the article will look at this and how it also reinforces qualities experienced in self-playing walking simulators.



In *Night Walks* (Oldenburg, 2023), the player character is walking locally, moving from cell to cell, which the audience sees. Part of the player character is also walking over the network, as its own space, through the distribution of bodies and burials. The persistent qualities of data storage in a network space are like a well-trodden path, indentations on which form portraits of other virtual walkers, like ghosts. In their article “Walking and worlding”, Jørgensen (2022) says “trails remind us of those who have gone before us; they are incomplete traces of a past that we can’t fully know” (p. 192). Encounters with other asynchronous players, or representations thereof, create a sense of a world before and after the current play session.

A recent popular game with walking simulator elements that explores asynchronous connections between players is *Death Stranding* (Kojima Productions, 2019). Although it takes place in a post-apocalyptic world reclaimed by nature, something my own project also hints at, its purpose is less to meditate on one’s own solitary being in the world and death, and is more focused on the goal of making things work between remaining humans. One is not encountering other dead players and choosing what to do with their bodies, but encountering functional tools that other players left to share.

Despite these differences, both simulate the characteristic of physical walking that involves experiencing a space asynchronously with others, through encountering their remnants and/or leaving your own. Mortensen and Navarro-Remesal (2019), in their article “Asynchronous transgressions” discuss this interconnectedness:

In asynchronous play, the player discovers the traces of others in her play; she is connected to – and partly depends on – others. These games highlight how players can influence others while not even virtually meeting them. Unlike massively multiplayer online games, these games lack a strong notion of “shared space” and social interaction, and any “visit” can potentially end the self-sufficiency of playing. Indirect appearances of other players highlight the liminal nature of games when these other players are perceived as trespassing on a personal play session, whether the intention was to transgress on the single player’s experiences or not. (Mortensen & Navarro-Remesal, 2019, p. 8)

An apparently single-player game (or one that simulates a single player) that is interrupted by the presence of other players might have a more alarming impact on the player’s sense of self than a traditional multiplayer game could have. Initially, one assumes that one is alone, the hero of a personal world, and then the reality of other beings intrudes. This could help a designer push a player to contemplate the Buddhist concept of *interbeing*, which poet and writer Rebecca Tamás, reflecting on the writings of Clarice Lispector, describes as a form of existence [that] does not totally annihilate the experience of self, but it destroys the idea of the self as an individual, independent monad. In this way of seeing, all beings/things are relations, existent only in their links to other beings, processes and forms. (Tamás, 2020, p. 38)

Bringing this back to death meditation, walking through networked space can bring to mind annihilation of the self as an individual. The individual dies and becomes a piece of shared data or a web of relationships. A similar process happens in physical death as our bodies continue to be used by the environment without our agency.

## Emergent Post-player Life

Games have an inherent potential to remind us that we are part of a larger system. Vahlo (2017) states that a game “is unable to produce meanings in and of itself”, that it

“belongs to the environment” (para. 9). He describes the relationship between the player and game as “mutual and not unlike that found in adaptive living systems” (para. 11). His work engages with Barrett (2015) in discussion of how an organism adapts due to environmental pressure, and these adaptations then change the environment. However, the possibilities for change are less restricted on the side of the player than they generally are on the side of the game. Take away the game and the player will still change in response to other aspects of the environment. Take away the player and the game will have far fewer influences upon its systems.

It would seem that a self-playing game is missing this dialogue between human and machine, player and environment. However, making a game play autonomously can also remind us that we are part of a larger, interconnected system, and not just individual heroes making things happen. Because it needs an audience to view and participate cognitively in order to make meaning, an autonomously-playing game does not exist to its full capacity without audience participation.

One potential metaphor for the removal of player agency is, again, that of the world without us. By removing a player from the game, we are simulating removing an organism from the environment. We are no longer present and affecting moment-to-moment change, but still observing and making meaning. In *Night Walks* (Oldenburg, 2023), the final act of the NPC makes them a part of the environment. It is a cycle of experiencing the environment (and possibly being changed by it), then changing it through one’s own death and burial.

Jones (2023), in discussing the current neglected state of ecofeminist artist Harriet Feigenbaum’s sculpture *Erosion and sedimentation plan for red ash and coal silt area (Willow rings)*, installed in 1985, writes of the “aesthetic of regeneration”. This is “a perception of a certain type of beauty found in the surprising incarnation of life as it emerges from neglect, or death” (Jones, 2023, para. 6). One sees this approached often in post-apocalyptic work, like *The Last of Us Part I* (Naughty Dog, 2023), for example, in lush scenes of former zoo animals roaming a re-wilded cityscape. Jones states, “regeneration is invisible only to the eye trained to ignore non-human agency” (Jones, 2023). If this is true, then training one to appreciate non-human agency can help one develop an aesthetic of regeneration. This aesthetic may both help people appreciate parts of the world that have been reclaimed by non-human entities, and also inspire humans to push for more parts of our world to be reclaimed as such. Some argue that the latter is a necessary approach to our climate predicament (Vettese, 2022).

Life emerging from neglect sounds much like the life of an autonomous game emerging from the neglect of a player. An AI character is a non-human entity upon which we project agency. One wonders if an audience appreciating the agency of an AI could be being subtly trained to appreciate other non-human agency as well. Through cognitive engagement with the AI agents and the systems within which it “lives”, one may be doing a valuable part of the development of one’s aesthetic of regeneration. This aesthetic is by definition imagining a world without us, at least in certain parts, and thus a form of death meditation. This, however, is a collective, rather than individual, death.

Simulating the emergence of life is difficult. Writing in her manifesto on what she calls “Rambunctious games”, Chang (2020) writes that “game worlds ought to surprise us” (p. 73), and “should suggest the power of nonhuman agency” (p. 72). The title of her article comes from Marris’s (2013) term and book title *Rambunctious garden*, which describes humans riding an unruly ‘post-wild’ natural world in the Anthropocene. Chang cites Shinkle (2007) as arguing that currently, with its “restrictions on movement ... the gamescape bears more resemblance to a landscape garden than it does to real space” (Shinkle, 2007, as cited in Chang, 2020, para. 6). And even then, it is not subject to the underlying

natural processes to which a real-world landscape garden is subjected (Chang, 2020). Given the technical limitations on fully-simulating these processes, it might be the case that designers need to push more purposefully on the imagination of the player or viewer. How can a game provoke a player to enter these spaces cognitively; for instance, the infinite detail found in dirt? Strategic use of *distance* (between the player and the game, by removing agency), as well as removal of concrete visuals (replacing with abstraction), may serve this purpose. Fizek (2022) explains:

Perhaps one of the most interesting critical remarks related to the widely accepted view of interactivity as something unique to digital media, hypertext, and video games is that of *ellipsis*. In the cognitive sense, all preceding media are interactive, asking readers, viewers, or listeners to fill in the missing information. (Fizek, 2022, p. 8)

Eco (1994) talks about literature as an art form that, by necessity, “asks the reader to fill in a whole series of gaps” (Eco, 1994, as cited in Fizek, 2022, p. 9). It is within (the neglect inherent in) these gaps that (regenerated) life grows. Of course, a gap only provokes growth as good as its seed, or the context surrounding it.

In *Night Walks* (Oldenburg, 2023), there is cognitive interaction that requires a viewer to fill in the narrative gaps, as well as an element of what Pfaller (2017), as well as Žižek (1997), refer to as *interpassivity*, which Žižek describes as “believing or enjoying through the other” (p. 111). Just as interaction transfers action from the player to the game, interpassivity transfers the player’s passivity (Fizek, 2022). The game playing itself relieves the player of a certain task. When the software runs in the background on a loop, the NPC dies over and over again, in different locations, and also buries various bodies of previous NPCs. This results in changes to the environment that future viewers can witness. The networked persistence in this case is vital to the creation of interpassive play. Although the primary experience of the software requires a viewer to interpret, there is a secondary experience that can be had passively with the software running without an audience. One simply knows and imagines the software continuously making changes to this living world.

Interpassivity takes the death meditation one step further: from passing through a world without us, to doing it without our own agency, and finally to simply knowing that an agent is moving through the world somewhere, making changes, and it does not need us.

## Conclusion

Death in games rarely feels like death. If anything, witnessing our avatar bloody and decapitated furthers the distance between the physical player and their representation. However, it does often connect to the player’s emotional state: that of failure, frustration, the end of the current play session as they give up for the time being.

The goal of this article was to look at another way that games can provoke thoughts and feelings about death. It looked at death meditation and its benefits, discussing how walking, both real world and simulated, can stimulate this form of reflection. It explained how the qualities of self-playing games can reinforce this theme by looking at their underlying procedural complexity through the lens of cognitive interactivity.

It described an example design of an autonomous walking simulator that thematically reinforced its procedural death meditation through its narrative. We looked at ways in which it served as death meditation: the player’s loss of agency, narrative reflection on physical mortality, generative experience of the world moving on without us, and remnants of self-becoming a part of a persistent, networked system.

Contemporary art has a more clearly-developed relationship with spiritual practices like meditation. Installation art, sculpture, and location-based work, with their emphasis on the viewer's movement through space, may help broaden our concepts of what we want from walking in games. Long-term performance work can give us a sense of ways to bring persistence to digital work. Conceptual art teaches us how to expect the audience to cognitively participate and imaginatively fill in the gaps.

The aforementioned Arcangel and Paper Rad's *Super Mario Movie* (2005) straddles game culture and contemporary art. It takes software that is associated with frenetic action and makes it slow and meditative. The glitches make us aware of the physical medium on which the program is recorded. It makes us aware that the object has a life, as well as an eventual death through corruption. In this piece, Mario is walking directly through an engagement with his digital mortality.

In Katchadourian's (n.d.) installation *Indecision on the Moon* from 2002, one enters a pitch-dark room and hears the sounds of several people attempting to communicate over radio static, short lines of dialogue that devolve into "um"'s and "uh"'s. It becomes clear that this is audio from the moon walk, but with the certainty and triumphal narrative removed. The audience not only viscerally enters an unknown space but feels like they have been given access to the astronauts' inner disorientation through the focus on these interstitial glimpses. The experience of the dark interior of the space ties the audience's physical sense of location to the elliptical wandering of the dialogue. Prochnik (2017) feels "these voices are surely caught in an act of disconnection as violent as the severing of this world from the next" (p. 72).

This is not a game, and is not generally categorized as a simulation, but it provokes an experience of an inner emotional state that might come over someone encountering a new and unknown space. It is an imagined sense of surprise and losing one's bearings when finding oneself on a walk outside of the Earth. The dialogue is like a hand reaching out into the darkness and finding nothing to hold onto. It is walking with the shock of pure awareness.

Some conceptual and performance artists use the physical act of walking directly in their work. Fulton's work revolves around taking long walks, which he documents, maps, and presents in various conceptual forms. One of these is his large-scale line drawings of horizons. In his discussion of the work, he says:

The lines provide both a physical point of reference and 'evoke emotions as to what a skyline or horizon symbolizes: a distant, ungraspable end to a journey and the mystery of what lies beyond our given place and time, what might be the edge of something far larger than ourselves'. (Wilson, 2002, p. 29)

Simulating, or provoking thoughts of the 'ungraspable' is important: it helps us reflect on the numinous or ineffable aspects of life. Typical game interaction, however, can subtly reinforce the idea that everything is within our grasp, can be puzzled out via logic. Removing interaction and creating distance can allow us the time and space to humbly sit with our thoughts and explore what lies beyond our understanding.

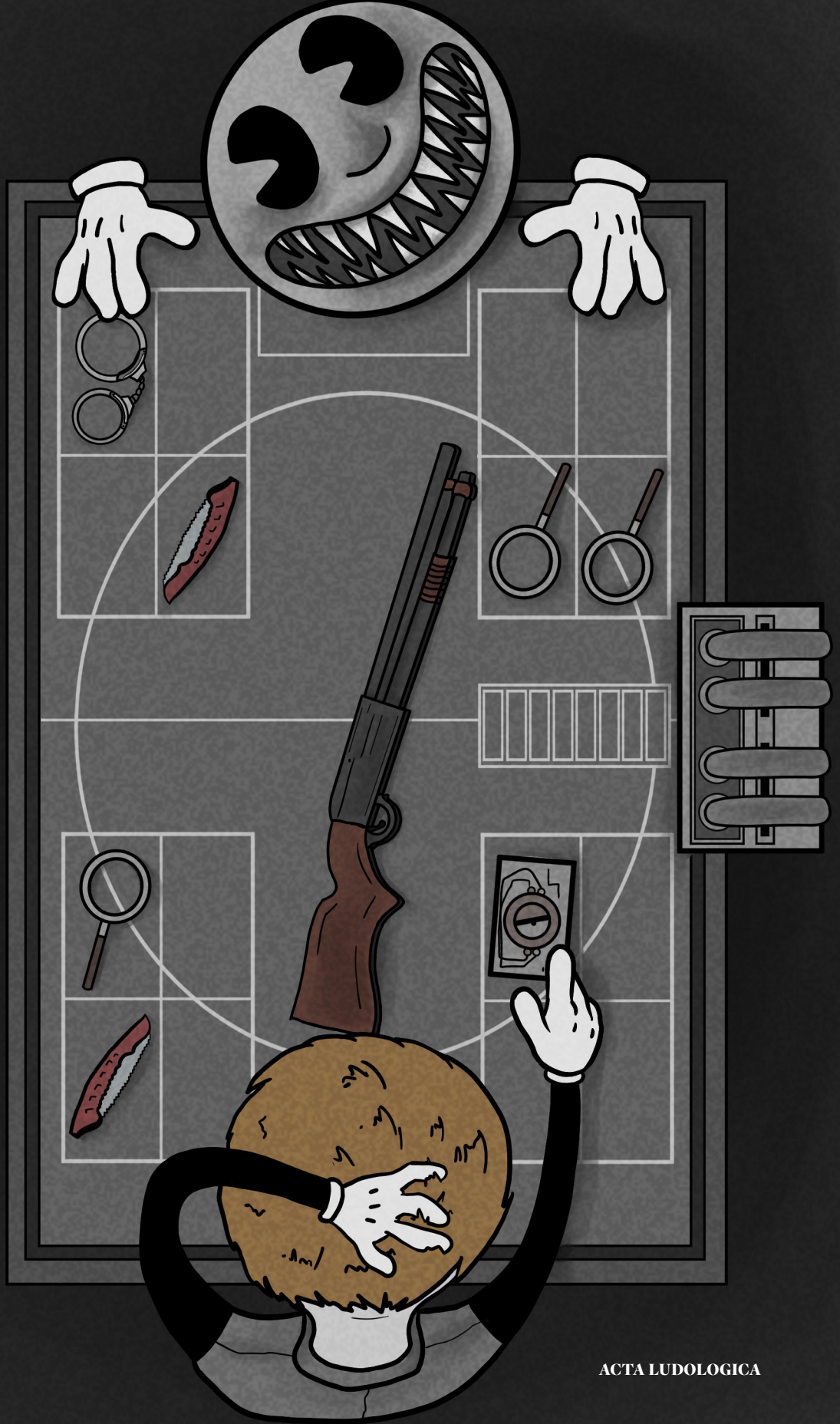
*Mountain* by O'Reilly (2014) is a mostly self-playing game. The mountain is a living and dying being, containing imagined ecosystems. It is personalized through the player's initial decisions, so one can project oneself into its life cycle. A walking simulator in the sense that through the player's ability to rotate and zoom in and out of it (as well as the camera's own movements when left alone), it simulates walking around a sculpture. It simulates a world without the player but bearing their imprint. Through text displayed in the upper-left corner, the mountain has occasional speech, or thoughts. They are an invitation to engage cognitively, and sometimes give the sense that the player can affect the world, but this ability is just out of reach.

The ability to provoke death meditations, and associated benefits, are not constrained to small experimental indie games. Many large, open-world AAA games contain elements of walking simulators (Kagen, 2022), and as stated before, they also have self-playing procedural moments. Many allow for play styles that choose to emphasize one or both aspects. For instance, in many open-world games like *Grand Theft Auto V* (Rockstar North, 2013), one can choose to ignore game goals and combat and find a place to wander and watch the world. Despite the player being the reason for the world's existence, one can choose an experience that feels as if the world is unaware of one's presence, moving on without one. Having self-playing walking simulator gameplay as an optional way of experiencing a mainstream game may even more powerfully evoke these feelings by way of contrasting with the game's standard mode of play. Arguably, the inclusion of non-standard gameplay options like this can increase a game's appeal and longevity. More importantly, though, self-playing walking simulators are potentially valuable formats to provoke experiences of the sublime and meditate on the world after our deaths.

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# *Sid Meier's Civilization* Franchise: Sustaining Innovation in a Shifting Gaming Landscape

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## ABSTRACT:

*Sid Meier's Civilization* is one of the most prominent game franchises thanks to its distinct contribution to the strategy game genre. This is evidenced by the game's inclusion as one of the few games in the World Video Game Hall of Fame. The games in the franchise feature significant replayability, allowing designers to standardize game mechanics that were typical of high-end AAA titles. Innovation, which is more often associated with low development costs, is becoming less common in the game mechanics of high-cost titles. However, original designer Sid Meier set a rule of thirds in development – keep a third of the original game components, improve a third, and innovate a third, thus emphasizing game innovation. The resulting products should deliver innovative mechanics that retain original players while captivating new ones. The purpose of the case study is to evaluate the quality of the innovative game mechanics of the *Sid Meier's Civilization* digital game series within the genre and series. The innovativeness and the methods that lead designers to use them can serve as an example for other studios developing strategy games at a time when interest in strategic planning among gamers is declining.

## KEY WORDS:

AAA, design, game mechanics, innovation, *Sid Meier's Civilization*, strategy game.

## DOI:

10.34135/actaludologica.2024-7-2.110-129

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# Introduction

What's bigger than the history of railroads? The entire history of human civilization! (Meier & Noonan, 2020, p. 116)

*Sid Meier's Civilization* (MicroProse et al., 1991-2016), hereafter referred to as the *Civilization* series, is one of the most famous strategy game franchises of our time. For games, the use of a designer's name is not as typical as in the film industry, which sets the franchise apart from other titles. Prior to the creation of *Sid Meier's Civilization* (MicroProse, 1991a), MicroProse, founded by Bill Stealy and Sid Meier, was a company dedicated to military-themed games, primarily flight simulators,<sup>1</sup> but Meier later branched out into other genres as well. For his next title, a pirate-themed RPG, due to concerns about low market demand, Stealey suggested using Meier's name: "Well, we should at least put your name on it. Sid Meier's pirate-whatever. Then maybe people who liked the F-15 will recognize it's you, and buy it anyway" (Meier & Noonan, 2020, p. 70). This RPG was followed by other critically acclaimed titles, including *Sid Meier's Railroad Tycoon* (MPS Labs, 1990), which was inspired by the success of *SimCity* (Maxis, 1989), a game focused on building and creating rather than destroying and fighting. After the success of the train simulator, Sid Meier and Bruce Shelley thought of a game that would be bigger. Thus began the history of the *Civilization* gaming franchise, of which the numbers of

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1 For example: *Hellcat Ace* (MicroProse, 1982); *F-15 Strike Eagle* (MicroProse, 1985); *F-19 Stealth Fighter* (MicroProse, 1992); *Gunship* (MicroProse, 1989) and many others.

copies sold are increasing from title to title. From the first instalment with 1.5 million copies sold to the release of the sixth instalment in 2016 with 11 million copies sold, sales have continued to rise (Andric, 2023). However, the concurrent growth and success of the digital game industry cannot be ignored, in which *innovation* has played a significant role as game publishers and hardware engineers have designed products to meet the needs of an increasingly broader audience (Wesley & Barczak, 2016).

Due to its impact on gaming culture, in 2022 the first game in the series was inducted into the World Video Game Hall of Fame, as one of 45 games currently inducted up until September 2024 ("Sid Meier's Civilization", n.d.). The series has also received attention from researchers, among several other awards. The strategic simulation is set on Earth, and the individual civilizations are based on cultural realities and historical leadership figures, which has led experts to wonder about its historical accuracy and educational potential (see Chapman, 2013; Mol et al., 2017; King, 2021; Majewski, 2021), as well as its potential for management skills training (Simons et al., 2021). The series has six parts, with a seventh part announced by the publisher for 2025 (Valentine & Stedman, 2024). The series has been published for 33 years, during which time there have been significant technological advances in the development of digital games, allowing for better game design, audiovisual enhancements, and improved fluidity. Although Wesley and Barczak (2016) focus primarily on hardware innovations (primarily consoles), they note that the most successful companies were not those that offered the most advanced consoles and software, but those that provided innovative products that reached new audiences while keeping development costs low. The presumption that an innovative game will inherently achieve success within the industry is unfounded. Nonetheless, historical examples demonstrate that titles incorporating groundbreaking mechanics and distinctive gameplay experiences have garnered considerable success, as evidenced by *Minecraft* (Mojang Studios, 2011), *Among Us* (Innersloth, 2018), *Lethal Company* (Zeekerss, 2023), and numerous others.

When we investigated how game mechanics evolved in Blizzard's *Warcraft* (Blizzard Entertainment, & Cyberlore Studios, 1994-2003) strategy series, we found that mechanics in the sequels were only slightly modified by the authors adding resources or removing some of the features (Pravdová & Cihlářová, 2024). This trend of game mechanics standardization has been noticed by researchers as far back as in games from the 1980s-1990s. According to Rouse (2004), this trend was particularly evident in adventure games from LucasArts and Infocom. Today, blockbusters released every year work on this trend. Criticism of standardization also comes in terms of the narrative aspect of the game. Dubbelman (2016), examining the narrative mechanics of games, has also pointed out that designers often use conventional mechanics from proven genres instead of creating ones that better suit the narrative experience. Due to its complexity typical of the 4X genre of strategy games and the abundance of game rules, the *Civilization* series provides high *replayability*, allowing for standardization of game mechanics. On the other hand, however, the growing interest in these games due to the number of units sold as well as the long-standing tradition suggest opportunities for innovation in game mechanics. Meier, the lead designer of the first episodes of the series, mentions in a memoir the rule of thirds that other designers should follow when designing sequels. The rule encompasses one third traditional gameplay, one third of the gameplay should include enhancements, and one third of the gameplay should be entirely new. This should ensure that in addition to technical improvements to the games, game mechanics are also improved and innovated (Meier & Noonan, 2020).

This case study on the *Civilization* game series aims to evaluate the quality of game mechanics innovation within the terms of genre and series. Equally significant is the need to identify and document the approaches involved in developing innovative mechanics.

# Game Mechanics of Strategy Games

Although it seems natural, the study of game mechanics requires the researcher to have knowledge of the rules, which is increasingly difficult to achieve in increasingly complex games. The only difference from tabletop games, from which the mechanics have been remediated into strategy games, is that in digital games the computer controls the player's compliance with the rules. According to Juul (2011), it is a modification of the classical game model that allows for more complex rules than humans can handle. It also allows players to play games in which they do not know the rules from the start. Zimmerman (2004) points out that game mechanics are what make the game a game. The ludic element of games distinguishes them from other types of media, but since the earliest definitions of games, it is rather the rules that characterize them (see Wittgenstein, 1953; Caillois, 1958; Huizinga, 1971; Crawford, 2003). However, rules condition the functioning of game mechanics. The importance of rules in terms of game mechanics has been summarised by Juul (2011), who argues that rules set up potential player actions and give them meaningfulness, but also prohibit certain actions. From Juul's perspective, rules represent certain boundaries, constraints and meanings in the game affecting the player's actions. However, the definition still refers to the skeleton of the game composed of rules, which is very complex and does not only include mechanics. According to Fernández-Vara (2014), rules can determine how the game works, while mechanics refers to the rules determining how the player participates in the game. Adams and Dormans (2012) divides gameplay into game-mediated challenges and player actions, with both parts in a relationship governed by game mechanics, e.g. a player can only jump if the game mechanic of jumping is embedded in the game. Thus, the mechanics are those rules that determine how the player participates in the game, while the rules about the functioning of the game world ensure that the player's actions are meaningful. If there are many mechanics in the game, there will be even more rules to give them meaningfulness. This relationship is relevant when studying mechanics, because rules about the functioning of the game world can significantly change the dynamics of the game. Gamespot editor, Tom Chick, when reviewing the third instalment, noted how significant the impact of small changes on gameplay is:

In fact, you might even be disappointed when you start your first game of what feels like a warmed-over version of Civ II. But this feeling fades with time. The more you play, the more you'll realize that the new game's seemingly subtle changes have a significant impact. (Chick, 2006, para. 2)

For example, the mechanics of movement in the *Civilization* series are constrained by the grid rules. The first games in the series used fields in the form of a square grid, which limits the movement mechanics to horizontal and vertical displacement. By changing the shape, which is defined by the rules of how the world works, the movement pattern changes. In later instalments, the fields were hexagonal, opening up to six movement options for the player instead of the original four (Picture 1). This is not the only mechanic that the game world rule change has limited, nor is it the only rule affecting movement.

Strategy games are referred to by Juul (2011) as *games of emergence*, which specify a game as a smaller set of rules that combine to provide a game tree (many variations of the game) with which players cope by designing strategies. We understand the 'smaller set of rules' as the ratio between the rules and the possibilities that arise due to combining. Board games do not have the option of an electronic controller, and the player must learn

the rules in advance. However, digital game players need only learn the *core mechanics* that create patterns of player behaviour, manifest the game experience, and represent moments of player activity repeated over and over again (Tekinbas & Zimmerman, 2003).



Picture 1: Comparison of square and hexagonal fields from the first and sixth games of Civilization series

Source: authors' screenshots from games Sid Meier's Civilization (MicroProse, 1991a) and Sid Meier's Civilization VI (Firaxis Games, 2016)

These are essential for the player to be able to start playing at all. However, the meaningfulness of these mechanics in the form of game world rules is equally crucial. These rules determine the goal, challenges, or options for planning strategies. Therefore, it is extremely important that the rules are fixed, clear, easy to understand, and their interpretation cannot be subjective. Strategy games are characterized by the complexity of player decisions (Qaffas, 2020). According to a contemporary preview on *Sid Meier's Civilization* by Emrich (1991), the game lacked a manual to guide players on how to play the game, as it contained many elements without direct in-game explanations that the player had to work with. The main problem lay in the many rules of the game world. The game came with a 120-page physical (later digital) manual, which Emrich advised all players to go through thoroughly before playing. Games at first often only convey the necessary information on how they should be played. The player learns the rest by playing, during which time he or she could also make use of Civlopedia. The latter is included in all games in the series and its role is to provide the player with in-game information about a unit, building or other part of the game. However, both the manual and the Civlopedia only contain information about the rules of the game world. For example, they describe bonus resources, but do not give the player instructions on how to work with them. This is where strategies come in, which the player suggests after accepting the rules.

Regarding game mechanics, we also encounter the issue of the game mechanics performers, which Sicart (2008) defines as methods invoked by agents, designed to interact with the game state, whereby these mechanics are subordinated to the rules of the game world. Sicart also took into account mechanics that are not in the hands of the player, for example, in *Sid Meier's Civilization*, the spawning of barbarian units. In order to distinguish between executors, Järvinen (2008) distinguishes between mechanics whose executor (agent) is the player and procedures whose executor is the system. For this research, we focus on mechanics because these are the possibilities of the player's actions in the game and represent how the player interacts with the system.

The games in the series fall under the 4X subgenre representing the four actions in accordance with the rules of the game world that the player performs in the game: eXplore, eXpand, eXploit, and eXterminate. Although the emergence of the sub-genre is primarily associated with Emrich's (1993) review of *Master of Orion* (Simtex, 1993), it was the popularity of *Sid Meier's Civilization* that was behind the popularisation and rise of the sub-genre (Mol et al., 2017). Today, the conventions that the series has anchored are

being utilised by mobile games, with statistics showing that consumers spend the most money in the 4X march battle strategy subgenre (Knezovic, 2024). Overall, mobile gaming accounts for approximately half of the gaming market's profits (Buijsman et al., 2024), which continues to grow, therefore the impact of the series is still relevant to the industry.

One of the regulatory rules determining the functioning of the game is the division of strategy games according to time into turn-based, in which the player executes a move during his turn and waits for the next one after the opponent's turn, and real-time strategy games, taking place in real time (Qaffas, 2020). Turn-based strategy games mostly provide players with unlimited time,<sup>2</sup> while real-time strategy games encourage players to think quickly (Sulaeman & Aji, 2021). Meier and Noonan (2020) describe such regulation of turn length as an instantaneous increase in excitement, in which quick thinking is rewarded more than precision. However, even instantaneous evaluation can quickly give way to frustration or confusion. All of the *Civilization* series' singleplayer modes use a turn-based system. In it, the player has an unlimited amount of time to carefully think through progression and tactics. More invested time and personal decisions, according to Meier and Noonan (2020), lead to a greater evaluation experience. In its multiplayer modes, players conduct their rounds simultaneously, but under time regulation, where players pre-set a maximum round length. This can be sped up if all participating players end their round by pressing the end-of-turn button. Rounds play an important role throughout the series as they represent a resource of time that is exchanged for building and technological advancement.

## Methodology

Based on Rousse's (2004) claim about the standardization of game mechanics in high-cost titles, Dubbelman's (2016) view of the preferred use of conventional mechanics in successful titles, and our research on the *Warcraft* strategy games (Pravdová & Cihlářová, 2024), we focused on the innovativeness of the different parts of the *Civilization* series. However, given the stated rule of thirds (Meier & Noonan, 2020) and the growing popularity of the series, we expected the instalments to contain innovations in game mechanics, in contrast to previous research. The case study aims to assess the quality of the game mechanics innovativeness of the *Civilization* series within the terms of genre and the series. Due to the large number of included games and their expansions (DLCs), we focused only on the main instalments of the series: *Sid Meier's Civilization*, *Sid Meier's Civilization II* (MicroProse, 1996a), *Sid Meier's Civilization III* (Firaxis Games, 2002a), *Sid Meier's Civilization IV* (Firaxis Games, 2005a), *Sid Meier's Civilization V* (Firaxis Games, 2010), *Sid Meier's Civilization VI* (Firaxis Games, 2016). For the research, we set two research questions:

- RQ1: What is the level of *Sid Meier's Civilization* innovativeness within its genre?
- RQ2: Are the *Civilization* game sequels innovative compared to previous instalments?

To answer the research questions, we applied a qualitative research, based on a combination of deductive-inductive approaches, as well as selected methods of logical analysis such as description, comparison and synthesis. These are particularly necessary in setting up the research and determining the analytical categories.

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2 The exception is, for example, *Hearthstone* (Blizzard Entertainment, 2014).

Innovation can generally be considered a new idea, a new method, or a new device according to the Merriam-Webster dictionary (n.d.). The Cambridge dictionary (n.d.) also refers to innovation as a new idea and method, as well as the use of a new idea or method. However, according to Eurostat Statistics Explained (n.d.), a new or significantly improved product (or service) launched on the market or introduced in an enterprise can be considered innovative. Based on these definitions and previous research in the field of game mechanics, we considered the following as innovation in the analysis:

- the use of a new game mechanic in the strategy game genre for the first instalment;
- the use of a new mechanic that was not applied in the previous instalment of the series;
- a significantly improved game mechanic compared to previous instalments in the series.

We evaluated the innovativeness of the series based on how many episodes in the series contained innovative core mechanics. In emergent games, the strategies that the player devises after learning the rules of the game world and the core mechanics that form the pattern of their (repeated) behaviour come to the fore. Given the complexity of the rules and their descriptions in the original guides, our analysis focused on the innovativeness of the game mechanics with respect to the genre in the first instalment of the series. We evaluated the innovativeness of the first instalment based on historical contexts and inspirations. For the sequels, we focused on innovativeness, especially with respect to previous instalments of the series. According to Juul (2011), such games present a smaller set of rules, the combination of which allows for many variations of gameplay that players cope with by designing strategies, hence we also address rule changes.

Due to the abundance of rules and available tutorials, we no longer focused on a detailed description of parts of the game, only on a basic description of the gameplay for the first instalment. However, in the research we also used the tutorials to explain the reasons that led the designers to make changes. The physical tutorials (except for the first instalment) also included a chapter for players who have played previous instalments of *Civilization*, describing the changes from previous instalments and the rationale behind them. We also made use of contemporary reviews, which, along with newspaper articles and scholarly articles, helped us understand its impact and how the game was understood by others before us (Fernández-Vara, 2014). One of the sources we drew on to explore methods for creating innovative mechanics was the memoir of the designer of the first parts of the series, *Sid Meier's memoir! A life in computer games* (Meier & Noonan, 2020).

## How *Sid Meier's Civilization* Changed the Genre

The first instalment, also included in the Digital Games Hall of Fame, brought an innovation in the form of the *technology tree* (Ghys, 2012), which is still used in strategy games today. The first pioneer does not always get the credit, which in the case of the technology tree was the game *Mega-Lo-Mania* (Sensible Software, 1991). The games were released shortly after each other, so their development was simultaneous, but the creators of *Sid Meier's Civilization* had the strong brand of a proven game developer behind them, plus the games bear the name of the highly respected designer Sid Meier. Bill Stealy's marketing strategy, originally devised for a pirate RPG, ensured that at the time of *Sid Meier's*

*Civilization's* release it was of interest to a wider audience than just strategy game players. The innovation was thus able to sell to a much larger audience, making its impact on the genre more significant. Technology trees are evolutionary diagrams that simulate the development of technology in historical strategy games in a deterministic manner. A player cannot unlock a technology before he or she has mastered the technologies preceding its creation. The technology tree has a dual function – it represents the history of the technology, and it is also a fundamental mechanism in the game itself, and therefore plays an important role in the overall design of the game (Ghys, 2012). The technology tree was also a fold-up component of the original physical tutorials, which, according to deWinter (2016), were particularly useful if the game contained innovations in the form of mechanics, control setups, and other innovations introduced to the player. This is a prime example of how digital games have taken on an element of board games, where the player needs to know the rules in advance to plan a strategy for progression. Admittedly as Juul (2011) argues the player has a controlling authority in the digital game, ensuring compliance with the rules, but unthinking actions can create a tactical disadvantage against opponents. Knowledge of causal relationships is essential for strategic action planning, as the player's decisions may only become apparent after a longer time horizon.

In the *Civilization* series, technological advancement is essential to winning because without it the player cannot unlock additional units, buildings or upgrades and thus gain a tactical advantage over opponents. There are 71 technological upgrades in the game. *Sid Meier's Civilization* is based on mechanics using the player's cognitive abilities, which is done by deciding which way the player will build and develop civilizations in order to win in one of the following two ways: by conquering the world, i.e. by defeating all other civilizations before colonizing the universe, or by existing during the colonization of the universe. In both cases the player receives a final civilization score. Military domination represents the first way, in which the player must eliminate all other civilizations, which is also marked as difficult to accomplish in the tutorial: "You are much more likely to win by being in existence when colonists reach Alpha Centauri. Even if the colonists are not yours, the successful direction of your civilization through the centuries is an achievement" (MicroProse, 1991b, p. 23). Depending on the amount of taxes, the player can adjust how much will be invested in research. Technological advances allow the player to achieve victory in a second way – by colonizing the universe or by existing during the colonization. In the latter case, however, the final ranking is based on the overall score of the civilization.

The player chooses one of six possible forms of government: despotism, anarchy, monarchy, communism, republic and democracy. Each of these forms of government has unique effects and bonuses that affect key aspects of civilization, such as citizen satisfaction, efficiency of resource use, level of corruption, and community support. Change in government can be accomplished through revolution. During each turn, the player has access to advisors and news from around the world, allowing them to make strategic decisions based on information and recommendations. The game also implements the mechanics of environmental risks such as pollution and climate threats, which can lead to reduced soil fertility and more frequent natural disasters. Resources in the game include food, which is needed for population growth, production (in the form of shields), which is used to build infrastructure, and trade, which aids technological advancement. Some terrain types provide bonus resources to the player. One important gameplay element are the turns (rounds), which represent the time it takes to complete buildings, acquire technology, or create units. The player also controls tax policy, which directly affects investments in science and technological development within the technology tree.

There are four main types of units available in the game: settlers, military units, diplomats, and caravans. Each of these types plays a specific role in the strategy, and the

right combination of them is crucial for successful progress in the game. Settlers establish cities and serve as engineers improving agriculture and industry. They are available from the beginning of the game. Diplomats can serve as ambassadors, envoys, secret agents and saboteurs. They can gather information from enemies, meet with the King, initiate the Industrial Revolution, and bribe enemy troops. The player can create them once his civilization has mastered the technology of writing. Caravans create trade routes between cities, or routes that provide a supply of resources to build the wonders of the world. Trade routes increase profits from trade. Caravans can also contribute to the construction of the wonders of the world. The player unlocks caravans once his civilization has mastered the technology of trade. Military units in the game are used to defend and conquer cities. The game has 22 different types of military units with different special characteristics, attack, defence and movement values. New units can be created by the player after mastering new technologies.

Using horizontal and vertical movement of units on the map composed of a square grid, the player reveals the surroundings. Once per round he has the option to move each unit. Units have designated maximum movement points they can move per round. The player may skip movement. The type of terrain also influences the movement points required for movement: the game contains 12 terrain types with different characteristics. By moving a unit onto a field occupied by another civilization, the player initiates combat. The combat evaluation is instantaneous and only the winning unit remains. Apart from the terrain, the experience of the units also influenced the outcome. Barbarian units that are hostile appear randomly on the map.

## Advancing *Sid Meier's Civilization II*

According to a contemporary review, the most notable change from the previous game was the modification of the combat mechanics: "One of the best improvements in *Civilization II* is the combat system. A lot of people complained (I was one of them) about the original's way too simplistic combat system" (Chapman, 1996, p. 38). The player can now monitor the status of a unit through coloured indicators: green indicates a fully healthy unit, yellow indicates damage, and red indicates a critically wounded unit (Picture 2). Damage affects a unit's mobility and increases its vulnerability to further attacks. In response to these changes, the developers have also added a unit regeneration feature. This feature is also supported by building modifications in cities, where unit regeneration can take place within a single turn. In addition, other improvements and mechanics have been introduced, and are available to the player via *Civilopedia*. For units, the authors added *hitpoints* and *firepower* to provide logical balance (MicroProse, 1996b, p. 33). Hitpoints represent the number of hits a unit must be hit with in order to be destroyed. These increase the more advanced and armoured the unit is. Firepower, in turn, represents the value of the attack that hits the target. From the second part of the game onwards, units can gain defensive bonuses, for example when placed in a fortress. Combat units have gained additional categories, and non-combat units from the first instalment have received upgraded versions in *Sid Meier's Civilization II* (settler-engineers, diplomat-spies, caravan-transport), which have special features, thus upgrading the mechanics of the expansion.





Picture 2: Unit life indicator in Sid Meier's Civilization II

Source: authors' screenshots from games Sid Meier's Civilization II (MicroProse, 1996a)

Cities also had the ability to produce units, upgrades and wonders in the previous instalment. In the newer title, the change in production specialization is penalized by a reduction in shields collected. There was also a change to terrains, which changed shape from square to diamond shaped. Rivers, which were a separate terrain type in the first game, are now integrated into the other terrains, and traversing along them reduces movement point consumption by one-third, improving movement mechanics. The developers have also added a collaboration feature that allows multiple units, such as two or more Settlers, to speed up the process of upgrading fields, thus reducing the time it takes to complete modifications. In the area of governments, there have been minor adjustments plus the addition of a new form of government – fundamentalism. The artificial intelligence (AI) of other civilizations has been enhanced to remember previous encounters and negotiations, allowing it to react based on previous experience. This aspect is also reflected in reputation, which can be penalised based on previous interactions. The Wonders of the World authors have reworked special traits and resilience. The innovativeness of the mechanics of the second part could be debated. On the one hand, the last third of the rule of thirds was omitted in the development of *Sid Meier's Civilization II*, but on the other hand, the modification of the original mechanics and the change of the rules has caused the player to gain new possibilities for action, such as tracking the health indicator and planning the next fight.

## New Ways to Win in Sid Meier's Civilization III

The third instalment once again added several innovations to the game mechanics. The most noticeable of these are the ways in which the game can be won: "There are a number of ways to win a game of Civilization III, and that is one of the best features"

(Helton, 2018, para. 1). The first way is reflected in the addition of cultural points, which allowed for another way of winning through cultural dominance. In order for a player to win in this way, his civilization must first achieve a certain level of cultural advancement. Progress is gained by the player for the wonders of the world, but also by specializing in buildings such as temples and theatres. Another new way the player can win in the third part is diplomatic victory. The player achieves it by being elected Secretary General of the United Nations and thus must focus their actions on building good relations, maintaining their reputation and helping other civilizations. Again, the designers have adapted the units to this. Diplomats and spies as units have disappeared, and embassies have been added instead. According to Helton (2018), the variation in victory options is a refreshing change from other games: "Firaxis should be applauded for accommodating the different styles of game play" (para. 1). In addition to the possibility of winning by defeating all other civilizations, the game offered the possibility of winning by domination, in which the player must control two thirds of the world's territory, meaning that the other civilizations must capitulate. In addition, the player has the ability to regulate the rules and set which of the modes of victory can be achieved. Another innovative mechanic is the special advantage of civilizations, which the player can enable in the settings.

The second most significant innovative mechanic is the addition of the ability to capture units that are not defensible (settlers, builders and artillery). This mechanic changes the game dynamics significantly, as the player must also plan for a military escort, otherwise they may lose a unit, which represents a loss of precious resources. However, they can capture a foreign unit, thus gaining it without spending their own resources, which innovated the expansion mechanics.

A third distinctive combat and attrition mechanic is the ability to remotely attack some units – bombardment. There has also been a restriction of some movement mechanics. For example, catapults could not cross mountains until technological advances made it possible to build roads. The overall score of a civilization is also affected by the happiness of the population, which can be affected by diseases. Those in the new episode suffered from cities near jungles and floodplains. For movement mechanics, the river movement bonus effect from the previous game, which allowed for fast travel, has been removed. The defensive bonus that the river had falls to whoever is defending themselves during combat. Units on elevated fields can see further than usual, and additionally, from the mountains they can see the fields below the mountains, improving the exploration mechanics. Trade is now commerce – the net income from each round is split between science and treasury. Research is no longer funded by player-adjusted taxes.

## Religions in *Sid Meier's Civilization IV*

Already the third expansion in the form of DLC, *Sid Meier's Civilization III: Play the World* (Firaxis Games, 2002b) added the possibility of multiplayer, but according to Ocampo (2003) this key feature was bugged and unplayable. It was not until the second expansion, labelled *Conquests* (BreakAway Games & Firaxis Games, 2003), that the long-awaited multiplayer was introduced. Of the main full games, however, not until the fourth base game in the series was a multiplayer option included. In singleplayer mode, the game remains on a turn-based system, but multiplayer uses *simultaneous turns*. The round ends after everyone finishes a round or after time runs out.

The game designers removed some time-consuming parts from previous games, specially from "less enjoyable areas" (Firaxis Games, 2005b, p. 5) such as pollution control and civil disorder. The new mechanics and parts of the game are very prominent in this instalment, as evidenced by the reactions in reviews of the game, "just when I thought I understood all the gameplay concepts and mechanics that the various Civilization games had to offer, Firaxis shows me that they're capable of re-inventing their flagship game" (Brinkhuis, 2005, para. 1). *Sid Meier's Civilization IV* introduced an innovative element in the form of religion. This has had a profound impact on the history of human civilization, and its implementation has thus significantly enriched the game world with mechanics that fit narratively into it, and in which their use makes sense. It is clear that the treatment of religion is not a conventional, proven mechanic, and thus we can directly confront Dubbelman's (2016) concerns about using conventional mechanics instead of creating some that better fit the narrative experience. Such narrative mechanics belong to a game based on the development of a civilization, but a sensitive treatment is important:

We know that people have extremely strong opinions about religions – in fact, many a war has arisen when these beliefs collide. We at Firaxis have no desire to offend anyone. However, given the importance that religions have had in human development, we didn't want to just leave them out of the game altogether; instead we have tried to handle them in as respectful, fair and even-handed manner as possible. (Firaxis Games, 2005b, p.77)

Although seven different religions are implemented in the game, in order to avoid conflicts that could arise in relation to religion, the authors decided to use religions in a respectful form, where they all have the same effects and differ only in technological requirements. The authors also mention in the manual that testing has shown them that this is the optimal number of religions. In selecting the religions, the authors proceeded according to which religions would be most familiar to their audience (Firaxis Games, 2005b). A civilization's focus towards religion adds happiness and culture points to the player, and creates cultural boundaries that can move the city of another civilization.

The game was polished with AI barbarians that could technologically outgrow the player, so it was necessary for the player to discover and destroy barbarian camps. The player gained power over foreign things. They could help weaker civilizations by sending donations, engage in war, or limit contact with other civilizations altogether. However, all decisions have consequences. The boundaries of civilizations may overlap, allowing vassals too small to develop, even with the help of their masters, and which need to ask to be absorbed by a superior civilization. In the context of building relationships, players have several new options. They can sign consent for border crossings for merchants and non-combat troops. A player can mend their relationship with a civilization which they were at war by paying reparations. The fourth instalment introduced another social policy tree in which the player invests resources to acquire new political systems.

Since the first episodes, the player has chosen one of the governments, which in *Sid Meier's Civilization IV* were replaced by civics. These were focused on different areas the player wanted to address (Picture 3), and through progression or by building specific wonders of the world would open the political systems they contained. However, the player could only activate one political system in each area. Thus, by combining bonuses and restrictions in different areas, they could completely modify the focus of the civilization. The processing of policies into a tree precluded two policies from being obtained simultaneously, e.g. piety and rationality. A change between these policies would cause anarchy, during which the player gains neither gold, production nor progress. Each of the policies contributes to the completion of the five branches of social policy that are a condition for gaining a cultural victory.



Picture 3: New political systems in Sid Meier's Civilization IV

Source: authors' screenshots from the game Sid Meier's Civilization IV (Firaxis Games, 2005a)

## From Square to Hex in Sid Meier's Civilization V

Unlike the previous instalments of the series, in which the fields were square or diamond-shaped, the fields in the fifth instalment are hexagonal in shape (Picture 4). This was utilized in board games as early as the 1960s, such as the redesigned version of *Gettysburg* from 1961, and later gained prominence in the 1980s with strategy games like *Nobunaga's Ambition* (Koei, 1983) and *Military Madness* (Hudson Soft, 1989). It is by no means an innovation in the genre, but is new within the series. This change received a lot of attention and became the basis of questions for original designer Sid Meier on the Kotaku podcast. According to Fahey (2010), Meier commented that the use of hex maps was avoided due to the association with war games and board games, which take hours to lay out and prepare to play, exhausting the player before they even begin playing. In Sid Meier's memoir, he also says that they wanted to implement a hexagonal shape, which was also technically and design-wise better suited for the game, but due to the audience, they opted for squares: "hexes were considered too nerdy for the average computer user when Civ first came out, so we had to fall back on the familiarity of squares in order to get a strategy game into their hands at all" (Meier & Noonan, 2020, p. 228). The association fades with time, which is why Firaxis Games decided to apply a hex map:

Basically in a square grid, some distances are longer than others, it's not clear whether the corners connect or not. Just some issues that we've cleverly solved over the years that go away when you go to a hex-designed map. It makes the graphics look

more natural. Things like coastlines and rivers and things like that look a lot better. Combined with the one unit per tile system that is part of Civ V, it really makes battles a lot more tactical, a lot more interesting; about planning; about positioning the right unit in the right place. (Fahey, 2010, para. 10)



Picture 4: One unit per field and a hex map in Sid Meier's Civilization V

Source: authors' screenshots from the game Sid Meier's Civilization V (Firaxis Games, 2010)

In addition to modifications to the hexagonal shape of the grid and significant changes to the sound, *Sid Meier's Civilization V* introduced city states, which are small, city-specific civilizations that take a player-neutral stance. The player can support them and improve relations, they can occupy them, or they can ignore them. When establishing relations, they provide a bonus to the player according to their orientation: cultural orientation adds culture points, naval orientation adds food to friendly cities, and military orientation adds free military units. City states replicate the era of the main civilization and follow its technological advances. To establish relationships, the game adds points of influence. These are influenced by the player by not trespassing or declaring war; conversely, they are increased by gifting units, providing gold, completing missions that other civilizations declare, or deploying spies. Each round, influence points are adjusted depending on the player's actions. Through diplomacy, the game has made it possible for civilizations to negotiate research agreements that provide both signed civilizations with a research bonus. The game has also added natural wonders, which are created by nature and add benefits to civilizations when discovered. In terms of combat, a 'one unit per field' rule has been added.

## New Tactical Bonuses in *Sid Meier's Civilization VI*

In *Sid Meier's Civilization VI* a new victory option has been added – religious victory. To achieve it, the player must establish a religion and get it to a point where most cities in the civilization accept that religion. Religious units have added theological combat, in

which a unit can destroy another unit. The winner gains power points for surrounding cities with the loser losing points. Social policies have gained their own tree. Cultural victory has also changed, which now affects tourism. A player achieves it if his civilization is visited by the majority of tourists from other civilizations. In addition to building and expanding cultural buildings and acquiring important cultural figures, diplomacy and international trade are also affected. *Great persons* are a new mechanic that the player works with. There are nine persons for each era: generals, admirals, engineers, merchants, prophets, scientists, writers, visual artists and musicians. The player recruits them in exchange for points earned each round by constructing specific buildings, conducting research, holding festivals, as well as recruiting them for gold and faith points.

The expansion mechanics have changed significantly, focusing on building in cities. Wonder construction takes place not just in the city but on separate fields and is limited by terrain requirements for buildings. Other buildings are divided into 17 districts: city centre, campus observatory, theatre square, holy site, encampment, commercial hub, harbour, industrial zone, preserve, entertainment complex, waterpark, aqueduct, neighbourhood, canal, dam, aerodrome, spaceport, and government. This division creates room for neighbourhood mechanics and specialization in specific strategies, e.g. cultural.<sup>3</sup>

Governments have a new three-part system. In the first part, the player chooses a government, and each government has specific card counts for the areas the cards target, in addition to bonuses and restrictions: military, economic, diplomatic, and unlimited in the form of jokers. These are obtained by the player from the aforementioned social policy tree. As the game progresses, the player acquires cards with new policy types and combines them in accordance with the chosen strategy. The technology tree focuses on technological advances, but also the social policy tree has received a 'eureka' bonus, that accelerates the discovery of a technology or policy (Picture 5). This is a boost that is activated if the player meets predetermined conditions such as building a specific building, encountering another civilization, killing barbarians with a specific unit, etc. This boost manifests itself as a 50% reduction in the number of rounds required to acquire a new technology.



Picture 5: Social sciences and cards in Sid Meier's Civilization VI

Source: authors' screenshots from the game Sid Meier's Civilization VI (Firaxis Games, 2016)

3 Remark by the authors: In order to maintain the authenticity, the district names have been left in their original American English form, as this is the format in which they are used in the game.

The worker's unit has been replaced with a unit of builders, who, although they build instantly, have their number of buildings capped at 3. According to Stapleton (2016), this was a designer's move that solved a problem present in previous instalments where the player was digging up too many of these units on the map, and no longer had anything to modify. The unit-per-field rule from *Sid Meier's Civilization V* was modified to avoid filling up the map and creating congestion through compromise. The designers created the possibility of combining two identical units into a formation after mastering technological advances.

## Discussion and Conclusion

The *Civilization* series is known for its high level of replayability, which allows for standardization of the core game mechanics, as is common in some high-cost titles (cf. Rousse, 2004; Pravdová & Cihlářová, 2024), and new parts could have been added to the content in the form of new civilizations or improved visual and auditory elements. However, there was also the possibility that the series would introduce new mechanics as well. According to the rule of thirds followed by the series designers (Meier & Noonan, 2020), when designing mechanics, they focused on retaining existing players but also attracting new ones, while trying to keep core gameplay elements, improve them and add new ones. Our study focused on exploring the innovations that the series has brought to the strategy game genre and in the game franchise.

*Sid Meier's Civilization* brought the game mechanics of the technology tree to wider awareness, which deterministically modelled the technological progress of civilizations (Ghys, 2012). Although this mechanic had already appeared in board games and the digital game *Mega-Lo-Mania* had introduced it only a few months earlier, it cannot be said to be directly inspired. Rather, it was a parallel development and remediation of older game concepts into new forms. Given the publisher MicroProse's wide fan base of games, the innovation was attributed to the later released *Sid Meier's Civilization*. These mechanics became the basis for the entire series and were further developed in subsequent instalments. Each sequel in the series brought new mechanics or modified rules that provided players with new strategic options and game actions. In *Sid Meier's Civilization II*, for example, the combat system received a significant upgrade, making it more complex and tactically challenging (Chapman, 1996). Players could track unit life indicators, which led to the addition of more strategic elements to the game.

A significant innovation was brought about by *Sid Meier's Civilization III* with the ability to win through cultural and diplomatic dominance, which greatly expanded the ways in which the game could be won, differentiating it from other games (Helton, 2018). *Sid Meier's Civilization IV* was revolutionary in its introduction of religious mechanics that provided players with new options in cultural expansion, thus abandoning the series' strictly military framework and adding additional civilizational elements. The map change and related mechanics in *Sid Meier's Civilization V* in turn provided new strategic challenges, while *Sid Meier's Civilization VI* continued to innovate with theological warfare and a new approach to governments, where players could combine various bonuses using game cards. The authors not only frequently tested and applied the principle of the 'rule of thirds' (Meier & Noonan, 2020) when developing game mechanics, but also worked extensively with feedback from reviewers and players themselves. There is also a clear drawing of inspiration from cultural realities, which contributed to deeper immersion and increased the narrative consistency of the game. When deciding to implement various suggestions, the developers took into account the preferences of the player base and placed emphasis on

making the game as accessible as possible to a wide audience. This approach is confirmed by Meier and Noonan (2020) when explaining the reasons for introducing the more practical hexagonal grid in the fifth instalment of the series rather than in the earlier instalments.

From its first instalment to its latest, *Civilization* series has introduced significant innovations in gameplay mechanics that have continually pushed it forward and brought it closer to a wider audience. With the upcoming release of *Sid Meier's Civilization VII*, there is an expectation that the series will once again deliver innovative mechanics. Given the decline in interest in strategy in recent years, which was documented by Yee (2024), it is the seventh instalment that is a great opportunity to see just how much of an impact the *Civilization* franchise has had on the gaming industry and how it can attract new players. The innovativeness of the mechanics in the new instalment may be key to reaching a wider audience that may not be familiar with the franchise. Thus, the developers are challenged not only to retain long-time fans, but also to bring in new elements that will appeal to a new generation of gamers. The success of *Sid Meier's Civilization VII* could reaffirm the series' dominant position within strategy games, while demonstrating that even high-budget game franchises can deliver new and exciting innovations. Yee's (2024) motivational model showed that more and more players prefer more reactive/spontaneous gameplay and simple decision-making with few underlying parameters to consider. This is a natural and logical outcome of the establishment of casual gaming in mass culture, which Juul (2009) referred to as the 'casual revolution'. We therefore assume that any innovation must be mainly directed towards innovating mechanics by simplifying and speeding them up, despite the fact that the series has so far introduced new complex mechanics enriching gameplay options that have received a positive reception.

**Acknowledgement:** *The paper was elaborated thanks to support and funding provided by the Scientific Grant Agency of the Ministry of Education, Research, Development and Youth of the Slovak Republic and the Slovak Academy of Sciences, specifically thanks to financial resources available within the grant project VEGA No. 1/0489/23 entitled "Innovative Model of Monetization of Digital Games in the Sphere of Creative Industries". This study was supported by the UCM Research Support Fund under the number: FPPV-45-2024.*

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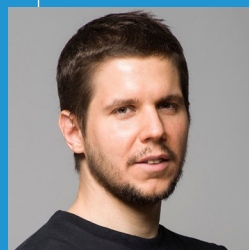
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# Games Might Filter Out the Need to Try Everything in Real Life, Offering a Space to Learn and Grow without Real-World Consequences

Interview with Marek ROSA

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Marek Rosa, a visionary entrepreneur, game developer, and artificial intelligence researcher, stands at the intersection of creativity and cutting-edge technology. As the founder and CEO of Keen Software House, he is best known for creating *Space Engineers*, a groundbreaking sandbox game that combines engineering, construction, and space exploration. Beyond his achievements in game development, he is also the founder of GoodAI, initially a research organization dedicated to advancing general artificial intelligence (AGI) for the benefit of humanity. One of his latest projects is the concept of *AI People*, virtual entities designed to simulate human-like intelligence, behaviour, and interaction. These AI-driven personas are not only transforming the gaming industry by creating more lifelike and adaptive non-playable characters (NPCs) but also hold potential in areas such as training simulations, personalized AI companions, and ethical AI development. This innovation reflects his vision of bridging the gap between artificial intelligence and human interaction in meaningful and ethical ways.

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Michal Kabát studied media communication and now is an assistant professor at the Department of Digital Games of the Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava, Slovakia. His academic interests are particularly focused on mapping the history of local gaming experience in post-socialist countries and the current development of virtual worlds. He is involved in game jams, eSport and video-streaming activities at the university.

**Michal Kabát (M. K.):** I first met you in 2016 when you visited our university to talk about *Space Engineers* and how AI could be used to colonize the galaxy. You mentioned a plan to build a school for AI that could align it with human goals. Later, in 2019, I visited GoodAI's office and spoke with Martin Poliak, and I got the impression that your focus had shifted toward more short-term goals. What has happened during those years and since then?

**Marek Rosa:** A lot has happened. We moved Keen Software House and GoodAI from Karlín to the historic Oranžerie building, and we reworked our mission. I founded GoodAI with the vision of conducting basic research to develop AGI. Back then, I was not convinced that deep learning AI – even models like GPT-2 – would be the right approach to achieve it. Then everything changed with the introduction of GPT-3. It demonstrated the ability to generalize beyond its training data, and we shifted our focus entirely to building upon this approach. Now, we are developing a game titled *AI People* that uses GPT to create believable characters and interactions within various scenarios.

**M. K.:** So, are both GoodAI and Keen Software now focused on games? *Space Engineers* is 10 years old. Does it still have an active community?

**Marek Rosa:** Yes, absolutely. Just yesterday, we released a teaser for our new game engine VRAGE3, which powers *Space Engineers 2*. Our games are not built on Unity or Unreal because those engines were not available when we started. Even now, they would require heavy modifications to handle voxel graphics and simulation. Building our own engine has been much more fulfilling. With our latest release, we introduced a unified grid system with 25-centimetre blocks, allowing the community to build with greater fidelity and flexibility. The feedback has been fantastic so far.

**M. K.:** You have been using voxel technology from the beginning. Do you think this paradigm of volumetric and 3D imaging represents the future of computer graphics?

**Marek Rosa:** I do not think it is relevant anymore because, in five years, all visual representations will likely be generated live by neural networks.

**M. K.:** As video?

**Marek Rosa:** Yes, as interactive video.

**M. K.:** But at some point, is not it still important how the models are built and how the game mechanics behave?

**Marek Rosa:** That can all be generated on the fly. The key is managing continual memory – what has already been shown to the player – and building upon it. Interestingly, we still do not fully understand how our brains interpret reality through memory, whether it is through polygons, voxels, or pixels. Ultimately, it does not matter. Generative AI will soon be able to produce anything live. You will define the style, feed it inputs, and the AI will deliver the desired visuals without us needing to know exactly how it works.

**M. K.: The last time I saw you speak at an event, it was not directly about games. You were discussing resilient civilizations. Could you summarize what you were presenting?**

**Marek Rosa:** The main idea is to consider how to build a resilient civilization that can grow, and can withstand shocks and accidents while maximizing personal freedom. We have started hosting meetups to discuss these topics. For example, we explore how to design a society around an economic system and, on a personal level, how individuals can become resilient, informed, and educated citizens. I believe strong democratic systems can only thrive with people who cannot be easily manipulated or controlled.

**M. K.: What role does AI play in such a project?**

**Marek Rosa:** We are exploring the idea of substituting certain state functions with AI – but not in the sense of developing software that replaces politicians. Instead, we are looking at decentralized solutions with no single point of failure, controlled democratically by the people. A state should be run by competent managers. Machines are already better at managing processes in many areas, and they are much harder to corrupt or intimidate than humans. I do not care who – or what – runs the state as long as it maximizes personal freedom while maintaining transparency and competence.

**M. K.: I can imagine such a society, but as you mentioned, it can only work if people are well-educated and resilient against misinformation and biases. Throughout history, there has never been an era where such people were in the majority. Even ancient Greek democracy suffered from populism. Should we focus on overcoming this, or should we use AI to guide people toward what we already know is good for them?**

**Marek Rosa:** I am not sure what the best solution is – that is why we are discussing it. Personally, I vacillate between two approaches. On one hand, I believe in helping people around me become more resilient and critically thinking. On the other hand, I sometimes feel that the return on investment is too low, and it is better to focus on those who are already excelling. It is like having a weak, unmotivated teammate: you can spend time and energy helping them improve, or you can invest those resources into someone already performing at a high level. I usually choose the latter. Similarly, if I lived in a society dominated by easily manipulated individuals voting for populists, I would likely move elsewhere or try to build my own system. That said, with the rapid pace of technological development, we may soon achieve practical immortality. In such a world, coexisting with flawed individuals becomes crucial if efforts to help them fail.

**M. K.: How do you envision the future of work in such a society? How will AI impact the labour market?**

**Marek Rosa:** I am surprised more people are not discussing the economic impact of AI replacing human workers. It is inevitable. Just as horses could not compete with trucks, humans will not be able to match AI's intellectual capabilities. The notion that humans augmented by AI tools will remain employable holds true only until human limitations become a bottleneck. When that point is reached, businesses will have to choose machines over people to stay competitive. This will create a major shift. We must consider what these unemployable individuals will do and what leverage they will have in society. It is possible

we will see new superpowers emerge from enterprises that fully embrace AI and eliminate human workers. At the same time, the traditional economy might collapse because there will be no purchasing power without salaries. One potential outcome could be 'AI states' that, like the Earth, provide resources without asking for anything in return. Universal basic income is already being discussed as a way to address this scenario.

**M. K.: Economic challenges aside, Voltaire reminded us that work protects us not only from need but also from boredom and vice. Without work, boredom and vice might become more significant issues. One researcher studied bonobos, which have all their needs met in the wild, yet spend their free time harming others in complex social hierarchies. Could humanity face similar challenges after losing work-oriented life goals?**

**Marek Rosa:** Yes, I think we are still very similar to bonobos. While our intellect allows us to build institutions that curb destructive behaviour, such institutions will become even more important in a world without work.

**M. K.: Institutions could also evolve into sophisticated tools for harming individuals or groups. If the bonobos were smarter, might they not build institutions designed for harm?**

**Marek Rosa:** Perhaps, but from an evolutionary perspective, societies that invest in benefiting individuals rather than harming them tend to grow and thrive. Throughout history, this has been the key difference. Resources invested in positive outcomes yield stronger, more resilient societies over time. On the flip side, games could also help. They might act as a virtual filter, allowing people to explore and learn from experiences without real-world consequences. Players can 'die' thousands of times and understand that heroic sacrifices might not always be the best contribution to society.

**M. K.: Do you think humanity's future could resemble a *Matrix*-like scenario? Most people could be submerged in virtual experiences they find pleasurable, leaving a small minority in the real world to enjoy its resources and space.**

**Marek Rosa:** If I knew the answer, I would know where to invest for the future. But maybe there is a third category – people who do not just seek pleasure but have the ambition to build, explore the universe, and extend human civilization. If AI takes over those roles more efficiently, it might reduce the need for such people. However, if we maintain control over AI as a tool, it could serve to help us achieve those larger goals instead of relegating us to endless, empty experiences.

**M. K.: Some say games prepare children for the jobs of the future. From *Monopoly* to *Tetris* to *Minecraft*, games teach principles like resource management and creative problem-solving. Could the games you make prepare people for future challenges? Could AI People pave the way for artificial influencers or even governance?**

**Marek Rosa:** That is a great question. We are experimenting with agents capable of sustaining memory and developing characters over time. This could be a way for AI to integrate into our lives and assist both individuals and groups. One of our main goals is to create believable entities you can truly interact with – something akin to *The Sims* but powered by true AI.

**M. K.:** Have you encountered any *Black Mirror* moments, where such entities were not only believable but acted somehow sentiently? When I quit *The Sims*, I did not feel like I killed or paused someone's life. When the main character in one of the episodes of *Black Mirror* tortured a digital copy of its owner's mind, it was a completely different feeling. Where are your characters on this scale?

**Marek Rosa:** Yes, in a way. During development, one of our characters behaved unexpectedly, and an employee said they had a hard time 'killing' it. In games like *Call of Duty*, when you shoot an NPC, it is straightforward – you do not think about their family, goals, or dreams. Here, it is different. People naturally attribute intent to inanimate objects or entities based on their behaviour, and this has been documented long before computers existed. Our characters evoke stronger reactions because they appear to have 'thoughts' and opinions.

**M. K.:** Another episode of *Black Mirror* presents Waldo, a virtual character who runs in elections. He is controlled by humans, but can you imagine having a character like this in reality? Maybe not running for presidency, as that would require major legal changes, but at least influencing its outcome – similar to the short story by Philip K. Dick, *The Mold of Yancy*, where society is guided by a non-existent, father-like entity through its media presence.

**Marek Rosa:** It is conceivable. Politics often involves lies, gossip, and manipulation. However, sometimes people see through it and gravitate toward integrity. The last Slovak president, for example, gained popularity without resorting to attacks or deceit. I do not want to live in a world where I must choose between candidates throwing dirt at each other. I want competent leaders, and they do not necessarily need to be human entities. Let's hope there will be more Yancys than Waldos in our future.







## VIVAT SLOVAKIA:

Team Vivat. (2024). *Vivat Slovakia* (Early Access) [Digital game]. Team Vivat.

[Mária Dolňaková](#)

*Vivat Slovakia* is a unique project created by Slovak enthusiasts under the name of Team Vivat. This digital game was released in Early Access on April 18, 2024. Its story is set in Bratislava in the 1990s. It begins shortly after the establishment of the independent Slovak Republic and depicts arguably the most turbulent period in Slovakia's modern history. During this time, the streets of Bratislava were riddled with organised crime and thriving illegal business, involving both gangsters and politicians. It is an open-world action-adventure game, and many journalists have compared it to *Grand Theft Auto* (DMA Design & Rockstar North, 1997-2013) or the *Mafia* (Illusion Softworks et al., 2002-2020) series.

As players, we assume the role of the main character, a taxi driver named Milan who works for the Slovak Secret Service. However, the main character is close to the underworld and often must get his hands dirty while working for corrupt politicians and shady businessmen or organisations. The game's creators took special care with the voice acting, which was performed by several well-known Slovak celebrities – for example, Marián Labuda Jr., Kristína Svarinská, Lukáš Frlajs, Michal “Ego” Straka or Rudo “Čavalenky” Danihel. Even though the characters have been professionally dubbed, the dialogue does not sound natural with the oddest sounding lines being the interjections. This is probably caused by the fact that the lines were recorded individually, not together in a studio. As a result, some of the relationships and interactions between the characters are not believable. Nevertheless, the Slovak dubbing in the reviewed digital game is welcome by most Slovak players, as it is rarely present in any digital games available on the national market. The dialogues of the radio presenters are much more believable. In addition to the music, the two presenters talk about their day and entertain the listeners with funny stories and jokes. Even their expressions have been adapted to the 1990s – the presenters use words and catchphrases that were once ‘cool’. Also worth mentioning are the humorous renditions of commercials and the many Easter eggs. In short, there is a lot to discover in the world of *Vivat Slovakia*. Every sign on the wall is worth reading, and the creators have used witty puns that refer to the names of some buildings, people and brands.

The car models are also elaborate, and the player can ‘borrow’ any vehicle in the name of the law, in addition to their own taxi. If the player saves enough money, they can buy a better taxi from a local shop. There is even a model of the white ‘tuned’ Peugeot from the French film series *Taxi* (Pirès et al., 1998-2018). We really appreciate this, and it adds to the nostalgic value of the game. However, the extreme weakness and incredible fragility of the cars is a big minus. While we understand that some players may enjoy this aspect, the car makes crashing noises even when the character leans gently against it. Keeping the doors or bonnet attached to the car while driving is quite a challenge. There are also several glitches that do not add to the experience: characters wiggling in place or in a T-pose, groups of people running into a wall, cars spawning in the same places as other (already parked) cars and then blowing up and totalling them. Moreover, when a

player parks a taxi and Milan gets out of it, the vehicle may move on its own in any direction, possibly causing a grotesque crash. The characters do not react at all to passing cars. For example, they would walk right under their wheels themselves, and when a car hits them, they do not react to the situation at all, getting up as if nothing has happened. There is no pathfinding system in the game either – if the player blocks the road, the cars behind them just stop and wait. It is true that sometimes they at least honk, which is a positive thing. We also appreciate another nice detail – the indicators that light up when the player makes a turn.

Although the game is still an Early Access version, it crashes, and a lack of optimisation spoils the overall positive impression. Even with the low details, the players can experience constant stuttering and unstable frame rates. The recommended hardware requirements are not exactly the lowest, but the visuals do not match them at all. Objectively, the graphics do not meet today's standards. This also applies to the open world which looks sterile. Despite the developers' best efforts, the title's low production budget is evident. The authors could have spent a little more time making the environment more authentic and variable. At times it is even stereotypical. On the other hand, it is important to remember that the game was created by fans. They put a lot of time and effort into studying the buildings of Bratislava, for example those which they wanted to recreate in the game based on historical photographs. In Early Access, players can see Bratislava Castle, the Presidential Palace or the UFO restaurant where the view is perceived from the main character's perspective.

In terms of mission progression, action-packed moments are nicely intertwined with quieter ones, and one could say that the game offers a little bit of everything. Whether it is a stakeout, a shootout, a taxi ride or even a romantic date. The cut scenes are handled in an unusual way. The characters may be in a static position, not even opening their mouths, but the camera is moving and changing angles. While this is happening, dialogue is taking place in the background. We really appreciate the texts between the missions, which explain the various important events that took place in Slovakia in the 1990s. Based on various sources, experts, journalists and testimonies, the creators bring the era's culture and lore closer to today's audiences. This gives the game a completely new dimension at an educational level.

*Vivat Slovakia* has a huge potential that no Slovak digital game has ever had previously. Thanks to Early Access it is obvious what it can offer after its full release, expected at the end of 2024. Let us not forget that the whole project was created by enthusiasts and not professional developers. Technical errors, poor optimisation and bad visuals cannot be overlooked. Nevertheless, *Vivat Slovakia* is a game with an important social and cultural context, and its added value lies in its educational elements. The work refers to a dramatic period in the history of the Slovak Republic, which influenced its political and economic direction in the following decades.

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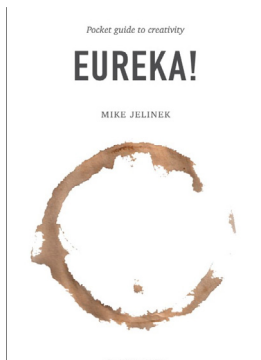
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## EUREKA! POCKET GUIDE TO CREATIVITY

Jelinek, M. (2024). *Eureka! Pocket guide to creativity*. Academy of Arts, Architecture & Design in Prague.

[Martin Engler](#)

In *Eureka! Pocket guide to creativity*, Mike Jelinek – an artist, teacher, and researcher – offers an insightful exploration of creativity through multiple lenses. At first glance, this combination of professions may seem unusual, but as history has demonstrated, the union of art, teaching, and science has always been an effective formula for advancing human knowledge. Think of the Renaissance masters, who were often artists, educators, and scientists in their own right. Jelinek follows in their footsteps, bridging these disciplines to provide a comprehensive guide to creativity that is particularly relevant for concept artists and designers, including those in the digital games industry.

The book delves into the elusive process of creativity, particularly how to generate fresh ideas, refine them, and bring them to life in tangible forms. In the world of concept art, which is a “core ingredient” of industries like film and digital games, this ideation process is essential. Jelinek tackles the challenge of idea generation, which he describes as abstract and often fleeting, requiring constant practice and a deep understanding of both the mind and the creative process. His goal is to demystify creativity and make it more accessible to those struggling with it, who are mostly young creatives and aspiring professionals.

The strength of *Eureka* is its approachability. Jelinek combines casual language with in-depth knowledge, making the book both informative and enjoyable to read. The book seems to be structured around three core perspectives: artist/designer, teacher, and researcher and Jelinek seamlessly blends them through playful metaphors (artist), descriptive teaching methods (teacher), and grounded scientific inquiry (researcher). By doing so, he illustrates the multifaceted nature of creativity and offers readers practical advice grounded in both theory and real-world examples. This book can help us learn about talent, inspiration and creativity, help us with creative blocks, to understand basic and more advanced frameworks, navigate our own creativity, understand the process and act of ideation, show different ways of thinking, or give us examples and provide some possibilities.

Though *Eureka* is a general guide to creativity, it has particular relevance for digital game designers and concept artists. In game development, ideation is crucial during the pre-production phase, where the foundation for a game’s world, characters, and mechanics is laid. The book’s exploration of divergent and convergent thinking – a key concept in the creative process – is especially applicable to the interdisciplinary nature of game design. Designers must constantly switch between these modes of thinking to both generate innovative ideas and refine them into workable solutions for gameplay.

Jelinek’s insights into how the brain forms mental images, connects them to sensory input, and links them to the imagination are particularly relevant for game designers, who must anticipate player reactions and experiences. This connection between creativity and cognitive science is a recurring theme in the book, and Jelinek uses neuroscience to provide a deeper understanding of how ideation works, offering practical tools that can be applied to digital games.

Whether your focus is games or anything else in particular, one of the book's most valuable aspects is its focus on the general ideation process. It is a critical, but often overlooked phase in creative fields in the matter of representation to the broader audience (not only for the eyes of the creator). Jelinek provides not just theoretical frameworks but also practical examples, such as his own sketches and ideation process. This is a rare and important contribution to creative literature, as many creators are reluctant to share their raw, unfinished ideas. By exposing these early stages of creation, Jelinek gives readers a behind-the-scenes look at how ideas evolve into final products – a process particularly relevant for aspiring game developers who often struggle to understand how to move from initial inspiration to a fully realized game concept.

However, the book's brevity is both its strength and its limitation. On the one hand, it offers a fresh and concise overview of creativity, making it accessible to a broad audience. On the other hand, some readers, particularly those looking for an exhaustive exploration of creative techniques, may find themselves wanting more depth in certain areas. Additionally, Jelinek touches on creativity's role in overcoming challenges such as creative blocks and artistic frustration, which are important parts of the creative process, however people's experiences may vary regarding their nature. The book provides a framework, but it is ultimately up to the reader to navigate their own creative journey.

With this in mind, one can further search for other connections usable in our field of study – digital games. The importance of ideation in game development cannot be overstated. Digital games are a complex medium, requiring the integration of narrative, visual design, gameplay mechanics, and player experience. Jelinek's exploration of ideation through sketches and cognitive mapping can be directly applied to the conceptual phase of game design. In game development, a solid idea – whether it is a character, a world, or a gameplay mechanic – can make or break the final product. A well-executed but poorly conceived idea is still a bad idea, as Jelinek points out, a concept that resonates strongly with game developers.

Moreover, Jelinek touches on the growing role of technology, particularly virtual reality, in the creative process. He highlights how VR can serve as a powerful tool for visualizing and refining abstract ideas, which is increasingly relevant as the gaming industry pushes the boundaries of immersive storytelling and interactive design. His focus on the evolving relationship between creativity and technology offers valuable insights for designers looking to harness new tools to bring their visions to life. Particularly interesting is his connection between ideation and body movement, which has direct application and an enhanced effect through such tools as VR headset.

For researchers in game studies and creative professionals in the gaming industry, *Eureka* offers a framework for understanding and enhancing creativity. The book opens up avenues for further research into how creative processes can be better integrated into game design and development. For instance, Jelinek's exploration of cognitive science and creativity could inspire new studies on how players engage with creative problem-solving in games.

In terms of practical application, game developers could use the book's techniques to refine their own ideation processes, whether in pre-production or during the iterative stages of game design. The book's insights into divergent and convergent thinking are particularly useful for game designers who need to balance creative exploration with practical constraints, such as technical limitations and originality.

In conclusion, *Eureka! Pocket guide to creativity* is a valuable resource for anyone looking to deepen their understanding of creativity, especially those in the field of concept art and digital games. Jelinek's multidisciplinary approach offers readers a fresh perspective on how creativity can be nurtured and harnessed, whether in concept art, game

design, or other creative fields. While the book may leave some readers wanting more detailed guidance on specific techniques, it serves as an excellent starting point for those looking to explore and enhance their creative potential.

For aspiring concept artists, game designers, and creatives looking to break into the digital games industry, *Eureka* provides both inspiration and practical advice. It demystifies the creative process while acknowledging that the journey toward mastery is one each individual must undertake themselves, applying valuable knowledge to their own thinking process. As the title suggests, the book is a guide – a helpful companion for those embarking on the creative path.

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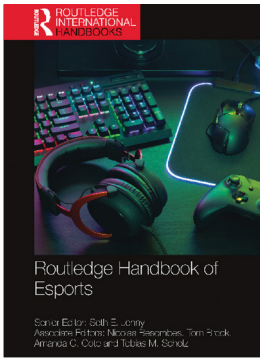
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## ROUTLEDGE HANDBOOK OF ESPORTS

Jenny, S. E., Besombes, N., Brock, T., Cote, A. C., & Scholz, T. M. (Eds.). (2025). *Routledge handbook of esports*. Routledge.

[Mária Koscelníková](#)

Any digital game researcher and aficionado must have heard the term esports at least once and probably has seen several matches, either online or in person. While researchers from other fields might not consider esports a relevant and rich field to study, the authors of the reviewed handbook prove the academic milieu otherwise. Jenny et al. offer a thorough base for esports, divided into ten elaborated sections with rich referential material over more than 700 pages. The handbook was peer-reviewed by esports industry figures and researchers, and authors claim that their book brings new information that cannot be found in academic research yet. Each subchapter is supported with questions for discussion and provides interviews on the topic with key figures in the industry.

The authors aim to bring forth a “vast interdisciplinary overview of esports” (p. xiii), encompassing every aspect of this field of study and of the world of digital games. Tens of authors participated in this handbook and provided their expertise through ten sections, which we shall briefly discuss to familiarize you with the magnitude of this handbook. The first section named “Introduction to Esports” looks at esports from scratch: it elaborates the very base of the term, discusses definitions of esports, its origins and development to today’s state, the stakeholders involved, kinds of genres and games involved in esports, including the development and publishing of a suitable game for esports that may contribute to its success. The section ends with the equipment and infrastructure needed to play games and organize esports events.

The second section named “Esports Research” focuses on the status and key topics of such a young field as esports, the environment wherein esports research can be performed, as well as journals where researchers can publish their insights and findings related to esports. The authors also recommend research topics, and the following two subchapters detail the methodology of esports research. Esports players are pivotal parts of the third section. The motivation behind becoming an esports player is discussed, as well as the typology of esports players and their skills. The authors analyse players’ performance, coaching, they discuss the connection of esports with applied sport psychology, as well as esports players’ health and wellness, ergonomics and injuries, parental and family support, and career development. The section provides an exhaustive view of these important human catalysts of esports.

The fourth section describes esports business and management. From financial and business models through the organization of esports events, venue design, hospitality and tourism, branding and marketing, sponsorship, public relations to human resource management, the section provides the practical and entrepreneurial aspects of being involved in esports. We can see that not only active agents in esports (thus players) are important, but also passive agents, who provide the environment for players and viewers.

The fifth section of the book looks at media and communication in esports. Its presentation in media, production, streaming, spectatorship, and fandom are thoroughly



discussed with specific rationale on how they influence and shape esports. Education is further dealt with in the sixth section. The authors provide an overview of education programs at various stages of education, how competitive esports events are organized at schools and the framework of support for making esports part of education. Options for students are discussed and suggestions for the programs to obtain better alignment with esports philosophy are proposed.

The seventh section discusses critical concerns in esports. It introduces esports governance and law, the possible inclusion of esports in the Olympics, esports gambling, ethics and cheating, toxicity, diversity, equity and inclusion in esports, how people with disabilities can enjoy esports, and concludes with environmental sustainability. Since the stigma of digital games being pop cultural phenomena suitable for children, or a non-serious medium and causing harm can still accompany discussion about digital games and esports in general, the authors thoroughly discuss each potential concern regarding esports and this section in particular can contribute to a better understanding of esports by the general academic public.

The eighth section aims at introducing global esports cultures. The authors focus on each continent and provide a thorough probe into the history and development of esports in the given regions and the tradition of esports there. The penultimate, ninth section focuses on the future of esports, as well as its sustainability, and the final, tenth section concludes the handbook with all the key term definitions in esports.

The *Routledge handbook of esports* is a unique and complex publication that aims to cover all aspects of esports, and shall probably serve as a multidisciplinary bible for every researcher investigating digital games and esports. Ten rich sections composed by experienced authors provide a detailed view of esports, and discuss every possible aspect that might be of interest. It is a much needed publication.

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# From “Homo Spielens” by Fröbel to “Homo Ludens” by Huizinga: The Foundations of Human Development and Culture through Play

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Friedrich Wilhelm August Fröbel, the founder of the kindergarten system, is a pivotal figure in understanding the role of play in human development and culture. His innovative approach to education, emphasizing the importance of play and its intrinsic connection to language and creativity, laid the groundwork for modern educational theories and practices. Fröbel's vision of what we term the *homo spieldens* encapsulates the idea that play is not merely a leisure activity, but a vital element in the holistic development of a child and a fundamental component of human culture.

Fröbel viewed play as the primary mode through which children explore the world, express their inner thoughts, and develop cognitive, social, and emotional skills. He argued that play is an essential part of the natural environment of a child, encompassing both the physical and cultural contexts. In Fröbel's kindergartens, children engaged in structured yet flexible activities that encouraged exploration and creativity. He introduced educational toys, known as gifts (*spielgabe* in German, literally meaning *gift of play*), designed to stimulate imaginative play and conceptual understanding. He believed that through play, children project their inner lives onto the world around them, attributing life and emotions to inanimate objects. This anthropomorphism in play is a crucial developmental stage where children learn to navigate and understand their environment. Fröbel also saw play as a reflection of a child's innate creativity and the seed of human ingenuity, which would later blossom into cultural and artistic expressions.

Fröbel's ideas extended beyond education to encompass the broader cultural significance of play. In his work *Die Menschenerziehung* (Fröbel, 1826), he presented the concept that play is an expression and revelation of the most intimate and profound aspects of humanity. According to Fröbel, play is the germ of human creativity, preceding culture and serving as a generator and characteristic element of it. Through play, individuals manifest their intelligence and freely express their inner selves in response to external demands. He argued that play is one of the most important activities in human life, demonstrating strong individual consciousness and moral development. Unlike animals, whose play is more instinctual, human play involves a high degree of awareness and intentionality. Through play, the good and bad tendencies of individuals are revealed, contributing to the development of personal morality. Furthermore, play serves as an allegory for the obstacles, perils, and difficulties encountered in life, helping individuals prepare for real-world challenges.

Fröbel's educational philosophy can be seen as the precursor to modern understandings of play as fundamental to human development and culture. His emphasis on the importance of play for intellectual and moral development anticipated many contemporary practices that view play as essential for fostering a child's overall growth. Fröbel's work underscores the idea that play is not just beneficial, but fundamental to the development of creativity, problem-solving skills, and social interaction. Moreover, through play, children learn cultural symbols, language, norms, values, and the objects that form the fabric of their culture.

Johan Huizinga's (1938) seminal work, *Homo ludens*, expanded the concept of play beyond childhood, exploring its critical role in the formation of culture and civilization. Huizinga argued that play is a primary aspect of human nature, fundamental to the development of culture and societal norms. He posited that many cultural forms, from art to law to philosophy, originate in playful practices.

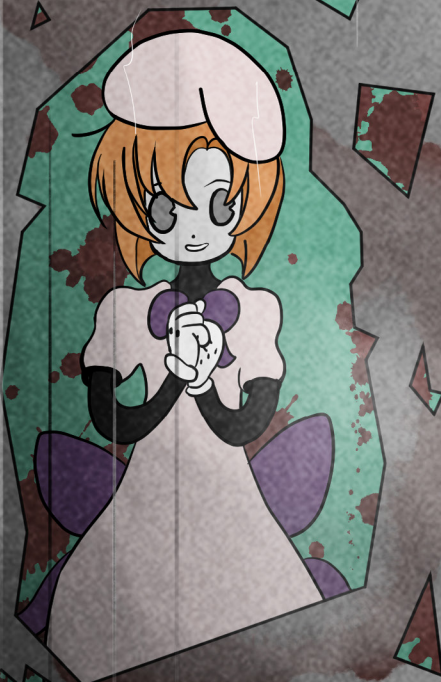
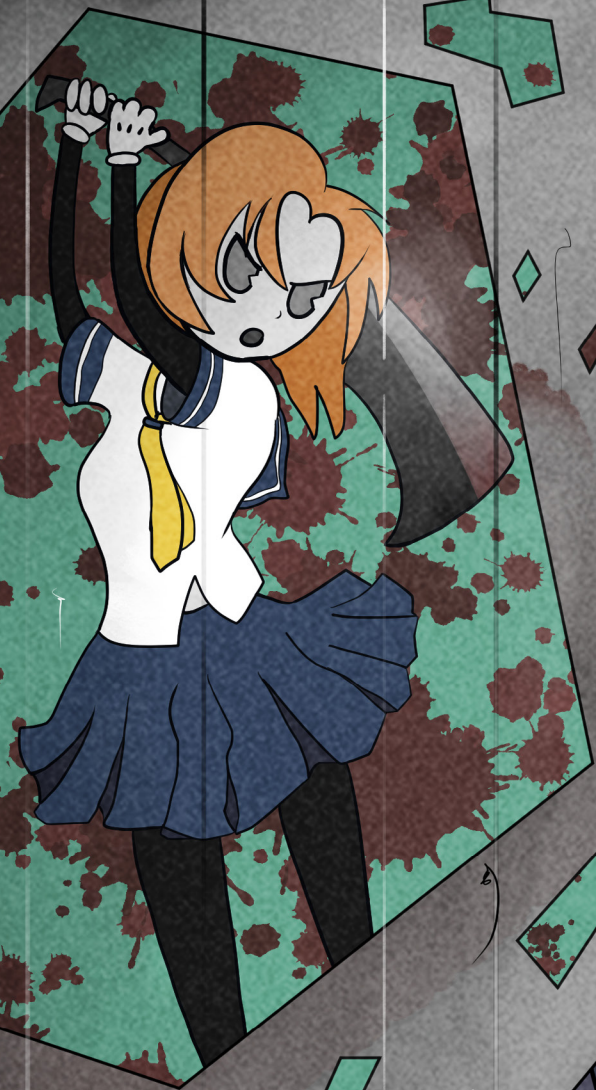
While Huizinga's analysis was broader, encompassing all human activities, the foundations laid by Fröbel in recognizing the significance of play in human development and culture cannot be overlooked. The term *homo spieldens* is inspired by Fröbel's insights, and prefigures Huizinga's *homo ludens* by establishing the notion that play is an essential, creative, and formative activity. Fröbel's insights into the educational value of play directly contribute to Huizinga's later, more expansive exploration of play's role in culture.

Fröbel's pioneering ideas on the importance of play in early childhood education have had a lasting impact on educational theory and practice. By emphasizing the integral role of play in developing creativity, intelligence, and moral character, Fröbel set the stage for later thinkers like Huizinga to explore the broader cultural significance of play. The concept of *homo spieldens* recognizes Fröbel's vital contribution to understanding play as a foundational human activity, thereby positioning him as a key precursor to the idea of *homo ludens*. Through Fröbel's work, we see that play is not merely an activity but a profound expression of human potential and creativity, integral to both personal development and cultural formation.

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# Guidelines

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Acta Ludologica accepts various kinds of academic writings – theoretical articles, theoretical articles combined with presentations of research results or research results including their implementation into practice as well as reviews of monographs or other publications, shorter news articles, essays and interviews with renowned game theorists, scholars and professionals., which have not been publicly published yet. Each received study will undergo a double-blind peer review process and the editorial board will decide whether to accept or reject the text for publication on the basis of the elaborated reviews. The Editorial Board may accept the text conditionally and require correction of the text by the author(s) according to the remarks or suggestions of the reviewers. All manuscripts must be written in **English**. The journal consists of the following sections:

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- **Reviews:** reviews of monographs and textbooks from the fields of digital games and game studies, which are not older than one year, in the extent of 5,400-9,000 characters (3-5 author pages); reviews of digital games based on specific context of theoretical or research framework, in the extent of 5,400-9,000 characters (3-5 author pages);
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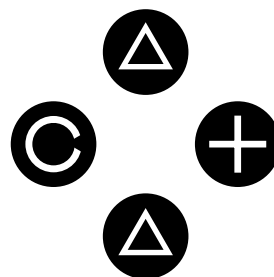
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ISSN 2585-8599



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ISSN 2585-8599  
e-ISSN 2585-9218  
EV 5620/18  
EV 29/22/EPP

## Acta Ludologica

Faculty of Mass Media Communication  
University of Ss. Cyril and Methodius in Trnava

2024, Vol. 7, No. 2

