Pokemon Battle Showdown

Pokemon Battle Simulator (PBS) is a game that will allow you to choose a team of two pokemon, from a selection of 6. You will start with cash to buy some combat-related items before battling against a team of three enemy Pokemon, controlled by a computer AI. You win if you reduce the hitpoints of all three enemy Pokemon to zero, and lose if your Pokemon lose their hit points before you are able to defeat the enemy.

One of the projects that I have seen online is called Pokemon Showdown. My project will be mostly similar--the core premise of Pokemon Showdown will be implemented into my project, but my damage calculations will be different. I will also have randomized enemy movesets which guarantee unique playthrough experiences, and I also allow the player to purchase items to aid them during the battle. I will also implement randomized individual values--which is a genetic factor that affects Pokemon strength--every time the game is played. These individual values (IVs) will exist for two stats, attack and defense, which is different from Pokemon showdown. Another major difference between PBS and Pokemon Showdown is that PBS is not a two-player game. The player battles against an AI, and the AIs Pokemon will be randomly selected from a predetermined list of possible enemies.

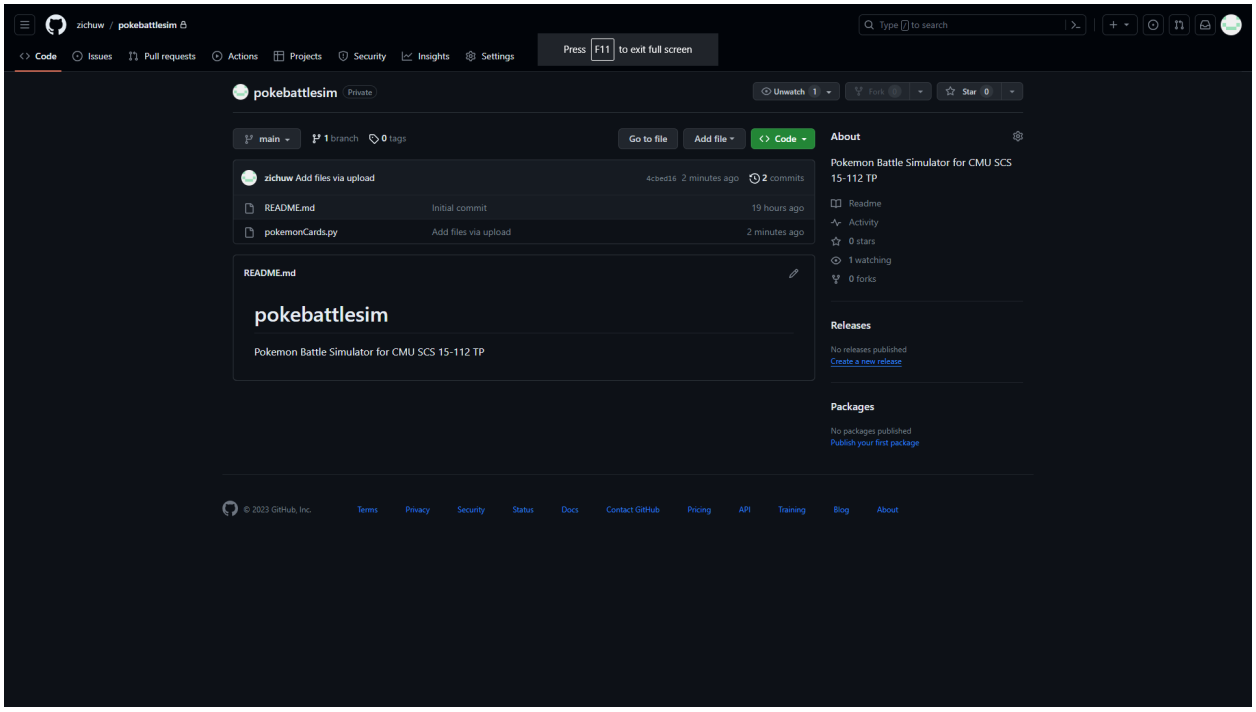
My final project will likely have four files. I will have one file specifically for classing Pokemon; possible player Pokemon, and possible enemy Pokemon. Another file will be dedicated to taking in the randomized IVs, the randomized Pokemon, and randomized movesets to calculate the Pokemons' final stats, factoring in all of these variables. The third file will be the UI file, which will handle all of the displayed images, handle game stages, combat animations, and everything the player sees. The final file will house all combat information, including whose turn it is and subtracting HP, performing super effective or ineffective damage calculations and changing variables accordingly.

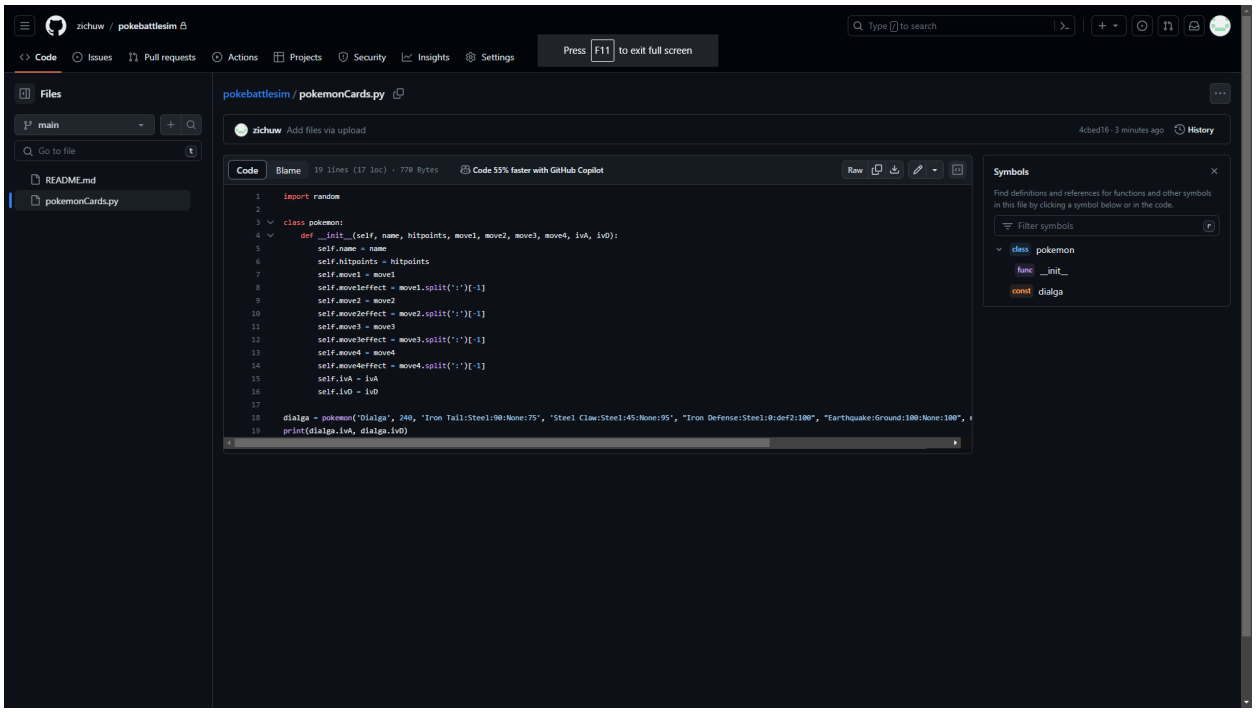
I believe that the algorithmically most difficult part of my project will be the computer AI, which I hope can see at least two turns into the future and make choices accordingly. It will make moves based on the player's choices, and I plan to implement this in different components. One aspect of the AI is for it to always choose a super effective attack over others. Another aspect is to perform defensive moves if it is possible that the pokemon dies within two turns (given the current knowledge on damaging moves made by the player). The final aspect will be its base reaction, which is to pick the attack that has the greatest damage, or the move that can one hit kill with how much remaining the player's HP has. By breaking this down into separate cases, I make the computer AI more simple to code as well as more comprehensible.

Most of the project's parts, like the computer AI, the combat data and combat handlers, and most of the UI should be completed within the next two weeks. My goal for this week is to get most of

the back-end computations working (i.e. combat data, IV generations and calculations, super effective lists and calculations, etc.). By week two, I will import images and create game stages to match up with my back-end data, completing most of the major parts in two weeks.

After every coding session I complete, I will not only save the files on my computer but also upload them to GitHub, updating and adding files to my repo.





I am not planning on using external moduli.

TP1 Update:
One design change that I made is I have three instead of four files, and I calculated the IV's in the original pokemon class file, factoring them into the combat file. I also changed some UI for selecting Pokemon to your team, since now you can click them before deciding if you want to select them instead of instantly selecting them.

TP2 Update:
I added a saves section for players to load automatically saved game playthroughs. I also made some variables into lists for easier reference and indexing.

TP3 Update:
I changed the name to Ultimate Pokemon Showdown (UPS). I also decided against implementing randomized enemy movesets.