

# Battleship SRD

Area 51 Block Party  
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We have abided by the UNCG academic  
integrity policy on this assignment

# Contents

<b>1</b>	<b>Introduction</b>	<b>3</b>
1.1	Statement of Purpose . . . . .	3
1.2	Intended audience . . . . .	3
1.3	Jargon and Definitions . . . . .	3
1.4	Project Scope Challenges . . . . .	3
<b>2</b>	<b>Overall Description</b>	<b>3</b>
2.1	Product Features . . . . .	3
2.2	User Characteristics . . . . .	3
2.3	Operating Environment . . . . .	3
2.4	Design Constraints . . . . .	4
2.5	Assumptions or Dependencies . . . . .	4
<b>3</b>	<b>Functional Requirements</b>	<b>4</b>
3.1	Primary requirements . . . . .	4
<b>4</b>	<b>Technical requirements</b>	<b>5</b>
4.1	Operating systems/Compatibility . . . . .	5
4.2	Interface requirements . . . . .	5
4.2.1	User Interface . . . . .	5
4.2.2	Hardware interface . . . . .	5
4.2.3	Software interface . . . . .	5
4.2.4	Communications interface . . . . .	5
<b>5</b>	<b>Nonfunctional requirements</b>	<b>5</b>
5.1	Performance requirements . . . . .	5
5.2	Safety and recovery . . . . .	5
5.3	Security requirements . . . . .	6
5.4	Software quality attributes . . . . .	6
5.4.1	Availability . . . . .	6
5.4.2	Correctness . . . . .	6
5.4.3	Maintainability . . . . .	6
5.4.4	Re-usability . . . . .	6
5.4.5	Portability . . . . .	6
5.5	Process requirements . . . . .	6
5.5.1	Methodology . . . . .	6
5.5.2	Time constraints . . . . .	6
5.5.3	Cost and delivery date . . . . .	7

# **1 Introduction**

## **1.1 Statement of Purpose**

Battleship is a computer video game. The goal of which is to simulate the board game battleship as a video game. The result will be a fully functioning video game that people can enjoy.

## **1.2 Intended audience**

The intended audience for Battleship is the class CSC 340 Software Engineering section 02 of the fall semester 2019 and Professor Ike Quigley.

## **1.3 Jargon and Definitions**

This documentation will use the following terms

Player = User

## **1.4 Project Scope Challenges**

We plan to support Battleship up until the date it is due (12/9/2019), after which it will be abandoned.

# **2 Overall Description**

## **2.1 Product Features**

Battleship will be able to simulate a game of Battleship with a human player and an AI or two AI. The program will save settings and load them on the next instance of the game. Battleship will be able to use the OpenWeatherMap API to tell the weather at certain predetermined locations which will impact game play.

## **2.2 User Characteristics**

Someone using the Battleship application requires no special certification. Anyone can use our program efficiently.

## **2.3 Operating Environment**

Battleship will be a standalone project and will only require an internet connection so that the OpenWeatherMap API will be able to function. As stated in section 4.1, Battleship will only be guaranteed to work on Windows operating systems and x86 computers.

## 2.4 Design Constraints

Battleship's biggest design constraint will be the time limit. The project is due on (12/9/19) and must be completed before then.

## 2.5 Assumptions or Dependencies

We are assuming for the sake of our project that the OpenWeatherMap API will still be functioning when we ship the project on the 9th of December.

# 3 Functional Requirements

## 3.1 Primary requirements

Graphical requirements:

- Main menu display
- Buttons
- Rendering of battleships
- Rendering of the board
- Rendering of the the control board
- Particles on hit of battleship
- Particles on miss of battleship

Functional requirements

- Match options (Player vs Bot, or Bot vs Bot)
- Settings
  - Graphical sliders
  - Volume slider
  - Mute music/volume
  - Save previous settings
- Match Features
  - Player will always go first if it is a player vs. bot game
  - Player and bot (or bot and bot) will take turns shooting at each others boards
  - The game will feature simulated AI. the bot will take random shot until it hits a ship and then shoot around where it hit.

External requirements

- The OpenWeatherMap API will be used as per the project requirements.
- Settings will be saved to an external text file.

## **4 Technical requirements**

### **4.1 Operating systems/Compatibility**

Our program is only guaranteed to work on the following operating systems:

- Windows 10
- Windows 8
- Windows 7

### **4.2 Interface requirements**

#### **4.2.1 User Interface**

The user interface will allow the user to do the following:

- Interact with the in game menus using buttons
- Alter the graphical and audio settings from the menu
- Interact with the game board by clicking on it

#### **4.2.2 Hardware interface**

For the API to function, the hardware running battleship must have a working connection to the internet.

#### **4.2.3 Software interface**

Battleship will require no external software, and will interact only with the API.

#### **4.2.4 Communications interface**

We will need to be able to communicate with the OpenWeatherMap API.

## **5 Nonfunctional requirements**

### **5.1 Performance requirements**

Battleship will not be able to facilitate player vs. player games.

### **5.2 Safety and recovery**

If data is somehow corrupted or lost, the only thing that is being lost is the saved settings. We do not have any plans to recover lost data.

### **5.3 Security requirements**

We do not plan to implement any security measures for Battleship. The program will have no access to any personal or sensitive information.

### **5.4 Software quality attributes**

#### **5.4.1 Availability**

Battleship is a program that will be available all the time. It can be used whenever it is needed, and the client will have access to the project indefinitely after the delivery date.

#### **5.4.2 Correctness**

Battleship is planned to be an accurate replication of the board game Battleship. If something goes wrong, the consequences are minimal. Battleship will be expected to work correctly without any major bugs.

#### **5.4.3 Maintainability**

We do not plan to update Battleship after the assignment's due date, after which the project will remain in its most recent form indefinitely.

#### **5.4.4 Re-usability**

Battleship will not be programmed with the intent of using its pieces for another project.

#### **5.4.5 Portability**

Battleship will only be supported on windows operating systems and x86 based computers.

### **5.5 Process requirements**

#### **5.5.1 Methodology**

Battleship will be developed using an agile development process

#### **5.5.2 Time constraints**

The project must be completed before the 9th of December 2019, and be ready to be presented to the class.

### **5.5.3 Cost and delivery date**

In exchange for the creation of Battleship, we expect to receive grades representative of our performance. The delivery date will be on the 9th of December 2019. At that point, Area 51 Block Party will present our final product and submit the project for grading.