

Our project is a chord generator that listens to the user play a melody, and fills in chords by identifying the key of the music. The program will connect to a keyboard to receive MIDI of the notes that the user plays, and will choose a compatible scale from a set of basic scales that it knows. It will then construct chords based on that scale, and play them to backup the human playing the keyboard. The MVP is just the chord generation, but we would also like to add rhythm detection, so that the chords can play at the right times, and a more advanced backing track like a baseline generator, which would deconstruct the chords.

Eric's Learning Goals: I want to learn more about how the code interacts with other devices, like the keyboard. I also want to look into code timers, which we will need in order to do the rhythm. I want the final product to be something that feels like a fun program to use, not like a class project.

Flynn's Learning Goals: I want to get more comfortable with sonic pi and code in general. I want to produce something that sounds musical. I also want to develop an understanding of how to manipulate the time constraints in this interactive software.

The implementation will involve Sonic Pi for generating music, and may or may not also involve OpenCV in order to receive input from the keyboard. We may use Markov chains to generate the baseline, depending on how the code looks when we get the initial chord generation working. Some of the code will be a more advanced version of what we saw in the algorithmic music toolbox.

We plan on implementing a peer programming coding method, and so will meet up regularly to work on the project in conjunction. We will meet weekly at the scheduled times below in addition to weekend meetings, adding or rescheduling times as needed for the project.

Tuesday 6-8

Wednesday 11-1

Friday 3:10-5

We have to connect a midi keyboard to our project, and so we might encounter issues using this new interface. Also computation time might cause lag and reduce the musicality of our final product.