

# Using Serious Art Games to Promote the Circulation of Ideas Embodied in Contemporary Aesthetics

Yuliia Kovalenko<sup>1,2</sup><sup>a</sup>, Ieva Gintere<sup>1</sup><sup>b</sup> and Alvis Misjuns<sup>1</sup><sup>c</sup>

<sup>1</sup>*Institute of Social, Economic and Humanities Research, Vidzeme University of Applied Sciences,  
Tērbatas iela 10, Valmiera LV-4202, Latvia*

<sup>2</sup>*Kharkiv State Academy of Culture, Bursatskyi Descent 4, 61057 Kharkiv, Ukraine*

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**Abstract:** The study presents a prototype of the educational artistic virtual game CineGame Ukraine, designed to improve skills in film narration and storyboarding. The project aims to adapt a digital learning environment as a methodological model to deepen filmmakers' visual cinematic thinking. The target audience for the project includes film and audiovisual students. The educational game will be used as a representation of the creative process for creating a cinematic narrative. However, the prototype is constructed as an open matrix for other content, as well. It is being used as a medium to teach trends of aesthetics today (glitch, noise, and others). The aim of the project is to develop digitization of cultural education and support serious art gaming based on research of contemporary culture. The empirical testing of the project is still ongoing and will be implemented following the studies of visitors' experience in contemporary art museums that underline communication between the users.

## 1 INTRODUCTION


The practical orientation of contemporary art and education drives an intensifying trend towards the interactive formats and comprehensive digitalization. Digital platforms and virtual environments, with their capacity to replicate real life and historical cultural contexts, are increasingly relevant to the educational process, making education more accessible and integrated into daily life. The projects ArtSpace, ImGame, and CineGame Ukraine are components of a unified concept aimed at teaching contemporary aesthetics through gaming experiences. Each project serves a unique role and employs a distinct approach to interactive learning, yet all converge in their shared goal of fostering an understanding of modern aesthetic and cultural concepts.


A theoretical model of a serious art game based on research in contemporary aesthetics was created in 2018 at the Vidzeme University of Applied Sciences and launched under the title of ArtSpace (Gintere, Biters, 2021) by a humanities researcher and new


media artists, using the Unity development platform. ArtSpace is being used as an educational tool to teach trends of modern aesthetics. The game's theoretical model was further incorporated in the creative project ImGame using the WebXR technology (Gintere et al., 2024). Some Unity-based artworks were not possible to implement in the WebXR environment, but the game's outline and main goal has remained the same. ImGame is a virtual tool to learn about the cultural context of immersiveness and its manifestation in today's art. Like ArtSpace, ImGame aims at fostering the creativity of the users. The creative studio is one of the important components of the game as it sums up the overall activities of the player and allows one to invest the tokens collected in the previous areas.

As a next step, in collaboration with Kharkiv State Academy of Culture (Ukraine), the ArtSpace model has been used in the CineGame Ukraine project, with the aim of creating storyboards and training filmmaking students in narrative construction.

The three gaming prototypes are being technically created and elaborated by the team of researchers,

<sup>a</sup> <https://orcid.org/0000-0001-6694-8329>

<sup>b</sup> <https://orcid.org/0000-0003-0203-3351>

<sup>c</sup> <https://orcid.org/0009-0003-4841-9302>

artists, and students who have participated in the games' testing phase. The benefit provided by the target audience is their interdisciplinary knowledge in digital art and cultural studies. The other target audience was creative engineering students who participated in the creation of ImGame and learned the use of WebXR and A-Frame. Thus, the project has supported the STEAM educational approach that incorporates arts into the more-familiar STEM model (science, technology, engineering, mathematics).

The serious art gaming platforms mentioned above are experimental to date. Empirical research data in order to evaluate their educational impact are yet to be collected and will be analyzed at a later stage of the research process. The empirical testing has been designed in accordance with the studies of visitors' experience in contemporary art museums. They reveal that social encounters and communication are key drivers to visit an exhibition, especially among younger audiences (Tröndle & Kirchberg, 2015). Taking these findings into account, students will team up to visit the virtual exhibition room in transnational visitor tandems, testing, discussing and commenting on the exemplary gaming operations in a dialogic situation.

## 2 ARTSPACE AND IMGAME: TRENDS OF MODERN AESTHETICS

ArtSpace (Gintere, 2020) is a new media environment with elements of gaming that communicate stylistic trends of contemporary gaming related to their historical antecedents in the era of modernism. This playful environment informs the user about the conceptual context of stylistic trends such as glitch and noise to mention a few. It invites the player to act creatively in nine rooms of the environment, to experience the styles and build one's own artefacts.

### 2.1 Mechanics of ArtSpace

ArtSpace uses the first-person graphical perspective and classical controls to move the player around. The user can open the Graphical User Interface menu on the screen, choose an object to work with and manipulate it by using the tools of digital art. With each new level the player earns new objects, materials, and effects. In the edit mode, the player can use multiple functions to change textures, location, rotation, size of the object, and add effects such as deformation and glitch (Figure 1).



Figure 1: ArtSpace, screenshot (Gintere, Biters, 2021).

Art Space is an ambient environment with features of slow gaming. Many activities in the environment require a lingering and reflective attitude. One of the most important functions of this environment is to let the user experience the aesthetic peculiarities of styles. In this regard, speedy play would not be a benefit. Yet gaming elements are important to keep the interest of the user. For instance, in the hack room, the user needs to act proactively and build his/her virtual artwork in a vertical dimension in order to leave the room and enter the next level of the game.

The educational goal of Art Space has been achieved by creating the Orbs of knowledge. These are colorful and partly transparent spheres. The user can enter the Orbs and find information about the stylistics of each room that might be devoted to kitsch/camp, photorealism and other trends. In the Orbs, one finds the antecedents from the era of modernism that illustrate the inherited features from this paradigm.

Like the art games CineGame and ImGame, ArtSpace is being used in the classrooms of colleges and universities internationally for the purpose of communication of modern aesthetic trends and the ideas related to them. The virtual environments also function as capacity building projects for the students who learn basic coding and design principles and have taken part in creation of these art games.

### 2.2 ImGame: The Feeling of Immersiveness Today

The ImGame project (Misjuns, Cīrulis, 2024) demonstrates an indirect mode of learning, memorizing, and remembering specific aspects of an immersive experience. The user of the game is expected to be able to recall the immersive feeling's conceptual aspects. The game creators intend to improve learning by contextualizing immersive experience (Makransky et al., 2022) by

demonstrating the context of the immersiveness tradition with its ideological background.

Users first enter the Introductory space where they are exposed to historical aspects of immersiveness such as Greek myths and the theory of sublime by Immanuel Kant. Users can follow a nonlinear path and study the available material at their own pace. At the end of their tour, they are invited to solve a puzzle (to choose between the existing keywords, Figure 2) to progress to the next space.

The next space is the Exhibition Hall (Figure 3) where one finds recent artworks representing the immersiveness feeling. The users are invited to participate in a treasure-hunt game by searching the virtual space to collect special tokens. These come in shape and form as glitchy items similar to the exhibited artworks and their details, and they are necessary for the users to unlock creative tools in the last space, the Studio.

The Studio space is where the users can create their own objects by utilizing the game's creative engine following the example of ArtSpace. The more treasure they have mustered, the more tools they can use.



Figure 2: ImGame, screenshot (Gintere et al., 2024).

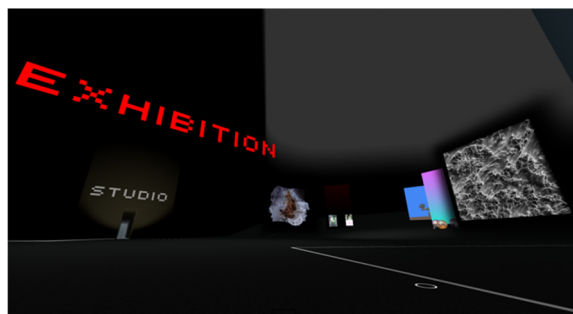


Figure 3: ImGame, screenshot (Gintere et al., 2024).

### 3 CINEGAME UKRAINE: AN EDUCATIONAL GAME FOR THE FUTURE FILMMAKERS

Among other educational goals, gamification can be effectively used in the development of storytelling skills for future creators of film. Creating a film narrative with the help of a digital game is an experiment supposed to strengthen the filmmaker's abilities through emotional and psychological immersion (Elmezeny, 2018) in the virtual game space, making one's narrative more expressive and thus more influential on the viewer.

The effectiveness of integrating film narratives into various educational practices is well established (Fernandes, da Motta, 2019; Cepitis, 2025), but the involvement of filmmakers in innovative learning methods related to narrative construction is often overlooked. The serious art game CineGame is built around developing a storyline for a future film and creating a director's vision in the form of a storyboard for shooting.

CineGame was created as a support mechanism for Ukrainian contemporary culture and digital education. The project is being implemented at Vidzeme University of Applied Sciences in cooperation with Kharkiv State Academy of Culture. Its filmmaking students are the first target audience of the project. CineGame is a stylistic voyage through modern aesthetic trends. Just like ArtSpace and ImGame, it teaches contemporary trends such as generative art, naïve and glitch (see Figure 4 for the glitch trend), and communicates Ukrainian and Latvian artworks following these trends.

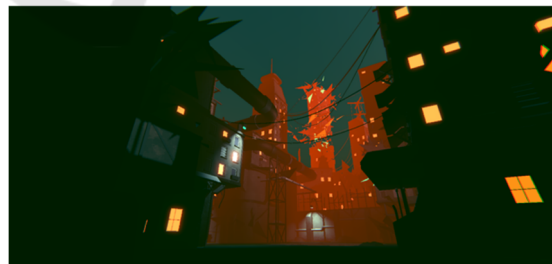


Figure 4: CineGame, screenshot (Gintere et al., 2025).

The starting point for CineGame is the machinima technology, which involves real-time computer graphics to create a visual film narrative (Lowwood, 2011). This technology has evolved into a distinct area of digital culture, reflecting significant aesthetic concepts of contemporary art. The virtual environment of CineGame addresses specific trends in digital aesthetics, helping users to become more

aware of this direction. Like the machinima technology, this educational virtual environment combines the cognitive process with media production, forming a virtual film school where students acquire both practical filmmaking skills and analytical foundations in modern aesthetics and narrative strategies (Lowood, 2011).

The concept of a virtual film school allows bypassing costly technologies and equipment, enabling film creation using only a game engine and a computer, which is particularly valuable in the educational process. This format presupposes mastering of various aspects of the film production: visual *mise-en-scène*, lighting setup, character development, editing, frame composition, camera placement, shot transitions, script creation, and more.

A key distinction of CineGame from machinima is the initial absence of a predefined storyline in the virtual environment. Instead, the player is tasked with creating and presenting a narrative through directorial storyboarding, while in machinima, the story is embedded in the game, and the player's task is to create a finished animated film based on it. Both approaches aim to develop skills in audiovisual expression and storyboarding, yet machinima lacks the component of training in narrative strategies.

Another key reference in the CineGame project is the Japanese visual novel genre, with its focus on interactive storytelling, which has become essential for an educational game in film narration. Unlike machinima, a visual novel encourages the players to be actively engaged in the narrative, allowing them to influence its course. CineGame goes further by challenging the player to create an original story based on the suggested narrative models and eight characters that the player selects independently.

### 3.1 CineGame User Experience

In CineGame, players interact with three narrative models (linear, non-linear, and cyclic) to construct a visual story for a future film. Players engage with characters, objects, textures, and landscapes to create storyboards. They can also manipulate characters and settings to explore different narrative possibilities, utilizing diverse lighting schemes, camera angles, zooming techniques, compositions, and *mise-en-scène*. The game's adaptive mechanics allow players to work at their own pace, fostering creativity and skill development through hands-on experimentation. The user has the option to take a camera shot with desired angles and add a description to it to describe the scene. After all camera shots are taken and descriptions are written down, one can download the

storyboard as a pdf to represent the story. The game is made in Unity 3D and the levels are designed in a semi realistic, abstract way to match one of the three art concepts.

The game is planned to be integrated into the assessment process during the studies of cinematography. The primary output of the game is a storyboard or visual narrative created by the students, which can be evaluated as part of their coursework. This approach ensures that the game contributes to measurable learning outcomes, such as the ability to construct coherent, expressive visual narratives and understand the application of narrative models in film.

### 3.2 Visual Novel Principles and Narrative Strategies of CineGame Ukraine

Using visual novels in educational methodologies is a widespread practice. By immersing students in an interactive story, cognitive engagement and skill acquisition are enhanced. A visual novel is a narrative interactive game featuring static or animated graphics and a "branching narrative" (Oygardslia, 2020). The storytelling is generally presented in the first person, with the player's task being to select dialogue options within a branching plot. Therefore, player agency in a visual novel is relatively limited as the story unfolds along predetermined paths. The key characteristics of this genre include multiple storylines with variable endings and detailed character development, making it appealing in contrast to other games with simplified plots and static character portrayals.

Visual novels' narrative density, complexities, and non-linear structure open possibilities for employing storytelling frameworks across genres such as dystopia, road movies, romance, and comedy. These features also extend to the genre's visual elements of screen storytelling. The mechanics of visual novels emphasize the player's decisions regarding the progression of the narrative. Among the primary narrative types used in visual novels, the linear structure is particularly advantageous for educational contexts, as it provides a straightforward sequence of events with controlled pacing and narrative clarity. In contrast, non-linear storytelling in visual novels allows for flexible scene arrangement, offering players a more personalized plot progression.

CineGame is oriented around three narrative strategies inspired by the visual novel format: the Linear Level corresponds to the linear narrative, the Open Space Level aligns with the non-linear



structure, and the Cyclic Level combines multiple storylines, each stemming from the previous one. The narrative structures of Ukrainian films from the past decade serve as illustrative examples e.g., *Brothers*. The Final Confession (2014), the romantic drama by Viktoriya Trofimenko, the black comedy war film *Donbass* (2018) by Sergey Loznitsa, the apocalyptic drama *Atlantis* by Valentyn Vasyanovych, the road movie drama *Homeward* (2019) by Nariman Aliev, and the comedy drama *My thoughts Are Silent* (2019) by Antonio Lukich. Thus, the project provides theoretical knowledge on narrative strategies and introduces users to Ukrainian films.

The well-developed character system in visual novels enables narratives to unfold through the characters' actions and decisions. The symbolic elements of a character form a separate module, allowing the player to interpret their hero based on their own cultural context. Character traits serve as a tool for creating an "empathetic connection" with the player (Bruno, 2017).

Table 1: CineGame Ukraine narrative strategies.

Narrative model: <b>Linear</b> Homeward (2019), road movie drama by Nariman Aliev
Narrative model: <b>Open Space</b> Atlantis (2019), apocalyptic drama by Valentyn Vasyanovych Brothers. The final confession (2014), romantic drama by Viktoriya Trofimenko
Narrative model: <b>Cyclic</b> Donbass (2018), black comedy war film by Sergey Loznitsa My thoughts are silent (2019), comedy drama by Antonio Lukich

### 3.3 National Archetypes as the Character Database

The character imagery elements in CineGame form a distinct block, based on which the player interprets their protagonist according to one's personal preferences and values. The character database is a modular system of elements such as physical attributes, typical personality traits, clothing style, manners, which can be modified based on the preferences of the user. The ability to combine these characteristics grants the players a certain freedom in constructing unique characters with a relative degree

of individuality. The database comprises Ukrainian archetypes, which have been formed within Ukrainian culture and represent generalized heroic images from mythology and literature. The characters function as tools of empathetic connection with the player, focused within the concept of moe (Galbraith, 2009)<sup>1</sup>.

The game offers four male and four female figures: Rusyn, Varangian, Jesuit, and Turk for males, and Mavka, Kaidashykha, Pannochka, and Solokha for females. While the female characters are of literary origin, the male characters represent various cultural types. Thus, these characters reflect common traits with broader cultural archetypes, making the educational environment universal and aligned with shared human aesthetic and cultural expectations. Rusyn embodies the collective image of a prince-hetman – a social leader and tradition bearer; Varangian, a defender-artisan; Jesuit, an inventor-scholar; Turk, a merchant-communicator. Mavka personifies the essence of nature, creativity and an associative, image-based perception of the world. Kaidashykha embodies the traits and destiny of a mother-guardian, Pannochka symbolizes progress, change, and reform. Solokha represents knowledge and empathy.

The database of Ukrainian archetypes within CineGame provides opportunities to engage with cultural and historical contexts through recognizable narratives and universal images. Additionally, the focus on universal archetypal symbols facilitates cultural dialogue and fosters understanding of foreign cultural contexts.

The database of moe-elements shifts the principles of modern narrative towards combining character elements instead of a linear storytelling, enabling continuous reinterpretation and analysis of narratives (Azuma, 2009). Storytelling becomes less linear and predictable. In this way, narrative functions as a set of scenes, interconnected choices, and development paths, prompting the players to construct their own story.

The male characters – Rusyn, Varangian, Jesuit, and Turk – are inspired by Ukrainian archetypes but represent heirs of diverse cultures and nationalities, as evidenced by their names. Therefore, they can also embody different gender identities. The female characters – Mavka, Kaidashykha, Solokha, and Pannochka – are more socially and psychologically rooted in Ukrainian archetypes, inspired by literary works and mythology. The characters in the game are

who possess traits like innocence, cuteness, or vulnerability.

<sup>1</sup> Moe is a Japanese term used to describe feelings of warmth, affection, or protectiveness towards fictional characters. It is commonly associated with characters

Table 2: Character database in CineGame.

Character	Characteristics	Association
Rusyn	noble, strong in spirit, leading, wise	service, spirituality, ritual, collective
Varangian	courageous, brave, skillful, reliable	protection, action, mastery, hierarchy
Turk	clever, resourceful, flexible, successful	winning, communication, ingenuity, negotiations
Jesuit	erudite, learned, educated, logical	knowledge, intelligence, expertise, rationality
Mavka	sophisticated, painfully sensitive, imaginative, dreamy	nature, chthonic, feeling, creativity
Kaidashikha	sensual, practical, responsible, devoted	family, love, sacrifice, economy
Solokha	sociable, possessor of knowledge, confident, intuitive	esotericism, exosphere, otherworldliness, personality
Pannochka	aristocratic, social, attractive, daring	experiment, innovation, beauty, progress

not assigned specific gender identities but rather are defined by their connections to cultural traditions. Moreover, the players have the option to customize the characters. This approach provides flexibility and inclusivity, enabling the users to create characters that resonate with their own cultural and personal perspectives.

## 4 CONCLUSIONS

The CineGame project offers a study of narrative structures and modern film genres through one's own gaming experience of immersive storytelling. It is expected to improve the cinematographic education based on modern educational technologies.

For further work, the authors are planning to enrich the serious art gaming field by creating related prototypes of virtual learning environments. These are intended to be focused on the topical trends of contemporary aesthetics in gaming such as camp or whimsicality, to communicate ideas related to each of

them and thus help the researchers engage more broadly with students while teaching contemporary culture. For instance, camp is related to the feeling of uncanniness and weirdness in certain groups of society and is being actively discussed in order to be accepted and gain a better public understanding. These socially important topics are envisioned to be communicated in relation to aesthetic trends and their conceptual background.

Branching narratives with multiple event development paths and non-linear structures in CineGame are expected to help students construct individualized narratives. Focusing on the visual elements of an audiovisual work helps eliminate an overemphasis on verbal storytelling, liberating the screen image from literary foundations. Storyboarding, as the primary goal of the gameplay, trains students to visually organize a scene, enabling thorough preparation for filming. Scene and dialogue transitions offer a sense of narrative pacing, making the plot more dynamic and editing transitions smoother. Finally, the openness of visual novels to narrative experimentation provides a safe environment for testing and modelling film stories.

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