

IB Music Exploring Portfolio

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1 Introduction

I frequently encounter new styles, genres, techniques and theory that challenge my assumptions about music. Across a number of AOIs, I find myself pouring through musical scores, in combination with listening, sight-reading, and analyzing, trying to grasp at a genre’s conventions or motifs. One particular genre that piqued my interest was videogame music. To me, it’s fascinating how videogames leverage techniques from a deluge of genres, yet still conform to the technical or physical limitations of a game. For instance, a number of songs utilize only the square, sawtooth, and triangle tones due to the limitations of the original NES, making complex instrumentation or intricate polyphony impossible—instead opting for more jazz like qualities with melody-driven harmony.¹ Videogame composers manufacture memorable, impactful compositions that often can stand alone in their musical merit. This provoked me to explore how the jazz and videogame genres function for listening purposes (AOI 2) and to complement a game (AOI 3). I researched the intergenre connections among videogames music and the early foundations of jazz, discovering surprising connections along the way. To experiment with these fascinating ideas, I performed a cover of a Nintendo videogame classic in the style of ragtime and arranged an orchestral videogame song for a piano duet, falling under AOI 2 and 3 respectively.

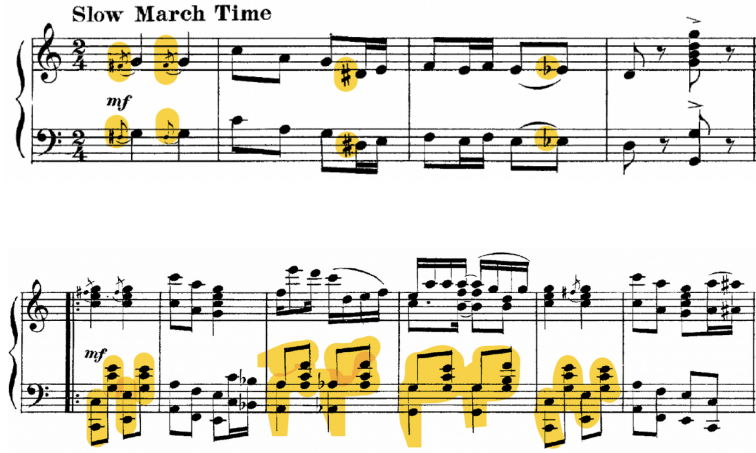
2 Research

2.1 Research 1: Country Club Rag

In focusing on AOI 2, I explored ragtime piano to understand the early chronology of jazz. To understand the key characteristics/tropes of the genre, I explored the music of many staple composers in the era, including James P. Johnson, and Ubie Blake. I chose to focus on Scott Joplin’s work, of which “Maple Leaf Rag” and “The Entertainer” are most well-known. Within the historical context of the American South, his rise to prominence reflects the innovative applications of African rhythms to ‘western’ tradition.² His “Country Club Rag” is an insightful case study on his style. The composition is in a repetitive arrangement form: AABBCDD. Patterning the genre, the piece has a playful and energetic tone, highlighted by bouncing rhythms and driven harmony. The first four introductory bars establish a motif of chromaticism until culminating with a $V-I$ cadence to the tonic, both of which emblematic of the genre’s style. Throughout, the piece utilizes a syncopated LH motif, informed by the ‘march’ style and African polyrhythms, including the pattern of bass notes on the strong beats (1-3) and chords on the weak beats (2-4). Harmonic techniques like secondary dominants and borrowed chords also hint at the beginnings of jazz. For instance, measures 11–13 have an

¹Karen Collins. “In the Loop: Creativity and Constraint in 8-bit Video Game Audio”. In: *Twentieth-Century Music* 4.2 (2007), 209–227. DOI: 10.1017/S1478572208000510.

²Addison W. Reed. “Scott Joplin, Pioneer”. In: *The Black Perspective in Music* 3.1 (1975), pp. 45–52. ISSN: 00907790. URL: <http://www.jstor.org/stable/1214379>, p. 45.



unconventional ($VII^7-iii-V^7-I$) cadence, wherein a $iii-V^7$ movement is preceded by Em’s secondary dominant³ B^7 . Another important element of this piece is the use of the II^7 chord, functioning as a secondary dominant (or often a passing diminished, $\#iv^\circ$) into the dominant chord. In this way, the piece encourages the listener to firmly grasp the direction of the predictable harmony. The entire piece has a texture consisting of two distinct layers: the bottom bass rhythm and the chromatic melody on top. Overall, “Country Club Rag” stands out due to its harmonic complexity for this time period featuring elements of early jazz music, and culminating to create this unique vibe compared to simpler Joplin works like The Entertainer.

2.2 Research 2: Piano Concerto for the Left Hand

Ravel’s Piano Concerto for the Left Hand stands as one of his most unique works. As one of his post-WWI works, it displays a marked shift in his style, mirroring the aftermath of France after the war.⁴ To see how this time period paved the way for jazz theory, I also explored Ravel’s contemporaries, including Claude Debussy, Eric Satie, and Honneger among others. This concerto is fascinating both in its limitations of one handedness, but also in its marked jazz influence, with a friend of Ravel publishing Ravel’s remarks that, “[The concerto] contains many jazz effects, and the writing is not so light.”⁵ The culmination of these factors is a concerto that is remarkable for its orchestration, its avant-garde, its technical challenge, and, above all, its spirit. To glimpse at the genius of the entire piece, consider an analysis of the opening buildup to the piano cadenza: Ravel’s left-hand concerto introduces the first main melody in the lower register of a Contrabassoon overtop a muddy Em(add 4) harmony, before it moves down to rest on a C, outlining a C/E, which is then reinforced by the Bb in the Cornets giving it

³In the major key, iii , can be considered dominant-parallel, which I am assuming here

⁴Arbie Orenstein. *Ravel: man and musician*. New York: Dover Publications, 1991. ISBN: 9780486266336, p. 100.

⁵M.D. Calvocoressi. *Musicians Gallery: Music and Ballet in Paris and London*. London: Faber and Faber, 1933.



a mixolydian sound. Here, Ravel emphasizes this harmony as a $E\flat 7$ so as to prepare for the resolution to a $D5$ in the key of Dm . In a twist of expectations, he takes this fifth, voiced in the horns, a semitone down, establishing a new tonal center of $C\sharp$. This, with the transposed melody outlining a $C\sharp m(maj 7)$ —harmonic minor harmony, ambiguously shifts to the III chord, E major. The melody in $C\sharp$ harmonic minor emphasizes the $G\sharp$, $A\sharp$, $B\sharp$ —the 5th \flat 6th and \flat 7th scale degrees respectively—which then changes subtly changes to $G\sharp$, $A\sharp$, $B\flat$, outlining the \flat 3rd, \sharp 4th and 5th of the new harmony in E. Combined with the inclusion of the pulsing \flat 7th in the strings, Ravel implies a challenging E-lydian-mixolydian mode (viz. A raised 4th and flattened 7th)—only one note from a whole-tone scale. As tension builds with a rising melody, this E serves as the dominant chord in a V-I resolution to A major. Quick to prevent this from sounding resolved, Ravel incorporates the \flat 7th in a rhythmic motif in the strings along with the \flat 9th (The $B\flat$ an octave above the A) to outline a dominant \flat 9 chord with a thick, oppressive texture in the orchestra. He grows and thickens this harmony incorporating a new counter-melody in the trumpets almost giving it a Dm/A or iv/i sound. This grows to an apex with a fortissimo $Asus4$ with a dominant function. Without resolving the dominant harmony, the piano cadenza begins with the same tonal center of A.⁶

2.3 Research 3: Rudebuster

For AOI 3, I chose to analyze “Rudebuster”⁷ written by Toby Fox for the videogame Deltarune. Studying the genre of videogame music more broadly, I explored works from other Japanese videogame greats like Koji Kondo and Nobuo Uematsu; as well as American composers like Martin O’Donnell and Jeremy Soule. As it’s primarily a backing track to another form of media, it’s fascinating to explore how Fox contributes to the game’s atmosphere using music. Particularly, this song takes place when the character uses the *Rudebuster* spell.

Throughout, Toby Fox uses the Phrygian mode and a syncopated rhythm to create an upbeat sound. The start clearly outlines the main progression of $i-bII-bVI-V7$ with an electronic piano-like sound. Notably, this chord progression takes place in a microtonal key (G half-flat/ F half-sharp minor), which I will hereafter spell as Gm . Percussion-wise, Fox makes use of an electronic drum set and noise synths/hi-hats. In Figure 1, we see he uses snare and bass establish a backbeat

⁶Maurice Ravel. *Piano Concerto For The Left Hand*. Song. 1930. URL: <https://www.youtube.com/watch?v=gjiSSWubIuU>.

⁷Toby Fox. *Rudebuster*. Song. Oct. 2018. URL: <https://www.youtube.com/watch?v=GPL5Hk111IQ>.



Figure 1: Main Piano and Drums ostinato transcribed by myself (note the tuning is 25 cents lower than 12-TET)

rhythm anticipating beat 3, with a noise synth constant filling the empty space (not transcribed). Creating syncopation, the piano harmony, mirroring drums, anticipates beat 3 and emphasizes the remaining weak beats. This piano ostinato, throughout, implies jazz-like extensions over the bass. For example, the piano begins with a Bb triad overtop a bass G implying a Gm^7 harmony. One notable feature of the song is its use of the Phrygian ($b2$ minor) mode. In particular, the i^7 to II^6 movement creates jazz-like momentum, with the voice-leading in the extension grounding the listener. The remaining harmony reinforces the mode, except notably a $v-i$ cadence borrowing the v chord from parallel minor. Fox emphasizes this cross relation between the Db and $D\sharp$ in the melody, highlighting his authorial intent behind this choice. Overall, this piece’s features illustrate, as a microcosm, the marked influence of jazz techniques on videogame music theory.

2.4 Research 4: Wii Shop Channel Main Theme

To further explore jazz-influence on videogame music, I chose the “Wii Shop Channel Main Theme.” This is AOI3 because its purpose is to act as background music as the user purchases games in the Wii Shop. The song begins by establishing the (entire!) key with a V^{13} dominant chord in the melody’s main synth. The percussion fills in the two measures following, outlining its notorious *bossa nova*, literally “new trend” or “new wave,” rhythm. Wii Shop’s composers broke the traditional confines of video game music—which has a reputation for its electronic sound—instead combining a unique blend of live instruments, bass guitar, maracas, and wood blocks in addition to a single, unchanging synth. The Wii Shop theme is notable for its complex harmonies and jazz influence. Taking advantage of many chord extensions, its composers thoughtfully create harmonic variety despite its perceived simplicity. Another motif of its is the tendency to use ii-V-I turnarounds to either modulate or generate momentum within a key. For instance,

shortly after establishing the main theme, the introduction modulates to an entirely new key through a ii-V-I turnaround. Its composers, wary of the need to avoid too much atonality, ground the listener through these modulations in its use of a ostinato 5–1 bassline in the bass guitar corresponding to the respective harmony. Despite the occasional voice-leading chromaticism, this baseline serves to reinforce where the listener is in the piece, making the numerous cross-relations, accidentals, modulations, etc more palatable.⁸

3 Exploring as a Creator Written Statement

To explore unfamiliar territory as an arranger, I chose to reinvent an orchestral piece for four hands piano. My stimulus was “Main Theme” from Octopath Traveler, composed by Yasonuri Nishiki. I came across this song within a videogame I had not played. I was intrigued by the instrumentation and western style despite its Japanese origin. I hadn’t written for four hands on the piano; I was excited to undertake the challenge. Therefore, this project falls under Global Context and AOI 3, since I adapted music to an unfamiliar instrumentation and the music evokes emotion within the game.

My initial brainstorm consisted of exploring unfamiliar music in a variety of genres. I decided on this arrangement after listening to the four-hands piano work of Schubert and Brahms, notably Schubert’s Sonata in C major for piano four-hands, D 812, wherein he utilizes block chords and intertwines melody between the primo and secondo players. I sought more research material to understand the facets of disseminating complex melodies and harmonies from many instruments to four hands. One tip I found helpful was not limiting my top voice to the melody; at times I had a pianissimo sans acentuacion ostinato in the top voice adding glitter to the harmony. Additionally, I incorporated a call/response melody in the treble of the secondo piano. Overall, I found my research into the conventions of four-hands piano useful in expanding my musical vocabulary within this style.

My 32-bar composition was the first section of the orchestral piece. Using piano dynamics, I tried to emulate the chugging chords in the strings section. In the first section, I also used acciaccatura to emulate the sound of wind instruments. I often deviated from the stimulus piece by adding in extra chord extensions and voicing the melody in 3rds 5ths and 6ths. After the sudden key change, I employed dynamic contrast between the secondo piano playing melody and the primo piano contributing to harmony with ostinato ‘trill-like’ chords using various diatonic 2nds in the appropriate mode (e.g., Ab lydian, Eb dorian, etc.). I included this novel motif throughout the piece because it added a ‘glitter-like’ feeling to the harmony. Lastly, I incorporated syncopation and thick cluster-chords to give the final two sections momentum and emphasis.

Overall, I was pleased with the outcome of my exploration, although it was more difficult than anticipated. Throughout the project, the most time-consuming

⁸Kazumi Totaka. *Wii Shop*. Song. Nov. 2006. URL: <https://www.youtube.com/watch?v=yyjUmv1gJEg>.

part was adapting parts such that the pianists could play notes comfortably without overlapping. This had the effect of forcing me to interchange my melodies between hands and to write in some confusing fingerings. Despite the difficulty, I feel that I learnt a lot about composing for four hands piano during this process. If I were to complete this assignment once more, I would record each part since the sampled piano on the notation software made certain parts sound too muddy. By recording it, I would achieve more realistic dynamics between the melody and the filler notes within the chords.

4 Exploring as a Performer Written Statement

For the task of Exploring as a Performer, I chose the “World Ending Theme” from Super Mario World. This song falls under local context and the AOI 2: music for listening and performing. My relationship to this song prior to the project was limited, as I have never played Super Mario world. Yet, this has a local context because I enjoy listening to video game music in general. Furthermore, this piece falls into AOI 2 because I adapted this song to a rag-time genre, which is traditionally a performance-based convention. My initial brainstorming ideas included emphasizing the rag-time-like sound with a ‘jumping’ left-hand figure and an accentuation of the swing rhythm. I focused on maintaining the general structure and ‘feel’ of the harmony throughout; the major changes I made were in voicing chord extensions and voice-leading. With these core ideas in mind, I set out to research rag-time conventions with which I had no experience. One interesting thing I encountered was the influence of Black Americans on popularising rag-time, especially in the realm of American pop music. One composer I focused primarily on was Scott Joplin. After listening to his style, I felt I had a strong foundation. Some techniques I tried to implement were the emphasis on the bass note on beats 1 and 3 with the chords played typically higher on beats 2 and 4, and the syncopated ‘swing’ melody. Some less prevalent conventions that provided a ‘ragtime-like’ feel were the interplay between the b3rd and 3rd note diatonically and the use of altered dominant chords.

For the first week, it was helpful to explicitly write out the melody so I could understand the swing rhythm. After this, the main portion of my adaptation was practicing the muscle memory for the jumps in the left-hand. Despite my experience with piano, I had not encountered many sections that had large jumps throughout. This also took time because I intentionally challenged myself with the intervals and the spacing. Using advanced conventions, I voiced the bass notes on beats 1 & 3 using octaves and the chords on beats 2 & 4 with a mix of inverted three and four-note chords. For these reasons, it was initially difficult to play both the RH and LH together. Another idea I developed during this time was tightening the voice leading by altering the chord extensions. One example of this was the ending 2-5-1 cadence that I spiced up by playing an Fmaj7 over D (Dm9), a F A# B Eb over G (Galt), and resolving to a Cmaj(6/9). Here for instance, the upper voice walks down two semitones from E to Eb to D throughout this cadence. In the original song, there is a frequent use of the ‘mario chord:’ an

augmented dominant chord. I also worked extensively to include this within my arrangement and to use the augmented 5th in my voice leading.

As I progressed, the song became much easier and more enjoyable to play. Recording the performance was not terribly difficult; it only took around five takes. It also took a slight amount of work to set up the stereo microphone setup and to tweak my adjustments to the sound. Overall, from this assessment I have learned that my piano abilities are able to adapt to novel styles and situations, since I was able to perform in ragtime despite my inexperience. I really enjoyed exploring past the realms of classical music, wherein I have focused primarily on techniques like arpeggios and finger dexterity.

5 References

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6 Appendix

Track	Timestamp
Country Club Rag – Scott Joplin	0:00
Piano Concerto for the Left Hand – Maurice Ravel	PART 1: 0:41 PART 2: 1:05
Rude Buster – Toby Fox	1:42
Wii Shop Theme – Nintendo	2:17

Table 1: Audio tracks for Music Research

Track	Timestamp
Exploring as a Creator	0:00
Ending Theme – Super Mario World	1:13
Exploring as a Performer	1:58

Table 2: Audio evidence for Exploring as a Creator/Performer

Octopath traveler main theme two pianos

$\text{♩} = 120$

Primo Piano

Secondo Piano

Pno.

Pno.

Pno.

Pno.

This musical score is for a two-piano arrangement of the Octopath Traveler main theme. It is written in 4/4 time with a tempo of 120 beats per minute. The key signature has one sharp (F#). The score is divided into four systems, each containing staves for the Primo Piano, Secondo Piano, and two grand pianos (Pno.). The Primo Piano part is mostly rests. The Secondo Piano part features a continuous eighth-note accompaniment in both hands, starting at a mezzo-piano (mp) dynamic. The first grand piano part (Pno.) begins with a forte (ff) melody in the right hand and continues the eighth-note accompaniment in the left hand. The second grand piano part (Pno.) features a forte (f) melody in the left hand and continues the eighth-note accompaniment in the right hand. The third and fourth grand piano parts (Pno.) continue the melodic lines in the right and left hands respectively, while the left hand of the third system and the right hand of the fourth system continue the eighth-note accompaniment. Dynamics include mp, ff, and f. The score includes various musical notations such as beams, slurs, and articulation marks.