

Berklee College of Music

# **Smash and Grab: Rescore**

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Master of Music in Scoring for Film, Television and Video Games**

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## Abstract

This CE paper focuses on my progress of scoring for an animated short film - starting with contacting the studio, composing for the short film, recording in London and ending with mixing and mastering. This project is not only about my progress, but also my inspiration and mindset while working on this music piece. My music background and the inspiration that I had over years are also discussed in this paper. The main reason for choosing an animated short film is because animation, as a genre, allows a composer to show his/her compositions skills regarding the complexity and constantly changes on emotions.

*Keywords:* composition, animated film, short film, process, inspiration

## Introduction

In 2017, I successfully graduated from the Musician Institute in LA, USA - with a Major in Scoring for Visual Media and minor in Audio Engineering and Postproduction. After that, I secured a position as an intern for a few composers and recording studios. During this time, I also participated in various talks and conferences, such as the Society of Composers and Lyricists (SCL), Game Developers Conference (GDC), Audio Engineering Society (AES), etc. I met lots of talented and experienced composers at these talks. From their speeches and advice, I knew that what I had learned was far from enough, especially being someone who had never been professionally trained in music before earning a bachelor degree. Although I learned a lot of cutting edge technologies and concepts in the industry, I felt that knowledge is like a puzzle that falls apart and shatters everywhere, which means I would need to spend years and years collecting all the pieces to get a greater picture of film scoring. Starting from that point, I was desperately looking for a place which could provide me an organized and efficient way not only to learn all the knowledge I need to face the future challenge, but also to catch up with all the composers out there who have solid musical backgrounds, having started in music at an early age.

After lots of discussions and help from my professors at the Musician Institute, I was glad that I had been accepted in the Master of Music in Scoring for Film, Television and Video Games at Berklee Valencia. To me, Berklee is one of the best-known institutes in the industry with a strong connection and network all around the world. I am grateful that I had made this choice.

## Seeking Process

The original plan for my culminating experience was to score an upcoming indie game. I had met the producer face-to-face at a game expo in Taiwan during my summer vacation in 2018 before coming to Valencia. I met him at his booth during the expo, where he was exhibiting his previous game “Alleys” - a quite successful game on Android platform. After a short talk at the booth, I sent him my demo reel later the same day. Luckily, he liked my composition and invited me to have a coffee with him the next day. Our conversation went well. He told me that he was planning to work on his next game which would be deployed on PC, and he thought my music style would fit perfectly in his new project. The game was about a love story between a couple. Players would need to interact with different objects and make choices in a room that could evolve into various endings. While players proceed to the end, music would also evolve slowly with the gameplay like in the scores *ABZU* or *Journey* by Austin Wintory, where music plays a major role in the game. Although I still keep a good connection with this producer after I came to Valencia, at some points I knew that the production time line of his project was not going to meet my London recording schedule and I really needed to start working on my music at that point.

To get the most out of the size of the orchestra and lush room in Air Studio’s church, my direct study professor told me to score for a clip that needed to have a big sound and I agreed with his point of view. I started by contacting several art school’s animation departments in Taiwan, such as the National Taiwan University of Art. Unfortunately, most of them either did not reply at all or were too late to deliver the videos for London recording. Also, most

animations from these art institutes were very artistic compared to my music, which is more commercial.

Just when I was lost during the search for the video, “Smash and Grab” appeared in my recommendation list on my Youtube’s homepage and it fit perfectly to what I was looking for. Just a few days previously, I had been talking to my direct study professor that “Wall-E” might be the perfect choice for me and “Smash and Grab,” a much better choice, just appeared out of nowhere. This short is from a Pixar Artists’ Project called Spark Shorts, which is directed by Brian Larsen and produced by David Lally. I tried to contact both of them through Facebook, LinkedIn and even Twitter, asking for the permission to use this short as my final project at Berklee for educational purposes. However, I have not received any reply even after the London recording. Nonetheless, I did not expect them to reply me since they are both such a high profile people in the animation industry.

## About the Picture

Spark Shorts is a program created by Pixar. From what Jim Morris, the president of Pixar Animation Studios said, “The Spark Shorts program is designed to discover new storytellers, explore new storytelling techniques, and experiment with new production workflows. These films are unlike anything we’ve ever done at Pixar, providing an opportunity to unlock the potential of individual artists and their inventive filmmaking approaches on a smaller scale than our normal fare.” “Smash and Grab” is one of the Spark Shorts that have only been released on YouTube.

The story takes place on an unknown planet in space set in a sci-fi world where robots are the only “life forms” on it. Two robots that have never gone to the outside world but connected into a power source inside a train are trying to escape from their jobs. For these two robots, their daily job is to shove special rocks that contain energy into a machine in an engine room in order to keep the train moving. Although they have never been to the outside world, it is the place they have always longed for. One day, they accidentally discover a way to connect a portable power source on themselves to them to get out of the engine room without powering off. But their escape triggers an alarm and release the security bots trying to hunt them down. During the fight they soon realize that their portable power source is fragile and will explode whenever there is a crack on the surface. So, one of the robots choose to use its power source as an explosive to defeat the security robots and accidentally stops the train at the same time. After all the work together both robots finally escape at the end.

The section I choose to score from this short for my London recording project starts from when both robots escape from the engine room and have their first glance of the outside world to the end of this short, when both robots walk away towards the horizon together.

There is an interview video on Pixar's YouTube channel titled "Go Behind the Scenes of Smash and Grab | Pixar SparkShorts". During the interview Brian Larsen, the writer and director of this short film, talks about the creative process of the short starting from an idea, into concept art, script, sketch, 3D model and even shows the motion capture process for both robots. The time, effort and details that they put into making this short all combine and turns into this creative short at the end. From that video, I can feel the passion of the creator even at the other side of the screen. This is also one of the reasons why I choose "Smash and Grab" as my final project to score for.



## Spotting and Preparation for Composing

After I choose the clip, I started the composition process. For me, the first step of my scoring process is to watch the clip for a few times, spot the sync points and lay out the general emotional change throughout the clip. After that, I need to have a general concept on the writing direction I am going for. For me, this is one of the most important processes before I start the composition work.

Below are a few of the music style ideas that came out during the brainstorming process.

### 1. Ambient (Under Score)

This was my first idea for this project and it is also what the original score (composed by Barney Jones) is going for. The music is not noticeable until the very end of the short. But in the original score there is a glass click sound played constantly throughout the score. This sound also indicates the key item of this short, which is the portable power source made from glass. The reason for me to consider this genre is because, at a period of time, I was really into this type of music. I can listen to artists on YouTube such as Lightbath, RemixSample and Johann Johannsson for a whole day. I look at this as my leap, changing from looking at music as just melody plus chord into an “emotion enhancer”. Music does not necessarily need to be memorable, epic or even well-orchestrated, as long as it creates an emotion that fits the screenplay. So, my original idea for it was trying to create ambient sound with a 40-piece orchestral setup, by using a combination between extended technique and low dynamics. But I soon realized

that, by choosing this writing direction, I was not getting the most out of orchestra or displaying what I had learned in Berklee.

## 2. Trailer music style

This style is something I am familiar with. The top composers in this genre are studios like Two Step From Hell, Ninja Tracks and Really Slow Motion. The advantage of this style is it is easy to create certain kind of emotion in an efficient way. But due to the nature of this style, it is hard to change from one emotion to another. But for me the real reason not to choose to do a trailer type of score is because most of the time these types of music are too ambiguous. In my previous

study and experience in the industry, multiple producers and professors told me my music sounded too normal (see fig. 1). Or generally sounds like “A composer” instead of me and I

Hi Frank,

Thank you for showing interest in the project.

What we've envisioned for RC is a futuristic mysterious (darker) dub-techno/electronic/Industrial/dark electronica/DnB genre kind of music, above all, weird, original, non-generic, in consistency with the rest of the game. We don't want to be harsh on you but, what you presented us here is quite generic and far from memorable. Creating the music for RC will require much more effort and creativity. No cheap fantasy epic music and such which is done to death and gets boring super fast.

Figure 1. This is a real email reply from an indie game producer after I send him my demo reel

agree with them. So, this style was excluded from my list at the very beginning of the brainstorming process. Also, the repetitiveness of this style would make people tire of it fast.

## 3. Modern film music (Hybrid style of music. Synthesizer with orchestral instruments)

To me, this genre is somewhere in between ambient, trailer and 80's music style. Although there are loops in it, the music will develop a lot more compared to

trailer music, through layering. The famous composer Hans Zimmer or artist Junkie X use this style. They use a simple melody and develop a song out of it. It seems that they are used to creating their own instruments out of everything that makes a sound. For instance, in “Man of Steel” Hans Zimmer sampled the sound of a boxer punch and turn it into the kick that he used in the main theme. Also, in this style, the theme does not necessarily mean a melody or motif. Sometimes, the theme is just a sound that is tied to the character. The “trailer brass” or the “Braams” sound in “Inception”, the organ in “Interstellar” and the clock sound in “Dunkirk” are all great examples. Hans Zimmer is one of my favorite composers and might also be the person who influenced my composition style the most. Despite all of this, I still dropped this idea at the end because I considered this genre is better at demonstrating the production skills instead of composition and orchestration.

#### 4. 90’s film music

Although calling it 90’s film music might not be accurate, to me this indicates music that has a clear and memorable melody found in iconic composers such as John Williams, Danny Elfman and Howard Shore. I am always a fan of their music, especially John Williams. The way he reharmonizes and reuses the same theme throughout the Star Wars franchise makes the story connect better and be more memorable. Also, the complexity of his orchestration is something that has always amazed me. The great thing about this style is that it is easy to change from an emotion to another because of all the time signatures and key changes

there are. Also, it would be easier to hit the sync point since I am scoring for an animation and will need to do a lot of mickey-mousing. Although I really like how beautiful this music style is, it is going to be complicated to compose in this style as it is something I had never done before. But at the end I decide to take this challenge and choose this type of music as my style guide for the London project.

My direct study professor Vicente Ortiz Gimeno also helped me a lot by guiding me through some of the possible options and brainstorming ideas with me whenever I was stuck at some point.

## Composition

Since the style I choose was something I was not familiar with, the first thing I did was follow scores to music and try to analyze cues in movies. The music I choose were soundtracks from movies like “Star Trek”, “Star Wars”, “Wall-E” and other animation films by Pixar and DreamWorks. But I soon noticed that, by doing this, I was taking the risk of accidentally plagiarizing their music. So, instead of analyzing scores, I went for another approach by listening to tons of same style of music. The result was surprisingly effective after a week or two.



Figure 2. Trumpet line at bar 13

My music inspiration for this project did not only limited from film score but also comes from various kind of music styles. For instance, the trumpet line at bar 13 (see fig. 2) is inspired by a Laur's “Chaostyle”. A hardstyle track by a young and talented artist who is still studying in college in Japan. The B section of my main theme (see fig. 3) from bar 25 to 27 in french horn are inspired by “Stand Your Ground”, the battle theme from Final Fantasy XV composed by Yoko Shimomura. I also get other inspirations from composers like John William's Star Wars, Indianan Jones and Harry Potter soundtrack. Musics from Wall-E as well as another animated film from Pixar inspires me a lot as well.

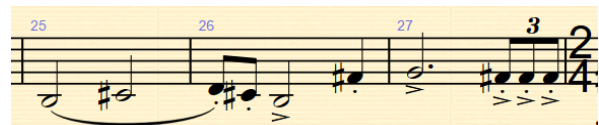


Figure 3. French horn line at bar 25 – 27 (Part B of the main theme)

One of the new concepts that I tried in this project is to compose without thinking the key where I am in right now. But this does not mean I am going for twelve tone or contemporary, aleatoric composition. Instead, I compose music that sounds good to my ear. I think it effective me in a good way and it do reflects in the composition. Compare to my porevious piece, my London project sounds a lot more complicate nomatter on texture, emotion and orchestration.

When I want to compose music that need a theme, I will always start by making the theme and build everything around it. At the end of April, I already have the main theme ready (see fig. 4) and composed a 1 minute sketch for it. After showing to a few people my



Figure 4. The first version theme I have

orchestrated mockup everyone gives me the same feedback, saying that the main theme sounds like the theme from first Incredibles composed by Michael Giacchino. I done some research and



Figure 5. The final version of theme

find out that it is the C note on second bar (see fig. 4), which is a minor six, is creating that “Incredibles” or “Spy movie” feel. So I quickly came up with the second version

of the theme which is also the final version (see fig. 5).

I also use a lot of the technique that I had learned throughout this year in Berklee. Especially in Advance Dramatic Orchestration 2 in second quarter by professor Alfons Conde. Between the talk with my classmates, I realize that most of my classmates who either graduate from conservatory or have a classical music background are already familiar with all the orchestration and doubling technique we cover in class. But for me this class is one of the most helpful lesson during my composition for CE. By analyzing how modern scores inspired from

classical composition, seeing how composers double or harmonize different instrument sections not only inspires me on composition but also expand my harmonic language at the same time. For example, when brass section are playing main theme from bar 18 to 28 in score, I let the string section to play staccato chord



Figure 6. The string motor from bar 22 to 24.

creating a “string motor” driving the tension of the scene (see fig. 6). But instead of just playing chord, violin two and viola have a few different notes that is not in the chord. Sometimes it is not even in the same key. Because of that dissonant in harmony, it gives the theme more tension compare to just playing consonant chord. This is one of the techniques that we had covered in the string motor lesson in this lesson.

At the end of the composition, I have a chromatic ascending in major chord to build up till the end, with the whole orchestra playing, spreading out into a big chord (see fig. 7). This is inspired by the intro of the main theme for Willy Wonka and The Chocolate Factory, which released back in 1971. I watch this film because of one of the assignment for Advance Scoring 2. We need

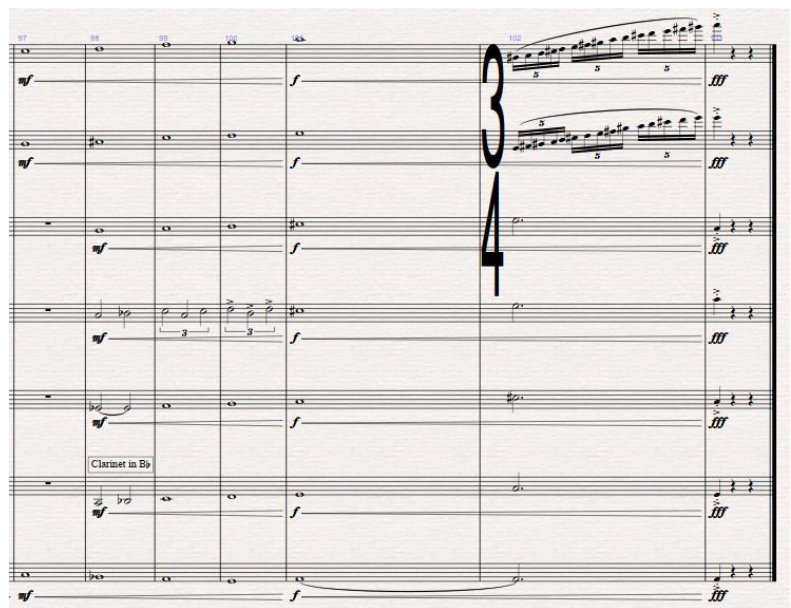


Figure 7. The wood wind section from bar 97 to 103

us to compare the difference of an old and new version of the film in same franchise for that assignment. While watching the 1971 version, I soon get in love with the main theme of it which was first played when Charlie get his golden ticket and run out of the store back home. I end up analyzing the whole theme song and use the idea from it and turns it into the ending scene of “Smash and Grab”.



## Recording

My recording in took place on the second day, on Friday, June 14<sup>th</sup>. Compared to my first ever studio conducting experience for my bachelor final project, I could feel that I was less nervous. Also, I had a bit more emotion expression during my conducting compared to the last time. At my bachelor recording, I was basically hitting the beats on stage, but this time I included more emotion while conducting. For example, on bar 36 sync to when one of the robots get hit by the security bots and falls down on the ground; at that scene, the emotion switches from action adventure type of music into sad and emotional. My conducting also followed it, and I could feel that the emotion was passed onto the player. The first take included quite a few mistakes and was not useable at the end. This might be because of my conducting. But everything after that worked very well. When I was comping the session in Pro Tools, I had a really hard time to choose the best take. I was so amazed by how good the players were, able to sight read everything and record it in less than 20 minutes.

During one of my classmates recording time, I had a chance to be in the control room to listen and watch how the engineers works. In Air, the lead engineer acts like a producer who is pointing out the parts that need to be recorded again and riding faders. The assisting engineer is driving Pro Tools, setting up the timer, writing down take notes and editing, all at the same time. It is amazing how many tasks he could do at the same time. When the lead engineer was telling players what to change in the talkback, the assistant was already setting up the pre click from that bar and arming the tracks waiting for the next take. While waiting, he would also write down take notes as well as do a rough comp for the session which sounded so great that I used almost all of it as the final comp. This kind of workflow is something I had never seen before. During

my internship in the past, I had a chance to assist a recording session, and what I was doing was nothing more than setting up microphones, patch bay, clean up session and bringing in coffees. I am glad that I have had this chance to have a glance of how top end recording studio work.

## Mixing, Mastering

After coming back from London, I started to prepare for the mixing and mastering process. First, I cleaned up the session after comping through all the takes. Then I took out the unwanted frequencies, most of them are in the middle. Also, I added some high pass filters on mid and high register instruments where low frequency was not needed, in order to clean up the muddiness in the mix. The final step for mixing was to adjust the balance of different instruments and mix in my mockup with it. For mixing, I used another new approach that I had never tried before. I used console 1 from Softube as my DAW controller. During the final mix, I turned off my computer screen and adjusted the volume with my ears so that I could just focus on the music. Also, I mainly used analog modeled plugins for my mix for this project, not because they sound better, but because I can't see what their wave forms and frequency look like. Although I always hear engineers say "mix with your ear, not your eye," this is the first time I put it into practice. I feel like the result is a lot better than my previous mixes. I have two attempts for the last mixing process. For the first time I used all the microphones that I had, but the mix instead of sounding bigger, sounded narrower and closer. I felt like adding too much close and section mic was taking the depth out of the mix. So, on my second attend, I only used three mics, blended in with a little bit of ambient mic. I guess this is what "less is more" means.

I also put into practice a lot of the mixing techniques that I had learned in Berklee into this mix. For instance, I always used to have a problem that my mockup and recorded instruments did not blend well together, they sounded like they were in different rooms. But by using Altiverb, loaded in different impulse responses, they sounded as if they were recorded in

the same room. I was able to place the instruments into the 3 dimension space to blend in to the recording.

The mastering process was quite simple. I completed my final master in Berklee's studio. First, with a few equalizers boosting high and low frequency, I took out some mids to create something like a smile EQ. After that, an Ozone multiband compressor was inserted into the channel with a 1.5 : 1 to 2 : 1 compression rate effecting the frequency around 300Hz to 3000Hz, so the sound was not too mid-range heavy. The signal chain ended with a maximizer just to push the loudest part of the cue close to -12 to -17 LUFS which is the average loudness of a film score.

## Experienced Learned

Although I am happy with the outcome of my final project in Berklee, there are lots of things that I could improve.

Firstly, I could make the composition style sound more modern. Maybe with a synth pulse and an ambient pad behind it. Although the composition I had is a good way to demonstrate the composing and orchestration techniques that I learned in Berklee, this kind of sounds are fading away in the film industry right now. So, I should do something to make it sound more modern, special, or sound like me.

Secondly, I should spend a little bit more time to proofread all the scores and parts again. Although I had already done that, there were still two places in the first violin which had enharmonic problems that I did not fix. Also, some of the dynamic did not line up and sometimes the box text was covered by a tempo change or was too far away from the bar line. Although these are all minor problems, I think that, if I can get these problems out of the way, I might have a chance to get a better first take when recording.

Thirdly, I could watch more conducting videos to improve my conducting. I used to be a person who thought our conducting did not matter since everyone is a top player in the field and they will just follow the click track in their headphone eventually. But I was wrong, during the middle of my recording session, one of the trombone player told me that, for the emotional part, he want me to conduct in 4/4 instead of in half time. At that point I realized that the orchestra was still looking at me and I am regret that I had not spent more time on conducting.

Lastly, keeping eye contact with the player is an important thing as well. After looking back into my conducting videos, I realize that if I did not keep eye contact with the player in the first take, they were not going to look back at you in the rest of the takes. I feel that if I had not lose the connection with the players, then the final recording might sound more emotional and tighter.

## Conclusion

Throughout this year, all the lessons I had prepared me for the London recording at the end. With this recording, I am able to put everything that I learned into practice. This is a special opportunity to let someone like me, as a starter, experience top level production. I am grateful that I have been selected by Berklee, a place where I can be surrounded by lots of talented composers and artists from around the world. This made me able to, not only learn from lessons, but also from classmates. For me, one essential skill I had acquired is how to learn: how to analyze different genres or films from around the world, so I will not be confused whenever I need to compose in a genre that I am not familiar with. This is the most important skill I will carry on with me into the future. Hopefully, in the near future I can move into the production level I experienced at the London recording someday soon.

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