Project Vulpix

Weekly Progress Report #5

2/20/19 - 2/26/19

This weekly summary report for the fifth week of Project Vulpix will describe the progress of the team as well of each individual member. It will also describe the problems encountered last week and the solutions the team agreed on, as well as what is planned for next week.

Last week we worked on having the player takes turns. Implementing the actions, a player can take on each turn is still being developed this week. There were a few problems with the game engine so we have been fixing them. We intended to begin implementing the AI algorithm this week but have not been able to yet. Problems with the array functions being used in loops have caused us to go back and redo a couple sections of code.

We had to reimplement a few features that were missing from the code base that were not saved. This included the retreating and energy attachment as were discussed in last weeks report.

Energy cards are attached to Pokemon and they power their attacks. This attaching is achieved via an array of card objects that Pokemon cards have in their class structure. There are many different energy types: water, grass, fire, dark, dragon, psychic, fairy, and fighting.

Retreating is when a player chooses to move a their active Pokemon onto their bench. This makes it so that the opposing player cannot attack this Pokemon directly. In order to do retreat a Pokemon has a retreat cost. This is an amount of energy that must be discarded from the

Pokemon to retreat. This requires removing energy card objects from the array mentioned in the previous paragraph. They are then appended to the discard pile array. Once this happens the Pokemon is removed from the active Pokemon array and appended to the player's bench array.

We are really looking forward to implementing the AI this coming week. It will use a Montey-Carlo search tree algorithm. It will build the search tree using each possible game action that could be performed each turn. It will simulate the game to determine how likely a particular action will lead to a victory. The nodes will determine the chances of leading to a winning move using an upper bound confidence formula.