Project Description:

My project is called AimPy and I plan on it being a 2D/3D aim trainer depending on how much work I am able to get done (I would really like to aim for the pseudo-3D option). The goal is to score as high as possible within the 60 second time frame, and then there will be an AI that informs the user of their bad aiming habits.

Similar Projects:

I got this idea basically entirely from AIMLAB and Kovaak's. I'm going to be borrowing many of the tasks that are implemented into these two, such as gridshot, sixshot, strafetrack, and others if time permits. I also want to incorporate a similar accuracy and scoring system that will provide good statistics on how well comparatively the user is doing on each of their attempts. Finally, the aiming habits section is straight from AIMLAB, but I will mostly just focus on telling the user what their bad habits are, not what tasks they can do to fix them (unless time permits).

Structural Plan:

I plan on making classes to implement the dots, buttons, and score for now. I will do these in separate files. For the screens, I will try to implement them all into one file and incorporate different sections for the different screen functions.

Algorithmic Plan:

The trickiest part of my project will be implementing pseudo-3D graphics where the user will be able to move the camera in x and y directions, but be unable to move themselves. Although I am not yet sure how to properly incorporate this at the current stage, I am planning on using a perspective divide. For now, I have just written preliminary code in 2D and hope to find a way to scale this to 3D.

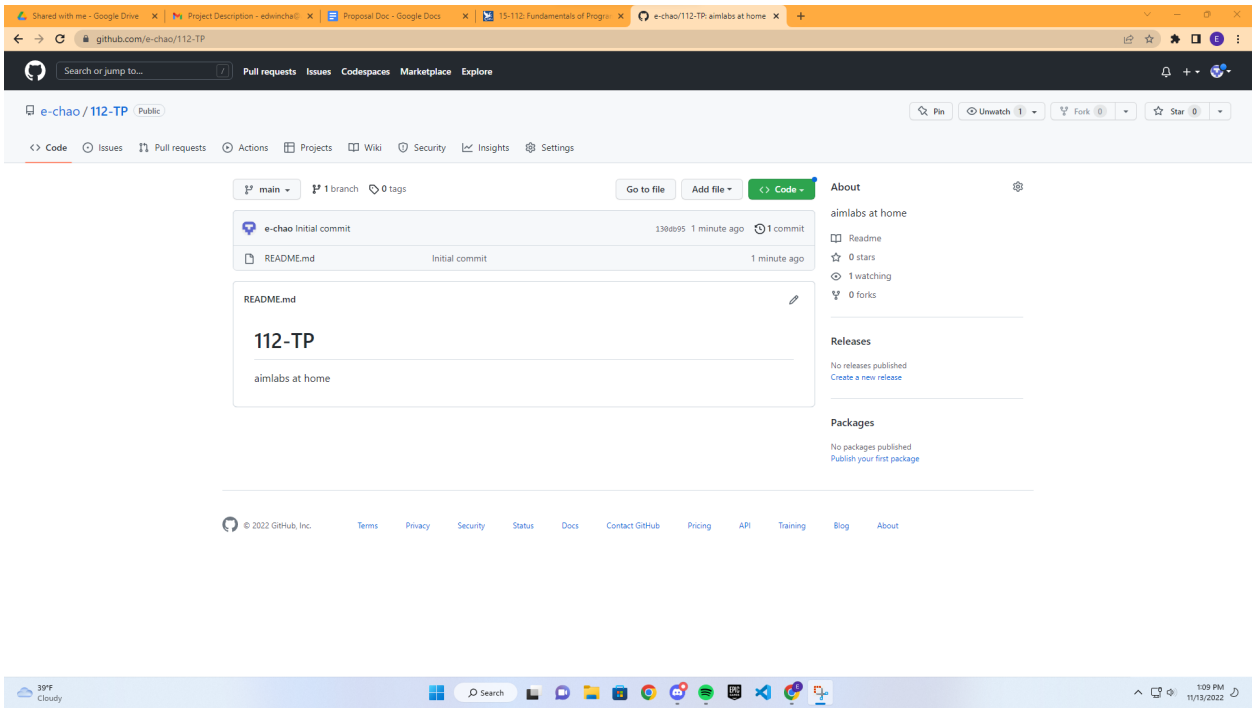
Another tricky aspect will be determining the feedback that the system will give. I could create a dictionary storing the number of times the user has missed by clicking too far to the left or to the right of an object, and use an if statement to add values every time they miss. At the end, if one value is significantly larger than the other, the system would give feedback telling the user about this habit.

Timeline Plan:

I plan on prioritizing the 3D graphics part first, hopefully getting the bulk of it done by TP1 so I can focus on other aspects of the project, or give myself a lot of room to finish it if there are a lot of bugs by TP2. By TP2, I want to have a fully functioning main menu, singular task, and a somewhat working feedback system. After this, I will just be regurgitating what I have already done and making new tasks based on the work I've already done.

Version Control Plan:

I plan on using GitHub. I've already created the repository shown in the image below.



Module List:

N/A