ART SPACE: AN INNOVATIVE DIGITAL GAME OF MODERN AESTHETICS

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Abstract

The current paper traces the development of a new digital game for transferring knowledge: the author has been carrying out research in order to transfer its results to the game's players. The game named Art Space belongs to a specific niche of modern gaming, the art game, and the goal is to educate its players concerning digital art. The study presents an insight into contemporary digital game theory and a new method of game creation on the basis of research and knowledge transfer. The paper reveals the analysis of the pertinent literature concerning game theory and art game analysis. The author suggests treating art game as an effective tool for disseminating the results of research into contemporary audio-visual art. Work on the new game is being carried out through collaboration between the researcher, Dr.art. Ieva Gintere (Vidzeme University of Applied Sciences, Latvia) and the game artist, Mag.art. Kristaps Biters (Latvia) in the framework of a post-doctoral project led by Ieva Gintere during 2018-2021. This study intends to add a new aspect of historical heritage to contemporary art game theory and focuses on the trend of noise in the art game field.

Keywords: Art game, contemporary aesthetics, gaming methodology, noise.

1 INTRODUCTION

The creation of a game utilizing research is a wide-spread tendency in the area of digital gaming today. However, in the discourse of art games in particular, it has been neglected. Art game could be an effective tool for disseminating the results of contemporary art research. This study intends to create a new method of digital art game creation that upgrades the existing methodology.

Digital game designers are simultaneously researchers today. The game is often bound to research, the games are worked out through a constant process of investigation. The new game called Art Space that is being created in the framework of this project, is similarly based on research. It is focused on the findings in the area of contemporary digital audio-visual art. The concept of Art Space follows the common practice in contemporary art to constantly widen the horizon of possibilities by means of research. The tradition emerged in Europe around the 1960s as an artistic practice that unites researchers and artists. Centers of art and science, groups of artists and scientists, complex events such as festivals, exhibitions and conferences were based in this tradition: OuLiPo (*Ouvroir de Littérature Potentielle*), *SIGGRAPH* (Special Interest Group on Computer GRAPHics and Interactive Techniques), *ZKM* (*Zentrum für Kunst und Medientechnologie*), to mention a few.

During a creation of Art Space, the authors have used the communication model suggested by Llansó and his colleagues. Llansó has outlined the communication problems common to game development that employs a multidisciplinary team where some of the game creators are not technically educated, but work as teachers and researchers. They are solely responsible for describing the characters, objects, functions and status of the run of play but the programmers define the technical details and objectives. Because people with different knowledge are involved in the game creation, the authors of Art Space have followed this communication model [1].

Furthermore, the author of this study aims to update the defined research-based art field that encompasses poetry, music, theatre, narrative and dance [2] by adding the art game genre to it. Research-based art is an experimental practice of research that leads to new findings both in art and research.

2 METHODOLOGY

The methods used are audio-visual and stylistic analyses of games as well as studies of the existing literature (game theory and theory of culture). Referring to Sebastian Mühl, the study represents the approach of artistic research. The aesthetical object, as Mühl has noted, is never made completely

transparent to a beholder's perception. The author of this study intends to explain the cultural context of aesthetic styles in gaming such as the trend of noise (see chapter 3.2.2) using the approach of artistic research, taking into account that no indisputable assertions are possible because the stylistic elements are experienced "in a mode of indeterminancy" [3]. This obviously does not mean that knowledge about the artistic messages is not possible, but only that the suggestions about aesthetic ideas documented in this paper are not determining judgments.

3   RESULTS

3.1   The Aspect of Knowledge Transfer in Art Games

The art game discourse is a quite narrow field that rests upon the general gaming theory, but art game is a specific field and its analysis requires a particular approach. There are a lot of art games that express the ideas of artists and the spirit of our century. They were created by Jodi, Pippin Barr, Jason Rohrer, and many other digital artists, however, the field of art game lacks the aspect of knowledge transfer. Art game mainly embodies aesthetical features, although it can show the full picture of modern art, and the results of contemporary art research. Art game should inform the player about how the art of today is related to art history, and what are the links of contemporary art to the previous art paradigms.

There are few games that demonstrate the attempts to represent contemporary art theory and the works of artists, such as Patrick LeMieux' Art Games (2008-2009). LeMieux' project is a series of art games designed to be projected and played on top of original paintings by Yves Klein and four other prominent monochromatic artists. The five games "explore aesthetic traditions" of games and show that moments of contemplation are more "useful" than the fictions of the mainstream gaming [4].

Re-enacting artistic performances in a game environment is a standard practice in game art (a field of art that is made of or related to digital games). In 2007, Mark Beasley created a trilogy of artistic video games Vito Acconci, in which the player can re-enact the famous performance of "Following Piece" (1969) by Acconci [5]. Thus, art games are aimed at illustrating the art situation of today. Nevertheless, as far as the author of the current study has found, there are no art games that would convincingly exemplify the research into contemporary aesthetics and the transfer of this knowledge, even if research has been a common practice between game designers while creating a game.

In this research project, the concept of knowledge transfer means that knowledge gathered during the research phase is being transferred to society by the media of game as defined by Tobias Mettler and Roberto Pinto. They use the existing framework of knowledge transfer [6] and demonstrate it graphically [7]. However, within the context of digital games this concept has been granted little attention. In search of an advanced game methodology, Igor Mayer and his colleagues state that serious game-based learning needs to be transferred "to the real world" [8]. However, Mayer does not explain the concept of transfer in detail. In a recent article, Zheng and Truong also focus on how to support students' knowledge transfer, but do not explain the concept either [9]. Katrin Becker and Jim Parker have presented a gaming methodology model that involves research, but no knowledge transfer [10]. In particular, the aspect of sharing the arts' research results with the player in a comprehensible way that could be called knowledge transfer has been almost left aside.

In relation to the knowledge transfer framework updated by Mettler and Pinto in 2015, the aim of the new digital game Art Space is to connect the digital arts' research results with the player so that the knowledge acquired in the research process would be transferred to the general public. This will eventually allow better orientation in the aesthetics of contemporary art and the acquired knowledge should spark the interest in modern art. According to Mettler and Pinto, the game will provide "a useful and attractive method for communicating the results of research" in the field of contemporary art. Thus, the use of educational games will be "an effective means for communicating and disseminating research results beyond the academic audience, possibly helping to strengthen the bonds between science and society" [7].

The creators of Art Space have also used the Ikujiro Nonaka's knowledge transformation theory that tries to model how the process of knowledge conversion takes place. Nonaka foresees that in order to efficiently transform knowledge, it needs to be converted to an understandable and interpretable form [11]. Following this approach, Art Space is created as an intellectual platform that explains the context of contemporary aesthetics via short texts and demonstrates the examples of aesthetical trends in order to illustrate the ideas that may leave an impression of enigma. For instance, the tradition of pixel

aesthetics in modern gaming might seem confusing. There are technical possibilities today that allow to create a photorealistic image close to photographic picture, yet the gaming designers often choose the pixel trend. The reason of popularity of this style is rooted in classical aesthetics that still govern our taste; the geometrical forms characteristic to pixels have the aura of harmony and universal beauty. Pixels are used in gaming as symbols of a perfect form that cannot compete with the fluid lines of photographic image. Likewise, many other phenomena of contemporary gaming might raise questions. Art Space has the aim to clarify those riddles and pave the way to a better understanding of contemporary aesthetics.

3.2   The Concept of the New Game and its Contribution to Art Game Studies

Art Space is a virtual academy made of several levels where a player can choose a style he wishes to study and take an elevator in order to reach the room where this style is represented. The player will be familiarized with the historical context of the styles and encouraged to form individual artefacts. He/she will be able to create his/her own visual and acoustic environment using the current trends of digital art inherited from modernism, such as, glitch, pixel aesthetics, hacking, generative art, noise, futurism, kitsch/camp and naïve art. These have been analyzed by the author elsewhere and lie outside the scope of this article [12, 13]. The new game is intended to be a building/constructing game like the famous The Sims (2000) and Minecraft (2011). It represents the 'learning by doing' approach related to the constructivism theory, where the player learns by constructing knowledge while doing a meaningful activity. The learner actively constructs new knowledge by finding information in the game, understanding it and then applying the new knowledge to fulfill tasks, using one's creative forces. Building and editing mechanics are made to give the player the freedom to replicate the specific modern art styles. There is a rewards system – the further the player progresses, the more assets and effects become available.

The concept of this new art game is focused on the artistic and theoretical backgrounds in art. Many tendencies of modernism (and subsequently postmodernism which was basically a critique and a continuation of modernism) have been transferred to digital art. They have a theoretical history that dates back to the second half of the 20th century. For instance, the general meaning of hacking has appeared in the theory of deconstruction by Jacques Derrida. He insisted that text has no absolute meaning and it has to be deconstructed to find new ones [14]. The concept became trendy during modernism and is still being demonstrated today, most currently in the direction of stage art. Directors of theatre and opera have largely exploited traditional texts by "hacking" them, transforming them into contemporary visions and changing the original material. This tendency also appears in the visual arts, for instance, the Italian painter Lucio Fontana interpreted it quite obviously: he cut the surface of the painting as if breaking into it.

3.2.1   The Historical Aspect of Game Analysis

The aim of this research is to transfer the historical capital of modernism knowledge into contemporary digital art games. As the aesthetics of digital art games is strongly affected by the aesthetics of modernism, the analysis of its historical aspect is one of the crucial things needed to carry out a meaningful analysis. Game researchers have named several aspects of the game analysis, however, as the field is relatively new, the historical aspect of the art games has not been explicitly designated.

The aspect of historical background has been analyzed regarding serious games. Michela Mortara and other researchers have documented the state-of-the-art of the historical heritage in digital gaming, but they never mention the subfield of contemporary art. Mortara shows a large number of serious games focused on cultural awareness and "intangible cultural assets like tribal beliefs, customs, and ceremonies". The author has named serious games devoted to ancient Rome, Jewish culture, Japanese etiquette and many others [15], however, there are no games that would exemplify heritage in contemporary art. Likewise, Boyan Bontchev confirms the inclusion of cultural heritage in serious games and provides some illustrative examples [16]. Eike Falk Anderson and colleagues have examined the genre of serious games for cultural heritage mainly focusing on the technological aspects [17], nevertheless, there is not a single game from the niche of contemporary art in these articles.

In order to enrich the theoretical framework of the digital art game discourse, this study proposes to emphasize the historical aspect in the art game analysis. The concept of Art Space encompasses the research results of the existing art games in the light of their historical heritage. It is built on the basis of an aesthetical analysis of the art games produced between 1999 and 2020. The references to the games made by artists in the first decades of the 21st century will serve as educational items for the

player of the new game. For instance, in the room of glitch, the player will be introduced to the games like the extraordinary Memory of a Broken Dimension (2015) that represents the tendency of glitch in the contemporary art game area.

Next to the citations from the world of digital games, references to music and visual art will be on display. For example, in the hacking room, the player will be faced with precursors of the modernism era such as Concetto spaziale (1960) by Lucio Fontana (Fig. 1) that represents the idea of hacking or breaking in the artwork. Meanwhile, short texts will describe the historical background of the style. Thus, the new game will encompass the historical background of digital art today.
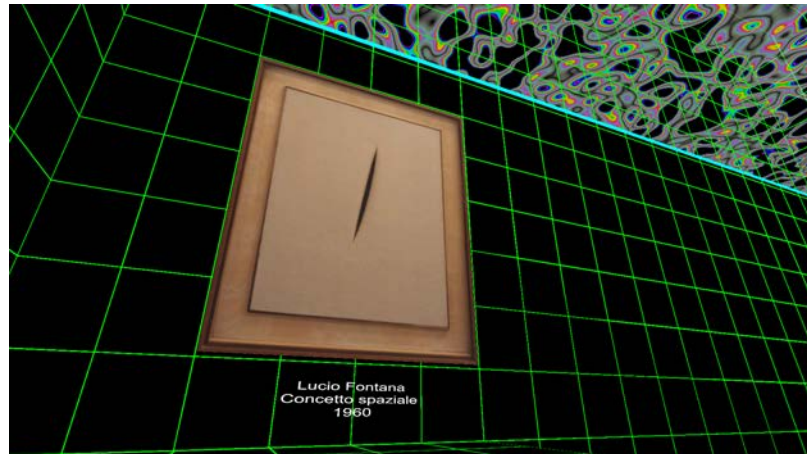

Figure 1. Art Space screenshot. Hacking room [18].

3.2.2 The Trend of Noise Music

References to music are of particular interest to the author taking into account her musicological education. There is a significant influence of modernism music in the art games created by Jodi and other game artists. Trends of modernism music are inherited in digital audio-visual art, in performances that could be classified as contemporary avant-garde, alternative and underground music, and also in music that intends to be more mainstream. But the trend of noise is specific enough to never fall outside the niche of arthouse activities.

Noise is linked historically to the concept of the sublime by Immanuel Kant. Kant argues in his Critique of Judgment that the most intensive feelings arise not in a contemplation of the beautiful and harmonic, but instead from study of a severe, even terrifying object [19]. The sublime of Kant had far-reaching consequences on the theory of modernism where a strong aesthetic experience is a reaction to something harsh, sometimes ugly both in visual and acoustic dimensions. Thus, Jean Tinguely created his kinetic sculptures in the avant-garde period that did not meet the criteria of beautiful. They produced noisy sounds and looked bizarre.

One can hear some echoes of noise music in the art games, too, but it has not yet been deeply rooted in the art games. The games like Memory of a Broken Dimension, The Intruder (Bookchin, 1999), SOD (Jodi, 1999) and Untitled Game (Jodi, 1996) have quasi-noise sound scores, but they are primitive compared to the rich variety produced in the noise music history since the 1950s. The acoustic and audio-visual findings in the field of noise would be worth implementing in art games. The mentioned art games by Jodi are made in a very ascetic manner on purpose, including their musical score. However, the feature of noise in art games deserves to be developed. Because the glitch effect, a twin of noise in the visual dimension, is now well established, one has to agree that the trend of noise used in the existing games is rather poor.

The aesthetics of noise incorporates "unmusical" sounds traditionally considered ugly such as cracking, hiss, hum, and other sounds of digital distortion. Noise music is a successor of modernism that legitimized all sounds as a part of music. The history of noise music is demonstrated by the avant-garde piece 4'33" by John Cage. Although the piece itself is equal to zero in terms of musical composition, it is highly influential on a conceptual level. Cage showed that any sound can be a part of an acoustic piece. In the future, he wrote, music will be the "entire field of sound" and the act of composition will be an "organization of sound" [20]. Luigi Russolo, the father of noise music, denoted that music is not as harmonic as it was before, it has become shrilly, strange, random, and dissonant

[21]. The first pieces of noise were the Cartridge Music (1960) by Cage, as well as the Poem for Chairs, Tables, Benches, etc. (1960) by La Monte Young. György Ligeti's Poème Symphonique for 100 Metronomes (1962) is another avant-garde piece that forms the historical background of noise music. The first digital noise pieces were written by Karlheinz Stockhausen, i.e. his Studie 1 (1953) and Studie 2 (1954).

Aside from academic music studies, the tendency of noise also appears in the contemporary genre of ambient music, and in the niche of alternative musical culture. The wonderful sound scores by Richard Chartier (b. 1961, USA) follow the tradition of Cage's 4'33" by incorporating sounds into silence, including noises. The artistic movement of noise is also being developed by Alva Noto (or Carsten Nikolai, b. 1965, Germany) and Ryoji Ikeda (b. 1966, Japan, France) who creates audio-visual compositions with effects of noise and visual glitch. Examples of original, and pleasing artists in the field of noise were the quasi-mainstream indie pop group Oval (active at the end of 1980s and in the 1990s, Germany) and Bryn Jones (1961-1999, Great Britain). Under the name Muslimgauze, Jones worked in the genres of post-industrial, noise underground and dark ambient music represented in his instrumental albums Intifaxa (1990), Blue Mosque (1994), and others.

Oval and Muslimgauze combine rhythmical structures with a pleasant harmony. The regular rhythmical beat is one of the main factors that differentiate mainstream trends like pop music and academic noise music represented today by composers such as Helmut Lachenmann (b. 1935, Germany), Michael Gordon (b. 1956, USA), Mauro Lanza (b. 1975, Italy), and Francesca Verunelli (b. 1979, Italy), to mention just a few. Oval and Muslimgauze form a peculiar niche that lies between popular and "serious" music. There is a touch of avant-garde or alternative spirit in their music thanks to the elements of noise, however, the regular rhythmic beat mimicking savage musical rituals place them partly in the field of popular culture. Regular beat is a musical metaphor of the human heartbeat that evokes a universal response. José Ortega Y Gasset in his famous essay Dehumanization of Art wrote that according to the old-school aesthetics of Romanticism, one likes a piece of art if there is a "living reality" that we can recognize in the piece of art, or a "sentimental participation" is possible [22]. This aesthetical principle still governs the mainstream culture where the human aspect, something that is interpersonally significant – like a heartbeat – can be experienced. Nevertheless, digital noise music can also be loudly aggressive and free from any regular rhythmical constructions.

The trend of noise is particularly interesting because of its time-spatial construction. Timespace is a new concept of contemporary music both in the popular and academic contexts. Noise is usually represented as internal changes of an acoustic structure while still preserving its outline, its main shape or its basic contents, such as the harmonic and rhythmical pattern. This type of development of the musical material is called a timespace [23]. It is a type of composition that has a narrow framework as a means of expression. In a certain period of time, the framework is qualitatively unchanging, but developed by widening, seizing the respective structure, acoustically immersing into it, and likewise elaborating the musical material.

Next to the visual references, the new game would embody this contemporary acoustic feature with examples of noise music. The player will be able to listen to the first digital piece in the field of academic music, the Studie 1 by Karlheinz Stockhausen, to the Cartridge Music by John Cage and other pieces that already qualify today for the classical noise music repertoire, as well as to some enjoyable Latvian noise music artists such the audio-visual 'organism' Trihars. The player will also be invited to form his own sounds in the room of noise. Thus, the new art game intends to fill the gap between the rich history of noise music and contemporary art games.

4 CONCLUSIONS

This paper incorporates the research results of the European Regional Development Fund Postdoctoral project carried out at the Vidzeme University of Applied Sciences, entitled Leveraging ICT Product Innovations by Enhancing the Codes of Modern Art. The task of the project is to create an innovative digital game in the cross-cutting genres of art game, educational game and research-based art. It examines the trends of contemporary art that were formed during the period of modernism and still constitute the basic trends of intellectual culture today like noise music. The study aims to create a new genre of educational art games that would exemplify contemporary interdisciplinary and analytic thought.

The new game Art Space will serve as an educative platform. It will integrate the players into the aesthetics of contemporary art, inviting them to understand the offspring of modernism. The game

supports knowledge flow between research and the general public of players. This study emphasizes the historical aspect in digital art game studies. This area has been underestimated in game analysis so far and needs to be highlighted to understand the origins of contemporary art game aesthetics. Contemporary art, as suggested by Umberto Eco [24] and Roland Barthes [25], is an open text that can be read freely by anyone regardless of his/her experience, however, the knowledge of cultural backgrounds can lead to a deeper understanding of arts today. Finally, as Kurt Squire has acknowledged [4], the game itself is not the most important variable when evaluating the role of gameplay experience in learning. The discussions, critiques, inquiries over the game are the most influential factor in learning. The authors of the game hope to initiate investigations of students and to spark their interest in contemporary art.

ACKNOWLEDGEMENTS

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