COSC 412 Individual SPMP

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**Project Overview**

The purpose of my project is to create an easily accessible browser game that people can play and enjoy. The game will feature a username selection screen and the game features itself will include very basic, easy-to-learn controls. The game will be an io game, meaning that upon typing in the follow: [game\_name\_goes\_here].io, the user will be immediately inserted into the game itself. The ideal game that I want to create is a fighting game with up to four individual people to play against at once. The game would include melee weapons and ranged weapons in the mix.

**Project Deliverables**

* Server up and running
* Game Sprites fully functional
* Multiplayer fully functional
* Gameplay fully functional
* User registration fully functional

**Evolution of the SPMP**

I expect some gameplay mechanics to be explored and changed from the original idea as well as the overall goal of the game to possibly change as well. I expect for the overall powerups that I plan to implement and some of the key bindings to be changed. I foresee some different aspects of the game being completely scrapped or left for later, last minute implementation depending on the overall difficulty of the game itself.

**Reference Material**

Agar.io

Slither.io

**Definitions and Acronyms**

IO – Was unable to find the exact singular meaning of this, but it is a domain name that is used by most start up tech companies and a large amount of browser games

**Management Objectives and Priorities**

Handle the easy stuff in tandem with the more time-consuming implementation i.e. creating sprites around the same time as creating a server.

**Assumptions, Dependencies and Constraints**

The project completely hinges on my ability to understand and be able to completely get a server up and running to have the game be played on. Gameplay mechanics and basic game development things are not too foreign for me.

**Risk Management**

* If I feel as if the project is becoming larger or is already larger than I originally expected, then I can try to reduce the overall scope of the project. By that I mean, reducing some gameplay mechanics, remove powerups, or even reduce the overall play area.
* The same as project size, if I notice that the complexity of the project begins to escalate and multiply then I will try to locate the source of the multiplication and see if there is a way for me to reduce the complexity and make it more simple while maintaining the same playability.
* Computer Issues: Convert to my laptop until my desktop issues are resolved
* Coding Issues: Use past documentation and other references to assist the coding process

**Methods, Tools and Techniques**

Tools:

* Piskel – Free Software to create pixel-art sprites for characters and such
* Github – a means of sorting and maintaining my proper workflow
* Coding Language – C#, Javascript, HTML (possibly)
* Unity – Game Developing Software Used Throughout a lot of companies

Techniques:

I am going to follow the Agile Development Model because of its ability to adjust to the constant changes of the environment and such. Developing a game brings many intricate issues that can easily bounce off each other and create a completely inoperable project, so I would want a model that can adjust to those circumstances.

**Work Breakdown Structures**

**Use Cases**

|  |  |
| --- | --- |
| **Name** | User Joins The Game |
| **Descriptions** | User enters the landing page, creates an account or plays as a guest, joins a game (either random or from a list) |
| **Actors** | User |
| **Organizational Benefits** | Being able to access game and user registrationh |
| **Frequency of Use** | Very common |
| **Triggers** | User enters website, |
| **Preconditions** | User has web browser and a stable internet connectivity |
| **Postconditions** |  |
| **Main Course** |  |
| **Exceptions** | 400 – 500 internal errors  Login Failure |