Intention

The Pokémon video game franchise was of particular interest and had formed my aim to try replicate its core systems out of my own enjoyment of its intricate data interactions through turn-based combat.

My hypothesis is that the prototype will be a primitive replica of a system that swaps between states of player turns and enemy turns. It will hold values of HP, defence, speed, and a small variety of moves for the player to choose from. An additional mathematical combat log will be implemented to add a change from the Pokémon games, all in order to gain knowledge and a greater understanding of the data interactions that happen hidden to the player.

Process

The prototype had to begin with assigning the player and enemy units their values as they formed the base of the combat, which began as just HP and damage, with both units sharing the same values of 24HP and 4dmg. This "Stats" script was shared between the units, as you could change their values independently in their separate inspectors and was an easy starting point for easy rapid prototyping.

After creating this, the state machine was created in a battle system script which used enums to determine the states. Since the Stats script only allowed for one dmg variable, it was decided that it would be better to hardcode the different actions into the battle system and use local variables for the two different player moves.

The plan to dabble in player and enemy speeds was scrapped as it felt a bit too complicated for the requirements, and also since the prototype only consisted of one enemy, speed was not very useful as it didn't add that element of drastic decision-making. Effort changed to randomising the attack variables for the two different player attacks, increasing the damage dealt seemed like a good change for one of the moves, but a consequence had to be attached to make it not always the go-to choice. The move had to have a value higher than 45 to be able to deal damage to the enemy, and through this a feeling of excitement shone through as missing would be quite detrimental.

The decision to remove the use of defence was made to simplify mathematical calculations and increase the incentive to use the heal action. This was easy to make as it would just add back a random amount of health to the player, and served as a form of defensive strategy and decreased the consequence of missing a move.

The final element that I wanted to create was the combat log to clearly show the data interaction to the player, and help highlight the different characteristics of the moves. It was vital to communicate the missing of the second move somewhere, and so the combat log was my choice. The more mathematical display of the data interaction was not achieved as it required the creation of further variables such as the previous turns HP to properly display the calculation. Unintentionally, this was a good thing as it allowed for the far clearer communication of moves rather than overwhelming players with calculations.

Reflection

The final prototype turned out meeting the hypothesis successfully through knowledge being gained on how turn-based combat state machines and data interactions worked – only possible through the attempt of replication of the original inspiration, Pokémon. Features such as defence and speed were not achieved as although they are important values in the Pokémon games, in order to gain a sufficient understanding only the basics such as HP and damage was needed.

The basic mechanics of subtracting damage for health was what formed the foundation for further improvements and better, more advanced data interactions. The randomised amount for every attack and heal shows the manipulation of data, which created an exciting and engaging dynamic. The addition of a hit chance to the second move showed an advancement in this risk and reward dynamic, while the heal action helped remove tension from the player by giving them a small defence from consequences.

The addition of the combat log was a helpful tool in giving a clearer display of how the data interacts with each other. It was also vital in proving to myself that I understood the system as the sentences that had to be outputted showed that I understood how the two units data's interacted.

This assignment taught me that copying already successful games is very useful in gaining knowledge on why they are successful in the first place. Once that is understood, one can attempt to alter the system in interesting new ways.