Will Judy, Andrew Hipon, Connor Kilkenny

Final Project

Original project plan, your final project plan, and a description of how and why it changed from its original form.

Our original project plan was to create a piano/keyboard with multiple octaves. For every key pressed, the correct sound should play, also we wanted to try to do an instructional part and show users how to play simple songs. The final piano is a working keyboard with two octaves, and every sound is linked to the correct note. They keys light up when clicked, and also there is a set of letter keybinds that can be pressed on the user's computer keyboard that correspond to the notes on the piano. We did this button press style keyboard instead of instruction because the interface works better, and you can play multiple notes at one time now.

A list of which team member did what during the project.

We all contributed equally! Andrew was really helpful for a lot of the coding, he created the shapes and configuration for the keys, as well as doing some troubleshooting with getting sounds to play with Pygame. Andrew and Connor did all the labeling for the piano and what buttons needed to be pressed to activate certain keys. Connor was always willing to work on whatever was needed, he helped out with lots of formatting and setting colors, he also made the slideshow for our presentation. Will did most of the coding relating to the sound files, making them play within the right parameters, and also for how long / how to stop them. Will also coded the keybinds to make the computer buttons activate the right piano notes. Overall, it was a solid group effort!

A description of any difficulties you had and how you overcame them. Also include anything interesting you learned about Python, programming, or working on a team

The biggest difficulties we had were related to mixing graphics and pygame. Initially, we created the whole keyboard from the graphics module. Then, we worked to make sounds play in pygame, but realized we couldn't interface with both of the modules at the same time. We then had to translate all of the shapes in the graphics to work in pygame, and learn how to use pygame overall. It was fun and interesting learning to make the display update after any change to the pygame graphics, also very neat using the event types to figure out positional clicks, mouse button up and down, and bringing

that knowledge into playing the sound files. What we realized about Working on a team was great, and even though we couldn’t use github exactly how it was designed, we still had a good time and shared many productive video calls.