Chapter 2

REQUIREMENTS ANALYSIS

This chapter will discuss functional and non-functional requirements regarding the game’s creation and implementation. The functional requirements will describe the system’s necessary components needed for the project’s completion. The non-functional requirements will cover all challenges that will be faced in regards to making the game experience as smooth and as presentable as possible.

**Functional Requirements**

The game will be developed using the Unity Engine.

The game will be programmed and coded with the C# programming language.

The game will be played using keyboard and mouse controls or Oculus touch controls.

The game will be programmed to be compatible with the windows 10 operating system.

The system will allow the user to play the game using the Oculus rift headset.

**Non-Functional Requirements**

**Frame Rate**: The minimum frame rate in the game must be a minimum of twenty frames per second. The average frame rate must be greater than 30. The frame rate can also be monitored directly from the Unity graphics engine.

**Platform**: The game must run in Windows 10. Installing the game in a Windows 10 environment and run simple tests to verify if the game properly works can test this requirement.

**Response Time**: The average response time between click and reaction must be less than 0.5 seconds. The maximum response time between click and reaction must be two seconds. Adding some simple classes and methods that will compute and display the time needed to process any operation can test this requirement.

**Required Resources**: The game should be able to run with minimum of 2 GB of RAM. The game must use less than 2 GB of hard disk space. Checking the total size of the folder in which the game was installed, for the hard disk space can test this requirement. For the RAM used, when playing the game, we can check the physical memory in the Windows Task Manager performance tab.

**User Interface**: User interface should be clean, presentable, and compatible with both a PC screen and Oculus screen.