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PEDAGOGY OF VIDEO-GAME SCORING FOR COLLEGIATE APPLICATION AND AN ORIGINAL SCORE FOR THE NINTENDO SWITCH TITLE, RENAINE

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By

MASON LIEBERMAN, Bachelor of Music

Presented to the Faculty of the Graduate School of

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Abstract

Video-game scoring as an academic subject is quite new. There are limited opportunities for college-level students to study this field, and even fewer that are offered remotely via online sources. My goal for this thesis was to craft educational modules, courses, or other academically-based resources, that would develop a student's musical skills, professional instincts, and educational groundings in the game audio world. These courses could then serve as an academic model for the development of other classes. After conducting research informed by my professional background as a composer in the video game industry (with a particular focus on my experiences as a composer on the at-the-time in-development Nintendo Switch title *Renaine*), three courses were crafted and offered in back-to-back semesters. A group of test students participated in these three courses, and the response was exceptionally positive. This thesis collects the content produced for these courses, as well as my conclusions reached in association with them. It also includes original composition material produced for *Renaine*, including both final audio files and visual aids.

Preface

As strange as it is, I usually don't think of myself principally as a musician. I'm a gamer with an addictive music habit. I've been playing video-games since I could physically hold a controller, and possibly earlier. I remember milestones in my life not by the music I listened to, the people I knew, or the things I was learning about, but by the games I played. Even my career in music was predicated upon the notion that, somehow, I'd find a way to use my artistic background for game-development.

When I was a student in elementary school, the idea of the "game composer" as an adult job simply didn't exist in my mind. No one told me that, behind the bleeps and bloops of my most cherished pastime, there were real flesh-and-blood people with the same dreams I had. Even as I grew older and became more adept as a musician, there were no real chances to learn about video-game scoring academically; no music class I had ever participated in seemed the slightest bit interested in the subject at all.

I have always wanted to see this subject taught nationwide. For young composers the world over, I truly feel this is the future. It is not enough to me that a few fortunate programs provide limited opportunities for students to learn about this wonderous field. If this project and the courses I created ultimately help even one person to pursue their video-game-music dreams, then it will have been worth it to me.

Acknowledgements

I am grateful to the Stephen F. Austin State University's School of Music and College of Fine Arts for allowing me the opportunity to pursue this line of study. Video-game-music pedagogy is a subject of extreme passion for me, and a field that previously has not received a sufficient amount of attention in higher education. I deeply appreciate the trust that was shown in allowing me to create these courses, and to then provide them to undergraduate students. This support ballooned with the incredible scholarship provided to myself and my two students in the third level of this course sequence, resulting in my ability to bring both students to the Game Developers Conference (GDC) in San Francisco in March of 2018. For the students involved, it was a life-changing trip and a magnificent first step into the greater video-game audio community. For myself, it was the most direct signifier of the level of support the College of Fine Arts could provide to supporting this project.

My thesis would not exist in any way without the endless contributions of Dr. Stephen Lias, the director of the Stephen F. Austin State University's composition area. In many ways, this project was born before I had ever even applied to the graduate school, as Dr. Lias and I spoke over email about ways such a project could work. I do not believe the School of Music would have allowed me to pursue this thesis without the exceptional support Dr. Lias has shown for me throughout this process.

This thesis owes an immeasurable debt to the works of Michael Sweet, the artistic director of video-game scoring at Berklee College of Music. As the first professor to introduce me to the concept of video-game music as a subject to be studied, my professional worldview owes a great deal to his realistic, measured responses and project challenges. Without his influence, I do not believe these courses could have succeeded. This does not even account for his very literal donations to this project; in the first and second courses produced for this thesis, we had access to multiple MAX applications designed by Michael Sweet. These applications allowed for simulations of real-life video game situations to be enacted for student productions. All of these MAX applications were developed by Michael Sweet himself in the creation of his own courses with Berklee College of Music and were used in these courses with his personal permission and blessing.

Chris Boardman's research into the creation of a series of game audio courses at the University of Miami's Frost School of Music was of integral value in my own design and construction of these classes for Stephen F. Austin State University. It was with his blessing that access to the initial survey of composers was provided, and it was based upon this survey that my own personal questions for others was formed.

Many thanks are owed to the development team for *Renaine*, as a source of inspiration in the creation and design of these courses. If the success of these courses can be judged by how students react to the challenges the game industry presents, then this game provided many of the concepts through which such success could be measured.

To the guest speakers in our third semester, Diwa De Leon and David Federman, I owe a debt of gratitude. The donation of their time was exceptionally kind and helped in preparing the students for their impending trip to GDC. Mr. Federman is owed an additional note of gratitude for the fantastic article he wrote upon Japanese harmonic function, which made its way into the first course's additional reading.

To the composers who granted their time to my third course's students at GDC for extended, formal interviews, thank you. There were many of you, but in no particular order, I must send my thanks to Richard Ludlow, John Robert Matz, Michael Sweet, Brian Schmidt, Xiao'an Li, Sebastian Wolff, George Sanger, and virtually everyone from the Game Audio Denizens meetup.

I cannot end this section of thanks without acknowledging the efforts of my loving wife, my supportive parents, or my dear sister. This has been a multi-year process and has required me to travel from one end of the country to the other and back. Thank you all for your patience, your grace, your kindness, and your bountiful positivity.

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INTRODUCTION

Video-game scoring as an academic subject is quite new. Media scoring itself was first established as a course of study in 1988 at Berklee College of Music in Boston. Even then, the earliest academically-credible video game music education to be offered by an accredited university did not come into existence until the early 2000's. Ludomusicology (the study of video game music) only developed as a serious area of research in the late 1990's. While musical education as a whole is fairly widespread both domestically and abroad, any form of media scoring (let alone specialty training focused on niche industries like video gaming) remains limited in both availability and scope.

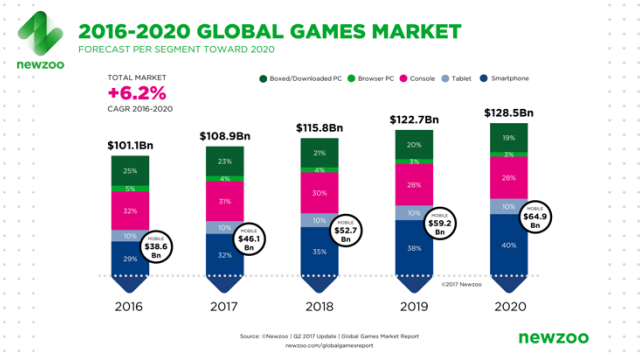

Figure 1 - Established composers have actively transitioned to working with game audio.

This lack of training opportunities stands in stark contrast with the ever-growing relevance of this industry as a viable career path for composers and audio producers. Once a fledgling entertainment venture on the fringes of society, the video-game industry

produced nearly $109,000,000,000 dollars in 2017 (see figure 1). This outranks even the film industry in sheer scale for the same year (see figure 2).

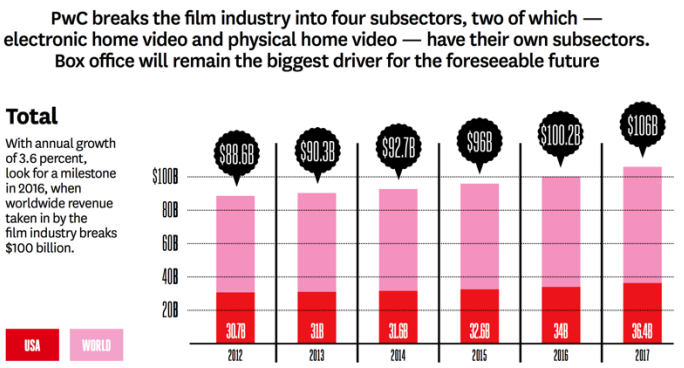

Figure 2 – Film Industry Sales Over Time

Video-game music as a field of study is growing daily. Universities are adding new video-game scoring programs by the semester (For example, the University of Miami's Frost School of Music has been actively working on the design and implementation of courses of a similar focus to our own.)[1] The number of jobs available for educated composers, both in the professional field and in academia, is increasing dramatically.[2] By producing a set of easily-edited, repeatable online courses on this subject, I am creating an entirely unique resource. There is (arguably) one online video-game scoring course that has been built to academic

1. Christopher Boardman, "Survey of Composers," Building a Video-game scoring Course, October 25, 2016, https://docs.google.com/spreadsheets/d/15X9YARxqtPNHcxTSW-TlRlzJZEyUfo5nJDoZ-2OXr6M/edit#gid=1468221205(accessed May 5, 2018).

2. Brian Schmidt, "Composing for Games: MSN says 'Composer' 2nd fast growing job in us. We figured out why," GameSoundCon, September 17, 2015, https://www.gamesoundcon.com/single-post/2015/09/18/MSN-says-Composer-2nd-fast-growing-job-in-us-We-figured-out-why (accessed May 5, 2018).

standards in existence at this time; the one offered by Berklee Online. While ground-breaking at the time of its initial release, this course has lagged behind in the last decade. The sequence of courses developed for this thesis project did not lack modern context for video game audio development in the 21st century.

Stephen F. Austin State University students are not the only benefactors of this sequence. The video game industry itself can benefit from the standard of education I am aiming to establish with these courses. I am essentially creating a roadmap on how to properly adapt video-game scoring pedagogy to online platforms, and how to produce a media scoring minor. Even with the online component discounted, the content of these courses is among the most up-to-date offerings in the world.

OBJECTIVES

The central purpose of this thesis project was to successfully create and then deliver a sequence of three video-game scoring courses to undergraduate students at Stephen F. Austin State University that could ultimately serve as a curricular model for other universities. The creation of these courses was informed by a combination of my prior professional experiences and studies, as well as an ongoing scoring project being produced concurrently with the development of these courses, the independent video game *Renaine*.

I collected student feedback at the end of each of these semesters, allowing these courses to be improved. My experiences working on *Renaine* served as an additional source of knowledge. Ultimately, I aim to advance the educational options available to students hoping to learn more about the field of video game music.

RESEARCH SOURCES

The research conducted to inform the creation of these courses was organized into three generalized groups: academia, my personal experiences as a working professional, and focus-testing with other industry professionals.

First, the limited collection of academically-informed research sourced from leading ludomusicologists was of note. There are only a few academically-recognized sources of information on video game music production. Michael Sweet's book, *Writing Interactive Music for Video Games,*[3] as well as Karen Collins' tome, *Game Sound: An Introduction to the History, Theory, and Practice of Video Game Music and Sound Design,*[4] remain the industry leaders, while Winifred Philips' *A Composer's Guide to*

3. Michael Sweet, *Writing Interactive Music for Video Games: a Composer's Guide*, Game Design and Development Series (Upper Saddle River, NJ: Addison-Wesley, 2015).

4. Karen Collins, *Game Sound: an Introduction to the History, Theory, and Practice of Video Game Music and Sound Design* (Cambridge, Mass.: MIT Press, ©2008).

Game Music[5] and Chance Thomas' *Composing Music for Games: The Art, Technology, and Business of Video-game scoring*[6] have both grown steadily in impact and relevance. There are a variety of non-traditional choices for education on these subjects, ranging from YouTube videos and podcasts to articles on industry sites like *Gamasutra*, [7] *Kotaku*,[8] and *Polygon.*[9] Essays collected in *The Oxford Handbook of Interactive Audio*[10] proved valuable, as well.

Outside of academic sources, my own professional experiences formed the second support beam of this project. As an employed composer and recording artist with multiple

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5. Winifred Phillips, *A Composer's Guide to Game Music* (Cambridge, Massachusetts: The MIT Press, 2017), 1.

6. Chance Thomas, *Composing Music for Games: The Art, Technology and Business of Video-game scoring* (Boca Raton, FL: CRC Press, Taylor & Francis Group, 2016), 1.

7. Daniel Kastbauer. "Envisioning Our Interactive Audio Future." Gamasutra. July 3, 2013. Accessed February 06, 2019. http://www.gamasutra.com/view/feature/195324/envisioning_our_interactive_audio_.php .

8. Kirk Hamilton. "Chiptunes, Schmiptunes: Embracing The Human Side of Video Game Audio." Kotaku. June 19, 2013. Accessed February 06, 2019. https://kotaku.com/chiptunes-schmiptunes-embracing-the-human-side-of-vid-5907460.

9. Brian Crecente. "Why Video Game Sound is so Powerfully Bonding." Polygon. September 08, 2014. Accessed February 06, 2019. https://www.polygon.com/2014/9/8/6121809/why-video-game-sound-is-so-powerfully-bonding.

10. Karen Collins, Bill Kapralos, and Holly Tessler. *The Oxford Handbook of Interactive Audio*. New York, NY: Oxford University Press, 2017.

AAA (high-budget) titles and credits to my name, my own experience is certainly valuable as a source of knowledge on the subject. In particular, I drew from the ongoing experience of scoring the indie Nintendo Switch title, *Renaine*, as this game's development cycle very closely mirrored the development and release of these courses.

Finally, I conducted research into the perspectives of known industry composers. Multiple composers served as sounding boards for ideas and helped provide an influx of new perspectives. To this end, Chris Boardman created a survey and delivered to composers active in a major online community for video game composers, "Business Skills for Composers." Chris Boardman kindly provided me with access to the results of this survey, in service of the creation of these courses.[11]

RESEARCH RESULTS

The lack of readily-available information on other courses covering similar content was apparent. There are, to this day, very few courses of study that adequately adapt the materials involved in this sequence of courses. Even fewer exist when limited to online delivery. Nonetheless, there was value to be had in the research done here. Video game music as a field of academic study is still quite young; as a result, there is

11. Chris Boardman. "Building a Video-game scoring Course Survey." Dropbox. October 15, 2016. Accessed February 2, 2019. https://www.dropbox.com/s/r9dtd12dkyfvu13/Building%20a%20Video%20Game%20Scoring%20Course%20Respones.xlsx?dl=0.

not yet a consensus on how to refer to certain techniques of scoring, such as layering or cross-fading. There are additionally variable options on referring to the concept of non-synchronous audio, such as adaptive audio or 3D audio. I dealt with these inconsistencies by choosing to work to the standards established by Michael Sweet in his book, *Writing Interactive Music for Video Games: A Composer's Guide*. Published in 2014 after the development of his ground-breaking sequence of courses at Berklee College of Music, it was both current with modern terminology in the industry and logical with regards to decisions made.

My personal experiences informed the creation of content for these courses. The enhanced focus on professional development in the third course was wholly based on my own perspectives from the limitations I faced in my undergraduate studies. The projects were largely inspired by my prior work history, as well; final projects for each course were essentially drawn directly from real deadline and description requirements I had previously undertaken in my professional career. Finally, all interview subjects from the second and third courses of this sequence were direct colleagues of mine and were chosen based on prior work history.

The third underpinning of this endeavor, the industry perspectives garnered via both public and private surveys, helped to clarify weaknesses in other academic programs, as well as challenges faced by professionals who came from non-academic backgrounds. While many of these simply confirmed suspicions of beliefs I had already held about what would likely be the best approach in organizing the content and focus of

these courses, new thoughts provided the basis for certain individual decisions made. For example, I had not previously considered the importance of encouraging young composers to attend the Game Developer's Conference. Interestingly, this became one of the cornerstones of the third and final course, and an experience the students involved would later cite as life-changing.

RENAINE'S INFLUENCE

The development of the independent Nintendo Switch title *Renaine* influenced the course sequence very directly in a number of ways, especially in the second course. The music of *Renaine* heavily features live musicians, and ultimately caused me to re-write the final layering project in the first semester to require a live recording component. After further consideration, *Renaine's* emphasis on musical collaboration led me to the goal of require live musicians on major projects in all three courses.

While it was certainly inspired by the boss system in the *Mega Man* franchise, the free-flowing project order in the second semester was ultimately chosen in reaction to the non-linear way *Renaine* has been composed; levels were done completely out of order, often simultaneously, and while working on other games actively. This balancing act ultimately drove me to consider that students ought to attempt to do the same in their own studies, to better mimic realistic conditions in the video-game industry.

With the third semester, *Renaine*'s influence took on a much more literal approach, as musicians I have worked with on this soundtrack were often called upon for interviews both leading up to, and then at, GDC. John Robert Matz, a notable composer credited on indie hits like *For The King* and *Wandersong*, is featured on the OST as a trumpet player. He also met with the students in-person at GDC during the third semester. Sebastian Wolff, the CEO of Materia Collective, runs the record label which is releasing the soundtrack to *Renaine*; he served as another interview source for students at GDC itself.

RENAINE'S MUSIC

https://soundcloud.com/mason-lieberman-1/sets/selections-from-the-ost-of-renaine

Renaine's music is expansive in scope, varied in genre, and has thus-far been received well by video-game media outlets. You will find a selection of individual level and boss themes at the link below, with descriptions attached to each track. This game features a noticeable focus on human voice in various musical contexts; accordingly, a few of the tracks feature ambient vocalizations or, in some cases, lyrics. In all instances, these lyrics reflect the thought processes of the main character, Aine, the phoenix knight.

The first track presented here is the opening menu screen, titled *Aine*. This theme appears in a variety of arrangements throughout the game as it appears in cutscenes, boss fights, and so on. This is the original arrangement. A lead sheet for this song is provided below (see figure 3).

Made Available for
Kickstarter Release

Composition and Arrangement
by Mason Lieberman

RENAINE Main Menu

March 14, 2018, Version 2.25

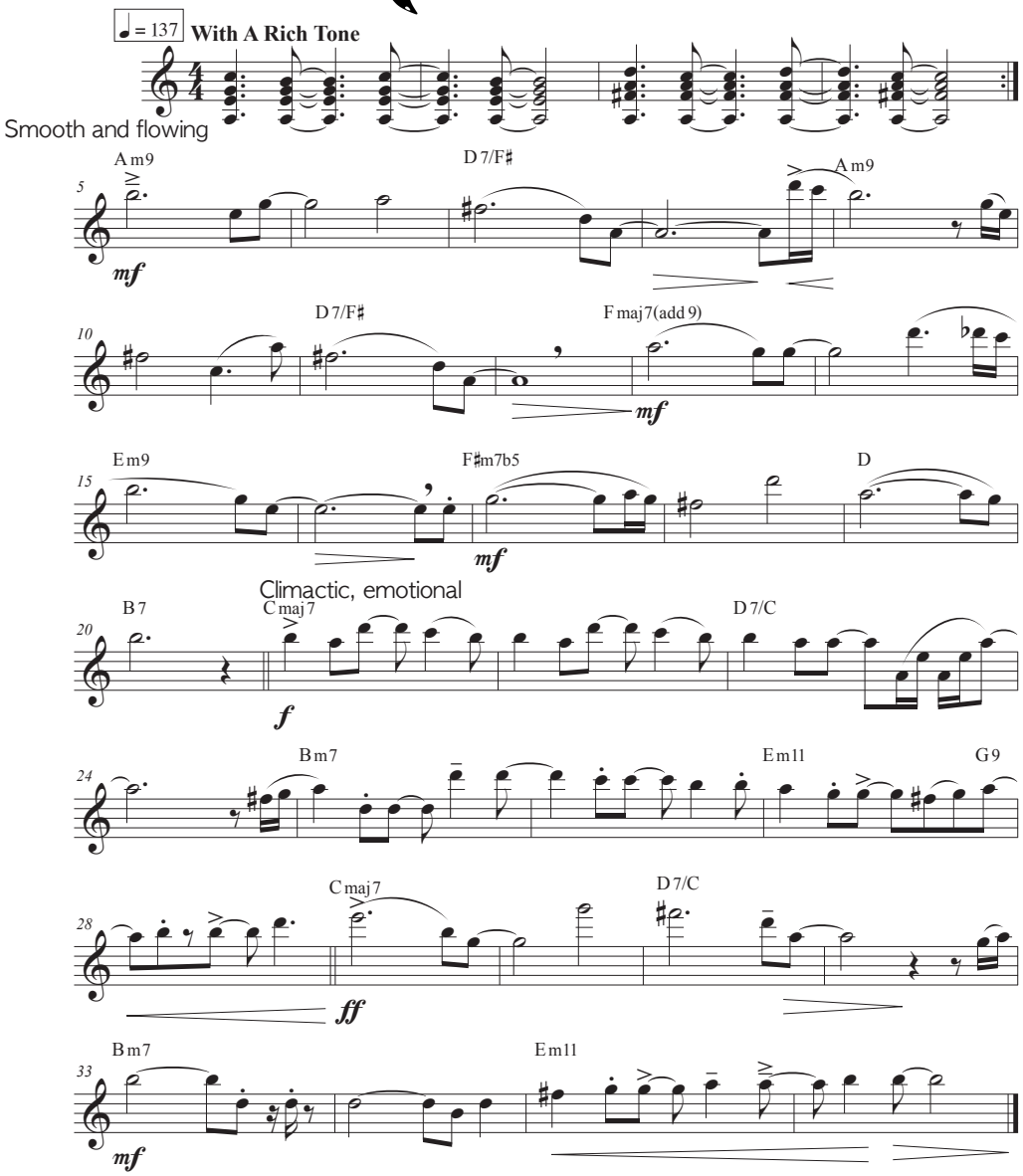


Figure 3 – The main theme of Renaine

The second track is a rearrangement of the first level's theme. Each world features two versions of its theme; one that plays during the first act (or level), and one that plays during the second act (or second level). The first act of the opening world, Shellwood Forest, features an up-beat big band jazz arrangement and solo saxophone lead. With the second act's slower, more-mellow pacing and rainy aesthetic, this remix aims to capture a more relaxed vibe. This was performed by my jazz ensemble, Tournament Arc.

The third track hails from the first act of third world, Trekked Desert. Taking place towards the middle of the adventure, the opening solo guitar is slowly joined by a plethora of ethnic percussions elements and synthesizers that place the player in a distinctly-foreign landscape. As a particularly desolate region of the in-game world, the opening and closing points of this track are intentionally left fairly empty, to help emphasize the theme of isolation.

The fourth and fifth track are the first and second act themes of the fifth world, East West Mountain. As both of these tracks cover the same world and are directly related, I'll discuss them together. East West Mountain is defined by two competing visual aesthetics; Japanese shrine imagery, Shintoism, and Oni meeting western graffiti and city-design. This cultural fusion called for a musical combination a bit unlike the other worlds! The core version of the track is the act one arrangement. It combines western instrumentation (hip-hop-style drum-set performance, wah pedal electric guitar, string orchestra, and later on the jazz-trio section) with Eastern instruments and harmony (the lead melody is first carried by a high-energy shakuhachi flute, the violin is supported

by Japanese electronic keyboards, and the entire sense of energy is drawn from Japanese fighting games of the mid-1990's.) The fifth track is a remix featuring a rapped performance from Substantial and live-cutting from DJ AArock. To craft this remix, I wanted to pay equal respect to both halves of this world's influences. This is how I ultimately chose to work with the two artists mentioned above; Substantial is most often associated with the music he created with renowned Japanese producer Nujabes (himself most often associated with his soundtrack to Samurai Champloo), while DJ AArock has produced for a number of Japanese pop and hip-hop acts. The lyrics loosely represent the main character's inner state of mind and help provide another avenue for gamers to understand the motivations of Renaine's otherwise-mute protagonist!

The sixth track is the end-credits arrangement of the main theme first observed in track one. Written now for solo piano, this arrangement is darker and a bit more emotional. The game ends on a dour note, and this specific version plays over the end credits.

These six tracks do not encompass the entire soundtrack (which, while not finalized as the game will not release for several months, will likely exceed thirty pieces when all is said and done). However, they serve as a healthy example of the musical range and styles of the music represented in this video-game.

THE FIRST COURSE

Course Calendar:
Week 1: Introduction
Week 2: Technology and Audio Production
Week 3: Introduce to Score Analysis
Week 4: .mod files
Week 5: Branching
Week 6: Crossfading
Week 7: Branching Project Delivery
Week 8: Crossfading Project Delivery
Week 9: Introduce to Audio Implementation
Week 10: Layering
Week 11: Introduction to Video-Game Business
Week 12: Audio Production Continued
Week 13: Final Project Review
Week 14: Final Project Delivery

Figure 4 – The weekly calendar from the first course.

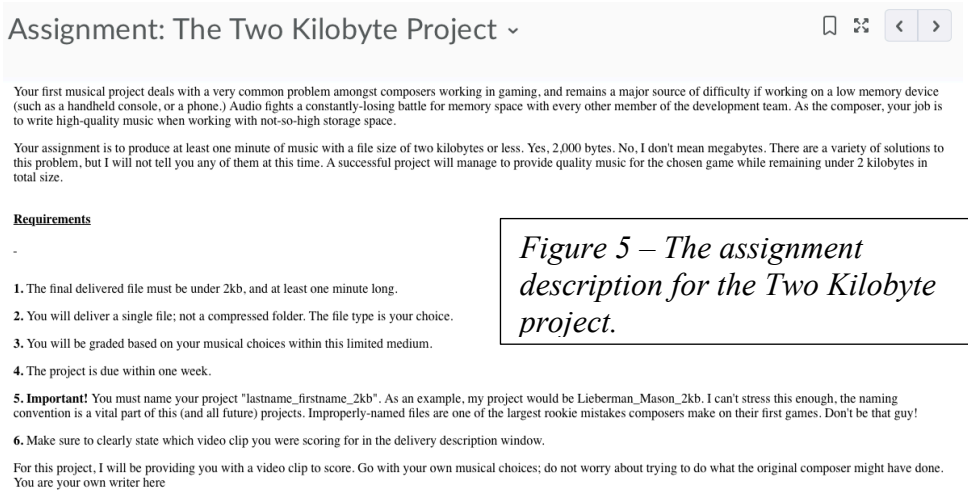
The first course, as the most basic, required students to visit each individual page within the appropriate order to successfully proceed onward (see figure 4). There were weekly articles featuring video game composers of note, aimed at introducing the students to the wider game audio world. We held weekly meetings to stimulate discussion of the topics of study: core video-game scoring techniques like layering, branching, cross-fading, and the creation of stingers. To better understand the curriculum, as well as its pedagogical goals, below is a week-by-week synopsis of content.

Week one introduced the concept of video-game scoring as a whole, with a focus on general video-game history and mastering the online course-delivery platform. I

introduced the concept of 3D audio via an extended technical demo of the interactive score of Mass Effect 2, a popular RPG released in 2010 with audio by Wall of Sound.[12]

In week two, students pivoted to introductory material on the technical constraints of composition in the modern era. After listening to a podcast on the legacies of 8- and 16-bit music, students read lengthy informational pages covering core terminology, companies active in the pro-audio-for-composers market, and the beginnings of what would become a multi-semester focus on mockup production, or the creation of life-like audio files without needing to always record other musicians live. Students learned about MIDI functionality, different audio file types, and examples of some of the many technical limitations composers faced in the earliest stage of video-game music history. Lastly, students had to complete the 2kb project (see figure 5), requiring the creation of a minute-long piece of music in two kilobytes or less.

12. Wall of Sound, Inc. "Mass Effect 2 Interactive Score Demo." YouTube. February 06, 2011. Accessed December 10, 2018. https://www.youtube.com/watch?v=oAG7NitWGIQ.



Assignment: The Two Kilobyte Project

Your first musical project deals with a very common problem amongst composers working in gaming, and remains a major source of difficulty if working on a low memory device (such as a handheld console, or a phone.) Audio fights a constantly-losing battle for memory space with every other member of the development team. As the composer, your job is to write high-quality music when working with not-so-high storage space.

Your assignment is to produce at least one minute of music with a file size of two kilobytes or less. Yes, 2,000 bytes. No, I don't mean megabytes. There are a variety of solutions to this problem, but I will not tell you any of them at this time. A successful project will manage to provide quality music for the chosen game while remaining under 2 kilobytes in total size.

Requirements

-

1. The final delivered file must be under 2kb, and at least one minute long.

2. You will deliver a single file; not a compressed folder. The file type is your choice.

3. You will be graded based on your musical choices within this limited medium.

4. The project is due within one week.

5. Important! You must name your project "lastname_firstname_2kb". As an example, my project would be Lieberman_Mason_2kb. I can't stress this enough, the naming convention is a vital part of this (and all future) projects. Improperly-named files are one of the largest rookie mistakes composers make on their first games. Don't be that guy!

6. Make sure to clearly state which video clip you were scoring for in the delivery description window.

For this project, I will be providing you with a video clip to score. Go with your own musical choices; do not worry about trying to do what the original composer might have done. You are your own writer here

Figure 5 – The assignment description for the Two Kilobyte project.

Week three began by first solving the 2kb project's core design riddle (how to fit a minute of music into so small a file). From there, students faced another brief historical retrospective on the advancing technologies that powered video-game audio from the 1980's through the early 2000's before undertaking a brief essay over how a pre-selected video-game sequence used its musical score. I required students to analyze it not as budding video-game composers, but as classically-trained musicians, with the knowledge that they would revisit this writing assignment later in the semester after learning more about the individual compositional techniques video-game composers most frequently use.

In week four, students focused on one last technological throwback concept: the tracker (essentially, an archaic form of the modern digital-audio workstation.) Students learned about .mod files (an older form of musical audio file dating back to the late 1980's and early 1990's) as a popular archetype for mobile game development. They

were then tasked with crafting a piece of music using MilkyTracker, a period-accurate piece of tracking software.

With week five, students began to study modern forms of video game composition, with introductions to looping, analysis of game states, and how branching music is created. Over two weeks, students created their first interactive pieces of music; a set of branching audio files running live in the Max MSP branching-simulator.

Week six introduced students to the dual concepts of transitions and crossfades; two approaches for moving from one cue to another. While they continued to work on the branching project from the week prior, students also began the transition and crossfading project, wherein they were expected to craft a pair of cues (based on game states that the students identified in pre-selected game clips) between which they could smoothly transition (see figure 6).

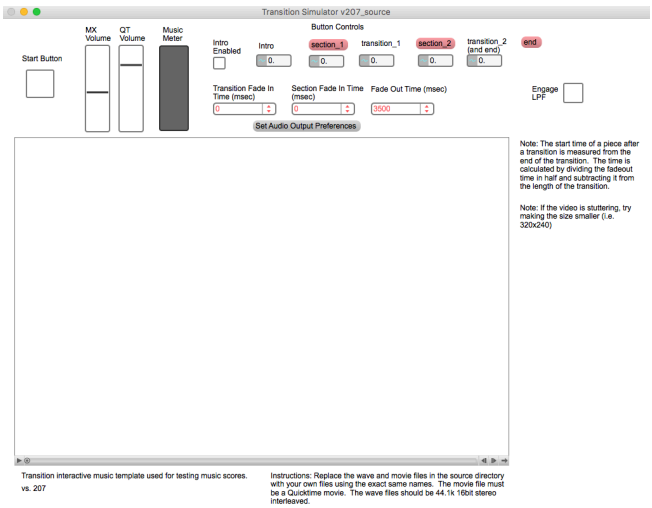
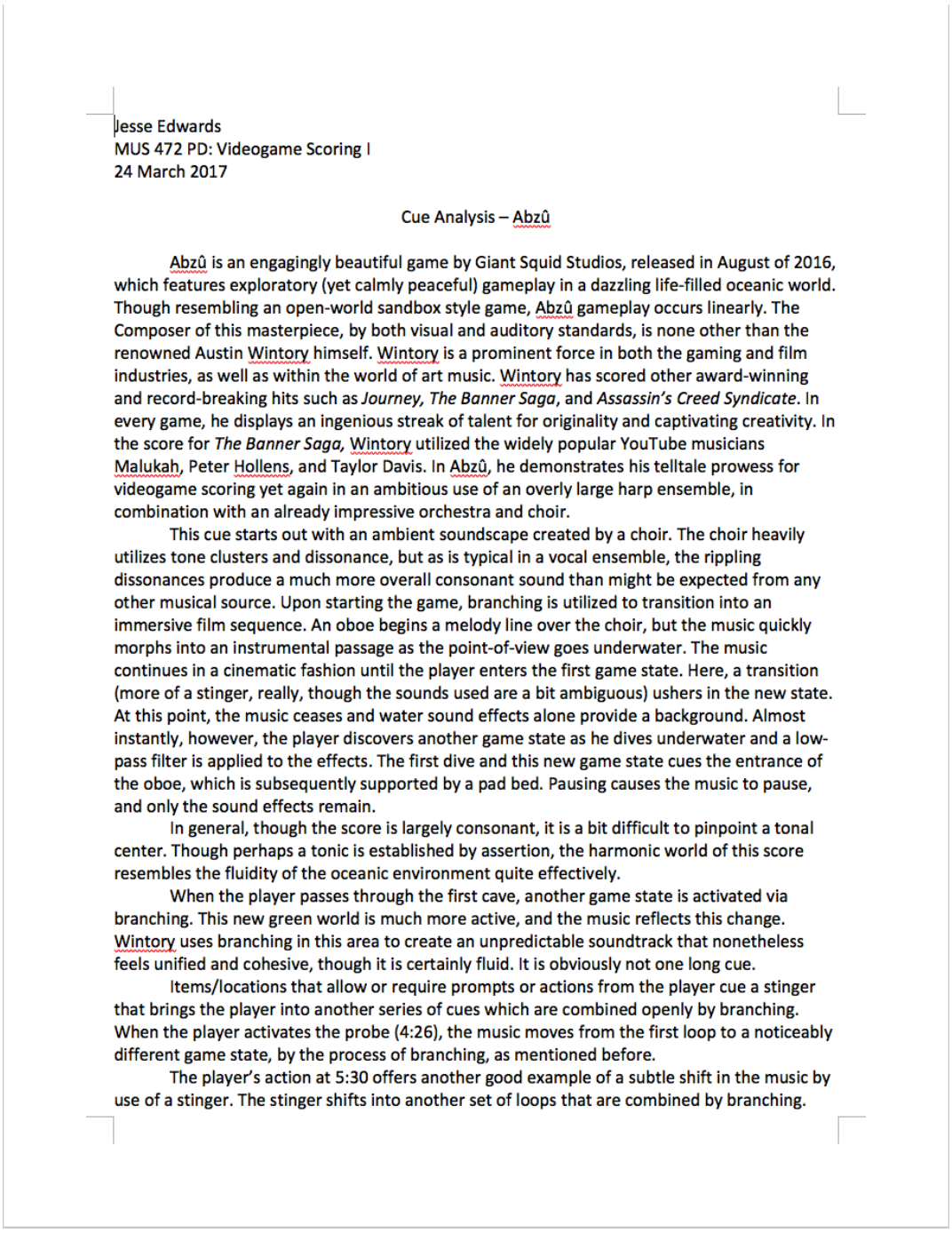


Figure 6 – The transition simulator app used in the course.

In week seven, a new career option was introduced to students within the wider world of audio. Students delivered their branching projects, took a surface-level dip into field of sound design, and received information on designing stingers (another type of transition that is often related to sound design) in preparation for the transition project's delivery.

Week eight coincided with mid-terms in the spring semester of 2017; as this course did not have a mid-term exam, it was a period of respite for the students. After delivering their transition projects, students were tasked with revising and expanding upon their earlier cue analysis papers. This time around, they approached the video segments with their newly-gained knowledge of video-game composition and addressed exactly how the clips were scored (see figure 7).



Jesse Edwards
MUS 472 PD: Videogame Scoring I
24 March 2017

Cue Analysis – Abzû

Abzû is an engagingly beautiful game by Giant Squid Studios, released in August of 2016, which features exploratory (yet calmly peaceful) gameplay in a dazzling life-filled oceanic world. Though resembling an open-world sandbox style game, Abzû gameplay occurs linearly. The Composer of this masterpiece, by both visual and auditory standards, is none other than the renowned Austin Wintory himself. Wintory is a prominent force in both the gaming and film industries, as well as within the world of art music. Wintory has scored other award-winning and record-breaking hits such as *Journey, The Banner Saga*, and *Assassin's Creed Syndicate*. In every game, he displays an ingenious streak of talent for originality and captivating creativity. In the score for *The Banner Saga,* Wintory utilized the widely popular YouTube musicians Malukah, Peter Hollens, and Taylor Davis. In Abzû, he demonstrates his telltale prowess for videogame scoring yet again in an ambitious use of an overly large harp ensemble, in combination with an already impressive orchestra and choir.

This cue starts out with an ambient soundscape created by a choir. The choir heavily utilizes tone clusters and dissonance, but as is typical in a vocal ensemble, the rippling dissonances produce a much more overall consonant sound than might be expected from any other musical source. Upon starting the game, branching is utilized to transition into an immersive film sequence. An oboe begins a melody line over the choir, but the music quickly morphs into an instrumental passage as the point-of-view goes underwater. The music continues in a cinematic fashion until the player enters the first game state. Here, a transition (more of a stinger, really, though the sounds used are a bit ambiguous) ushers in the new state. At this point, the music ceases and water sound effects alone provide a background. Almost instantly, however, the player discovers another game state as he dives underwater and a low-pass filter is applied to the effects. The first dive and this new game state cues the entrance of the oboe, which is subsequently supported by a pad bed. Pausing causes the music to pause, and only the sound effects remain.

In general, though the score is largely consonant, it is a bit difficult to pinpoint a tonal center. Though perhaps a tonic is established by assertion, the harmonic world of this score resembles the fluidity of the oceanic environment quite effectively.

When the player passes through the first cave, another game state is activated via branching. This new green world is much more active, and the music reflects this change. Wintory uses branching in this area to create an unpredictable soundtrack that nonetheless feels unified and cohesive, though it is certainly fluid. It is obviously not one long cue.

Items/locations that allow or require prompts or actions from the player cue a stinger that brings the player into another series of cues which are combined openly by branching. When the player activates the probe (4:26), the music moves from the first loop to a noticeably different game state, by the process of branching, as mentioned before.

The player's action at 5:30 offers another good example of a subtle shift in the music by use of a stinger. The stinger shifts into another set of loops that are combined by branching.

Figure 7 – The first page of a student's submission on this analysis project.

Week nine was the first appearance of audio implementation (the process of integrating music into a game, often via a third-party audio-processing engine like FMOD or Wwise). Thanks to the availability of public-access simulators used in project deliveries for this semester's work, students did not need to interact directly with audio-implementation engines quite yet (this would ultimately be a major focus of the third semester).

Week ten introduced the final core scoring concept of the semester (and the project that would help them to learn it): layering (sub-dividing different layers of orchestration into audio "stems" that then can be triggered or deactivated by specific game states). Students learned more about ground-level financial independence as a video-game composer (a focus which expanded considerably in the second semester, in particular).

In week eleven, students had some time to work on their final layering projects (as they required simultaneous application of a number of skills that the students had never attempted before). Students learned about the different job positions involved in crafting a video game, with particular focus (of course) going to audio-centric positions like composer, sound-designer, synthestrator, mix engineer, and more.

In week twelve, students began developing their capacity to properly record audio in the DAW of their choice. Given the final project would ultimately require that live musicians be recorded, this recording was a fundamental step that would be expected to properly deliver their work. Concepts introduced included gain-staging, basic

microphone etiquette, as well as how to demonstrate appropriate professionalism with recording musicians.

Week thirteen was completely focused on finishing the final projects. All students were required to have a check-in meeting with me to demonstrate their current progress with their final projects, and to make sure any questions they had were being dealt with properly. There was an additional assigned reading (though no response was required) on the history of video game composition in both Eastern and Western traditions. Interestingly, this particular article was written by David Federman, who served as an interview subject for students during the third semester course.

Final projects were due in week fourteen and, accordingly, no new information was added. This was the final meeting week of the course.

THE SECOND COURSE

9/1 - Game Selection for VGM Suite (and Mockup)

9/29 - Internet Presence 1

10/13 - Sample Bid

10/20 - Internet Presence 2

11/3 - Transcription and Analysis

11/17 - VGM Suite

12/1 - Internet Presence

12/8 - Mockup Production

Figure 8 – Due dates associated with the major projects of the second course.

The game industry is heavily project-based, and often requires developers to work on multiple games simultaneously. Accordingly, the second course (in contrast to the first) gave students the opportunity to tackle projects in any order they wished – challenging them to efficiently manage their time and priorities. Each core proficiency of the course had several major projects, providing balanced development in students as composers, music producers, and working professionals. Projects included the development of a suite of video game themes based on an existing title, a large-scale mockup production featuring multiple live recording sessions, the creation of a formal bid on a theoretical game looking for composers, and the development of a functional, brand-savvy website, amongst others.

The first week of the course was focused on defining the trajectory of work students could reasonably expect. Because the majority of the course-load was project-based, students could access the full list of project due dates from the very first day (see

figure 8). Weekly conversations would not always sync directly with every project in motion at a given time; accordingly, students would need to stay organized to pass the course effectively. The first assignment was an early preparatory choice related to the capstone project of the semester; students chose a game to base their suite projects on. I will note at this time that for the rest of the second course's description, I will speak not in specific weekly meetings but in general periods of time. This is more appropriate, as the topics being discussed were more complex and thus often required more time to address.

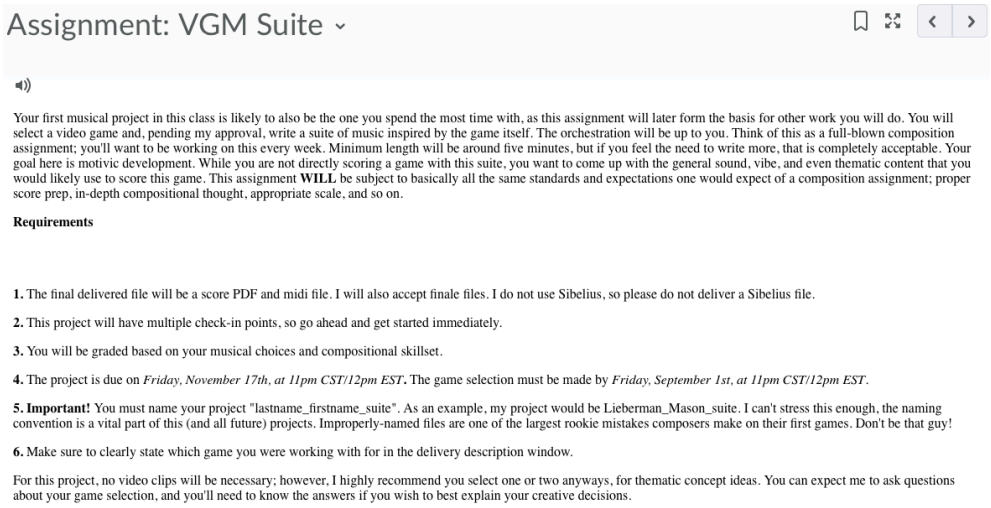
The remainder of the first half of the course was primarily focused on developing the students' working knowledge of business norms in the video-game industry. With this came two projects: the internet presence project, and the sample bid.

The internet presence assignments involved the creation of a website, demo reel, and personal branding material. There were multiple checkpoints, ranging from September 29th through December 1st.

The sample bid project involved an independent video game for students to present a budget proposal for. As a result, students learned about the current pricing norms, as well as the expected etiquette when pitching on a game title. A sample of one student's work is presented in the appendix for an idea of the type of proposal students were submitting (see appendix 1).

The second half of the course was defined by three major projects: the transcription, the composition of a video-game music suite, and finally, a major mockup-

production piece. With the transcription assignment, students each received a specific piece of music to copy, analyze, and then write about with as much detail as possible. A complete example is presented here (see appendix 2).



Assignment: VGM Suite

Your first musical project in this class is likely to also be the one you spend the most time with, as this assignment will later form the basis for other work you will do. You will select a video game and, pending my approval, write a suite of music inspired by the game itself. The orchestration will be up to you. Think of this as a full-blown composition assignment; you'll want to be working on this every week. Minimum length will be around five minutes, but if you feel the need to write more, that is completely acceptable. Your goal here is motivic development. While you are not directly scoring a game with this suite, you want to come up with the general sound, vibe, and even thematic content that you would likely use to score this game. This assignment **WILL** be subject to basically all the same standards and expectations one would expect of a composition assignment; proper score prep, in-depth compositional thought, appropriate scale, and so on.

Requirements

1. The final delivered file will be a score PDF and midi file. I will also accept finale files. I do not use Sibelius, so please do not deliver a Sibelius file.

2. This project will have multiple check-in points, so go ahead and get started immediately.

3. You will be graded based on your musical choices and compositional skillset.

4. The project is due on *Friday, November 17th, at 11pm CST/12pm EST*. The game selection must be made by *Friday, September 1st, at 11pm CST/12pm EST*.

5. Important! You must name your project "lastname_firstname_suite". As an example, my project would be Lieberman_Mason_suite. I can't stress this enough, the naming convention is a vital part of this (and all future) projects. Improperly-named files are one of the largest rookie mistakes composers make on their first games. Don't be that guy!

6. Make sure to clearly state which game you were working with for in the delivery description window.

For this project, no video clips will be necessary; however, I highly recommend you select one or two anyways, for thematic concept ideas. You can expect me to ask questions about your game selection, and you'll need to know the answers if you wish to best explain your creative decisions.

Figure 9– Description of the Video-Game Music (or VGM) Suite project.

The video-game suite (see figure 9) required students produce a large-ensemble work based on a video game franchise, with an overall goal of creating a cohesive, motif-based soundscape from which a game in their chosen franchise could be scored. As one of the overarching projects that covered the entire semester, there were multiple check-in points on the state of this assignment throughout the Fall semester. Travis Wattigney's suite (which was chosen to premiere with the Stephen F. Austin State University's Orchestra of the Pines) is demonstrated below (in appendix 3).

The final project (delivered as the semester ended in December, after the video-game music suite had been produced) required students produce a new piece of music based on (but not directly quoting!) their video-game music suites. This piece would be delivered as a live-recorded, fully-produced audio file, to demonstrate the student's ability to create audio that could feasibly be used in a gameplay setting. Here is one student's delivered project: https://www.dropbox.com/s/gwoigakrulzqxna/wattigney_travis_mockup.wav?dl=0.

THE THIRD COURSE

Course Calendar:
Module 1: Audio
Project 1: The Sound-Alike
Project 2: The Speed-Write
Module 2: Implementation
Project 3: FMOD
Project 4: WWise
Module 3: Life After College
Project 5: Professional Presence
Project 6: Finishing Touches

Figure 10 – The major projects of the third and final course.

With the third course, there was a stronger focus on self-study; in many case, students approached open-ended problems which had to be solved artistically or (in some cases), through engineering techniques and considerations core to the video game music industry (see figure 10).

The first project students were assigned was inspired by a very common occurrence in the video-game music world: the sound-alike. In multimedia scoring, directors or producers often tend to place temporary piece of music (or temps) into a game or film to help tailor the style while they work, especially when a composer has yet to start working. As an attachment to the temp can sometimes happen when such a thing is done, composers are often asked to create a sound-alike, or a piece of music that

closely mimics the original without directly copying and inviting legal trouble. Students used their production skills to mimic a pre-selected piece of music as closely as possible, while clearly keeping their produced piece of music from being a direct clone.

The second project, the Speed-Write, would have focused on a student's ability to compose a large amount of music to a certain specification in a very short period of time (overnight). Game development often requires considerable amounts of work in a short period of time; as an example of this, the music for the first trailer to *Renaine* was actually composed in about seven hours' time. However, this project was ultimately cut from the course to make space for material centered on the Game Developers Conference trip.

After a last-minute approval of scholarships for students involved in this course, it was determined that both participants in the course would accompany me on a trip to San Francisco to attend the Game Developers Conference (or, GDC). GDC is inarguably the video-game industry's networking epicenter, and the premiere professional-development event of the year. That this opportunity was afforded (via scholarships) to participants of this third course was honestly a wild card in the development of this final semester; while I sincerely hoped this would happen, I was not confident that the School of Music would feel as strongly about this as I did.

With plans in place, new content focused on networking and conference-preparedness was produced. Students interviewed video-game composers like Diwa de Leon and David Federman, to better prepare themselves for the opportunities they would

have to speak with professional composers and producers at GDC. Students were required to produce business cards, update their websites and online presences, and practice professional etiquette. During this time period, I scheduled a large number of meetings with composers, sound-designers, developers, and other industry professionals, for the students to receive direct mentoring opportunities.

Highlight interviews from this process included: Michael Sweet (director of video-game scoring at Berklee College of Music), Richard Ludlow (director of the widely-successful audio production house, Hexany Audio), Xiao'an Li (director of East Coast Scoring and co-owner of musical-branding company Li & Ortega), John Robert Matz (independent composer and educator known for major credits like *Wandersong*, *For The King*, and *Gunpoint*), Sebastian Wolff (creator of both Loudr and the video-game music label Materia Collective), Brian Schmidt (veteran composer and founder of GameSoundCon, the largest video-game-audio-based networking convention in the world), and George Sanger (colloquially referred to as "The Fat Man", George Sanger is a veteran composer with major credits dating back to the original Nintendo Entertainment System in 1990.) In addition to these formally-scheduled interviews, students made direct connections with the International Game Developer's Association (IGDA), the aforementioned Materia Collective, the Game-Audio Denizens community, and the Game Audio Network Guild (or, G.A.N.G.), the de facto game-audio union (which hosted the Audio awards, another event which the students attended).

While the GDC trip was undoubtedly the focal point of the semester, there was still considerable work for students to do after the trip was completed. Audio implementation via both Wwise and Fmod was a major focus of the material in this semester. Audio implementation is not always an easy process, as the act of synchronizing music and sound effects into a video game where players have a wide range of agency can become mind-bogglingly complex.

For the final project, students produced working project files that could function in Fmod or Wwise. Both of these projects additionally required new music to be scored, and fresh sound effects to be produced. The project was set such that the music had to be independently-syncable to a pre-chosen piece of footage.

FIRST COURSE POST-MORTEM

The video-game development world has a proud history of post-project analysis, referred to in the industry as a *post-mortem*. Half-celebration, half-commiseration, a good post-mortem allows game developers the opportunity to deconstruct a game they have recently released and, with the benefit of hindsight and sales information, discuss ways the project could have been done better. Ideally, this process influences the developer's next release. In that spirit, I revised each course's design after completely teaching the semester, making changes to the later classes to improve the effectiveness of the courses for students who continued to participate in the full course-sequence.

The largest challenges I had with this first course involved scheduling. I live in the North-East, while all of the participating students were on-campus in Nacogdoches, Texas. While this course was technically an online course, it had a regular weekly meeting time. However, this time was not assigned by the school system itself; as a result, students would sometimes receive conflicts from other teachers and school events. While the majority of students would attend most classes, there was quite a bit of shifting of meeting times required to make this system work. Coordinating the schedules of nine individuals proved rather complex, with meetings most often having to occur on Friday nights at 8 or 9pm. Needless to say, this was not ideal.

Student project quality was strong, and the late-delivery rate on projects was quite low overall. Students consistently understood what was expected of them and managed to complete their projects effectively (not a single student failed to deliver on the 2kb project, despite my own expectations that this would be a confusing prospect for students so early in the semester). At the end of the course, student feedback suggested the course was satisfactory, and that they would recommend it to others.

SECOND COURSE POST-MORTEM

I. Evaluation of Course:

Excellent and relevant course material with a pretty good balance of intense difficulty and attainability. It forces self improvements and challenges both compositional skill and production abilities.

I had a great impression of this course. This series of video game music really allowed me to get back to why I wanted to create music in the first place, and having an instructor that is in the industry and doing great things in it is inspiring and gives a higher feeling of credibility to the course. Although, the class has more than enough credibility in terms of the quality of the course itself.

Rate the Course on a standard ABCDF scale.

A

II. Evaluation of Instructor:

He definitely has a firm understanding of all of the course content and was especially willing to help in and out of class meetings. He was well prepared, organized, and enthusiastic throughout the semester as well.

I thoroughly enjoyed the instructor's teaching. Having every module on D2L open from the beginning was something I definitely enjoyed. It allowed me to get a feel for how the course would pan out and what I needed to do to prepare myself for each assignment. The quality of materials in the modules is also great and easy to read through and understand. He has a great knowledge of the subject matter and a very obvious enthusiasm for the material. The expectations for us are always clearly defined and even challenged further, which I was definitely okay with tackling, despite being a significantly larger work load.

A. Would you recommend the instructor to a friend? Would you take another course from this instructor?

Absolutely.

I would definitely recommend the instructor to a friend. I would consider taking this course from another instructor, but the current one is rocking it.

B. Would you rate this instructor as demanding in requirements?

Demanding, yes, but equally accommodating and well to help with obstacles.

The instructor definitely had high expectations for us in terms of work, but it was not anything that could not be handled. The projects were usually fairly hefty, but we were given enough time and resources to work on them.

III. Evaluation of Self and Class. A. How do you rate your own perfomance, participation, effort in this course?

I feel as if I completed each project tonthwbbest of my ability in the given time however I would have liked to spend more time on certain projects.

I think my performance was a little above average. I did all of my work and tried to put more effort than required to make it the best work I could.

III. Evaluation of Self and Class. B. Was there good class attendance, participation, interest, and enthusiasm?

Seeing as there were only 2 of us, the attendance, participation, interest, and enthusiasm was through the roof.

Yes. Perfect attendance.

IV. Are there any additional comments you would like to make about this course?

This class has left me with a "sense of pride and accomplishment."

This course is a fantastic opportunity for the School of Music and the university as a whole. I feel as if the development of this course and ones similar to it could single-handedly set apart SFA and it's School of Music from many competing universities and conservatories. The course also promotes interdisciplinary interactions and provides students with useful and immediately applicable knowledge and skills.

Figure 11 – Student evaluations from the second course

Both students successfully passed the course and delivered all expected coursework. Feedback was overwhelmingly positive (see figure 11), as were student's prospective outcomes; one student's work in this course has been selected for performance by multiple orchestras, including the Stephen F. Austin State University Orchestra of the Pines. The freedom provided to students proved effective as an

organizational tool at this stage, and students seemed grateful to be provided with this level of respect. Scheduling difficulties were far rarer as a result of the limited class size; while irregularities did occur, it was always quite easy to coordinate directly and establish new times that would work for all participants.

THIRD COURSE POST-MORTEM

By design, this semester's content was considerably less linear than all of the other courses. It was even more free-form than the second-course was, and projects were relatively flexible on final delivery. This happened as often by choice as by necessity; while I wanted to demonstrate how some industry projects may have varied delivery points and time lines, the successful addition of the trip to San Francisco for students to attend the Game Developers Conference did require some organizational shuffling. The speed-writing project was ultimately cut, and the professional-development section of the course was shifted up towards the first half of the semester to prepare students for GDC.

It really cannot be understated just how valuable the trip to GDC was for the students. From taking a number of meetings with game audio professionals in-person, to meeting independent developers showcasing their earliest builds, to forming relationships organizations like the IGDA (International Game Developers Association) and the Materia Collective (a game-music record label), this entire event was just an incredibly meaningful moment for both students. I simply cannot imagine doing this course

sequence without this event (or a similar one) as a major capstone; it was absolutely pivotal. I've received word that multiple former students have gone on to attend other, similar events (such as PAX South, a large gaming event located in San Antonio), with success in building up new relationships and securing work. Here is one student's letter to the scholarship body that provided this opportunity (see figure 12).

Dear *scholarship people*,

I would like to begin simply with an expression of my tremendous gratitude for your support for my passion, education, and career through funding the trip to Game Developers Conference in San Francisco.

In my two years here at SFA it has been as if an entire new world in music has manifested itself. I have discovered sounds, techniques, and styles that were so incredibly important and influential in the world of music that I had not the faintest clue of their existence prior to attending. Over the span of merely four days at GDC I experienced that feeling again and so much more. It was truly dumbfounding to see firsthand just how many pathways and opportunities there are within the diverse professional community of game development. From environmental animators to character rigging specialists to creators of in-game sound effects and foley, there were hundreds of various types of industry professionals in attendance and I was able to casually meet and converse with so many of them. The atmosphere at the event was overwhelmingly welcoming and it was incredibly easy to talk to any random person you happened to be standing next to--as every person there is very open to making new connections and expanding their network. The greatest part of which could be found in audio/music specifically where they had at least 3 events each day where we came together to share in our passion for the many facets of game audio.

This was also my first trip to the bizarre world of the west coast. In the game and film industry large cities like San Francisco and LA are where the majority of production companies are based. Visiting these cities on a school sponsored trip really acted as a set of training wheels, per se, for what it might be like to live in that region if I were to move there after graduation for job purposes. Experiencing the culture over there was intriguing in its own right as well.

Unfortunately, due in part to our location and lack of game development program, we exist in a bubble at SFA where the vast majority of this field is virtually taboo. Having the opportunity to travel and have these eye-opening experiences in the industry I want to pursue is something that will stick with me forever and has given me a great advantage towards the pursuit of my career.

Thank you, again, so much for your support and I sincerely hope for future students to get the same life changing opportunity that I got.

Best Wishes,
Travis Wattigney

Sent from my iPhone

Figure 12 – Travis Wattigney's letter to the SFASU school of music

COMMENTARY

It is my hope that these courses will serve as a template for other media-scoring classes for undergraduate students. I feel strongly about this subject and would love to see it continue to be taught. As it was, it was quite difficult condensing this much information into a three-course cycle. I feel a minor's worth of material could easily be produced on this subject, and even a full major if adequate resources existed for a school's students to collaborate with fellow computer science or game development majors. Most students were lacking in production skills when this sequence of courses began; accordingly, I think mock-up courses would be exceedingly valuable. While the 3D audio concepts in these courses relate almost exclusively to the video-game medium, all production, analysis, ear-training, professional development, and composition skills trained in these courses would benefit any field or genre of composer as a whole. This material could be adapted to train composers interested in virtual reality, film, television, advertising, library production, and even concert scoring.

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Appendix

Student work that might otherwise take a considerable amount of physical space (or which did not easily lend itself to a text format) is included below for convenience.

Appendix 1 – Travis Wattigney's budget project.

Travis Wattigney
(817) 422-2102
wattigney.travis@gmail.com

Audio Inquiry and Proposal

Dear Simon,

I am emailing you in regards to your recent Kickstarter posting for your next game, *Flynn: Son of Crimson*, as it looks like an intriguing and promising project that would be perfectly complemented with a score of equal stature. Upon my discovery of this project I immediately fell in love with the story, art style, and fighting mechanics. From the first screenshot of the gameplay it is blatantly apparent that you and the team at Studio Thunderhorse hold the artistic vision of this game as a top priority. As an extension of that I can see that you value the aural aspects of the project and are in need of a composer who can help breathe life into Flynn's already vivid environment.

Below I have attached a brief prospective outline of the soundtrack based on the direction your team has taken the rest of the project. Nevertheless, I cannot speak enough of the potential I see in this project and I wish the best for you and your team.

Thank you,

Travis Wattigney

Travis Wattigney
(817) 422-2102
wattigney.travis@gmail.com

Audio Inquiry and Proposal

Overview

Number of regions: 5

Themes per regions: 2*

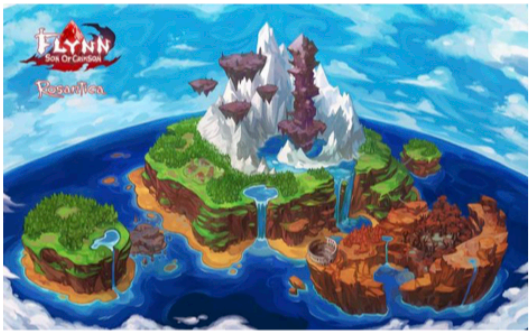
Estimated menus requiring scoring: 2

Main Theme: 1

Challenge Modes:** 2

Cinematic:** 1

**Sanctia will only have one theme.*
***If the project meets its stretch goal.*



Each region will have a *Rosantica* theme and *Scourge* theme to provide a clear atmospheric difference to the player when they switch between these realms. The two themes will be mirror images of themselves with *The Scourge* variants being synthetic and ominous 16-bit renditions of the themes from the *Rosantica* cue that can be crossfaded between each other at any time. The first set of cues, for the *Mistral Peak*, will feature a frigid instrumentation consisting of keyboard mallet instruments like vibraphone and bells as accompaniment with a folk melody on a violin to pay homage to what it once was.

The next region, *The Hollow*, will feature a highly atmospheric cue that will contain upright bass ostinatos and an additive melody on bassoon—with ambient cave noises to set the scene. To help further encapsulate the environment, live instrumentalists for this cue could be recorded inside an actual natural cave to craft an incredibly immersive soundscape for the player to exist in—*replicable synthetically as well*. The gardens of *Rustwood* would feature a larger string section and chorus will accompany a melody on oboe. A distant horn section will provide the final touch to set the scene for such legendary proving grounds. As for the *Shivering Spire*, the chorus will return as accompaniment with a more classical violin feature to capture the scholarly qualities of the region. Lastly, the single cue for *Sanctia* will feature a serene string ensemble to provide a sense of warmth and act as a symbol of the safety it provides for Flynn.

Since there is an enormous amount of attention being put into the combat and weaponry in this project, each *Rosantica* cue will come in 3 subtle variants that may be switched between at any point when the player switches weapons. The addition of scoring this state would come at no additional expense as it would be a very subtle change from one weapon to the next, but it would help accentuate a mechanic that is of utmost

importance to you and your team. *(We could discuss a similar embellishment when Flynn mounts Dex as well).*

With the inclusion of two menu themes with an estimated length of 45 seconds, the 9 standard level themes—each of an average length of 90 seconds—and a 60 second main theme; the score will add up to approximately fifteen and half minutes of music.

Total score duration: 15:30 minutes

Tabulation of Cost

One minute of standard music: $675.00
One minute of theme music: $850.00
One minute of menu music: $400.00

13:30 x One minute (standard) = $9,112.50
1:00 x One minute (theme) = $850.00
1:00 x Menu = $400.00

All themes for each region are calculated at the standard music rate while the title theme is calculated at the theme music rate. Menu music is calculated separately as it is traditionally less labor intensive. To accomplish the most immersive soundtrack, it would be most preferable to record live instrumentalists for melodic content while utilizing virtual instruments for all accompaniment. Consequently, I have raised my standard level and theme music rate by $50/minute and to accommodate these expenses.

Due to the your team's passion and artistic vision, I would also agree to write and produce cues for the prospective challenge modes and cinematic free of charge.

Subtotal: $10,362.50
Independent developer discount: *-$3,500*

Appendix 2 – Roger Ramirez's transcription and analysis project from the second semester course.

Roger Ramirez

Mason Lieberman

MTC 475.001

3 November 2017

Transcription and Analysis of Rito Village

The Legend of Zelda franchise has provided many years and countless hours of entertainment to many people. The games are masterpieces and have a replay quality that few other games can compare to. Part of what makes these games feel so magical, though, is the sound world that is created for the player. The tunes are memorable, easy to sing along to, have been fully orchestrated, and have even been reused throughout the Legend of Zelda franchise to provide continuity and familiarity in new entries to the series. One of these songs is the music from Rito Village, featured in the Legend of Zelda: Breath of the Wild. I will be provided an analysis of various aspects of the song, such as links between games, the atmosphere of the music in relation to its use in the game that I have transcribed and analyzed, and the musical content itself will be analyzed through lead sheet notation.

The first aspect I will be looking at is the music that is used for Rito Village in relation to other Legend of Zelda titles. The most obvious way this piece is connected to another game is with the mandolin melody beginning at measure 23. This melody can be heard throughout Rito Village and can be heard on an accordion as well as being sung by young Rito people as a game state when you get closer to a certain area of the village. Upon talking to some of the villagers, you find out that they are singing an ancient tune that has been with the Rito people for as long as they can remember. The connection with this tune and the people is incredibly strong, and the melody appears in The Legend of Zelda: Wind Waker as well. This song plays on Dragon Roost

Island, but has a much different tone and mood than the one we hear in Breath of the Wild. On Dragon Roost Island, the melody is much faster and the harmonic content is very rhythmically driven, probably to give a somewhat authentic feel to the Native American inspirations of the Rito people. In Breath of the Wild, when the melody begins to play, it has a very serene, calm, and almost haunting quality to it. I believe there is a good reason for this choice to be made, which leads me to the second part of my analysis.

While the familiar Dragon Roost Island tune plays in Rito Village, it doesn't begin until measure 23 of the transcription that I have provided. Before that, the track begins with a C minor7 chord, bringing a lot of ambiguity along with it before playing a F, which would the chord quartal qualities that were very popular among the impressionists. This creates more ambiguity, but also adds a very mystic quality to the music and to the environment that the player is now wandering through. These qualities are then transferred to the melody that begins in measure 7. While I have provided a transcription of mandolin, guitar, and piano, the melody here would be in a clarinet part. With the majority of the intervals being played in this melody consisting of P4s and P5s, it creates a mystical atmosphere, while the continually shifting tonal centers keep the music feeling ambiguous. This begins to click with the atmosphere that is visually created in Rito Village. The village is built into a cliff and is very secluded from the areas around it, and this seems to be perfectly okay with the Rito people. The music reflects this with mostly thin orchestrations, there aren't very many sections where a full orchestra is playing, or anything close to a full orchestra. Beginning in measure 15, there is a line of ascending thirds that also continuously shifts tonal centers. This gives the music a feeling of lifting and flying, reflected visually with the fact that Rito people are a bird-human hybrid and have wings. Continuing with ambiguity and mysticism, measure 22 ends with a Gb+ chord in a descending

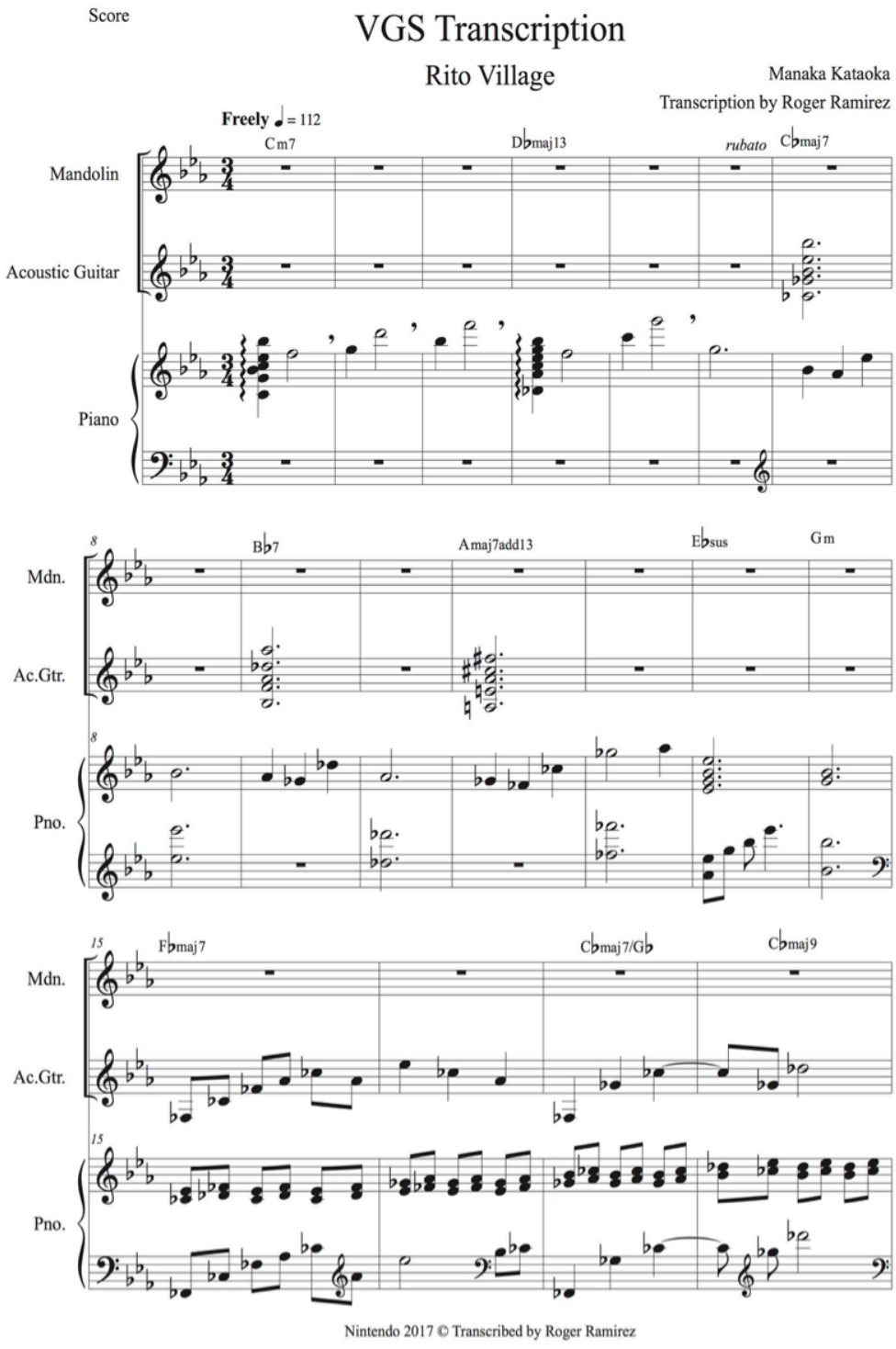
arpeggio right before it goes into the familiar melody of Dragon Roost Island. The rest of the piece still modulates and doesn't stay with one tonal center for very long, ending with two inversions of an Ab quartal chord before looping again at measure 7.

This leads me to the final portion of my analysis: the musical substance of Rito Village. I have already talked about the opening chord and the lead sheet analysis that I have provided. The next chord that plays in measure 3 sets up a regular occurrence of tall chords, beginning with a Dbmaj13. The chromaticism of the next chord in measure 7 provides another motif that is used throughout the piece: chords descending by half-step. The chord progression starts on a Cbmaj7, followed by a Bb7, and finally ending on an Amaj7add13 chord. Measure 13 gives us another type of chord that makes several appearances throughout the piece: Esus. In this transcription, when the "sus" prefixed is used alone, it is in reference to a suspended (4), a suspended (2) will be referenced as sus2. The suspended chords used throughout this piece give an added flare and continue the underlying idea of ambiguity and mysticism that has been happening throughout the piece. When the suspended chords are strummed in the guitar (measures 30 & 38), it also gives a sort of folk-song feel, especially when doubled with the mandolin in that section. This helps to provide a richer sense of the ancient tune that has been passed throughout Rito history. Once the ascending thirds begin in measure 15, the chord structure begins to feel blurry. In this instance, I chose to interpret the chords as having non-chord tones that alternate between downbeats and upbeats. For example, in measure 15 the chord is Fbmaj7 with the chord tones being on the beat and the non-chord tones being on the upbeats, while in measure 16 the chord tones are now on the upbeats while the non-chord tones are on the downbeats. This can also be interpreted as simply a taller chord, which would work in the context of this piece, but it is not how I chose to interpret it this time around. This scheme continues through measure 22, when we get our

descending augmented chord. At measure 23, we then get the Rito melody, along with a somewhat more traditional chord analysis.

This section begins with a pedal tone on G, even making G the root of a Dm7 and Dm. This technique gives the feeling of a tall chord while mainly using notes that would be used more often in functional harmony. In measure 31, we see the melody stay in the key while the harmony uses a chord outside of the key. This technique is used a lot to create taller chords while keeping the harmonic content interesting. The use of this technique can be seen later in measure 41. Going back to measure 33, we can see that the bass note has gone done by half step again, a common occurrence throughout this piece. We can then see the ascending thirds happen again to lead us into a new tonal center. While the first chord of this section is a Db triad, I have chosen to label this section in Ab Major because of the Eb7 that leads into an Abmaj9 in measures 50 and 51. While this Ab does lead into a Db in measure 53, the fact that it does not lead into it with a dominant quality led me to label this section as Ab Major. Going back to the beginning of this section, we can see that there is more descending half step action taking place beginning at measure 46 and going through measure 49. This sequence is repeated shortly after with different chord qualities from measures 54-57. The piece shifts tonal centers one last time at measure 59, based around Gb major. The ascending motif is now in sixths beginning at measure 60. The piece ends on an Ab quartal chord with a Gb as the root, giving it properties that a tall chord would have while still sounding open and mystic like an open quartal chord normally would. The final chord is then an inversion of the Ab quartal chord with a Db root, but it still holds the second interval between Gb and Ab that the previous chord did.

I have attached the full transcription that I have done so that any references that I've made throughout the analysis may be referenced back to in the transcription. I have had a lot of fun getting to know this piece and I hope that I have provided an interesting, accurate, and thought provoking transcription and analysis.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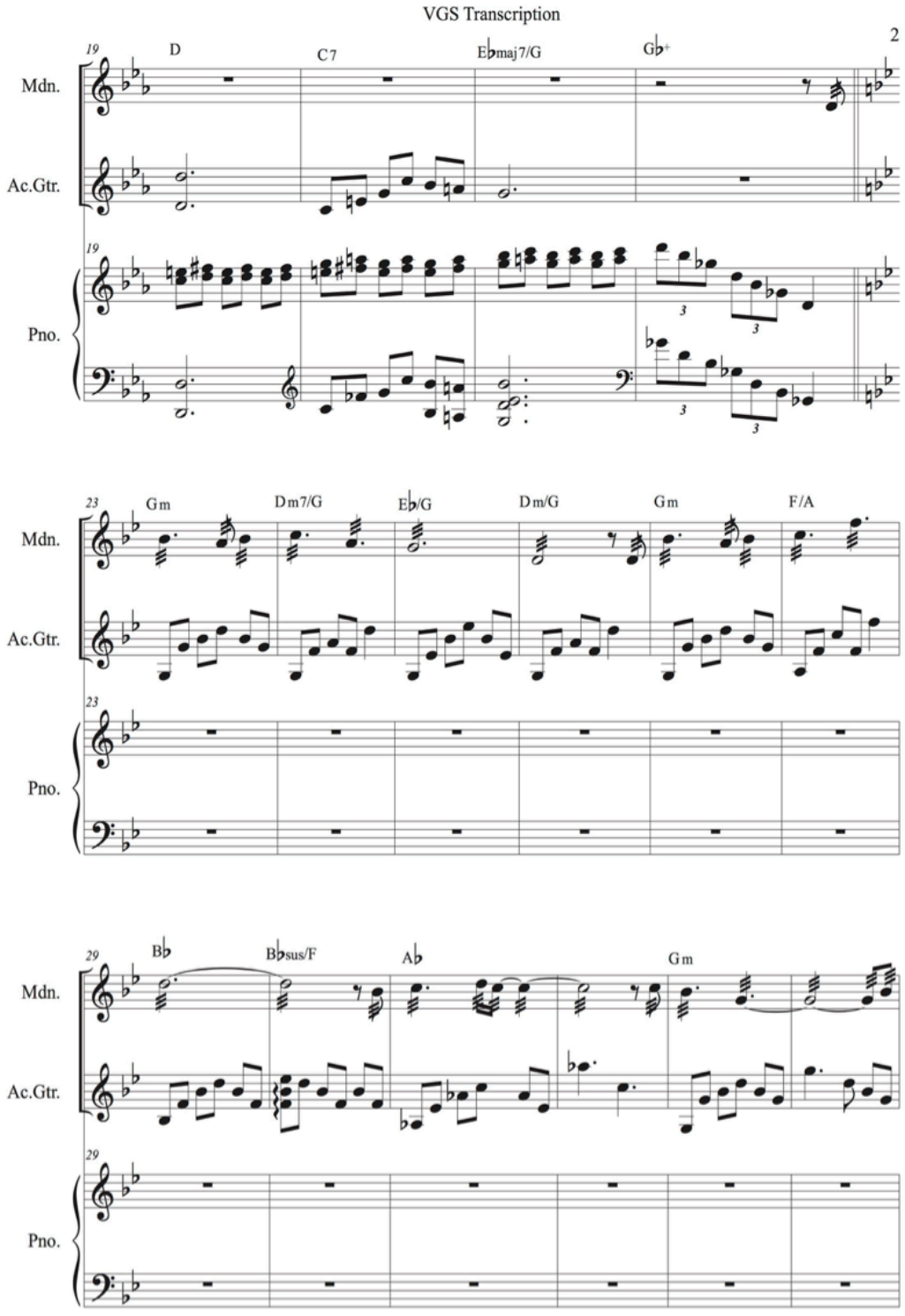
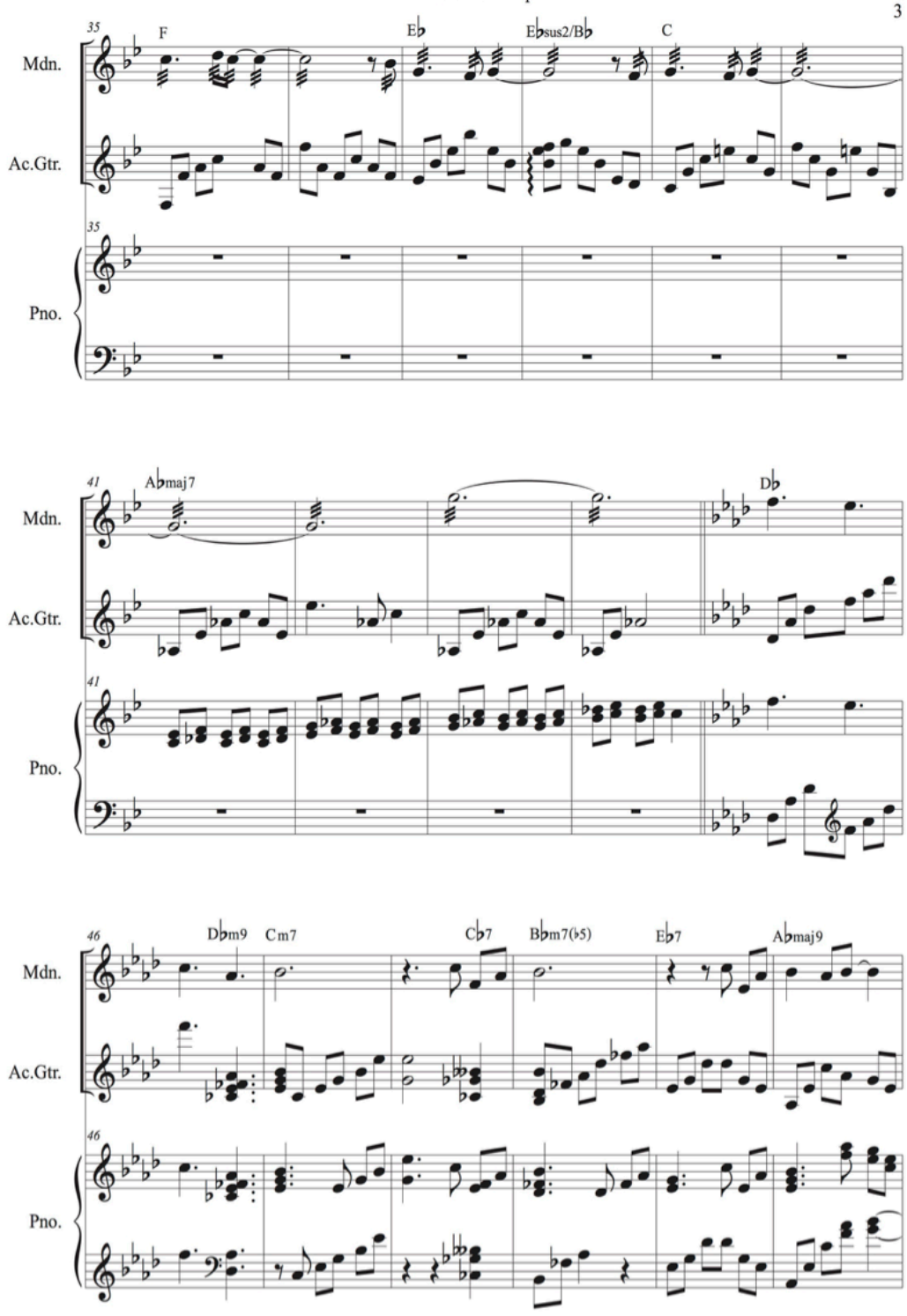
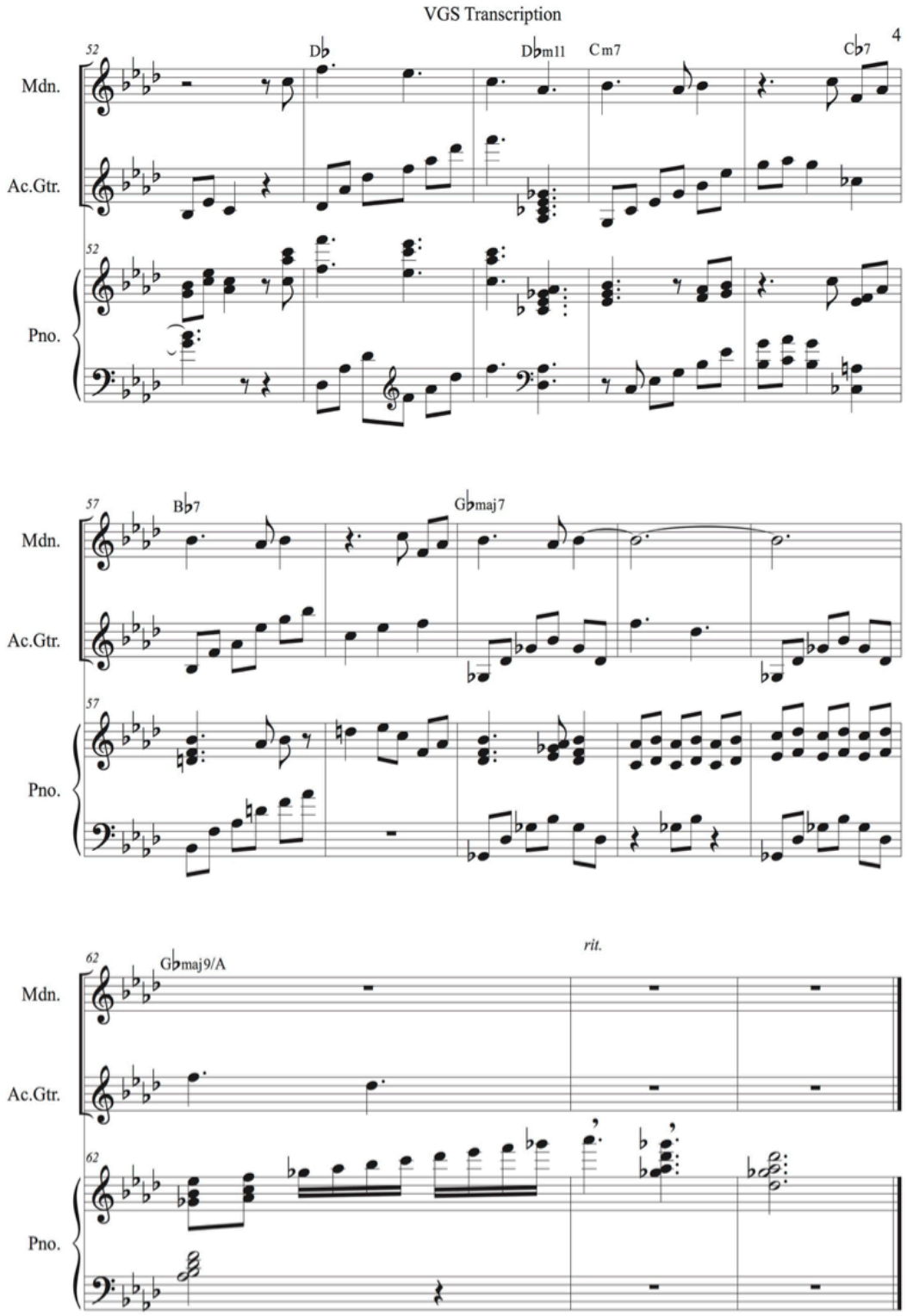
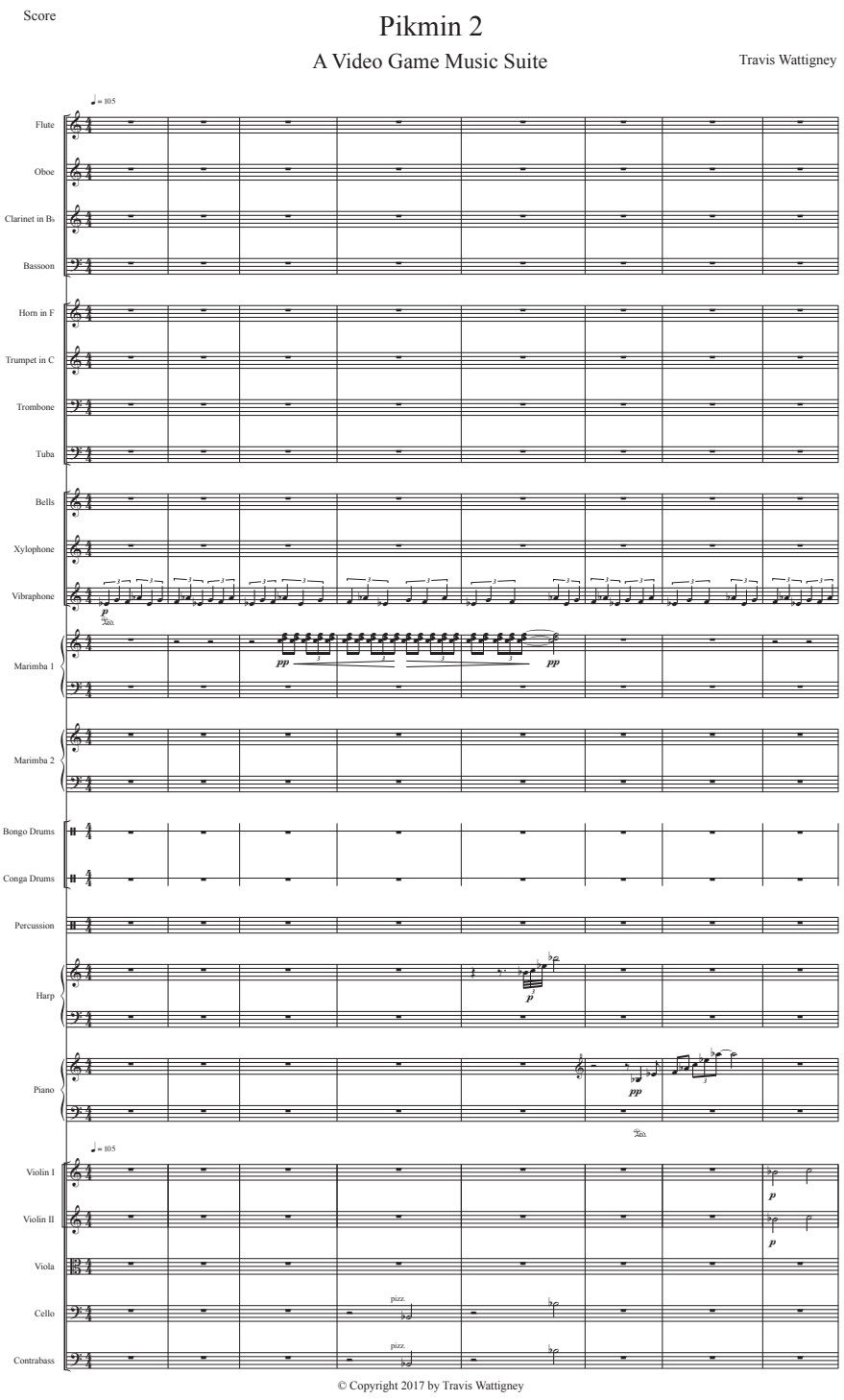
VGS Transcription
Rito Village
Manaka Kataoka
Transcription by Roger Ramirez
Freely ♩= 112
Cm7
Dbmaj13
rubato
Cbmaj7
Mandolin
Acoustic Guitar
Piano
8
Bb7
Amaj7add13
Ebsus
Gm
Mdn.
Ac.Gtr.
Pno.
15
Fbmaj7
Cbmaj7/Gb
Cbmaj9
Nintendo 2017 © Transcribed by Roger Ramirez


VGS Transcription
2
19
D
C7
E♭maj7/G
G♭+
Mdn.
Ac.Gtr.
Pno.
23
Gm
Dm7/G
E♭/G
Dm/G
Gm
F/A
29
B♭
B♭sus/F
A♭
Gm

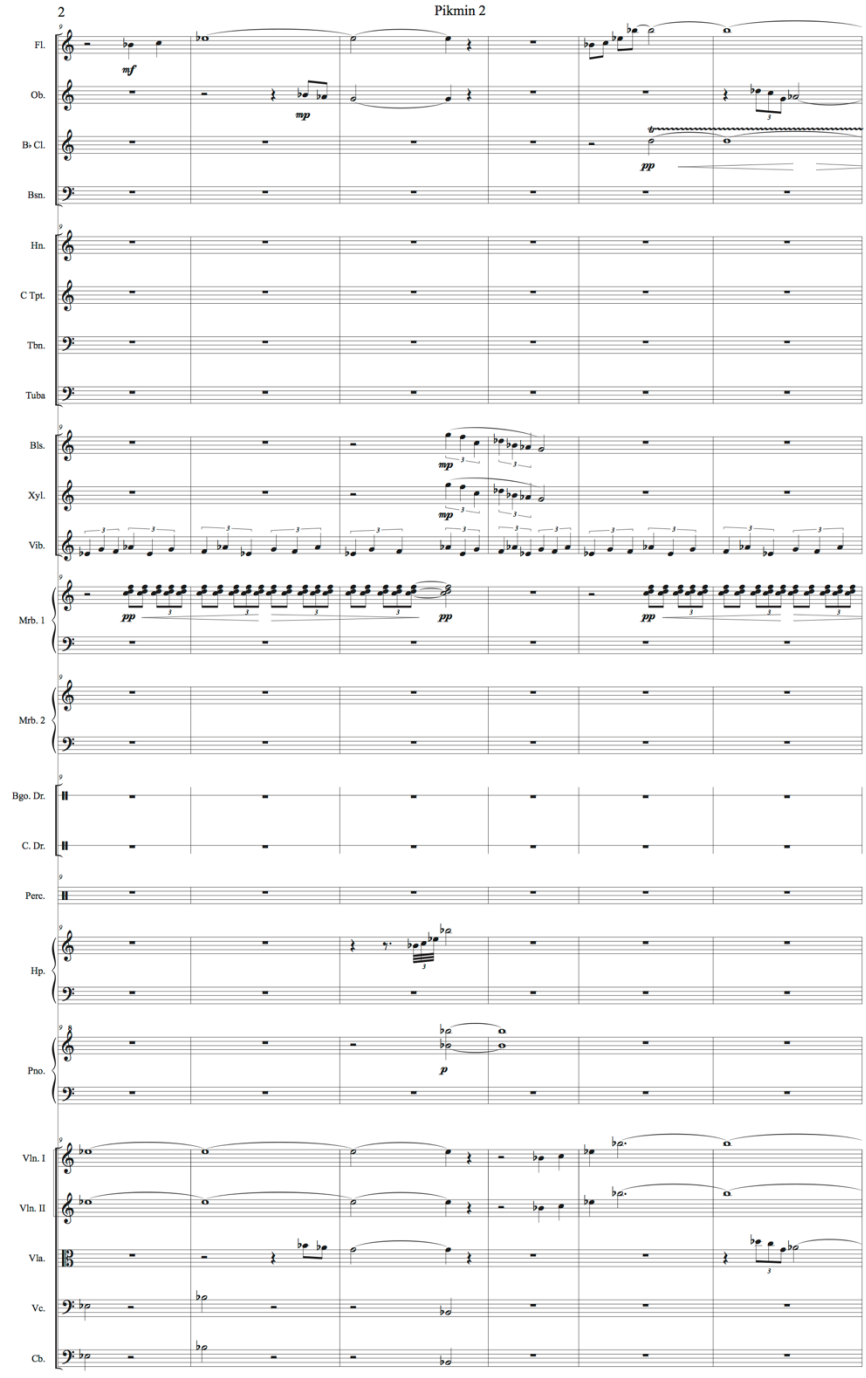

35
F
E♭
E♭sus2/B♭
C
Mdn.
Ac.Gtr.
Pno.
41
A♭maj7
D♭
46
D♭m9
Cm7
C♭7
B♭m7(♭5)
E♭7
A♭maj9


VGS Transcription
4
52
Db
Dbm11
Cm7
Cb7
Mdn.
Ac.Gtr.
Pno.
57
Bb7
Gbmaj7
62
Gbmaj9/A
rit.

Appendix 3 – Travis Wattigney's suite project (first five page



Pikmin 2


Fl.
Ob.
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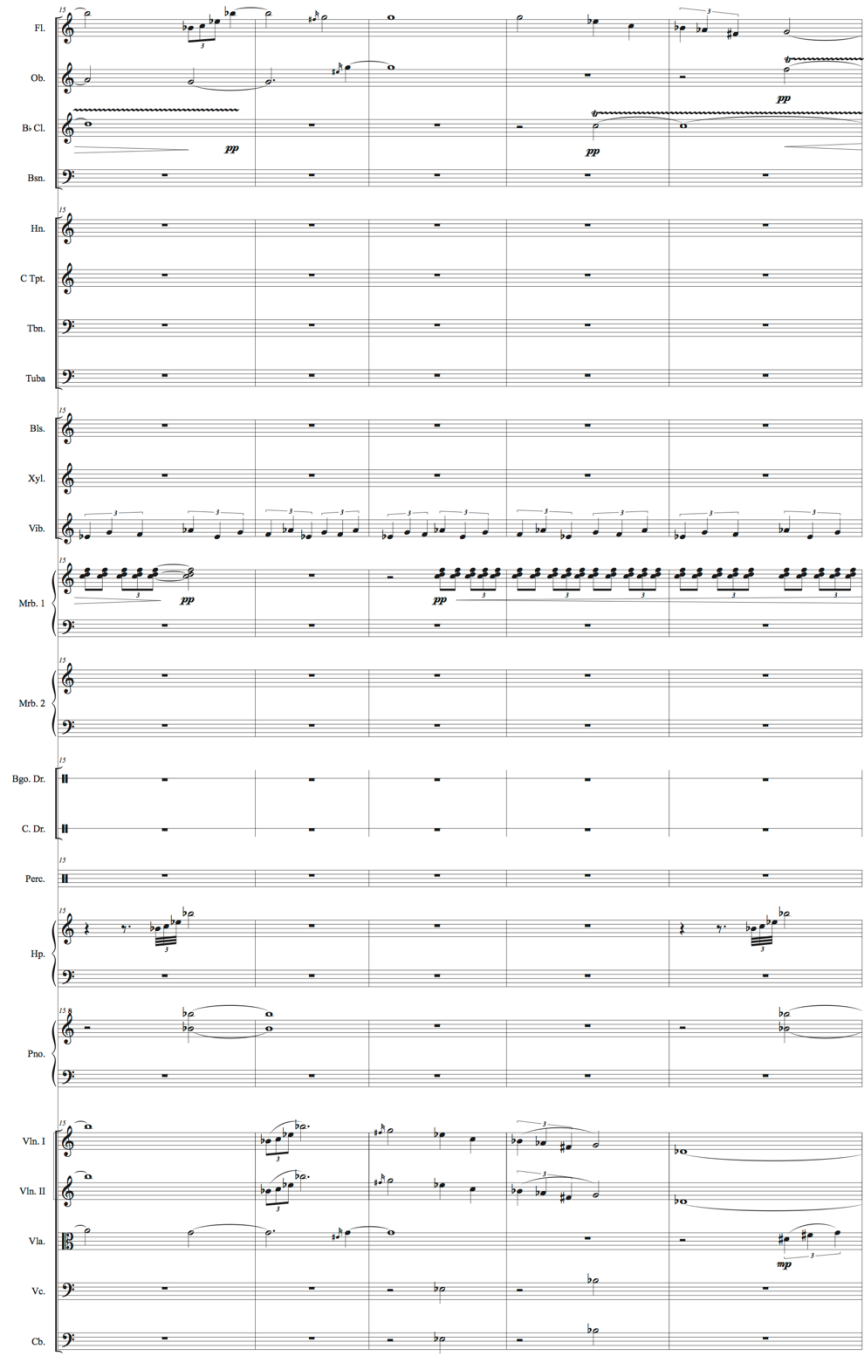
Bsn.
Hn.
C Tpt.
Tbn.
Tuba
Bls.
Xyl.
Vib.
Mrb. 1
Mrb. 2
Bgo. Dr.
C. Dr.
Perc.
Hp.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
mf
mp
pp
p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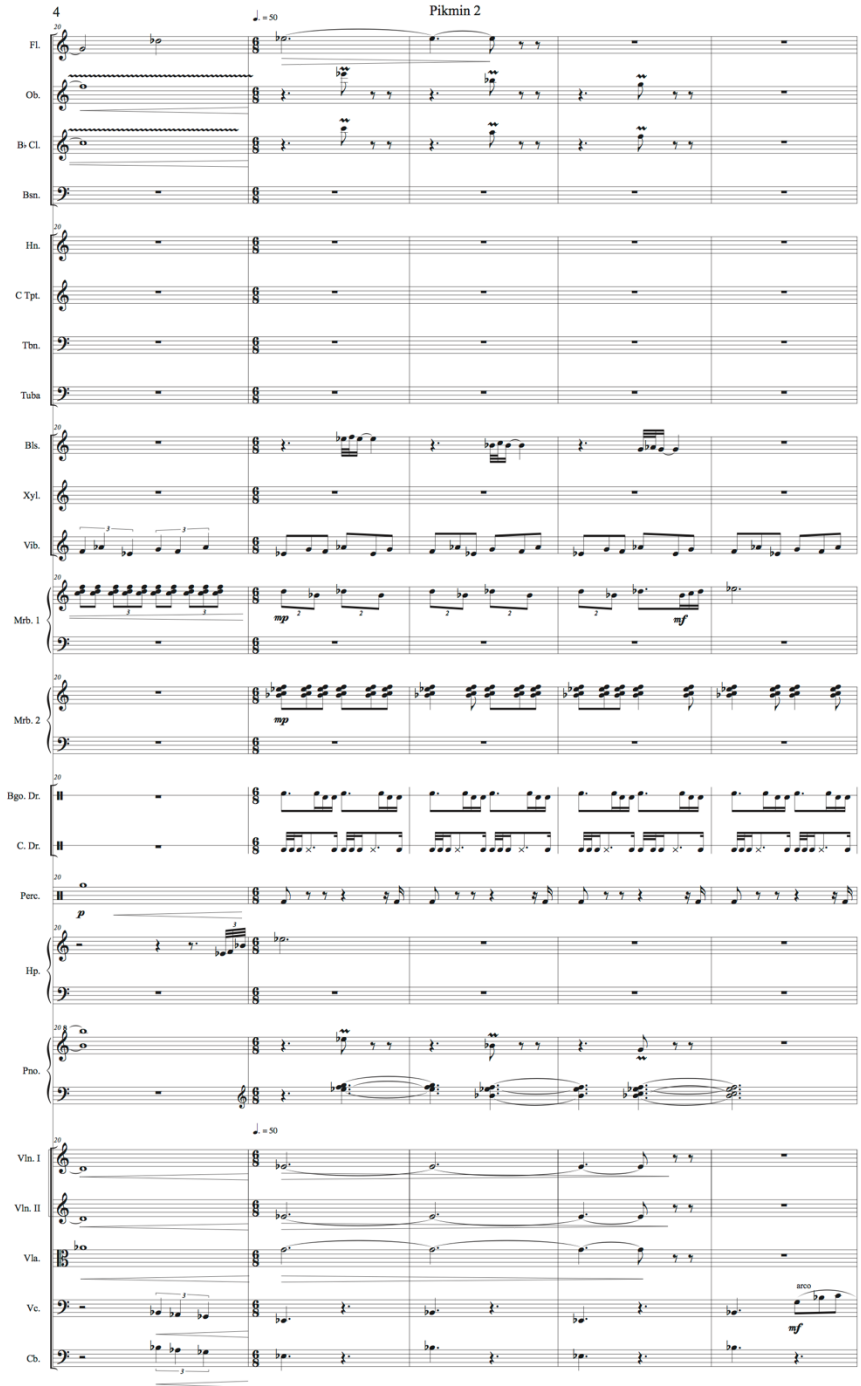
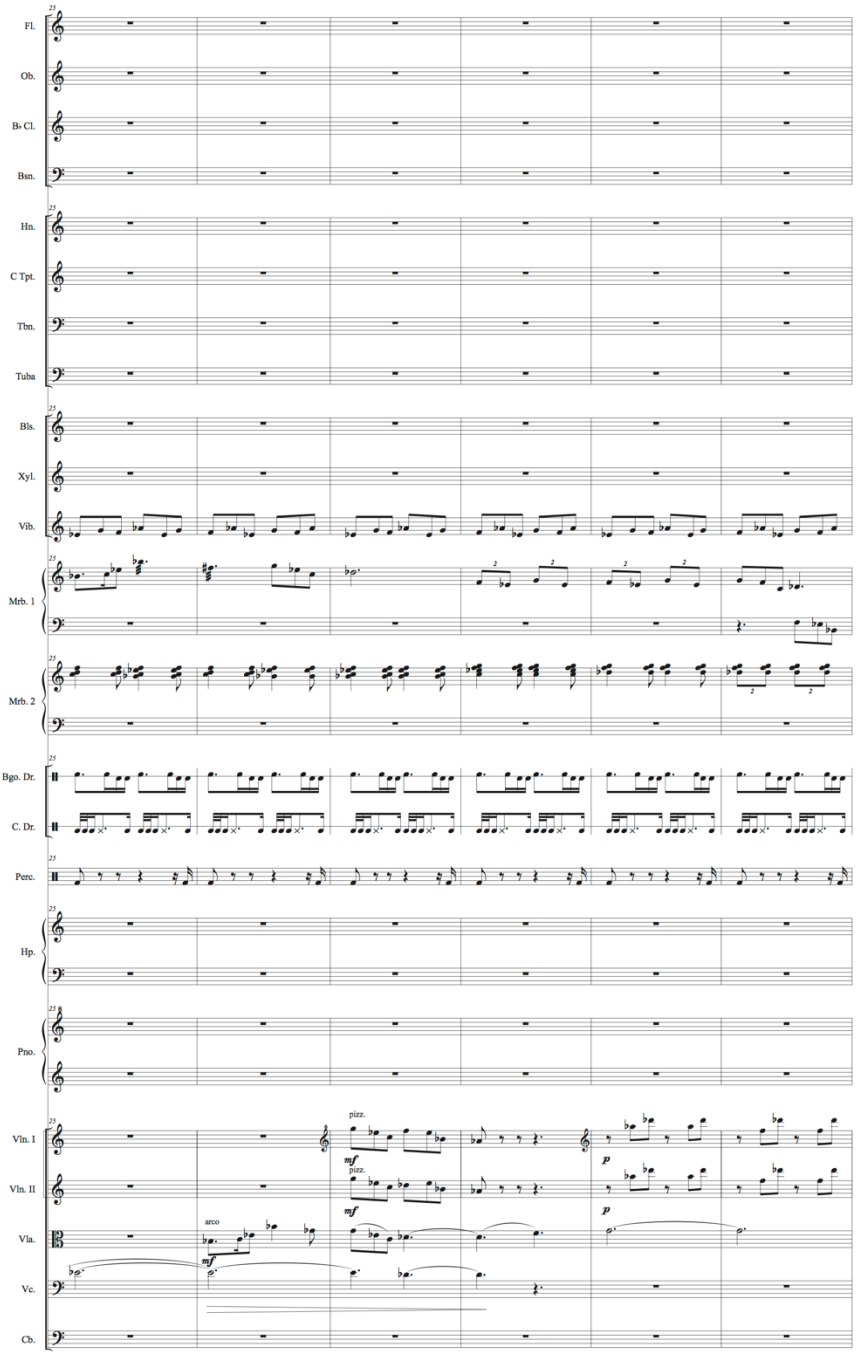
Bsn.
Hn.
C Tpt.
Tbn.
Tuba
Bls.
Xyl.
Vib.
Mrb. 1
Mrb. 2
Bgo. Dr.
C. Dr.
Perc.
Hp.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
pp
mp


4
Pikmin 2
♩ = 50
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
C Tpt.
Tbn.
Tuba
Bls.
Xyl.
Vib.
Mrb. 1
Mrb. 2
Bgo. Dr.
C. Dr.
Perc.
Hp.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
mp
mf
p
arco


Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
C Tpt.
Tbn.
Tuba
Bls.
Xyl.
Vib.
Mrb. 1
Mrb. 2
Bgo. Dr.
C. Dr.
Perc.
Hp.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
pizz.
mf
pizz.
mf
arco
mf
p
p

VITA

Upon completing his work at the Brook Hill School in Bullard, Texas in 2010, Mason Lieberman entered the Stephen F. Austin State University in Nacogdoches, Texas. In 2012, he transferred to Berklee College of Music, where he attained the degree of Bachelor of Music with magna cum laude honors. Upon graduation, he began working as an independent composer and recording artist in the film, television, and gaming industries. He has worked on a wide range of products, with personal favorite credits including composing for *Beyblade Burst Evolution*, *RWBY*, *Renaine*, and many others. As a recording artist, he has been featured in *League of Legends*, *Super Smash Bros. for Wii U/3DS*, *God Eater 2: Pro Burst*, *Hell's Kitchen*, and hundreds of other titles. His music has been lauded by gaming industry outlets such as *IGN, Famitsu, Rock Paper Shotgun, Hardcore Gamer,* and more. He will receive the degree of Master of Music from Stephen F. Austin State University in May of 2019.

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The style guide for this document was *A Manual for Writers of Research Papers, Theses, and Dissertations (9th Edition)* by Kate L. Turabian.

This thesis was typed by Mason Lieberman.