IB Music Exploring Portfolio

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March 8, 2023

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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.

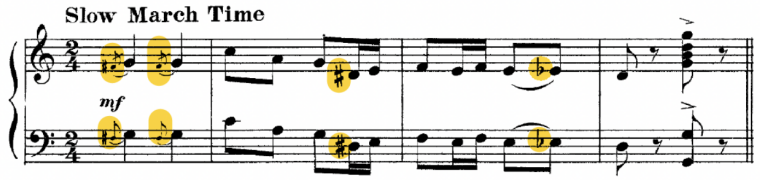
2 Research

2.1 Research 1: Country Club Rag

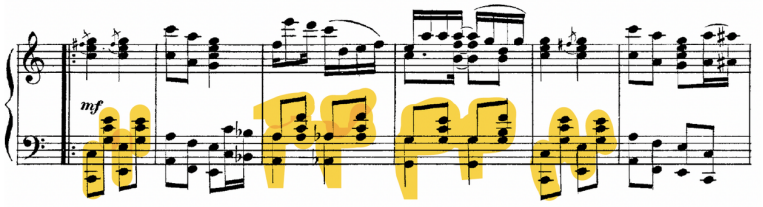
In focusing on AOI 2, I explored ragtime piano to understand the early chronology of jazz. To understand the key characteristics/tropes of the genre, I explored the music of many staple composers in the era, including James P. Johnson, and Ubie Blake. I chose to focus on Scott Joplin's work, of which "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: AABBCCDD. 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.

[1] Karen 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.

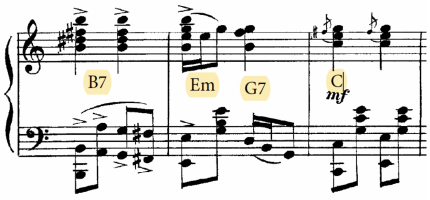
[2] Addison W. Reed. "Scott Joplin, Pioneer". In: *The Black Perspective in Music* 3.1 (1975), pp. 45–52. ISSN: 00907790. URL: http://www.jstor.org/stable/1214379, p. 45.



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 unconventional (VII^7–iii–V^7–I) cadence, wherein a iii–V^7 movement is preceded by Em's secondary dominant[3] 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, $\#iv^{\varnothing}$) 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 it's 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

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

the aftermath of France after the war.[4] To see how this time period paved the way for modern jazz theory, I also explored Ravel's contemporaries, including Claude Debussy, Eric Satie, and Honneger. This concerto fascinates me both in its limitations of one handedness, but also in its marked jazz style, with a friend of his 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 piano's introduction. The piece introduces the main melody in a Contrabassoon's lowest register overtop a muddy $Em(add4)$ harmony, before it rests on a first-octave C outlining a C/E, with a mixolydian sound given by the $B\flat$ in the Cornets (and moving away from the E minor key-center). Here, Ravel emphasizes this harmony as a $E\text{ø}7$ as if he were preparing for the resolution 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 $C\sharp m(maj7)$ (harmonic minor), ambiguously shifts to the III, E major. The melody in C$\sharp$ harmonic minor emphasizes the $G\sharp$, $A\sharp$, $B\sharp$—the 5th $\natural$6th and $\natural$7th scale degrees respectively. This then subtly changes to $G\sharp$, $A\sharp$, $B\natural$, outlining the $\natural$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. major $\sharp$4 and $\flat$7)—nearing the whole-tone scale. As tension builds with a crescendo in melody, this E becomes the dominant chord in a V–I resolution and modulation to A major. Preventing this from sounding resolved, Ravel incorporates the $\flat$7th along with the $\flat$9th, $B\flat$, (in this *new* key!) 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. And, without resolving the dominant, the piano solo (ingeniously) begins in the same tonal center of A (minor).[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 composes 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

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

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

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

[7] Toby Fox. *Rudebuster*. Song. Oct. 2018. URL: `https://www.youtube.com/watch?v=GPL5Hkl11IQ`.

takes place when the character uses the *Rudebuster* spell.

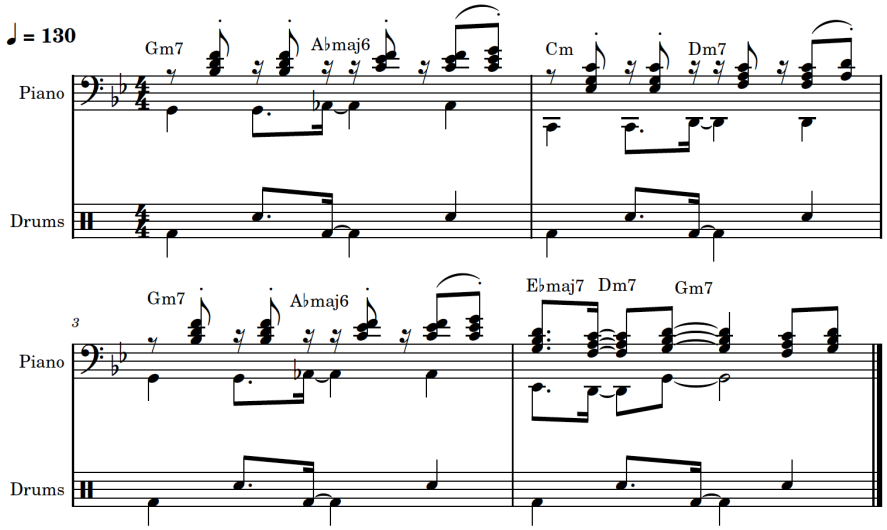


Figure 1: Main Piano and Drums ostinato transcribed by myself (note the tuning is 25 cents lower than 12-TET)

Throughout, Toby Fox uses the Phrygian mode and a syncopated rhythm to create an upbeat sound. The start outlines the main progression (i–$\flat II$–$\flat VI$–V^7) 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 spell as Gm. Percussion-wise, Fox makes use of an electronic drum set and noise-synths/hi-hats. In Figure 1, it's clear he uses snare and bass establish a backbeat 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 $B\flat$ triad overtop a bass G implying a Gm^7 harmony. One notable feature of the song is its use of the Phrygian ($\flat 2$ minor) mode. In particular, the i^7 to II^6 movement creates jazz-like momentum, with the voice-leading in the extention grounding the chromatic motion in the Phrygian key center. The remaining harmony reinforces the mode, except notably a v–i cadence borrowing from the parallel (natural) minor. Fox emphasizes this cross relation between the $D\flat$ and $D\natural$ 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 synth. The percussion fills in the

two measures following, outlining its notorious *bossa nova*, literally "new trend," rhythm, deriving from jazz and traditional latin rhythms. This piece breaks 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, reminiscent of late 20th-century American pop. The Wii Shop theme is notable for its complex harmonies and jazz influence. Taking advantage of many chord extensions, its composers create harmonic variety despite its perceived simplicity. It's tendency to use ii-V-I turnarounds to modulate and generate momentum highlight the song's jazz vocabulary. For instance, shortly after establishing the main theme, the introduction modulates to a new key through a ii-V-I turnaround. Its composers, wary of it's purpose as background music, ground the listener through in the 5–1 bassline in the bass guitar. Although it employs voice-leading chromaticism at times, 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 four-hands piano after listening to the these styles by Schubert and Brahms, notably Schubert's "Sonata in C major for piano four-hands, D 812", wherein he uses block chords and intertwines melody between the primo and secondo players. Much of this research informed techniques I used in my arrangement. For instance, I didn't restrict my melody to only the top voice; at times I had a pianissimo *sans acentuacion* ostinato in the top voice adding glitter to the harmony. Additionally, I incorporated the technique of a call/response melody in the treble of the secondo piano. Overall, I found my research useful in expanding my musical vocabulary within this style.

My 32-bar composition derives from 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 the wind section. I often deviated from the stimulus piece by adding in extra chord extensions and voicing the melody in 3rds 5ths and 6ths to capture the orchestra's thick texture. After the sudden key change, I employed dynamic contrast between the secondo piano playing melody and the primo piano contributing to harmony

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

with ostinato trill-like chords using various diatonic 2nds in the appropriate mode (e.g., $A\flat$ Lydian, $E\flat$ Dorian, etc.). 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 I anticipated it would be less difficult to do. The most time-consuming part was adapting the technique such that both pianists could play notes comfortably without awkward overlap. This forced me to interchange my melodies between hands and to employ, at times, complex fingerings. 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 muddy and hampered the dynamic contrast.

4 Exploring as a Performer Written Statement

For the task of Exploring as a Performer, I chose the "World Ending Theme" from Nintendo's Super Mario World. This song falls under local context and the AOI 2. Although, I'd never played Super Mario world, this song has a local context because I've listened to this piece for enjoyment. Furthermore, this piece falls into AOI 2 because I adapted this song to a rag-time genre, which is a performance-based convention. My initial brainstorming ideas included emphasizing the rag-time-like sound with a jumping left-hand and an accentuation of the swing rhythm. I focused on maintaining the general structure and feel of the harmony throughout; the changes I made were in voicing chord extensions and voice-leading. With these ideas in mind, I researched rag-time conventions. And, after deep-diving into the conventions of Joplin, I felt I had a strong foundation. I tried to implement techniques including emphasis on a dominant-tonic bass on strong beats and block chords on weak beats to create the syncopated swing melody. I also focused on the crossrelation between the ♭3rds and ♯3rds and the use of altered dominants, like the augmented dominant 7th.

For the first week, it was helpful to explicitly write out the melody so I could understand the swing rhythm. After this, I practiced the muscle memory for the jumps in the left-hand. Despite my piano experice, I had limited experience with these left-hand figures. This also took time because I intentionally challenged myself with wide intervals, voicing the strong beats in octaves and the chords on weak beats with a mix of inverted three- and four-note chords. For these reasons, I found it initially difficult to play the RH and LH together. Another idea I developed while practicing was to tighten the voice leading by altering the chord extensions. One example of this was the ending ii–V–i cadence that I complexified with an $Fmaj6$ over D (outlining a $Dm9$), then a $F7(\flat5)$ over G (a $Galt$), and resolving to a $Cmaj^6/_9$. Here, the upper voice walks two semitones from E to D grounding this cadence.

As I progressed, the song became easier and more enjoyable to play. Recording the performance was not exceedingly 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 project I was proud to see that my piano abilities could adapt to novel styles and situations, despite my

inexperience.

5 References

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

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

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