1. **External Interface Requirements**
   1. **User Interfaces**

The game will be on a separate window. Users will be assigned to X’s or O’s, then the computer will be assigned to the opposing faction. The X character is the first player to start the game. When it is the users turn, the user interface will offer on-screen suggestions that will help defeat the computer. The user will not be able to select a square that has already been taken. A user interface will be needed for the X’s, O’s, tic-tac-toe grid, a message displaying the outcome of the game and how many turns were in the game, and whether the player is X’s or O’s.

* 1. **Hardware Interfaces**

At this point in time only mouse input will be accepted as input. If touch or key input is necessary later, it will be addressed then. Any audio output is not required, but does further enhance the gaming experience.

* 1. **Software Interfaces**

Depending on the OS, a virtual environment may be required to run the program. The process will be executed in the Processing environment. The process may require access to the OS clock.

* 1. **Communications Interfaces**

There is no communication required for this product. The end user will be physically present throughout the development of the program.

1. **Other Nonfunctional Requirements**
   1. **Performance Requirements**

The program must be able to respond to player moves in a reasonable time. In order to allow time for users to read text in between moves, they system may pause to accommodate reading speed. The system will be responsive to user moves and will make decisions based on the state of the game. We have adopted a smart AI, so now the player will need to be on top of their game. The AI will be able to detect forks in the game and will beat the user every time the user makes a mistake. The user will have the best chance at winning if they follow the suggestions provided throughout the game.

* 1. **Safety Requirements**

Excessive game play may cause, and are not limited to, psychological exhaustion, muscle tenseness, eye strain, emotional tantrum, addiction, fatigue, carpal tunnel syndrome, poor hygiene, and other harm. In order to prevent some of the syndrome, we recommend taking 15 minute breaks for each hour of gameplay. We suggest users remember that this is just a game and to not take in-game messages too seriously.

* 1. **Security Requirements**

Sharing scores and other in-game information may be done outside of the program. User scores and play records may be kept for development and improvement; however, personal information will not be saved. User names will be used while the program is running, but is not saved.

* 1. **Software Quality Attributes**

The program will be self-contained.

1. **Other Requirements**

At this current moment there is no addition requirements required. In the future we will welcome new additions to the game and will revision this document at this time.