Software Requirements Specification

for

Super Snake

Version 1.0 approved

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<Ceagulls>

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1. Introduction

1.1 Purpose

The purpose of this project is to build a snake game prototype, in hopes of making a newer, better version of the original game.

1.2 Document Conventions

This Document was created based on the IEEE template for System Requirement Specification Documents.

The following conventions in the document were used as follows:

Convention	Description
Super Snake	The Company Name

1.3 Intended Audience and Reading Suggestions

This document will be made for developers, project managers, users, testers, marketing staff, and document writers. The rest of this SRS contains Product Scope, An overall description of the product, External Interface Requirements, System Features, Nonfunctional Requirements, and Other Requirements.

1.4 Product Scope

The scope of this project is a react front end web application with a typescript backend which is responsible for the game system as well as any other functionality.

1.5 References

Super Snake GitHub link: https://github.com/MoodyMakai/Cos420Ceagulls

2. Overall Description

2.1 Product Perspective

Super Snake is designed to be an alternative option to existing snake-like games, such as Snake, Slither.io, paper.io, etc. Super Snake seeks to take the best components of these existing products and build off them with further features and improvements.

2.2 Product Functions

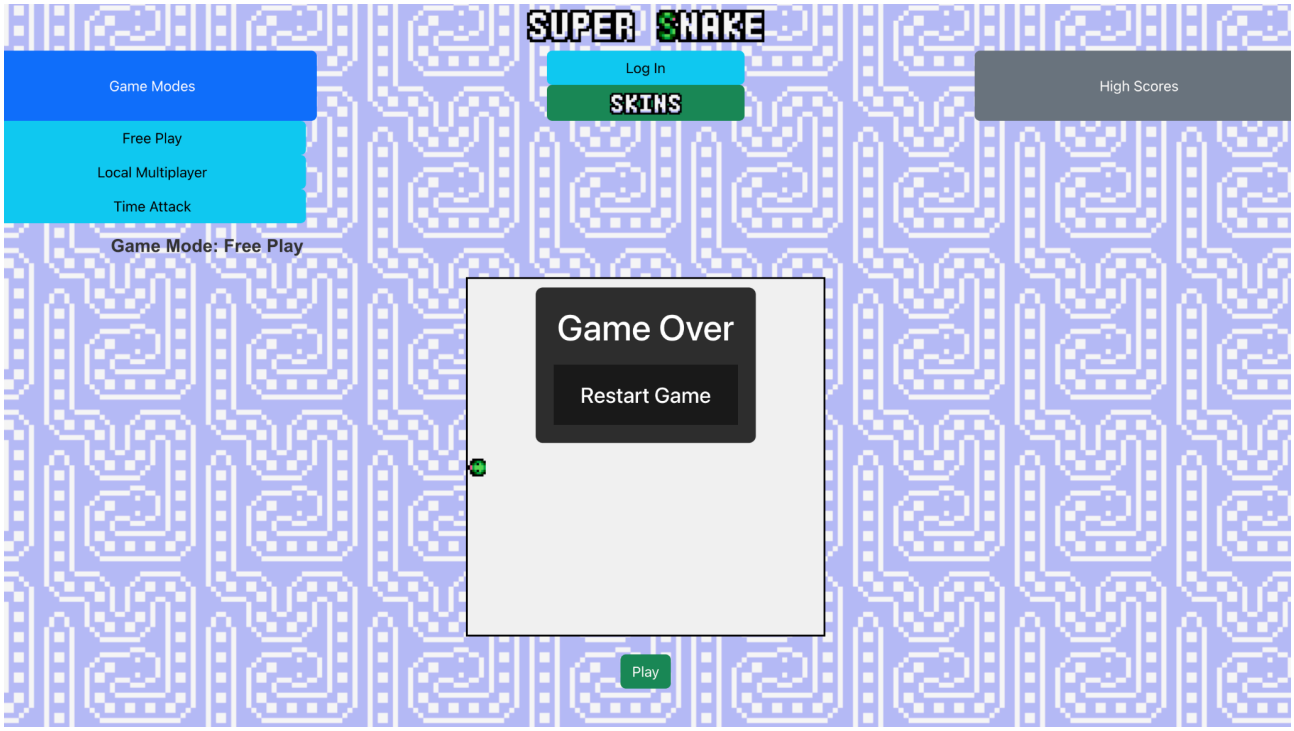
- Super Snake must allow user to play the game
- Super Snake must keep track of the users score and high scores
- Super Snake must allow customization of the users snake
- Super Snake must provide a comfortable and enjoyable user experience

2.3 Assumptions and Dependencies

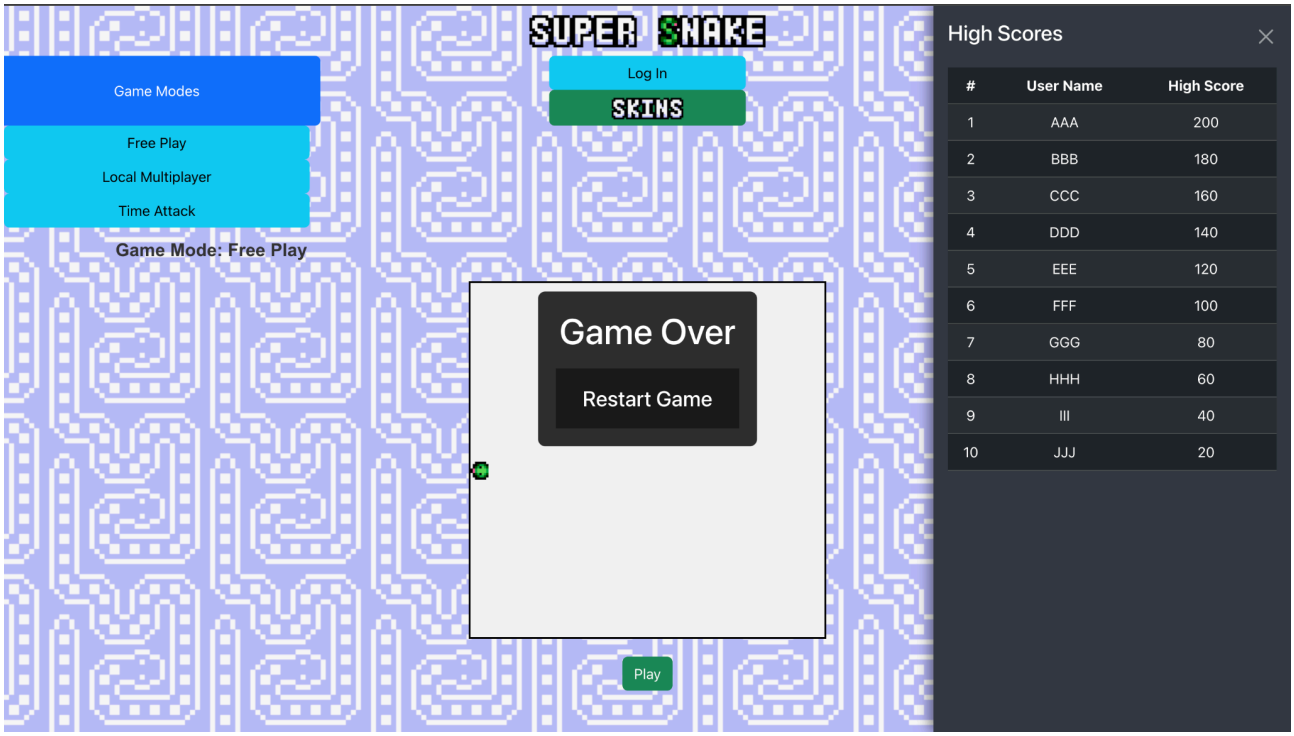
Super Snake is developed in HTML, React, and Typescript.

3. External Interface Requirements

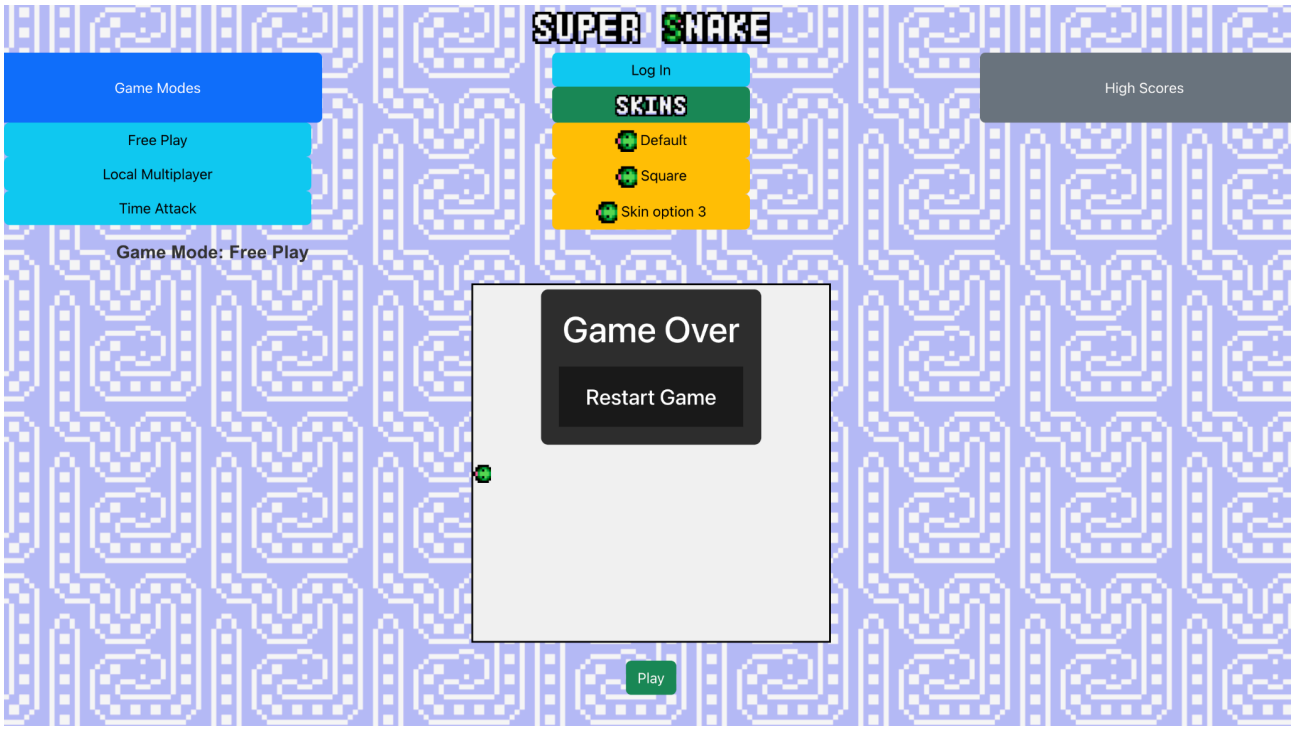
3.1 User Interfaces



This is an example of the main page. From here you can log in, see the high scores, view skin options, select different game modes, or play the game.

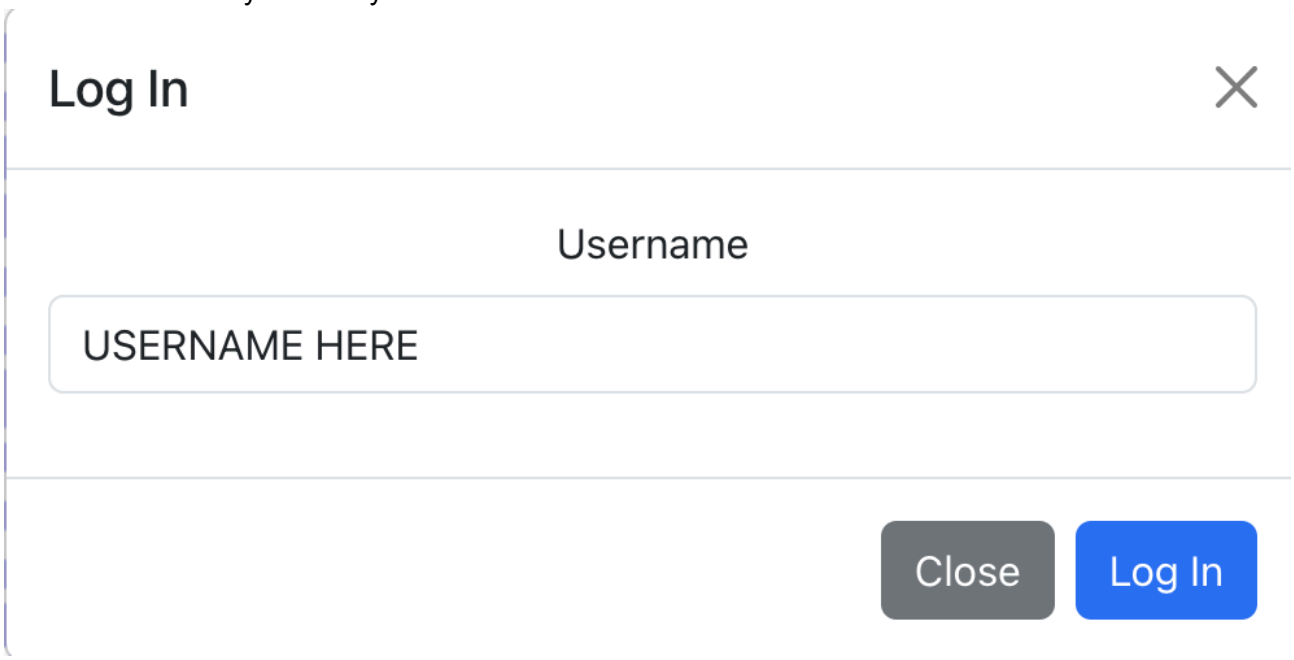


This is what is returned when the high scores button is clicked. This modal pops in from the side and can be closed from the x or clicking off of the modal.



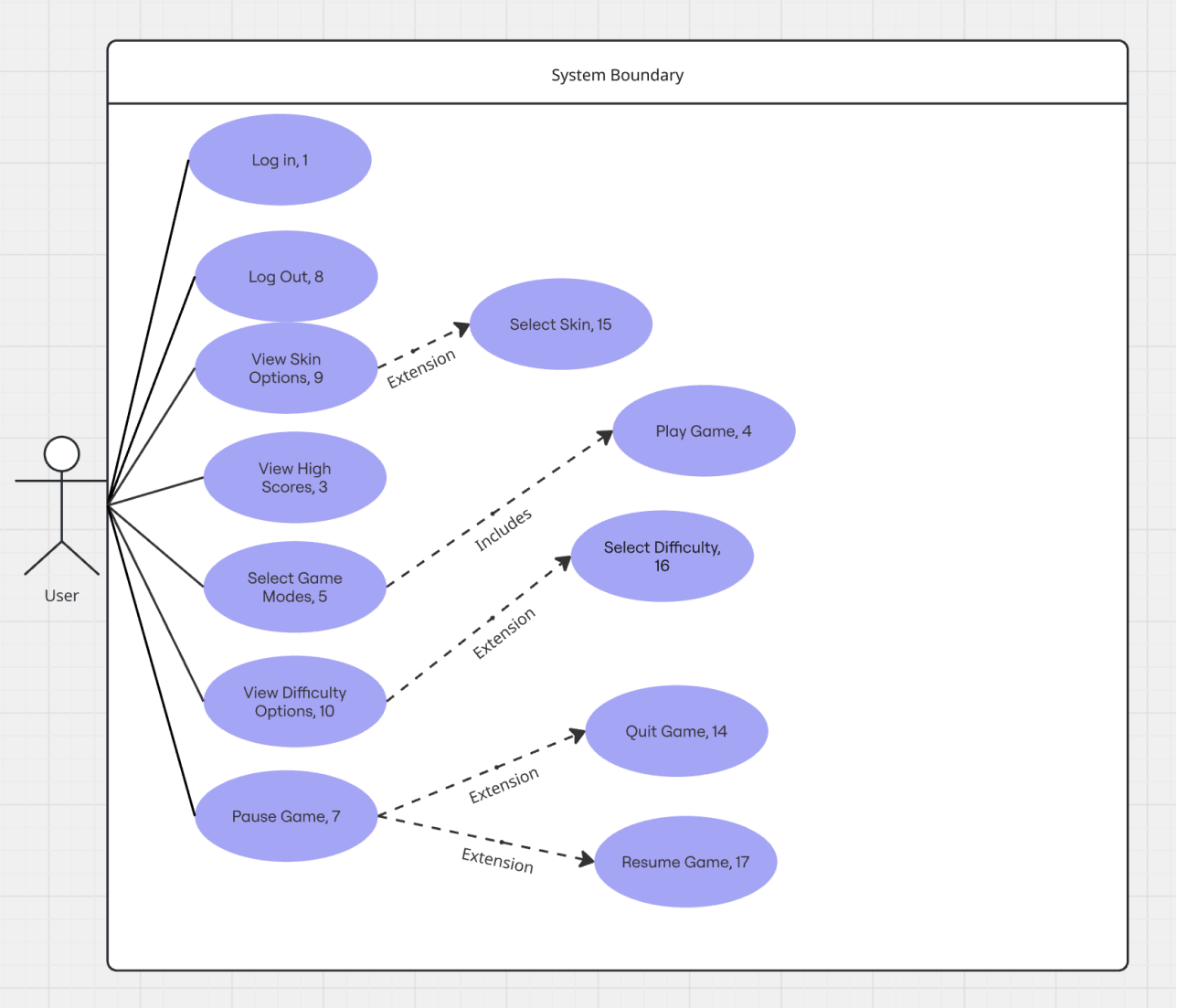
After clicking the skins button, the dropdown is shown, showing an example of the head skin and its corresponding name.

After clicking the login button, a small login modal is shown. This modal includes a close button, an input field and a login button. Once you have hit the login button, the text entered into the field is recorded into the system as your username variable. The modal is then closed.

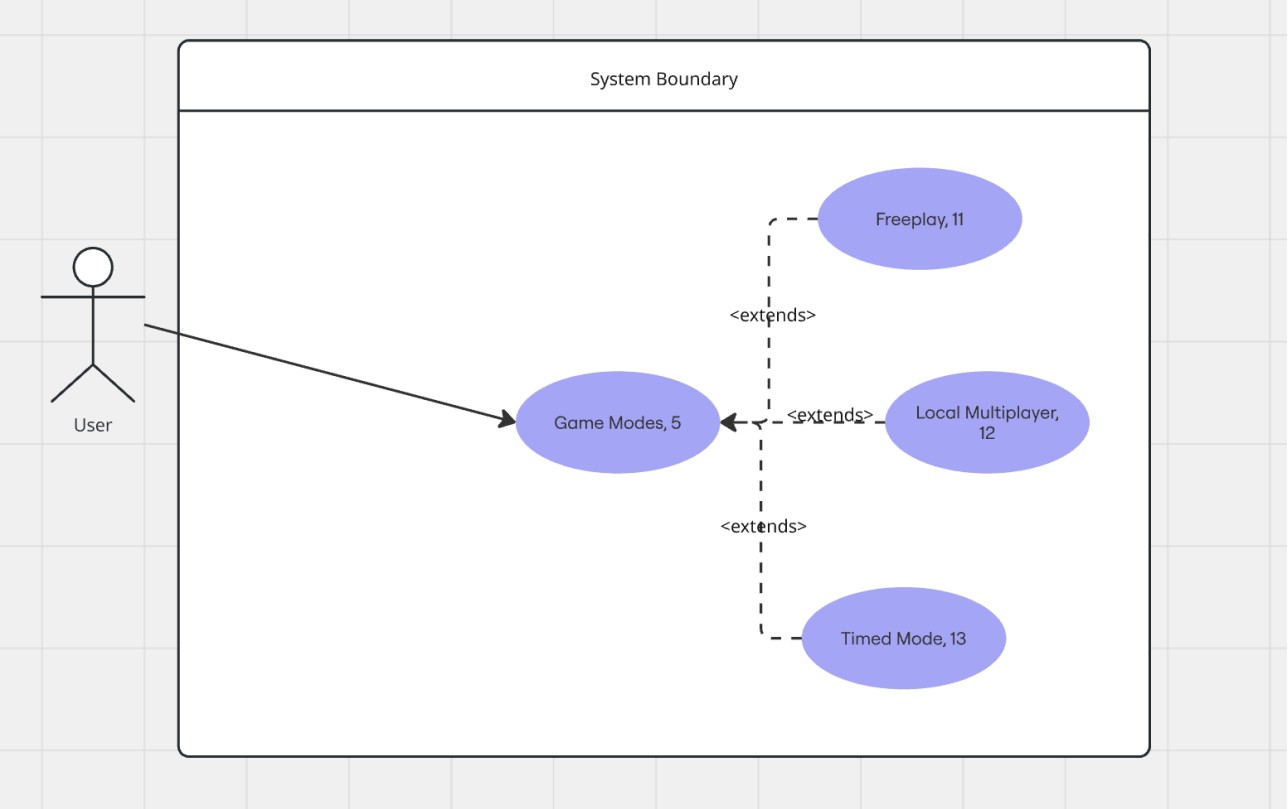


This is an example of a username being entered.

Once the username is entered, a welcome message is displayed, showing the user name input.



This is the main use case diagram for the system.



Here is a more detailed use case diagram showing the game mode selection system.

4. System Features

4.1 Difficulty Setting

4.1.1 Description:
4.1.2 Stimulus:
4.1.3 Functional Requirements:
REQ-1: The game shall have 3 difficulty settings: easy, normal, difficult.
REQ-2: The difficulty setting shall be adjustable before playing the game.
REQ-3: The difficulty settings shall have a brief description of how they alter the gameplay.
REQ-4: The difficulty setting shall be adjusted within the user interface.

4.2 Player Sprite Setting

4.2.1 Description:
4.2.2 Stimulus:
4.2.3 Functional Requirements:

REQ-1: The game shall have 3 different snake sprites to choose from: Regular, Inverted, and RBG.
REQ-2: The sprite setting shall be adjustable before playing the game.
REQ-3: The sprite settings shall have a brief description of lore for that skin.
REQ-4: The sprite setting shall be adjusted within the user interface.
REQ-5: The sprite setting shall be adjustable while playing the game.
REQ-6: New sprite settings shall be added as the player reaches higher scores.

4.3 Score

4.3.1 Description:
4.3.2 Stimulus:
4.3.3 Functional Requirements:
REQ-1: The game shall allow you to send your score in an sms message.
REQ-2: The game shall record the score of each run through.
REQ-3: The game shall allow you to view 10 other users' highest scores.
REQ-4: The game shall allow you to view your own previous 10 highest scores.
REQ-5: The game shall have a direct accumulation of one point per Snake-Bite consumed.

4.4 Game Board

4.4.1 Description:
4.4.2 Stimulus:
4.4.3 Functional Requirements:
REQ-1: The board size for the default game mode shall be 48 units wide by 27 units high.
REQ-2: The outer wall that kills the player will have a thickness of 1 unit.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

NON-REQ-1: The game shall run at atleast 60 frames per second.
NON-REQ-2: The game shall not crash more than 2% of the time.
NON-REQ-3: Sending the score in an sms reliably will make it to the receiver 95% of the time.
NON-REQ-4: The game shall react to user input within 500ms 95% of the time.
NON-REQ-5: The game shall load within 500 ms from when the user clicks start at least 95% of the time.

5.2 Safety Requirements

NON-REQ-1: The game shall offer a graphical mode that includes specific colors like blue and orange for color sensitive users to differentiate objects easier.

5.3 Security Requirements

NON-REQ-1: The game shall stop 95% javascript script injection.
NON-REQ-2: The game shall not pose a risk of downloading viruses to a user's computer at least 98% of the time.
NON-REQ-3: The game shall protect credential information given 95% of the time by storing all passwords as hashed.
NON-REQ-4: The game shall stop inappropriate usernames according to section 5.3.1 80% of the time

5.3.1 Username Requirements

NON-REQ-1: Usernames including any profanity in English, Spanish, and French will be blocked 80% of the time.
NON-REQ-2: Usernames including any insults to other players will be blocked 80% of the time.
NON-REQ-3: Usernames including any offensive terms will be blocked 80% of the time.

5.4 Software Quality Attributes

NON-REQ-1: The game will run at 30 fps on systems 99.9% of systems.
NON-REQ-2: The game will display at the proper resolution on systems that run with most of the common display settings, at least 95% of the time.

6. Other Requirements

Appendix A: Glossary

Super Snake: The Company Name