

Berklee College of Music

A Nocturnal

Audio-Visual Journey

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Master of Music in Production, Technology & Innovation

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Abstract

This project entailed the creation of electronic music and visual material. These were later combined in an audio-visual live performance. The end objective of this project is to add a different style of spectacle to the Nocturnal Status project. The latter is a combination project founded by Rohan Bhatia-Newman and Ben Ricketts, based primarily in Miami. The process of this project included creating the music first, followed by the custom visual content. Ableton was used to create the music while Photoshop, After Effects, and Synesthesia were used for visual content creation. Finally, the audio-visual set was built in Ableton and Resolume Arena, allowing the performer to control different parameters of the visuals. The short fifteen minute performance focuses on the demonstrating a high level of synced parameters in the audio and visual components, truly showing that they are interacting and complementing each other in a meaningful and creative way.

Keywords: Audio-visual, electronic music, Ableton, Resolume

Acknowledgements

While help from colleagues on this project wasn't necessary, it is important to note the influence of certain faculty at Berklee and how they have been instrumental to the completion of the project. Much of this project would not have been possible without the help and guidance of these faculty members.

For starters, Ben Cantil has shared his deep knowledge of sound design which was a key element in the creation of the musical content. In addition, he extended his mixing and mastering philosophies, which enabled the music to get closer and closer to a fully professional sound.

It is also necessary to recognize Zebbler Berdovsky, as his Live Music Video Performance class granted its students with the ability to add visual material to their performances. Besides instilling tremendous knowledge about new softwares like Resolume, he shared his different animation techniques, which were heavily implemented in the creative process of generating the visuals.

1. Introduction

Nocturnal Status is an electronic music duo based in Miami, Florida. The pair specializes in many subgenres of electronic music of different genres. However, there is an overarching dark and psychedelic theme that ties the musical material together. Since ninety percent of the concerts that Nocturnal Status performs at have a visual jockey displaying visuals on an LED screen or a projection mapped sculpture, the idea of adding a visual element controlled by the musicians was attractive. Therefore, a custom audio-visual set was a great way to exclusively implement control of the creative stimulation received by the audience at a concert. The result is a new medium for Nocturnal Status to communicate with the audience and evoke the intended emotion of the music.

This Culminating Experience project involves creating new original music in a previously unexplored subgenre of electronic music and original animations. Additionally, these elements are tied together in an audio-visual performance, as well as recorded into a high-quality format.

2. Review of the State of the Art

Given the constant advance in worldwide technologies, it is quite logical that artists have attempted to incorporate different technologies to enhance a performance. The integration of audio and video technologies has become incredibly common and it has sprouted its own art-form, which is commonly known as A/V work in today's world.¹

A known example of an artist who incorporates audio and visual technologies simultaneously is electronic artist Bassnectar. The visual component of his performances generally matches the musical themes incredibly closely and features many rhythmically synced elements between the music and video. This has complemented his DJ sets tremendously, allowing him to stimulate more than one human sense at a time. When immersing completely in the live Bassnectar experience, the listener also becomes the viewer, in a perfect mix of music and visuals. Another example aside from artists like Bassnectar would be Berklee's own Zebbler Encanti Experience.²

The audience members at a Zebbler Encanti Experience concert are consistently shocked by the creativity and artistic vision that they presented live, all within one set. The music evokes a certain emotion that goes hand in hand with the incredibly strange, yet vivid visual content. As an audience member, their performance is often one of the most stimulating musical experiences people are exposed to in their lifetimes. The level of synchronicity between the audio and the video in this project is nothing short of mesmerizing and inspiring.

¹ "Audiovisual Work Definition:." Thirteenth (13th) Amendment Definition. Accessed June 23, 2018. <http://www.duhaime.org/LegalDictionary/A/AudiovisualWork.aspx>.

² "About." Zebbler Encanti Experience. Accessed June 23, 2018. <http://zebblerencantiexperience.com/about/>.

There are also artists that specialize in different sorts of performances that don't necessarily incorporate dance music. Art installations are a common form of A/V artwork. For example, Matt Parker is an audiovisual artist that works with and produces archives in turn amplify hidden connections between every-day technology and the environment. He is primarily influenced by the "sonosphere, unsound, ecology, the economy of noise, infrastructure studies and the internet".³

In this case, this artist explores connections between existing elements in everyday life and expresses them in the form of audiovisual art. For instance, one of his projects called "The People's Cloud" explores the acoustic ecology and impact of cloud computing on the lives users, while taking into account the places it is located in and the people who work to maintain it. A piece within that larger project titled "Turbulence in the Chamber" deals with the inner components of The Cloud. As digital data spreads throughout the air, the piece takes a deep look into the claustrophobic and environment inside the home of the internet; the Modern Data Centre. The sound composition simply serves as electroacoustic information and is later processed to create the visual content of the piece.³

It is important to note all of the different realms that today's A/V world encompasses. Not only are there musicians incorporating synced visual content to their performances, but there is a whole world of art that involves the creative association between sound elements and video. These are two entirely different art forms and concepts that fall under one audiovisual world, achieving vastly different results that correspond to contemporary art's breadth and implication

³ <http://www.earthkeptwarm.com/turbulence-in-the-chamber>

of visual media.⁴

⁴ Team, EB. "Learn About Early Audiovisual Art With 10 Pioneering Works – Telekom Electronic Beats." Telekom Electronic Beats. June 15, 2018. Accessed June 23, 2018. <http://www.electronicbeats.net/audiovisual-art-began-10-pioneering-works/>.

3. Description

This project includes two primary components: electronic music and visuals. During the course of the first semester, the music was created in a home studio in El Carmen. Before this Culminating Experience, Nocturnal Status' productions mainly lied in the realms of deep dubstep, drum & bass, and freeform bass music. The musical goal of this project was to explore a new subgenre: house music. The approach to this new subgenre involved staying true to some defining elements of the Nocturnal Status sound.

Firstly, the general dark theme associated with the Nocturnal Status project was preserved. This was achieved through specific sound design and melodic choices. The prolific use of the flat ninth in melodies composed in a minor scale is an example of a technique used in the melody construction that helped enable tracks to be cohesive with the Nocturnal Status project. In addition, the bass sound design used in the new house music tracks was similar enough to previous tracks that one could tell that it was made by the same producer. Another crossover musical element from old and new areas of the project is the use of glitch elements, both in the sample manipulation and percussion world, helping the music form its unique identity. All of the music was produced in Ableton using third party plug-ins such as Maschine, Serum, Massive, FM8, Reaktor, among many others.

The other primary component of the project is centered around the visual content. Almost all of the visual content was created after the music was created, in order to maximize workflow. The reason why this order of operations seemed beneficial is because the music had more strict parameters than the visuals. In a way, the goal was for the visuals to represent the music in a cohesive manner. Therefore, it was essential to have a solid musically thematic foundation in order to properly display the visual narrative.

The visual content was organized in a way that enabled the audience to interpret the creator's intentions easily. There is an overarching theme to the entire spectrum of the visual content combined with a smaller theme that varied with each track in the performance. The main theme consists of alterations of shots of graffiti found around El Carmen, a beautifully authentic neighborhood in Valencia, Spain. The transitions are reinforced song to song by small alterations the visual content. This means that one or two images would be processed with different software and animated in different ways to correspond with different songs in the performance. This way, the switch in the music is reinforced by a premeditated switch in source material in the visuals, helping guide the audience through the narrative of the art.

The technical process of creating the visual material involved two main techniques. The first technique started in Photoshop, where the photos were cropped into separate layers. This was in order to enable specific audio reactivity to different parts of the image in After Effects using various techniques. Once in After Effects, the layers were frequently manipulated with expressions. The most common one implemented is the linear expression, which modulates a certain parameter in a linear fashion from one value to the other. These expressions were being controlled by the amplitude of particular audio stems from songs that have been converted to keyframes. Once completed, the animations were exported in the proper DXV 3 format for Resolume. The other main technique used to generate engaging audio reactive material involved using Synesthesia. It allows one to superimpose images onto audio reactive "shader". In this case, these images consisted of the graffiti shots around El Carmen. After mapping parameters of the software to faders on MIDI controllers for live embellishment, individual 8 or 16 bar clips were created to correspond with specific sections of songs in the set. These were recorded through a screen capture, then lined up in After Effects and exported to DXV 3 format. The use

of Synesthesia through Resolume using Syphon was immediately dismissed due to CPU load issues. Resolume Arena 6 was the final step in this procedure. It's ability to Full screen display the visuals through the secondary display output on a portable laptop was an essential function for the live performance of the set. Resolume was used to launch different video clips at the appropriate times via MIDI clips in the Ableton session. That way, one can focus on performing the music set with confidence that the clips will be triggered correctly. Envelopes inside MIDI clips in Ableton were also used to control different parameters in Resolume.

4. Innovative Aspects

The innovation found in this project lies in the relationship between performance and the music. The Akai APC40 controller was mapped to both Ableton and Resolume, allowing for both DJ and VJ control from one piece of hardware. This enables moments in the DJ set to be emphasized live with the VJ controls, thus creating an extra aspect of audio reactivity in the visuals.

Another innovative aspect is the incorporation of sound design techniques rooted in styles such as dubstep and drum & bass into house music. There innovation being implemented some of the creative processes behind the visuals, mainly the use of still images from one single neighborhood as source material.

5. New Skills Acquired

The largest area of growth that this project has enabled is in the animation department. Thanks to Zebbler's class, many previously unknown animation techniques were implemented in the final product. Additionally, sound design skills were reinforced in the creation of the music thanks to Ben Cantil's class. Most of the knowledge acquired in Serum, one of the most implemented synthesizers in this project, comes directly from material in that class. Another very helpful skill acquired in that class was mastering abilities with Izotope Ozone 8. Finally, general troubleshooting skills with various software were also reinforced. This was made possible through the lack of cooperation from most of the software that was used, primarily After Effects and Synesthesia.

6. Challenges

Expected challenges included long render times and curating cohesive visual theme. Render times were overcome by queuing many clips at once and exporting overnight. The visual theme creating was made possible once an overarching theme was found.

Unexpected challenges included processing load issues with Synesthesia causing it to occasionally drop frames, losing work unexpectedly, and computer overheating issues. These were overcome by only running the necessary software, keeping the room ventilated and cool, and employing better saving habits.

7. Future Ramifications

The next step for this project is to create a couple different hour long sets to perform on certain dates during the upcoming Nocturnal Status tour. Furthermore, teaming up with a talented sculptor to design a custom projection mapped 3-D surface for future tours will be essential. In order to keep the visual content interesting, future collaborations with all sorts of visual artists will be instrumental in enabling constant creation of engaging material.

8. Conclusion

“A Nocturnal Audio-Visual Journey” was a successful project because it accomplished the desired goals of Nocturnal Status, while setting the stage for the future of the duo’s live experience. With the skills learned, the duo will be able to not only create a live experience that deals with multiple human senses, but also start to think about composing music with the premeditated idea of making it into Audio-Visual art. The innovative approach to a narrative based Audio-Visual live set will put Nocturnal Status into the same conversation as other top level artists.

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