Title: A Simple Game of Connecting Web Technologies

# Abstract describing the scope of your planned work:

This project is to be a game utilizing various web services to facilitate its function. It will consist of a WebGL front end for rendering a simple game like tic-tac-toe or connect 4. It will use various web services to facilitate a lobby system, a chat system, and game manager. These web services will communicate to each other using XML and JSON. The project should work in a desktop browser or in a browser on a mobile device.

# Motivation and Objectives

The goal of this project is to as a team construct a simple web application using a small set of diverse web technologies that have emerged in recent times to facilitate learning of team members. With the constraint of time and team size and availability the scale of the project will be kept small so that the core of the objective can be accomplished. Once the main objective is complete, further goals will be set and iterated upon to try to expand functionality and create new learning opportunities for the team.

# Related work ( if applicable)

NA – Probably can remove this section

Can we reference something like [agar.io](http://agar.io/)?

# Approach towards problem

This project is to be a game utilizing various web services to facilitate its function. It will consist of a WebGL front end for rendering a simple game like tic-tac-toe or connect 4. It will use various web services to facilitate a lobby system, a chat system, and game manager. These web services will communicate to each other using XML and JSON.

If the basic functionality proves to be within scope, the application will be expanded to provide simple phrase based chat that will use a mapping ontology to convert the phrases into the user’s preferred language. Potentially an ontology of geo-location lookup based on connecting IP can be used to give default options or pair players with other players in their region.

Technologies utilized will be WebGL for rending the front end of the application. Java utilizing Springboot and Node.js for back-end services. Web services will be structured using RESTful architectural design. Chat will likely be done using WebSockets to ensure live updating.

# Evaluation and Testing Methods

The primary piece of functionality and user story paths will be established after some exploratory learning of the desired technologies has occurred and the team has a rudimentary understanding of how to structure a product. The product will generally be evaluated using manual testing with some automated testing where the cost of automation is low.

In general Java code will be tested using the JUnit framework. A tool will be needed to be found for any JavaScript testing. A tool similar to Selenium may be used to test any web front end work.

# Bibliography

Needs to be expanded. Maybe just reference some tutorials or something.

CSE551 Project Ideas

* Game
  + HTML5 Browser Game, mobile?
  + Chat App
  + Lobby App
  + Leaderboards
  + Split apps between technologies
    - XML/JSON to communicate
  + Technologies
    - HTML5 front end
      * Javascript WebGL
    - WebSockets chat
    - Lobby REST service
    - Node.js
    - SpringBoot
    - Git - GitHub
* Music/Media Player
  + Music tagger converting Ontology between various formats
* News Aggregator
  + Translate different languages to your native tounge
* Ontology
  + Slang Converter
  + Translator
    - Read news from other languages
    - Translate game chat
      * Phrase-based conversations
    - Abbreviations
      * Concatenation to full two words
  + Geo-Location
    - States
    - University
    - Country