Xinyu Wu
15112 1 Term Project Proposal

- **Project Description** [5 pts]: The name of the term project and a short description of what it will be.

Name: Life In Hologram

Description: This is a simulation game where the majority that player can do is invest their money in the stock market or deposit money in the bank for a fixed interest. At the same time, the player still has to pay back their student loan and take care of their monthly rental fee. In the game, the player can manipulate the protagonist to go to work to complete some tasks to earn money, or go to the bank and stock market to manage their personal finances.

- **Competitive Analysis** [5 pts]: A 1-2 paragraph analysis of similar projects you've seen online, and how your project will be similar or different to those.

One project that is similar to my idea is GoVenture World. This is a simulation game for entrepreneurs to learn more about startups and financing. The players can take roles in the game and manage their own businesses and also invest in stock markets. The similarity between this project and mine would be that both projects involve simulation on stock market and personal financing. The two projects both let people gain experience of real life financing. The difference between this project and mine is that the stock market data used in this project is not real time, and I'm planning on using web-scripting through the Python Library, Beautiful Soup, to get real time data from the stock market to make the simulation game more real.
https://goventureworld.com/index.html

Another project that is similar to mine is Magic Of Investing. This game let players to choose a goal and try to achieve it in 3 years by financing and investing. This project is similar to my idea because both are simulation games for people to manage their own finances. The difference is that my idea contains more game features in terms of how players can move around to schools, work places, banks, and so on.
http://magicofinvesting.com/

- **Structural Plan** [5 pts]: A structural plan for how the finalized project will be organized in different functions, files and/or objects.

I will have a game object that creates the game itself. I will also have the Place() object that I can create every place, such as bank, stock market place, working place, and university where the protagonist can go into and perform tasks inside these places.

I will also have a Character() object that I can use to create the characters in my game. Protagonist will be one of these characters, and other characters include people in banks, stock market, schools, and workplaces. These characters may or may not have interaction with protagonist, else they will be idling around.

I will also have a Item() object that I will use to create every object that either interacts with the characters or stay stationary in the game. These can include some small items that the protagonist has to find during the small tasks and the protagonist's wallet.

- **Algorithmic Plan** [5 pts]: A detailed algorithmic plan for how you will approach the trickiest part of the project.

I think the trickiest part of the project would be using Beautiful Soup to get the web scripting from Yahoo Finance for stock market and displaying it in the object StockMarket, so when the player gets to the stock market, he/she can see the trends of the stock market displayed together. If I have the extra time and energy, I will work on putting these data into graphs and displayed the graphs when the player clicks on specific stocks.

Another difficult part of the project would be using Pygame and detecting if the player walks up to certain places that he/she can enter to perform tasks. Since I will input small tasks for the working part of the player's life, I'm thinking about making the players to move around to complete these small tasks to increase the game features of this simulation game.

- **Timeline Plan** [5 pts]: A timeline for when you intend to complete the major features of the project.

For web scraping using Beautiful Soup, I planned to finish it and store the real time data for stock market before TP1 meeting. I also planned to initialize the game and spritesheet for characters before TP1 meeting. I will create the protagonist using the Character() object Before TP2, I plan to finish the MVP, which includes that the player can walk around and invest in the stock market. The stock market will show the basic information of each stock and show the graphs for them as well. The player can both buy and sell stocks in make investments in MVP.

For the final state, I plan to add the feature where the player can deposit their money and go to work to complete some small tasks in additional to make investments in stock markets.

- **Version Control Plan** [3 pts]: A short description and image demonstrating how you are using version control to back up your code. Notes:
  - **You must back up your code somehow!!!**
  - **Your backups must not be on your computer** (ideally, store them in the cloud)

I'll create a repository under my Github account and push my update to Github every time when I change something in my codes using git push.

- **Module List** [2 pts]: A list of all external modules/hardware/technologies you are planning to use in your project. Note that any such modules must be approved by a tech demo. If you are not planning to use any additional modules, that's okay, just say so!
- Pygame
- Beautiful Soup