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CS1410 - Object Oriented Programming  
March 24<sup>th</sup> 2019

### Final Project - "Mushrooms vs. Biohazards"

Mushrooms vs. Biohazards is a Plants vs. Zombies emulator with some key differences being sprites and mechanics. MvB has 6 unit types for the player and 5 units for the enemy, as well as a home unit and a resource unit. Each of these units extends the Actor class, giving them similar statistics to work with for gameplay.

- The Red Mushroom is the baseline unit for the player and has low overall stats and cost.
- The Green Mushroom is the super-powered unit with higher health, damage and speed, but a reduced rate of attack.

- The Blue Mushroom (not included) originally increased the passive score gain but was removed. (There were plans to turn this unit into an Area-of-Effect-Attack based unit that could attack from afar, sadly there was not enough time to include this one)

The Double (Red) Mushroom (also not included) was intended to be used as a 'unit generator' unit, with the ability to copy any mushrooms that would pass over it whenever off of cooldown.

- The Fertilizer Bag is a non-attacking neutral unit with mid-level health that generates additional resources per bag 'spread' across the game field. For balancing purposes, one is limited to 'spreading' 5 bags of fertilizer along the field.

- The Fence unit is another non-attacking neutral unit intended to slow down or stop the biohazards in their tracks, in order to stack up mushrooms to attack from behind the fence - additionally the stun effect that the fence provides allows for players to gather up more score points in order to defend the oncoming biohazard waves.

- The Poison unit is a powerful neutral unit that attacks all non-neutral aligned units on the field, decrementing their health by a large amount over a medium-length period of time. It is generally more of a detriment to use but it allows players to overcome the stronger biohazards in the later levels without clearing the field as the Nuclear Bomb does.

- The Nuclear Bomb unit wipes out anything and everything (except the Home unit) on the field for as long as its duration lasts. With a high cost and a hefty price it is usually only a useful unit to bring out when the defenses are being overwhelmed (most likely by the Empowered Biohazard unit).

- The Home unit is a one-hit-kill negative utility unit. When a home unit is killed, the game is over.

- The Coin unit is a neutral-aligned resource unit that increases score by a large amount when clicked on. Coins can be killed by Biohazard and Nuclear Bomb units.

- The Weak Biohazard (orange) is an overall weaker-than-baseline enemy unit. Its health, movement, attack damage and cooldown rate are worse than that of the baseline Biohazard unit. These units spawn most frequently until level 12.

- The (Standard) Biohazard (black) is the baseline enemy unit intended to be on par with the Red Mushroom player unit.

- The Strong Biohazard (green) is the super-powered enemy unit intended to be the Green Mushroom's Biohazard counterpart.

- The Healer Biohazard (blue, not included) was a unit intended to heal itself and other Biohazard units that it touched, unfortunately due to time constraints this unit had to be cut.

- The Accelerator Biohazard (red) is a powerful Biohazard unit that starts off moving slowly and increases its speed until it charges into a wall (fertilizer bag, coin or fence unit) or enemy. If it touches a wall or enemy, its speed is reset to its baseline value.

- The Empowered Biohazard (angular black) is the 'boss' unit for the Biohazards. Empowered Biohazards do not spawn until level 12 is reached and have a large health pool (as well as a longer health bar), very slow movement speed and extremely high attack. These units are weak to start with a standard attack value but their damage increases (100 base - 2000 maximum) until they hit their maximum damage. These units can be easily underestimated but are capable of knocking down defenses very easily.

The 'Meta Game' is easy to establish once a few rounds have been played. As a general strategy is a good idea to set up fertilizer bags and fences to generate score and block enemy units. Additionally, the player will gain score for each mushroom that reaches the end of the Enemy Spawn before despawning. Utilizing these methods it is very easy to climb in levels up to level 16. As the level difficulty formula is exponential, it becomes very challenging to reach levels beyond level 16 (this appears to be the level where the game reaches its difficulty equilibrium, where the field becomes flooded with so many enemies that the only way to continue is to use a mass-wipeout unit such as the Poison or Nuclear Bomb units).