I know, I know! I said at the end of the last video that the next video would be about graphics, but this is the last video of the year, so let’s do something a little different! Salutations, I’m Jesco and you’re watching Game Dev Made Easy and this is an extra video on a topic that many game developers don’t really understand and tend to avoid until the last moment. We are going to go over how to write and come up with a basic song for your game. I’m going to go with something simple, like a main menu theme.

The main thing about writing music for games is that it needs to be loopable. I understand that many people don’t own instruments to be able to do this, so I will show examples of using instruments and completely creating by hand on computer. I should note that the information I will be sharing today is not only for game developers, but also for those that want to get into composing music in general.

First off, what is looping in music? A loop is where a section of a song can repeat seamlessly when the file is played end to end. That means that the end of the song needs to land on a spot that makes sense musically for an ending and at the same time meld beautifully into the beginning.

We aren’t going to do anything really complicated here because I do need to go over a little bit of music theory. So let’s just jump right into it!

For simplicity’s sake, we are going to look at the C Major Scale. What makes the major scale unique is that it is able to invoke the feelings of elation or happiness.

The notes in the C major scale are C, D, E, F, G, A, B and back to the root of C. I understand this does not make any sense yet, so let’s play those notes on the piano.

(play C major scale piano)

As you can see, this scale only has 8 notes. That means there is less to remember for the specific scale and is more for knowing where these notes land on the instrument.

Scales are good and all, but what chords or group of notes played at the same time work with this scale?

This is where Chord Theory comes into play, now I’m not going to dive too deep into that. If you want that information, head over to Adam Neely’s channel. He goes into theory that even I am not so well versed in.

Now, the chord sequence for the key of C major is Major, Minor, Minor, Major, Major, Minor and Diminished. I get it, I am just speaking jargon at this point. Remember the 7 notes thing I discussed before? Well, there are 7 chords that can be used as well.   
C Major is the 1 chord, D Minor is the 2 chord, E Minor is the 3 chord, F Major is the 4 chord, G Major is the 5 chord, A Minor is the 6 chord and B Diminished is the 7 chord. But hold on moment, there is another set that we can use as well. This would be… C Major 7 is the 1 chord, D Minor 7 is the 2 chord, E Minor 7 is the 3 chord, F Major 7 is the 4 chord, G7 Major is the 5 chord, A Minor 7 is the 6 chord and B Minor 7 Flat 5 is the 7 chord. Which ties us back into the chord sequence.   
  
So… Let’s simplify this and go into common progressions.

Here are three progressions that are very often used for this scale. I will be labelling them by the chord number as is the standard for easily relaying information to other musicians.

The first progression is… 1 chord, 4 chord and 5 chord which would be the C chord, F chord and G chord. The second progression is… 1 chord, 6 chord, 4 chord and 5 chord which would be C chord, A minor, F chord and G chord. The last progression is 2 chord, 5 chord and 1 chord which is the D minor 7 chord, G7 chord and C major 7 chord.

Let’s hear each of these progressions, I will name the progression and then play it for you.

This is the 1 4 5 progression (play progression)

This is the 1 6 4 progression (play progression)

And this is the 2 5 1 progression (play progression)

Now that we have this information, let’s jump into writing music with it.

We know the key we want to use and we also know the notes and the chords associated with that key. The next step is to just play each of these chords in different patterns until we come up with something we like.

Before getting into that, I think it is only right to go into the software that we will be using today. My goto DAW, which is an acronym for Digital Audio Workstation, is Reaper. It is cheap to purchase and their trial is good for 60 days. They do allow for passing that 60 day period without purchasing, but honestly, the software is 60 dollars, so if you like it, support them by purchasing it when you can. It is available on Windows and OSX and it has experimental builds for Linux Operating Systems.

We will also be using the Horus mkII vst for our piano synthesizer. A vst file is an audio plugin that allows for you to emulate actual musical equipment as well as tweak recorded music.

As always, the links for the items discussed will be in the description box below.

To begin… You can just fiddle with two chords until you like the two used together and then you can move on to adding a third, fourth or even fifth chord. The main point is to come up with something that you like.

Now for a recording of me coming up with the song in question.

(video of chord progression)

Next up, we need to add a lead line to the song. After all, we don’t want the loop to get stale too quickly. Remember those 7 notes that make up the key we are working in? Well we can use those to come up with a melody. It does help to know scales in this department, but, a little trick is to just experiment with what sounds good at each individual chord change and build your melody by knowing which of the notes work well with the next chord.

(video of melody creation)

The bass line for the song is next. There are many approaches to writing bass lines, some being more simplistic than others. One way is by following the root note of the chord progression being used. That is the route we will take today. It can get more complicated the further down into the music theory rabbit hole you’d like to travel though, even with this approach.

So, first off, we need to know which chords we used. There are only three in this song which would be the C chord, F Chord and G Chord, in this exact order. Which also happens to be the first common progression I listed before.

What we are going to do is record a little bit of a blank track, this will allow for us to select into it to manually add notes. Now, on the far left-hand side of the screen, you will see a piano roll. It has labels for the C notes only and it has numbers attached to it. This tells us if it is a higher or lower register of that C note. Click the note you want and then drag it out to be as long as you want the note to ring out for. Repeat this until you have the bass line set up.

Now we can export this and import it into a game to be used as a loop!

There are many more chords, keys, progressions and scales that you can look into to learn about. There are also time signatures to learn about, but that is a topic that others can cover much more succinctly than I can. This should at least provide the basics you need with being able to understand what is written in any book, tutorial or music website as well as any video tutorials you may find here on Youtube (seriously, go check out Adam Neely or Music is Win, they go into music theory to a far greater degree with a great explanation and example usages).

I want to give a warm shout out to my patreon supporters; Loki, Coopala and Coburn. You guys are awesome for your continued support. This has been Jesco from GameDevMadeEasy and the next upload will be about Blender with Game Dev, so stay tuned for that.

Here is the final song, which will be freely available to download and use.

http://www.piano-keyboard-guide.com/key-of-c.html

<http://www.vst4free.com/free_vst.php?plugin=Horus_mkII&id=2036>

https://www.reaper.fm/