# Song of Yui

**Song overview -** Theme song for the warrior princess Yui, on a quest to slay the dark armies who have taken her kingdom.

**Goal –** To create a theme song for a warrior princess with a dark, high-fantasy feel.

**Process highlights**

To achieve this goal successfully, there were key words I wanted to address.

1. What makes a song feel like it would be for a warrior? What makes it work for a princess? How do I blend these opposing identities into one song?
2. What makes a song sound dark?
3. What makes a song, high fantasy?

**Research and steps**

**Creating a song for a warrior princess**

To achieve this blend successfully, I decided to play with two independent music elements that could remain steady throughout the piece: Color and Rhythm.

First, was color, I opted to for full use of an orchestra to capture the feeling of wealth and royalty. In addition, there was a balance with the use of reverb. I allowed for as long of a tail as possible for the instruments without muddying the mix. The idea was to get as close to the feeling of hearing this in a large, stone hall as possible – the type you may find yourself in if you lived in a castle.

Second, was rhythm. To impose the rushing, chaotic feeling of war without clashing with the feeling of royalty, I chose to write the entire song in 10/8. Our ears are most accustomed to hearing music in 4/4 and 3/4, so by choosing this compound meter and repeating it throughout the whole song, it gives listeners enough nuance to sound tense yet is repeated enough that listeners can acclimate to something new. In addition, by breaking the accents of the rhythmic instruments into **1** 2 3 **4** 5 6 **7** 8 **9** 10 – or more simply, groups of 2 and 3 – it gives a sense of continually driving forward.

**Creating a feeling of darkness**

Creating a sense of looming darkness in the piece was achieved by key and careful selection of timbral registers for central instruments.

In using key, I focused mainly on composing melodies and harmonies using minor modes, which are naturally melancholy. There are very few key modulations in the song, but where there are (namely leading into the B section of the piece) those are achieved by raising the song by a minor 2$^{nd}$, which is a very dark and aggressive feel. However, all the use of darkening can quickly become overbearing and lose its impact, which is why the flourishes found in the A forms are written using the form's relative major.

Next, was timbral registers. A great, isolated example of this is to listen to a tubist play in a low register versus a high register. The former will have a distinct vibration and sound full and powerful. The latter will be smoother and emptier. Each instrument as its own types of timbral variations through their registers. Examples as they relate to this piece are: the deep, transitory brams versus the high, smooth supporting colorations from the tuba, the clarinet's chalumeau playing unison countermelodies with the viola, and the full-sounding toll of the bells in their low octaves.

**Creating high fantasy**

The last objective was to establish this song as a belonging in a high-fantasy environment. To do so was achieved by specialized instrumentation.

Namely, harps and woodwinds were used, with each having a particular tone that is often used in fantasy and fey styles of music. Although the harps are only highlighted in the B form, they play throughout the entire song to color the strings and give them more "pluck". The woodwinds are also used for color but are found primarily as flitting highlights in the A form flourishes. Both instrumentation choices added a hint of "magic" to the piece through their bright and glimmering colors.

**Result**

After my research and putting each of these concepts together, "Song of Yui" was successful in creating a dark, driving high-fantasy feel; perfect for a princess having to bring the sword to some orcs!

# Don't Hurt Me

**Song Overview –** EDM Song utilizing Subtractive, Additive, and FM Synthesis

**Goal –** To create an EDM Song utilizing Subtractive, Additive, and FM Synthesis all on top of a Grunge Beat.

**Process Highlights**

To achieve this goal successfully, there were two ideas I wanted to experiment with.

1. What sounds could I make using Additive, Subtractive, and FM Synthesis?
2. What would an EDM song sound like if instead of using a traditional house beat I used a grunge beat?

**Research and Steps**

**Additive, Subtractive, and FM Synthesis**

My first objective was to create a cohesive sound for the synths with the caveat that I would have to do so using at least one additive, subtractive, and FM style synth in the song.

To make sculpture metaphors for each:

Additive synthesis is like starting with a lump of clay and piling on more clay until you get a person. This was used for the bass synths by taking a simple saw wave on a low frequency and adding synths that were highly compressed and octave and two octaves higher to give extra presence and lock in with the kickdrums.

Subtractive synthesis is like taking a block of marble and carving away until you get a person. This was used for the lead synths in the bridge via low-pass filters to muffle the synth until the end of the section. In addition to cutting the EQ of some synths in certain parts, I also used it to dial in the release of multiple synths' envelopes to make sure the reverb didn't get out of control.

FM synthesis is like using a pottery wheel in the sense that the final sculpture (sound) is influenced by a chain of inputs with their order being very important. For example, if I took a lump of clay and did the following:
1. Pressed down to widen the lump of clay.
2. Cupped my hands around the center and pulled thus making a bowl.
3. Used a knife and gently carved a ridge in the side.

That would give us a nice bowl with a ridge. However, if I did so in reverse:

1. Used a knife and gently carved a ridge in the side.
2. Cupped my hands around the center and pulled thus making a tall cup (remember, we didn't widen the lump of clay base).
3. Pressed down to widen the tall cup.

That would give us…something odd. But that's the point! FM synthesis you can get really cool unexpected results and that's what happened when I used it for the main padding synth in the verse (sound like an accordion) and the transitory synths from verse to chorus.

**Adding a grunge beat**

A lot of house and EDM genres of music use the classing "boots n' pants" beat or some variation of it. In this song, I wanted to see how writing over a grunge type beat would affect the final outcome as in grunge, the drum pattern usually isn't the highlight of the song.

In this song, I listened to various grunge songs from Stone Temple Pilots, Alice in Chain, etc. and found a common rhythm in the kicks, snare, and cymbals. Throughout the song, I alternated between normal and double time, along with variations of that rhythm to add intensity and variety, bringing dynamics to parts of the song without changes in melody or instrumentation.

**Result**

After putting all these concepts together, "Don't Hurt Me" succeeded in its goal of being an EDM song built on the uncommon foundations of grunge and showcasing a variety of synth styles which blended in a unique combination.

# Cer'Ensa Piano Reduction

**Song overview -** Piano arrangement for theme of Cer'Ensa, a mystic
city grappling for power against a warring empire.

**Goal –** To create a piano reduction for a song that can be used as a performance piece while
acting as a scaffold for future orchestration.

**Process highlights**

To achieve this goal successfully, there were two ideas I wanted to experiment with.

1. What about living in that city did I want to portray in the song?
2. How could I tie together the various aspects of that city into one song?
3. How could I make this playable for one person to perform and be a clear map for
   future instrumentation?

**Research and steps**

**A day in Cer'Ensa**

I wondered what it would be like to be various people living in this city and wrote the
music to accompany it. Throughout the song there are very different emotions portray:

**Form A**
1. At the beginning, a skipping rhythm and light, open melody as children play on the
   streets and the townspeople are sweeping their storefronts on a beautiful afternoon.
2. This is interrupted briefly as armored soldiers walk by; a reminder to civilians that
   although there is peace among them, the threat of war looms beyond their borders.

**Form B**
3. The full bass in this form pushes the song more aggressively while the melody
   follows a straighter rhythm represents the ruling Regales and Cer'Ensan military
   preparing for war.

**Form C**
4. The end of the song is the proper anthem of Cer'Ensa with a driving rhythm and
   powerful melody representing their global power and influence and self-celebration.

**Tying the song together**

The first part of the song that was written was form C and from there, I was able to
identify a memorable motif to use through the song. Specifically, listen to the first three notes in

form C and hear how they are the exact same notes that start off the entire song in form A. An added bit of sneakiness is reversing the order of those three notes and making them the melody in Form B.

**Making it playable and open to instrumentation**

One of the best pieces of song-writing advice I was given was to make sure every song can be reduced to a version whre one person can play it and captivate listeners. If a song cannot do this, then there is too much "fluff" and not a solid foundation. Therefore, I broke the song down into a piano reduction with a clear right-hand and left-hand part. The "rules" for each hand were:
1. Keep harmonies per hand no more than an octave apart. While this rule can be stretched occasionally for wider harmonies, anything beyond a 10th is off-limits as most people's hands can't stretch that far.
2. Harmonies per hand should be no more than 4 notes at a time, (5 notes is occasionally allowed). Anything more than 5 is impossible to play.

Based off these criteria, I could then make the song a scaffold for future instrumentation using SATB (Soprano, Alto, Tenor, Bass) composing. In doing so, I created four separate voices throughout the song which later on can serve as a framework for their respective instrumental parts.

**Result**

After all was finished, the Cer'Ensa Piano reduction captured life in the magic city; the peace within its walls, the force to defend that peace, and the rallying anthem for its people. And it did so all in a single instrument.

# Motion Fusion

**Song overview -** Big band Latin jazz with a hint of EDM? It was a challenge so why not?

**Goal –** To create a song with six instrument sections that could be added to each other at any point in the song. Further, to combine three music genres: jazz, Latin, and EDM.

**Process highlights**

To achieve this goal successfully, I had to do two things:

1. Identify key characteristics of each genre to blend them together.
2. Write parts in a way that could be "stackable".

**Research and steps**

**Identify key characteristics**

To blend three very different genres together, I needed to see what commonalities each genre had and play to those first. For instance, each genre could be:

A. Written in 4/4.
B. Place emphasis on I, V, and ii chords.
C. Play 6 chords.
D. Utilize exotic instrumentation and brass (or brass-like tones for EDM in the form of saw waves).
E. Play the downbeat on 1 and upbeats on 3.

If I covered ways these genres could tie together, then the genres were set up to fuse nicely together. Next, the objective was to list how each of these genres was unique and see if I could play to those characteristics without making the song sound disjointed.

A. I chose to emphasize brass tones and the congas in the background to give a Latin color to the song.
B. For jazz, I extended the brass section by opting for a big band feel where I included saxophones, trumpets, trombone, and tuba. I used close-voiced chords and sprinkled some add chords to give the triads a jazzier feel. In addition, I opted for a walking bass line to support the congas.
C. EDM is pretty flexible as it's tone is so unique. I utilized samples, glitch effects, and pulsing kick and snare hits to staple the rhythm section together.

**Write stackable parts**

Originally, the song was made for VR project, where a player could go up to one of six humanoid figures and interact with them to dance. The caveat was that each figure would be connected to a part in the song. Those parts were:

1. Congas
2. Bass line
3. Brass section
4. EDM rhythm section
5. Drumkit
6. Motion voice sample

Because they could dance with any combination of the six figures, I needed to write the parts to link together. This was easy enough theoretically by just writing in the same time signature and key, however the hard part was making each part full enough to hold its own by itself while spacious enough to accompany six other parts.

To consolidate this, I considered that each of the rhythm parts should lock in with each other to enhance the dynamics of the rhythm without crowding the background beat. Meanwhile the harmony and melody sections would be written to have melodies and countermelodies and alter the tone of each by playing parts on top of one another.

**Result**

By playing to each genre's unique strengths, Motion Fusion succeeds in blending three genres divvied into six parts into one unique experience.

# Dachi's Lullaby

**Song overview -** A young boy, upon the death of his dog, makes a deal with the dead to save his beloved pet.

**Goal –** To create an understated song using only three instruments.

**Process highlights**

To achieve this goal successfully, I had to do two things:

1. Choose instrumentation supporting a dream-like feel.
2. Write in weak harmonies.

**Research and steps**

**Dream-like instrumentation**

Since the song was going to be melancholic and quiet, I felt the best way to make it stand out was by creating a dream-like color. To do this, I wanted to keep the overall register of the instruments high, to make it feel floaty and light. In fact, the bass part for this piece is played by the violin! The rhythm is established by the harp playing in pizzicato. Finally, the melody is played by bells.

**Weak harmonies**

The song goes back and forth between the I and V. However, to transition immediately between the two would be very harmonically to the point of it giving too much resolution. Therefore, in the melody, I outline a minor triad and center the tune around the third. This allows a perfect bridge between the I and the V by using its mediant quality to smooth the transition into something barely noticeable.

**Result**

Choice instrumentation and harmonies centered around mediants make Dachi's Lullaby an excellent dream-like piece.

# So Speys, Much Wow!

**Song overview** - Theme song for the lean, mean, Steam, meme game, "Doge Dimensions".

**Goal –** To create a playful theme song with a retro, computerized vibe.

**Process highlights**

To achieve this goal successfully, I had to do blank things:

1. Create a playful melody.
2. Compose with tones that sounded like "cryptocurrency".

**Research and steps**

**Writing a playful melody**

      This game is pretty goofy and light-hearted, so I wanted to make a theme song to match. To do so I stuck with the barebones basics to make the song feel elementary in nature and playful. This meant no fancy key changes or advanced rhythmic patterns. Just a simple major key with a melody that outlined the major triads in the key.

**Compose with "Cryptocurrency" tones**

      Since the game was themed after Dogecoin, I opted to go for tones that felt like bit tunes from the 80s. However, I didn't want to go too far in that direction as that can give too much of a retro feel whereas this game was set in a futuristic realm (and crypto has futuristic connotations). Therefore I sculpted my oscillators to get a tone reminiscent to the square wave found in bit music, but made it less gritty by adding saturation to various points in the frequency spectrum.

      The rest of the instruments were then digitized versions of standard instruments; the horns, bass, and marimba were either sculpted oscillators or VSTs with processing done to make them sound more computerized.

**Result**

      This was a great song to experiment with simple composition supported by heavy tone sculpting. Altogether, Doge Dimensions Theme succeeds in delivering a simple, fun-loving tune with a futuristic punch!

# A Taste of Bass

**Song overview -** Fun project focused on sound design and sampling.

**Goal –** To learn from one of EDMs best sound designers, Mo Falk, and incorporate that into a song.

**Process highlights**

To achieve this goal successfully, I followed a masterclass on sound design by Mo Falk. The biggest takeaways were:

1. Additive synthesis for bass
2. Automating effects
3. Extended chords for main synths

**Research and steps**

**Additive synthesis for bass**

This was a game-changer for me. The idea here was that by using less instruments you can make each one sound bigger in the mix. However, to get a full sound, one instrument could be made up of many parts. In the bass, I accomplished this by having a center synth with two oscillators cents apart. Then I stacked a stereo panned bass with saturation, compression, and reverb to blend it in with the main bass, but not overpower it.

**Automating effects**

A cool tool I learned was automating effects in a non-natural way. The main use case of this was on the reverb. In the main synth, I'd route the reverb to a separate bus and play with going to extremely high reverb to none to give a feeling of flooding the sound stage and then abruptly crisping up the mix.

**Extended chords for main synths**

One of the most enlightening ideas I gathered was how similar chord voicing for synths and orchestra could be. By spreading chord voicings over more than an octave, the harmonics of each midi line created really nice, saturated overtones without the need for artificial saturators. Mixed with the automated reverb, and the color feels like it washes over the listener.

**Result**

Altogether, after the Mo Falk masterclass, I learned a ton on sound design for EDM that will apply into the other genres I write as well. Better yet, I got an amazing little song out of the experience!