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The Impact and Creation of Level Music for Video Games

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The Impact and Creation of Level Music for Video Games

By

Randolph Scott Kestner

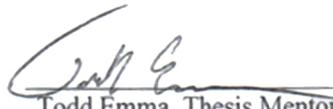
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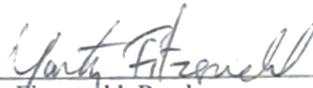
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Introduction & Project Overview

This thesis is focused on the creation of level music for video games. I will be researching the impact of thematic music on the mood and story of a game level. I've decided to investigate video game music because how influential it can be to people. I spent my childhood listening to soundtracks and have always had a desire to learn more about the discipline. In this project, I will go through the process of conceptualizing musical ideas in the form of six sample pieces. I have aimed to capture two separate moods, both adventurous and uplifting, as well as melancholy and sorrowful. These contrasting pieces instill an emotional impact upon the listener by invoking the two previously mentioned characters of music. I also decided to use the World of Warcraft: Warlords of Draenor soundtrack as a basis for comparison as well as inspiration for the techniques I employed.

For the project I took the level pictured below and used it as my base for my compositions.



I had a fellow student, Jacob Young, construct the level for me so I could focus on the music and simulate having a composition task given to me. I utilized FL Studio as my digital audio workstation of choice to sequence the music as well as orchestral samples from EastWest/SoundsOnline's Composer Cloud.

Beginning with the idea that music can heavily impact a video game, I originally sought to create widely varying styles of music. However, as the project progressed I decided to focus on the process and evolution of only two moods with similar instrumentation. The reason being that different art styles influence the style of music used. For example, it would be inappropriate to use a 1980s style chip-tune for my realistic fantasy setting because the differences in quality would clash.

The Advancement of Video Game Music

Video game music has evolved very quickly and is still a young medium. In the late 1970s through the 1990s video games were limited in their ability to contain high quality music. The hardware of the time had limited capability to generate or store music. As time progressed, the abilities of the gaming systems allowed for more complex compositions as well as a larger amount of music. These shortcomings of the time posed a unique challenge for composers.

The challenge was, and still is, to create something memorable and appropriate with limited resources. Looking at the works Koji Kondo and David Wise, their music for Super Mario and Donkey Kong Country respectively, are lasting examples of memorable video game music. Kondo would take his music and constantly rework it until it fit because enhancing the gameplay was paramount (Kondo). The music is just as much part of the game as anything else;

It has to support the game, not just be background noise. “The technology was so limited, they had to make the melody count” (Brower). These older soundtracks were all done with the finite capabilities of the Super Nintendo Entertainment System's audio processor. As technology advanced, as did the ability for composers to be more flexible. The foundation of enhancing gameplay, however, never changes.

In the present it is easily possible to record full orchestral music, have grandiose soundtracks, as well as simultaneously pay homage to the past. The challenge now is to not use too much. When virtual instruments are easy to find and someone can have an orchestra in their computer, it's easy to let a composition get out of hand with technology. Russell Brower, senior audio director at Blizzard Entertainment comments on this in an interview. “Now the challenge is to use great responsibility to not overdo it.” Great care must be taken to not use too many instruments at once. There needs to be high points and low point in music to drive interest (Brower).

Influences of Film Scoring

The art of film scoring existed long before video games were initially created. Because the two forms are inherently similar due to the process of setting music to picture, there are lessons to be learned from studying film scoring techniques. The major difference is that film doesn't change dynamically, the music is set to a specific point. In video games the music must be dynamic with the exception of cutscenes or cinematics. I decided to look for influences from such composers as Jerry Goldsmith and James Horner,

A striking difference between traditional film scores and video game music is that many video game composers don't have to notate a score for an orchestra. In fact, many composers

such as Ben Prunty, the composer of the soundtrack for F.T.L, utilizes Steinberg's Cubase software much like I use FL Studio. The notation is done in bars that depict data such as rhythm, note length, and velocity.

One score that I have investigated in great detail is Jerry Goldsmith's score to Star Trek: The Motion Picture. The iconic Star Trek theme that was featured in Star Trek The Next Generation was born from this film. A theme or motif is one of the most important elements to both film and video game music because people need something to relate to picture and characters. Humans recognize patterns, and music is no exception. These patterns become associated with certain characters, locales, and images. This is why film scoring has been so important to the process of crafting video game music.

Music & Game Design

After looking at past videos games and film, I then looked into music as an element of game design. In modern games music can be more easily controlled depending on what is happening on the screen, and can also be used as a game mechanic. Game engines allow for dynamic audio. There can be spatialized audio as well stereo and surround sound. It is also possible have music layer, fade, modulate, and be subject to many real-time effects.

In a modern title, the music can instantly change if the player enters combat and seamlessly transition into another piece without any additional loading. Music's influence on game design is not limited to game mechanics. As I mentioned previously, the music must enhance the experience. If the player is in a bustling town, the music must depict a bustling town. The level and the music need to complement each other.

For this project I have decided to tie the level's sound effects with the music. Often, games have separate options for sound effects and music volume. In the case of my project, I want to include aspects of sound design with my music and balance the music with the ambient sounds of the scene. To accomplish this I've created a loop of ocean ambience, as well as some wind to give the scene substance and realism.

Adventure Music for a Level

I created the three sample adventure music pieces in FL Studio. My initial problem was developing interesting melodies and rhythms. Consistent retrospection was my method for this. I would sequence some notes, listen to it a few times, and then add more notes. My main choice of samples was from Symphonic Orchestra Gold, which is a high quality library of various orchestral instruments. Each instrument has its own MIDI channel, because PlayVST, EastWest's sampler, works by routing selected instruments to outputs. These outputs require a target in order for anything to be heard. For example, I would select a solo cello and route it to MIDI out one. FL Studio and other digital audio workstations use the same basic system for playing samples. Loading multiple instances of PlayVST and having one instrument per sampler would be too taxing on the system.

Adventure track one is entitled, "Out You Go, Sprout," The idea behind this piece is simply 'upbeat adventure'. The tempo and constantly moving string parts give it a bouncy character. That, along with the prominence of major chords firmly cemented it as an adventurous track. I took elements from this sample for my final composition because of the moving string parts.

Adventure track two, “Enchantment,” is a stark contrast to number one. It is a very melody-driven piece, using a celesta, marimba, and strings, it achieves a strong and mysterious feeling. While this track is more suitable for a forest because of the three-four time signature and use of the celesta, I did find the vibrato and crescendo of the strings to be a useful experiment.

Lastly, adventure track three, “Gateways,” is the most upbeat and heroic of the pieces. It has driving percussion which sets it further apart for the other two. The flutes are a very important part of this piece. Without the flutes playing continuous chord inversions and flourishes the piece would sound flat. I found that the driving percussion wasn't very characteristic of an ocean scene with a small temple. A sea-bound approach from a ship would be the best use for this music.

Melancholy Music for a Level

The process for the melancholy music was slightly different. I used my piano as my main method of discovering interesting melodies and harmonies. By recording myself playing piano I created a repository of intentional and accidental musical ideas. The melancholy music begins with track one, “Lost to Dreams” which is a piano and choral piece. I made use of Symphonic Choirs Gold as well as Pianos Gold for samples. This piece is mostly based around the progression of the chords. It is melancholy in that it is haunting, which gives a sense of sadness for a time long past. I decided this piece wasn't suitable because there wasn't enough melody and the progressions didn't sound like they would mesh well with the ocean setting.

Track number two, “Captain's Saudade,” is arguably my favorite piece out of all of them. I came up with this melody by accident and I liked it so much I decided to use it. It's one of the

few pieces I've written that exerts an emotional impact upon myself. The melody is rooted in swashbuckling pirate music that I conceptualized through playing piano.

Track three, "Time Not Wasted," pulls inspiration from Star Trek and Final Fantasy. The flute melody and slowly crescendo violins overlaying the harp are meant to be melancholy with how soft and flowing they are. I decided, because of how much flow this piece had, that I would have it be the basis for how I combine both tracks together into the complete level music.

Complete Level Music

The complete level music is a combination my previous decisions. I thought it would be a good idea to combine them into a single five minute long transitioning piece. I'm comparing this to the music in the zone known as Nagrand in World of Warcraft Warlords of Draenor. I picked this specific zone because it has multiple slow pieces of music as well as more upbeat parts. Nagrand features recognizable themes which all help to elaborate the various and mostly green locales present in the zone. Utilizing key changes and varying instruments, I made my piece flow and transition in a similar manner.

I opened my final piece with a chord progression to set the mood and give time to build-up into the first theme. I used the motif from the melancholy track and made it less mechanical and more humanized, and also didn't immediately resolve the melody. FL Studio has a humanize feature, but the most effective way I've found is to do it manually. FL Studio's piano roll, which is the part of the program that lets you sequence notes, has snapping. By turning the snapping off and slightly changing notes and their velocities I can simulate a human playing an instrument. PlayVST also features a repetition function, which is especially useful for quickly changing

instruments. This feature varies the samples slightly to make repetitive passages sound less mechanical. I also made heavy use of consistent strings to leave no unwanted gaps in the music and as a means to segue between different sections.

After using the melancholy theme as the opening half, I then decided to move into something more upbeat. This is the adventurous part. By merging elements from the concept pieces I can easily have this part tie in with the opening without being jarring. I chose to do this by utilizing marimba, xylophone, djembes, and timpani to give a tropical island feel for a moment. These instruments enhance the atmosphere of the ocean and serve as a reprieve from the original theme of the piece.

I decided to close the track by transitioning into a string part. This part is very 'high fantasy' in that it is dominated by the violins. I used the violins playing in octaves to achieve the desired effect, only the cellos were playing the chord progressions. I decided that I would end this piece as I would a normal song, rather than having it seamlessly loop. My rationale behind this choice is rooted in World of Warcraft's soundtrack. This enables the listener to have a more dynamic listening experience. The moments of silence harken back to the idea of having high and low points in video game music. In this case the low points would be the lack of music and only the presence of sound effects.

Conclusion

This project has been a successful attempt at understanding the importance of thematic music for video game levels. I've discovered through my research the necessity to constantly be retrospective about composition and to focus on music as an element of game design. I've also reinforced my initial premise that music effects the mood and story of a level through both comparison of my music to existing soundtracks and through my investigation of other composers.

In the case of my level, the melding of both melancholy and adventurous themes into a single track gave the level a story of its own and complemented its design. I discovered that the melancholy motif I composed could also serve as an adventurous theme by changing the way it is played. Another takeaway from this undertaking is that I've become a more flexible composer. Composing six different pieces of music for a single level was a challenge, but it was an exciting experience.

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