

Perceiving the practices of new game music

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Abstract

We are developing aleatory music creation practices that would be suitable for making new type of game music.

Keywords

computational creativity, media archaeology, digital games, game music, new media, music in ludic spaces

Introduction

Music's role in video games has become increasingly crucial for gamers in the third decade of the twenty-first century. Game music's ability to respond to things happening in the games due to the player's interactions with the game world makes game music unlike any other music genre. Neil Lerner has compared game music, with its rhythmic unpredictability and aleatoric practices, to contemporary minimalist works of composers such as La Monte Young and Terry Riley (Lerner, 1).

In this paper, we describe the experimental process where game music can become even more interactive, engaging, and more varied in musical expression due to aleatoric practices of 1) taking actual game players and fans' gameplay into the loop of the game music composing. 2) By using game samples and machine learning as an asset to generate a new, relevant musical game score, practice is to be used in an interactive artwork. As a background for experimentation and for this paper we have conducted a live concert where the arcade game platform of Atari 2600 was used as an instrument to compose and perform game music. In the demonstration, a game platform and a typical game audio soundtrack were used as an instrument to create constraints and random rhythmic patterns to reconstruct the pop-song structure and typical performance format of the 3-minute pop-song consisting of traditional A- and B-parts structure. We wanted to test 1) whether using the game console as a musical instrument makes sense at all for performers and 2) what are the audience reactions to this generated game music, which is improvised live in front of the audience using the game console and actual gameplay as input for live performance.

We currently have approximately 2 hours of unedited video and audio material recorded from the rehearsals of the interactive game orchestra at Tampere, Finland. Also, we have documented a live event of the band playing in front of an audience at Vastavirta Klubi in Tampere, Finland.

Interviews with the audience and performers made after the gig to gather first impressions right after the concert.

Today, we want to further experiment with new opportunities for game music by experimenting with what artificial intelligence applications in art and games can provide to game music enthusiasts and computer music makers (Hageback et al.).

New game music and P-creativity realized in live concert

We are developing aleatory music creation practices that would be suitable for making new type of game music. Here are a few examples of how these aleatoric practices of new game music can be developed further and realized in practice live on the stage and online.

First, from musical composing practice, we can initiate a music-making session by deconstructing the song structure not by using the original score structures of the selected game but instead by gathering the song's rhythmic structure and pattern(s) from game players' input when they start to play the selected game. For this purpose, we could trigger players' keyboard rhythm where the application triggers players' typing keyboard and records progress from level to level in the video game. It generates output, e.g., rhythm pattern from that. For this use case, The MIMIC project - a web platform for the artistic exploration of musical machine learning, machine listening, and creative AI- can generate rhythmic patterns such as those described.

In addition, we could use gestures of game players/musical performers as input mechanics of what musical samples /midi tracks we trigger and in what order.

Finally, for online live performances, we can add unintended elements and even pure noise by using limitations of the telecommunications channels as instruments and constraints of the performance and music expression. Using the streaming platform Twitch with OBS studio, we could experiment with different input streams and even the nature of the networking event, latency.

From computational creativity aspects, one could ask whether this demonstration supports either autonomous creativity or acts as a creativity support tool. In our demo, we focus on aspects of the autonomous creativity system. We use technology in the "wrong" way so that artistic live acts

and musical performance creates new, unintentional direction.

From a creativity perspective, our experiment should be considered as creativity on a personal level, supporting and enabling psychological creativity (P-creativity) instead of historical creativity (H-creativity) (2, Boden). We create an environment for personal creativity to emerge, to generate new sights and possibilities to nurture composers/performers' existing skills and knowledge on music composing and its instruments.

Then again, in terms of P-creativity, we could approach even the "third level" of surprising elements: "For creativity can happen in three main ways, which correspond to three sorts of surprise" (Boden, 2004, p. 3). We could generate not only unfamiliar, unexpected ideas on composing and performing game music but even something impossible in terms of how game music composition and performance are traditionally considered to be. Thus we hope to introduce computer music makers and the retro gaming community as one possible perspective on how growth in personal creativity can take place.

Game music, new media practices and media archaeology

At this point, it would have been worth bringing up the classic of media archaeology, Siegfrieds Zielinski's writing about how he has approached the "imaginary" and the "impossible" as inspiration and motivation for our game music experimentation.

Zielinski has defined three types of media/apparatus/machines from the history of media inventions, according to how they have been adapted and accepted during the time of their invention: 1. Untimely media/apparatus/machines. Media devised and designed either much too late or much too early, realized in technical and media practice either centuries before or centuries after being invented. 2. Conceptual media/apparatus/machines. Artifacts that were only ever sketched as models or drafted as concrete ideas on paper, but never actually built. 3. Impossible media/apparatus/machines. Imaginary media in the true sense, by Zielinski means hermetic and hermeneutic machines, that is machines that signify something, but where the initial design or sketch makes clear that they cannot be built and whose implied meanings nonetheless have an impact on the factual world of media (The Book of Imaginary Media, 30).

In connection with our experimental game music's current implementation, let us keep in mind how Zielinski has defined the imaginary and, above all "impossible"

Aleatoric practices in contemporary pop music

To return to the original inspirations of our experiment, consider the masters of minimalist music Le Monte Young, Terry Riley, Steve Reich, and Philip Glass, and their input into the development of pop music as we know it in 2024.

The influences of the compositional techniques used by masters of minimalist music (e.g. serialization and drone) for contemporary pop music are known and documented. Mostly this phenomenon has been happened and documented in the subgenres of the experimental, "left-wing", lo-fi alternative pop music of the 1990's. For example, the experimental UK-originated pop band Stereolab says in their interviews that the influences of their music in the early days were, on the one hand, the tradition of European historical surrealism, on the other hand, European art music of the 1960s and 1970s (The Arts Desk).

We could hear those influences especially on bands later recording while they were able to realize experimental and minimalist practices by combining their traditional pop-song structure with possibility loop and repeat and create chords progression in a very similar manner as early minimalist composers built up their compositions structures within written notations.

On the cusp of academic research and open publishing, there are also initiatives where the developing tradition of experimental pop music has been examined from the perspective of art sociology and avant-garde art research. Enrico Monacelli has examined e.g. The Beach Boys' early experiments with studio techniques not only from a technical point of view but also through the aesthetics of noise, as a social expression shaped by the breaking down of technical barriers. He looks at the development of modern elements of pop music from the point of view of lo-fi aesthetics, how artist musicians have consciously broken the technical boundaries of pop music by using new and old technology to produce noise, hiss, and sonic weirdness (Monacelli, 1).

On the other hand, similarities between the musical forms and expressions of global dance music such as 1970s disco music and contemporary minimalism in music have been also recognized. O'Brien and Robin have documented among other things connections between 1970s experimental electronic music, disco, and minimalism in their historical "On Mimimalism".

"There was a very explicit, very close connection between the early disco music and musicians like myself and Tangerine Dream" adds Glass. "When I first heard Donna Summer, I just laughed. I said, That's exactly what we're doing' How could you miss it? And maybe it's a comment on the power of the ideas that we turned up in this revolution. We came up with a few good ideas, and techniques. It's like a tool - can you imagine the first guy to have a shovel? Before he can turn around, there are shovels all over the place. That's what we were doing in the 1960s, we were inventing

tools. And they turned out to be very handy.” (On Minimalism, 327)

In the pop music field of the 1970s, you can also find some surprising, forecasting compositions where classical music, pop art, and game music have been combined. In 1971 early krautrock era of Tangerine Dream was developing their musical repertoire, which borrowed esthetic from serial art music, but also found influences and creative energy from the side of the pinball games. ” Franke recalled: ”They were making experiments with instruments, and also with visuals, pictures and exhibitions” The group performed concerts in Germany and Austria. 1971, and even managed a few television guest spots including a concert for twelve pinball machines, cello, guitar and drums” ” (Palmer, 20)

Aleatoric practices in game music

Finally, from the point of view of our experiment, we could quickly examine how the influences of experimental, minimalist art music can be heard and experienced in the best works of contemporary game music. More recently, as far as digital games are concerned, even the soundtracks of the games and the original, often interactive songs composed primarily for the game have been influenced by both classical art music and classic rock & pop music. But traces of this experimental, minimalist art music, which is essential for experimentation, can also be found in the best works of contemporary Game Music.

Consider analyzing Diablo 4 on how in later series it has been -in minimalistic manners- sliced and layered to support gameplay and theme of the current series of Diablo game. Log into Diablo 4 normally to start your adventure. Now that you start the game, you can listen to how the simple ballad-like guitar theme originally composed for the Diablo game has been treated in the game's entry view and its background music. The chords of the original theme so that the familiar theme is recognizable have been stripped down to a minimum. In layers (serially), noises and echoed human voices suitable for the game world, including screams, are added to the sound world. The song grows into a threateningly scary drone sound installation. The sound world leads the player into the story world of the game - the menacingly developing sound collage forces the player to control, to initiate the game.

Consider start up the screen of the Hollow Knight game and its musical arrangements. You could easily hear echoes of minimalist composers' techniques and orchestrations here, e.g. Philip Glass and Arvo Pärt. But the real invention here

is that the composition of the game at first-hand sounds like taken from a different kind of game. There also seems to be no synchronization between the changes in the dynamics of the music and the movements and gestures of the game characters.

Next, it would be possible to explore in depth how the asynchronous music takes the game's atmosphere and gameplay to a completely new level in the Hollow Knight game and creates a new kind of temporal continuum in the game.

Finally, one could consider examining the Grand Theft Auto series and listen to how the game-likeness and playful structures are already composed into the structures of the songs, on the other hand, the levels of the game and the demand for interactivity in the compositions have steered the shape structures of the songs in completely new directions. Here interactivity and, on the other hand, musical serialism have been revisited and reinvented taking new forms of game music. E.g. in GTA 5 the game player is allowed player fast and effortlessly to jump from one taxi to another during the gameplay, thus allowing listening to the mood music of the taxi drivers on each region of the game's city streets (McAlpine). Players act as DJs and jump between the cars and genres, therefore, allowing users to "compose" every game different kind of soundtrack, (even if the songs are structured as playlists of the radio stations).

During the GTA gameplay, the user develops the urban noise of the post-industrial era and glitch effects that are not possible in any art form other than digital games.

Conclusion

In this second installment of the experiment, we have purposely distanced ourselves a little from my original starting point and goals, where we worked solely on developing new forms and repertoire of game music. While working more closely with written sources and existing game soundtrack and game music this time, the focus of this experiment was moving closer to the direction of creativity, the theory, and the research of new creative methods. On the other hand, the results of the first experiment also produced promising results in terms of what kind of (game) music compositions we managed to create with a short practice and live performance by combining pop music structures, processed rock guitar playing, and surprisingly playing a live video game. Those aspects of the game music study has been also developed further here within this work-in-progress paper.

References

Books

- [1] Boden, Margaret, A: The Creative Mind Myths and Mechanisms, Routledge, second edition, 2004
- [2] The Book of Imaginary Media: Excaating the Dream of the Ultimate Communication Medium, 2007, NAI Publishers
- [3] Donnely, Gibbons, Lerner: Music in Video Games, studying play, Routledge, 2014
- [4] Hageback, Hedblom, AI for Arts, CRC Press, 2022
Millington: AI for Games, CRC Press, 2022
- [5] Monacelli, Enrico: The Great Psychic Outdoors -Lo-fi music and escaping capitalism, Repeater books , 2023
- [5] Palmer, Stephen: Tangerine Dream in the 1970's, Sonic Bond publishing , 2021

Websites

- [6] The Arts Desk [https://theartsdesk.com/new-music/10-questions-avant-pop icons-stereolab](https://theartsdesk.com/new-music/10-questions-avant-pop-icons-stereolab)

Online

- [7] McAlpine, Kenny: Video Game Design and Development: A Bit-by-Bit History of Video Game Music, Abertay University/Future Learn, 2023