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[15-112] Fundamentals of CS and PGMG

Fall 2019

**Project Proposal**

**Overview :**

My game will be a 2D platformer (Mario-style). It will feature weapons and spells. The game will be limited to one lengthy big boss fight that includes very thorough boss AI that will react to your attacks and will use certain attacks at certain points throughout the fight. The boss will interact with the environment, breaking platforms, changing the background, causing weather effects, changing day and night cycles through attacks and etc. The game will also feature multiple characters with different spells.

The objective will be to kill the boss through use of certain tactics to avoid / defend against his attacks

**Libraries :**

-Pygame

- Box2D (for physics)

**User Interface:**

Cs The User interface will be comprised of the game itself and the player UI (health bar, spells, items, etc).

**Notable features :**

**By Nov 24:**

-Extensive modularity in code

- Thorough boss AI

-Animated characters

-Multiple characters

-Music that changes throughout the fight

**By Dec 2:**

-Weather effects

- Different boss stages

- dynamic Game camera (zoom in/out during fight, camera pan) -> will not depend on simply coordinates but will abstract things into two layers, general coordinates and a camera that interprets coordinates by placing them on the screen depending on the way that I want (zoomed in/ out etc)

**AI elaborated:**

Boss AI will attempt to kill you in various different ways. It will hit platforms you stand on. And change its attacks depending on where you are attacking from. For example, attacking from high platforms will cause him to do attacks that sweep all platforms. Staying on the ground for too long will cause him to burn the ground. There will be certain tactics required to kill the boss (for example: kill small minion. Collect item. Throw at boss, or he will mark you with a debuff that causes you to spontaneously burn the ground under you so you have to move constantly)

There will be different stages to the boss fight and he will change his attacks depending on his health percentage. and he will have ways to change the game stage throughout the fight (example : make portals that teleport you to different stages where you have to complete a minor objective and come back)

PS: Small note:

I am not promising to add this feature in my proposal but depending on time constraints I might add online functionalities where you can fight the boss with your friends and/or fight your friends in a 1v1 arena