

WSOA3003AA

Kushal Sithlu 1882078

### Micro-game 1: Analysis and Reflection

## INTENT

The task provided was to construct a prototype of a turn-based game that showed the interaction of data. The Pokémon games are synonymous for their style of combat so this was chosen as the template style for designing the game. Naturally this just meant the versus style of gameplay as well as the phase based system which allowed for actions in a sequential order.

The game would begin with the start phase, which introduces the battle, then player phase, followed by transition to the enemy phase. This would continue until either player's health reaches 0 at which point the state would change to indicate the winner.

Ultimate abilities are a commonplace in many turn-based games, often requiring certain conditions to be met before being executed. Points would be used on attacks to gain "Ult points," and once a certain value is met, the ultimate ability is activated(which cannot be blocked).

An alternate use for the ult points through a store would open up room for various additional abilities based on player performance in-game. Health potions, Hit chance increase, Revive, are all examples of what could be included in a store.

The enemy would work on a very simple d6 randomized roll system, choosing actions based on rolls(attack, defend, etc.).

The player would have the capability of making various purchases from a store, that effect combat.

These ideas would form the bases for the game before coding had begun.

## PROCESS

The game was constructed in Unity using C#. 3 main classes were made, the Unit class, manages all the statistics of the unit/creature, including HP, Attack Damage, Ultimate damage. The combat system class then includes the management of these two unit's data as well as processing all the combat calculations and calls upon the final class, HUDController, to set the statistics as they are changed from actions.

The store operates using the StoreController class, in conjunction with the combat class, allowing purchases to take effect immediately, as well as allowing the store controller to increase item costs per purchase, increasing by 1. The store function is only active during the player turn, and the enemy does not have access(at present) to the abilities provided from the store. The store makes use of Ultimate points to purchase things such as the health potion which increase the player HP by 5 at the cost of UP, 20% Hit rate booster for 2UP and a Damage boost of x1.5 for 3UP

The enemy player used a simple d6 roll to decide on an action. This included, Attack, Defend, and Ultimate Attack. The ultimate attack percentage was kept at 1/6, but still required a check for ultimate points, which if was not met, stunned the enemy. The attack then had a 3/6 chance and the defense a 2/6. This was to allow an easy enemy for testing.

The Ultimate points were set at a max of 10. Ultimate points are granted on successful defense or attacks. 3 points are given for a successful attack, and 2 point is given to each player in a defended attack scenario. The Ultimate Attack can only be used once the player has 10 points and cannot be blocked.

During attacks, if the attacked player had selected "Defend" the previous turn, only half the damage is dealt and ult points are split as indicated above. This uses a bool variable that simply resets when the phases circle back.

Play continues between PlayerTurn and EnemyTurn phases until either is defeated, at which point the state changes to either Won or Lost(in relation to the player).

## REFLECTION

Being a prototype the game is left very much unfinished. The concept going forward remains mostly the same but slight changes will be added that could not be at present.

Looking at the elements, there is clear depth to the combat in the player interaction with the system, mainly through purchases. An XP system that operates on success of each ability times a multiplier based on the win or loss could add to long term complexity. Additional abilities could further be added that deal different damage or elemental abilities using ULT points as well, forcing players to balance currency to ability.

When it comes to the store, there are is still a need for more options to allow for varying strategies and play styles. Things such as armor, which grants a full defense(no damage taken), increasing hit rate, and boosting attack damage temporarily or for the battle duration, could all add a level of complexity, especially with managing ULT points between abilities and boosts.

The UI is simple, mimicking something similar to the original games with simple colors and styles., however adding labels to clarify stat numbers and have more onscreen info would make the game more strategic, especially if implemented with the changes above.

On the technical side, looking at the code, there is clearly room for more efficiency through the use of things like enumerators and things like separated classes to allow the functions to be easily applicable to both the enemy and player, allowing for the enemy to operate fully as the player does, although at present without the intelligence needed.

Ultimately the prototype succeeds at the brief of including data interaction, while also acting as a base for further development into the turn based genre through the next iteration.