**Estimated number of hours**

Total: 91 hours

About 55 hours to code the project.

About 26 hours to learn python/pygame

About 10 hours for non - technical parts of the project.

**How we got to the estimate**

We used a version of Agile estimation:

Story:

We had never programmed Flappy Bird, but a few of us had used python and pygame before for smaller projects. This gave us an idea on what to expect moving forward. From our previous two projects, we had a good idea of how we work and learn as a group which gave insightful perspective.

Time spent:

There were many online tutorials that looked like they would be very helpful when learning pygame. With this in mind, we assumed it would be reasonable to learn and code the project for those of us who were less familiar with pygame.

Estimating:

For the hours we would need to learn python, we assumed it would take less than our previous project. Two of us had python experience and their time spent learning would be less. The other three of us would need more time to learn. The time estimate we used was 3-7 hours per person. We got 26 total hours by assuming the two who were experienced would need 4 hours, and the three who were not would need roughly 6 hours.

For the non technical hours, we assumed we would need a few extra meetings since this was going to be a group created project and not something specific we were assigned. We used our previous projects to get our estimate.

For the actual hours to code the game, we assumed it would take 7-15 hours per person. We looked at online tutorials for other games and tried to see how long those took. We added a few extra hours since we were not as experienced.

Final estimate:

Using the above data estimated our hours would be around 91 hours. Estimating the hours for coding is much more difficult so we settled on 55 which is in between our 7-15 hours per person. For this overall estimate we relied heavily on our previous projects for guidance.