**15-112 Final Project Proposal**

**Project Description:**

I will create a 2D side scroller game that is similar in style to Mario.

The game will have two modes; Single Player and an online Multiplayer. As for the single player mode, the player will control a character whose goal is to collect diamonds (the in-game currency), defeat enemies and avoid obstacles (spikes) until they reach the end of the level. There will be three levels of increasing difficulty (they will include more powerful enemies and obstacles that are harder to evade). The Multiplayer level will also contain a boss fight.

Additionally, the player will have the ability to visit a “shop” where they can use collected diamonds to customize the character (adding new costumes and power-ups such as increased speed, super-strength, etc).

The multiplayer mode will allow two players to connect over a server (using our Andrew ID’s). The game mode will involve each player trying to finish the level as fast as possible. The player that takes the least time to finish the level wins the game.

**Libraries I will use:**

* Pygame
* Sockets
* Random
* Tkinter

**Description of UI:**

* Main Menu that contains the following buttons:
  + Single Player
  + Multiplayer
  + Shop
  + Credits
  + Quit
* Game screens which scroll horizontally as player moves (controls will be arrow keys)
* Login screen for multiplayer mode
* Credits screen

**First milestone:**

* I will showcase the full single player mode with all three levels completed

**Final milestone:**

* I will showcase the rest of the game (multiplayer mode and the shop and menu/interface)