

# Project 4 Mobile device first person shooter

## Software Requirements Specification

COP4331, Fall2014, 2014

Modification history:

Version	Date	Who	Comment
v0.0	9/15/14	Michael Chisolm	Establishment
v0.2	9/17/14	Seiji Uchiyama	Resource Requirements update

Team Name: Group 7

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SECTION 1: Introduction

Software to be Produced:

- A first-person shooter style game for the iPad and iPad mini platforms. The game will allow a user to host or join a game session, and each game session can have different modes. When hosting a game, different options can be selected to customize the session. The game will be based on the Unreal Engine.

Reference Documents:

- Concept of Operations
- Project Plan

Applicable Standards:

- We will be following the coding standards suggested for the Unreal development kit as shown here: <http://udn.epicgames.com/Three/CodingStandard.html>

Definitions, Acronyms, and Abbreviations:

- FPS – First person shooter
- ESRB – Entertainment Software Rating Board

SECTION 2: Product Overview

Assumptions:

- The software will be operating on an iPad and/or iPad mini
- The processor will be a 1GHz Apple A4 on the iPad and iPad Mini
- The amount of memory assumed is anywhere from 256 MB to 1024 MB depending on the model version
- The software may interface with a router using one of the 802.1x standards.

Stakeholders:

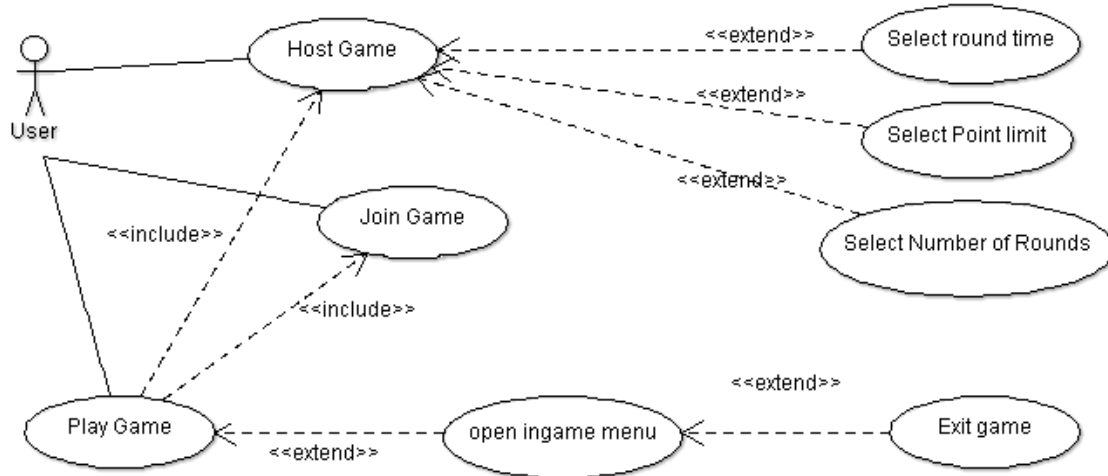
- The customer is a stakeholder because they will be the one purchasing and using the software.
- The ESRB is a stakeholder because they are a regulatory agency that rates games based on the maturity of its content.
- The developers are a stakeholder because they are directly concerned with the development of the software.
- The TA is also a stakeholder because he is the client.

Event Table:

Event Name	External Stimuli	External Responses	Internal data and state
User hosts game	User selects the host	Open game creation dialog	Game session is initialized

	game button		
User joins game	User selects the join game button	Open game join dialog	Game session is joined
User opens in-game menu	User presses menu button	User is presented with the option to quit game	
User exits game	User presses the exit option	User is taken back to the main menu	Game session is unloaded

Use Case Diagram:



Use Case Descriptions:

- User host game: User host a game and has the ability to set game rules such as round time, point limit, and number of rounds.
- Select Round Time: Select the amount of time in a round
- Select Point limit: Select the amount of points necessary for a win before time runs out
- Select number of rounds: select the number of rounds per game
- User joins game: User can join a game hosted by another user.
- User plays game: User can open ingame menu during play and exit game.
- Open ingame menu: Opens up a menu while in game with different options
- Exit Game: Takes the user out of the game

No: <unique requirement number>
Statement: <the "shall" statement of the requirement>
Source: <source of the requirement>
Dependency: <list (with link) to each other requirement on which satisfaction of this requirement depends. (May be "None")>
Conflicts: <list (with link) to each other requirements with which this requirement conflicts. (May be "None")>
Supporting Materials: <list (with link) to supporting diagrams, lists, memos, etc.>
Evaluation Method: <How can you tell if the completed system satisfies this requirement? >
Revision History: <who, when, what>

### 3.1 Functional Requirements:

No:	1
Statement:	A user should be able to host a game
Source:	
Dependency:	None
Conflicts:	None
Supporting Materials:	
Evaluation Method:	Ensure that the game is created by joining it from another device
Revision History:	Michael Chisolm, 9/16/14, establishment of

No:	2
Statement:	A user should be able to join a game
Source:	
Dependency:	None
Conflicts:	None
Supporting Materials:	
Evaluation Method:	Ensure that the user can join a game by having it join a created session and ensure that the connection is valid.
Revision History:	Michael Chisolm, 9/16/14, establishment of

### 3.2 Interface Requirements:

No:	3
Statement:	The software will send and receive data dealing with the location and actions of users
Source:	Interfacing with the host device
Dependency:	None
Conflicts:	None
Supporting Materials:	
Evaluation Method:	Ensure that data of actions and locations are being sent and received by joining a game session.
Revision History:	Michael Chisolm, 9/16/14, establishment of

No:	4
Statement:	The data should be transferred in a 200ms time period
Source:	Interfacing with the host device
Dependency:	None
Conflicts:	None
Supporting Materials:	
Evaluation Method:	Ensure that the ping is low by using a timer in a debugging build of the software
Revision History:	Michael Chisolm, 9/16/14, establishment of

### 3.3 Physical Environment Requirements:

No:	5
Statement:	The application should be able to run on an iPad and iPad mini device.
Source:	
Dependency:	None
Conflicts:	None
Supporting Materials:	
Evaluation Method:	Ensure that the software runs at a frame rate of 30
Revision History:	Michael Chisolm, 9/16/14, establishment of

No:	6
Statement:	The development environment should have a minimum specification of: <ul style="list-style-type: none"> <li>○ Windows XP SP3</li> <li>○ 2GHz or better CPU</li> <li>○ 2+ GB of RAM</li> <li>○ A graphics card with Shader Model 3.0 support</li> </ul>
Source:	
Dependency:	None
Conflicts:	None
Supporting Materials:	
Evaluation Method:	Ensure that the development environment runs well
Revision History:	Michael Chisolm, 9/16/14, establishment of

### 3.4 Users and Human Factors Requirements:

No:	7
Statement:	The software will support larger text sizes for the visually impaired
Source:	
Dependency:	None
Conflicts:	None
Supporting Materials:	
Evaluation Method:	Test the visual elements for the ability to handle larger text sizes

Revision History:	Michael Chisolm, 9/16/14, establishment of
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No:	8
Statement:	The software will prevent unauthorized access to game servers and sessions
Source:	
Dependency:	None
Conflicts:	None
Supporting Materials:	
Evaluation Method:	Testing shall be done to see if penetration can be done
Revision History:	Michael Chisolm, 9/16/14, establishment of

No:	9
Statement:	The software will ensure that the users are using the same data as the host
Source:	
Dependency:	None
Conflicts:	None
Supporting Materials:	
Evaluation Method:	Test by using a client device with different texture and/or map data
Revision History:	Michael Chisolm, 9/16/14, establishment of

### 3.5 Documentation Requirements:

No:	10
Statement:	The software will have a tutorial mode to explain the rules for each game type
Source:	
Dependency:	None
Conflicts:	None
Supporting Materials:	
Evaluation Method:	Ensure that the tutorial level works and fully explains the game type to testers
Revision History:	Michael Chisolm, 9/16/14, establishment of

### 3.6 Data Requirements:

No:	11
Statement:	The software shall track the score and other various statistics of each of the players
Source:	
Dependency:	None
Conflicts:	None
Supporting Materials:	
Evaluation Method:	None
Revision History:	Michael Chisolm, 9/16/14, establishment of

### 3.7 Resource Requirements:

No:	12
Statement:	Funding required would go toward the development process and any post-release support.
Source:	13
Dependency:	Client
Conflicts:	None
Supporting Materials:	
Evaluation Method:	None
Revision History:	

No:	13
Statement:	There are little to no physical resource requirements for the software after development, all hosting will be done on the device running the game.
Source:	
Dependency:	None
Conflicts:	None
Supporting Materials:	
Evaluation Method:	None
Revision History:	Seiji Uchiyama, 9/17/14, Resource Requirements update

No:	14
Statement:	Unreal Development Kit
Source:	
Dependency:	None
Conflicts:	None

Supporting Materials:	
Evaluation Method:	None
Revision History:	Seiji Uchiyama, 9/17/14, Resource Requirements update

3.8 Security Requirements:

No:	15
Statement:	The software shall ensure a fair and competitive gameplay experience
Source:	
Dependency:	None
Conflicts:	None
Supporting Materials:	
Evaluation Method:	None
Revision History:	Michael Chisolm, 9/16/14, establishment of

3.9 Quality Assurance Requirements:

No:	16
Statement:	The software shall strive for a high level of uptime
Source:	
Dependency:	None
Conflicts:	None
Supporting Materials:	
Evaluation Method:	Extensive testing of the game through gameplay.
Revision History:	Michael Chisolm, 9/16/14, establishment of

This page last modified by Seiji Uchiyama (seiji.uchiyama@knights.ucf.edu ) on 9/17/14