**Team 13 Initial Project Description**

**Team Members**

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**Contact:** Haaris Chaudhry

**Sponsor:** N/A

**Initial Project Description**

For our project, we will be implementing a game similar in style to popular games such as slither.io and agar.io. Seeing the success of casual multiplayer web games such as those mentioned above inspired us to create something in the same vein, but with fresh new mechanics. Our goal for the game is to make it so that it is easy to learn, easy to master, and requires almost no commitment to be competitive; a game that a user can have fun with in the span of only a few minutes. The current idea for the game is a 2D, top-down shooter with capture-the-flag elements.

A paradigm used in the previously mentioned games, and which is the core of our game, is that game stats will not be saved after the user quits. For example, when a player logs in, he/she will be able to control a character that will gain levels after defeating enemies and picking up power-ups, however, these levels will be erased once the user logs out. This reduces the likelihood of the existence of players that have achieved a level so great that any new player is immediately overwhelmed.

We want to undertake this project because we would like to familiarize ourselves with general application level networking concepts. The game will be using a minimal UI and Canvas 2D on the frontend and the node.js language on the backend with websockets. The concept of handling a real-time game with multiple players (perhaps over 100 players) in one server while maintaining a low latency presents are real challenge that we feel will better prepare us for future software engineering projects in the real world.

**Project Milestones**

1. Formalize a design for all components of the game – October
2. Establish basic development framework – October
3. Basic movement and controls developed – October
4. Establish connection between frontend and backend – November
5. Game logic implemented on backend – November
6. Two players able to join a game at once – December
7. Set up official game server and hosting – January
8. Create interface for many players to join seamlessly – February
9. Testing for scalability – March
10. Development documentation complete – April

**Project Budget**

* HTML5 Canvas (<https://developer.mozilla.org/en-US/docs/Web/API/Canvas_API>)
* Node.js (<https://nodejs.org/en/>)
* Github (<https://github.com/>)
* Web Hosting
	+ $5-30/month, depending on platform – For spring semester

**Work Plan**

We are planning to float between roles in addition to our primary roles. Our roles are subject to change based on proficiency and aptitude through the course of the project.

* Game Graphics and Interface – Hunter Crisp, Nicholas Robless
* Frontend Integration – Hunter Crisp, Robert Cheruiyot
* Backend Integration – Haaris Chaudhry, Robert Cheruiyot
* Game Logic – Navpreet Singh, Nicholas Robless
* Documentation – Haaris Chaudhry, Navpreet Singh

**Github Link:** <https://github.com/nrobless/team-13-project>