**Preliminary Requirements**

**Team: Code Slayer**

**Elvis Jimenez – Team lead, developer and architect of the GUI interface.**

**Akshay Patel – Sub team lead and architect of the single player mode (PvP).**

**Luis Oropeza – Tester and secretary**

**Nah Nguyen – Architect of the AI.**

**Stephanie Reyes – Secretary and Tester.**

**Table of Contents**

[Modification History 3](#_Toc246755789)

[Domain Knowledge 4](#_Toc246755790)

[Glossary 4](#_Toc246755791)

[Interview with Client/Questionear 5](#_Toc246755792)

[Functional Requirements 6](#_Toc246755793)

[Use Cases 6](#_Toc246755794)

[Use Case 1 6](#_Toc246755795)

[Use Case 2 6](#_Toc246755796)

[Use Case 3 7](#_Toc246755797)

[Use Case 4](#_Toc246755797) 8

[Use Case 5 8](#_Toc246755797)

[Use Case 6](#_Toc246755797) 9

[Non-Functional Requirements](#_Toc246755801) 10

[Cost Constraints 10](#_Toc246755802)

[Reliability 10](#_Toc246755803)

[Time Constraints 10](#_Toc246755805)

# Modification History

9/9/16 The product design layout has been developed.

9/16/16 The product design layout has been improved with features.

9/23/16 The coding has begun and a 5X5 board has been created

9/30/16 The product has the single or multiplayer feature

# Domain Knowledge

|  |  |
| --- | --- |
| **Term** | **Definition** |
| 5x5 Tic Tac Toe | A game can be played with two players using X and O signs. The player who succeeds in placing four of their marks in a horizontal, vertical, or diagonal row wins the game. |
| GUI(Graphical User Interface) | Two people can operate it using keyboard and mouse |
| Platform | OS based on the which software the game is running |
| SDL | Extensive library for C++ |
| Visual Studio | Integrated development environment for implementing the code |
| One Player | A player play against the computer |
| Multi Player | More than one player can play with each other. |
| Difficulty Level | In one player, player can play in easy, medium and hard levels. |

## Glossary

|  |  |
| --- | --- |
| **Acronym** | **Meaning** |
| GUI | Graphical User Interface |
| SQA | Software Quality Assurance |
| AI | Artificial Intelligence |

## Interview with Client/Questionnaire/…

**Location: UHD Academic building room 705**

**Date: 10/ 13/ 2016**

**Time: 1:15 - 1:45**

**Attendees: Shengli Yuan and Elvis Jimenez**

**Description:**

***Question 1: What does it mean by 5X5X4?***

*Response: 5x5 means the board size and the 4 is how many have to be connected.*

***Question 2: Does the project have to use a server to communicate with all the other teams’ project?***

*Response: No, for the tournament two computer will be set side by side and mirrored.*

***Question 3: If so what language will that need to be programed in?***

*Response: N/A*

***Question 4: Either than the requirement in the syllabus is there anything extra that needs to be done?***

*Response: No everything else is up to the teams.*

***Question 5: For displaying user scores do you want it to only be set at the beginning and end of the game or be displayed at any time?***

*Response: That is up to the team to decide only thing is that the program must be able to display that content*

**Functional Requirements**

## Use Cases

### Use Case 1

|  |  |
| --- | --- |
| Goals of actor | User registers to play game or play as a guest |
| Task | Initially register a user name to start playing the game |
| Preconditions | No user name is registered |
| Exceptions | Error message is shown if name is already registered |
| Variation of action interactions | User can choose to create a user name or play as a guest |
| System change/production | Guest will be deleted once game is closed |

### Step-by-Step Descriptions:

### Use Case 2

|  |  |
| --- | --- |
| Goals of actor | User chooses to display game history |
| Task | Display all user scores that have played the Tic-Tac-Toe |
| Preconditions | Any game in progress is temporarily blocked and only the score can be seen |
| Exceptions | Current game play is covered and not able to move until score page is closed |
| Variation of action interactions | User able to display score any time during the game |
| System change/production | Score can only be view not modified. |

### 

**Use Case 3**

|  |  |
| --- | --- |
| Goals of actor | Multi-Player selection |
| Task | User selects to play multi-player mode |
| Preconditions | Only to be used in the software while playing against another Human. |
| Exceptions | Multi-Player Mode is only used against human vs human |
| Variation of action interactions | User choose who want to go first or randomized who is player one or two. Users have to enter their own stones |
| System change/production | User name may change according to player. |

### Use Case 4

|  |  |
| --- | --- |
| Goals of actor | Single player selection |
| Task | Game Play is to play against AI when bored. User will have to create an account or plays as a guest. User has to choose difficulty in level as well |
| Preconditions | Only to be used in the software while playing against AI. |
| Exceptions | Only one player can play at a time against the AI. |
| Variation of action interactions | User will be able to choose difficulty level and to choose to play as a guest, create a user name, or logging as an existing user. |
| System change/production | Depending on level the game becomes challenging. |

### 

**Use Case 5**

|  |  |
| --- | --- |
| Goals of actor | Selecting difficulty level |
| Task | To assign a certain level of difficulty before a new game starts. |
| Preconditions | Player has to choose a skill level of either easy, medium or hard in order to start playing the game. |
| Exceptions | Can only be used against the AI |
| Variation of action interactions | AI acts differently according to level selected |
| System change/production | AI algorithm change according to level selected. |

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**Use Case 6**

|  |  |
| --- | --- |
| Goals of actor | End of Game Play |
| Task | Exits the game being played, or Play a new game , being multiplayer or single mode |
| Preconditions | The game play has to have finished either with a winner or a draw giving the user/s an option to start a new game or end the game |
| Exceptions | Confirmation of quitting game at any time is needed. Keeping in mind if current game has not reach an end the user who had the last turn will be consider the loser |
| Variation of action interactions | User/s can quit or start a new game at any time but have to confirm action |
| System change/production | If chosen to quit everything will close. If action is taken in the middle there will be consequences. |

# Non-Functional Requirements

## Cost Constraints:

## The project has a budget of $0.00. No further maintenance costs will be required in the future.

## Reliability:

* 1. The update will be provided until it's required.

## Time Constraints:

* 1. The time constraints are finding time to accommodate everyone’s availability to meet. Also, we need to organize adequate allotted time to completing the project. The software will be available by December 2016.