Unity Project Requirements Document

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Draft 1

*CSC 4420*

*Unity Group*

*2015*

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1. Introduction

## 1.1 Purpose

The purpose of this requirements document is to offer a comprehensive description of the Unity Game Capstone Project. It will cover each intended feature as well as go over the client’s specifications for completion. The document’s envisioned use is to be a contract between the Capstone team and the client that acts as a reference for developing the finished product. This document will also cover software, hardware, and the user interface.

* 1. 1.2 Problem Description

The problem which gives rise to this project is that there exists a team of students from the College of Creative Studies whom are really great designers, but lack solid programming skills and experience. The Unity project is the collaboration between the artists of the College of Creative Studies and the software engineers of Wayne State University.

* 1. 1.3 Project Scope

The goal of the project is to create a small, fully playable video game known as a demo that is playable on personal computers with the Windows operating system. This demo will exhibit the various gameplay elements that the full-fledged game will contain. Required game elements include: One island environment designed to be an introduction tutorial, a user-controlled camera, appropriate and correctly assigned character animations and sounds, a combat system, and a functional user interface.

* 1. 1.4 Glossary

**Example Term or Acronym** – Example Description

**Demo** - Playable demonstration of core gameplay mechanics

**PC** – Personal computer

**UI** – User interface

# General Description

The following section of the document will provide a high-level overview of all aspects of the game as well as covering its basic functioning parts. It will also cover constraints both business and technical as well as define the expected user base or players of the game.

* 1. 2.1 Product Perspective

The Unity Capstone Game will be a standalone video game experience that is not connected to the internet and does not require any online interaction or connectivity that will run as an installed program on a player’s personal computer. This game will allow the user to interact with the game environment acting within a set of constraints listed further on in the document.

Because video games are played by all different manners of individuals and because players play video games the way they think they should be played, the demo will guide the player through the basic fundamentals of gameplay while becoming more challenging as the game continues.

* 1. 2.2 Product Functions

The following list of functions gives a short overview of the essential functions and features of the Unity Capstone game demonstration. These features are critical to the flow of gameplay. The Main features are what make up the heart of the game’s play system while all additional features exist to add new functionality to the game and will only be added if the schedule allows.

* 1. Main Features
     1. Start/Main Menu
        1. Allows player to enter or exit game
        2. Accessible at start of game or while playing
        3. Gives user ability to stop gameplay if needed
     2. Player-Controlled Camera
        1. Robust camera to give user ability to view the world around them
        2. Able to be moved around based on preference or requirement
        3. Can toggle between 1st and 3rd person camera angle
     3. Player-Controlled Character
        1. On-screen representation of user
        2. Gives the player an avatar to interact with the game world
        3. Player has full control of character’s actions
        4. Able to use character to attack or block enemy attacks
     4. Heads-Up-Display
        1. On-screen, always visible, representation of player information
        2. Gives player ability to always know their character’s remaining health
        3. Visual representation of actual in-game items
     5. Enemy with Artificial Intelligence
        1. Natural enemy of main player character
        2. Built with robust artificial intelligence to challenge player
        3. Seeks to find and destroy the player character
     6. Non-Playable Character
        1. Exists in game to give player guidance and knowledge of surrounding world
        2. Player can find these characters and “talk” to them
        3. Serve a multitude of purposes such as progressing game, or just to add to environment
     7. Living Environment
        1. Playable area to consist of one island surrounded by water that the player cannot leave
        2. It will contain stairs and a ladder that are usable by the player to explore all predefined accessible areas of the island
        3. Fixed areas in game where enemies appear from and retreat to
        4. Contains one discoverable and operable treasure chest of potions used to regain health
        5. Ambient soundtrack that changes upon beginning of combat with enemies
        6. Will have one puzzle the character can solve that unlocks more of the island to explore
        7. Has a Day & Night cycle to emulate the rising and setting of the sun
  2. Additional Features
     1. Save Game
     2. Essence System
     3. Etc.
  3. 2.3 Users/Perspectives

Users of this demo are not limited by age, race, gender, or locality and is accessible by anyone with basic hand-eye coordination. The game may be utilized differently by some users. For example, for some it may act as a hobby, entertainment, or a stress reliever while others may dive deeper into the game to try and set the highest score or beat a personal record while playing in the game world.

* 1. 2.4 Constraints
     1. Business Constraints

In purchasing usable assets for the game the budget is set at and must not exceed $500 for the completed project. All menus and dialogue in game should be displayed in plain English.

* + 1. Technical Constrains

The game is created to run on personal computers or laptops running Windows 7 or Windows 8 and will be optimized for the integrated graphical processing units commonly found in laptops.

Minimum Requirements:

-Intel HD Graphics 4400 Series

-4GB RAM

-Intel i3 Processor

The game should not drop below 30 frames per second on any computer that meets the minimum requirements.

# Game Features

The finished product will be a playable demo demonstrating coordinated events, scripts, and textures running within the Unity engine. The game demo will be robust enough to not crash during regular play (except for unforeseen circumstances such as a sudden computer crash). The game itself will be able to handle user input and react accordingly on-screen via a keyboard and mouse.

* 1. 3.1 Functional Requirements

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* 1. 3.2 Non-Functional Requirements

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# References

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| Doc Number |  | Doc Version | Doc Name & Location |
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# Document Revision History

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| --- | --- | --- | --- |
| Revision | Date | Author | Changes |
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# Appendix

Material including referenced documentation the web or elsewhere, as well as alternative designs or items/ideas for future improvements.