



GRAND CANYON
UNIVERSITY™

Gate:Crash

Giovanni E. Martinez

CST-451 Capstone Project Requirements Document

Grand Canyon University

Instructor: Professor Mark Reha

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ABSTRACT

The current state of the video game market is overly saturated with two major genres of games. Those two genres are the open world role-playing game, and the battle royale game. This does not mean that other styles of games cannot thrive in the current market, however due to the lack of differentiation in the modern game market, games that remove themselves from this model can garner more attention and possible success. That is the space that this project aims to fill.

The goal of this project is to introduce a new competitor to the current video game market, through the 2D objective based exploration game. The design philosophy for the game environment and layout will take inspiration from games in the genre such as Metroid, where the player is dropped in a large space that they will be tasked with navigating. The core gameplay loop of the game will consist of selecting a loadout and objectives from a central hub area and proceeding to the larger environment, or map, where the player will have to complete those objectives and return safely by extracting from the map to collect their rewards. The main map of the game will be random every-time that the player initiates a new instance. The game will also incorporate an escalating combat system that will force the player to take more precaution during their gameplay, to avoid being killed quickly and losing their progress.

History and Signoff Sheet

Change Record

Date	Author	Revision Notes
		Initial draft for review/discussion

Overall Instructor Feedback/Comments

Overall Instructor Feedback/Comments

Integrated Instructor Feedback into Project Documentation

☐ Yes ☐ No

TABLE OF CONTENTS

FUNCTIONAL REQUIREMENTS	5
NON-FUNCTIONAL REQUIREMENTS	6
TECHNICAL REQUIREMENTS	7
LOGICAL SYSTEM DESIGN	8
USER INTERFACE DESIGN.....	9
REPORTS DESIGN	ERROR! BOOKMARK NOT DEFINED.

Functional Requirements

Use Cases

User stories will be in a spreadsheet.

Non-Functional Requirements

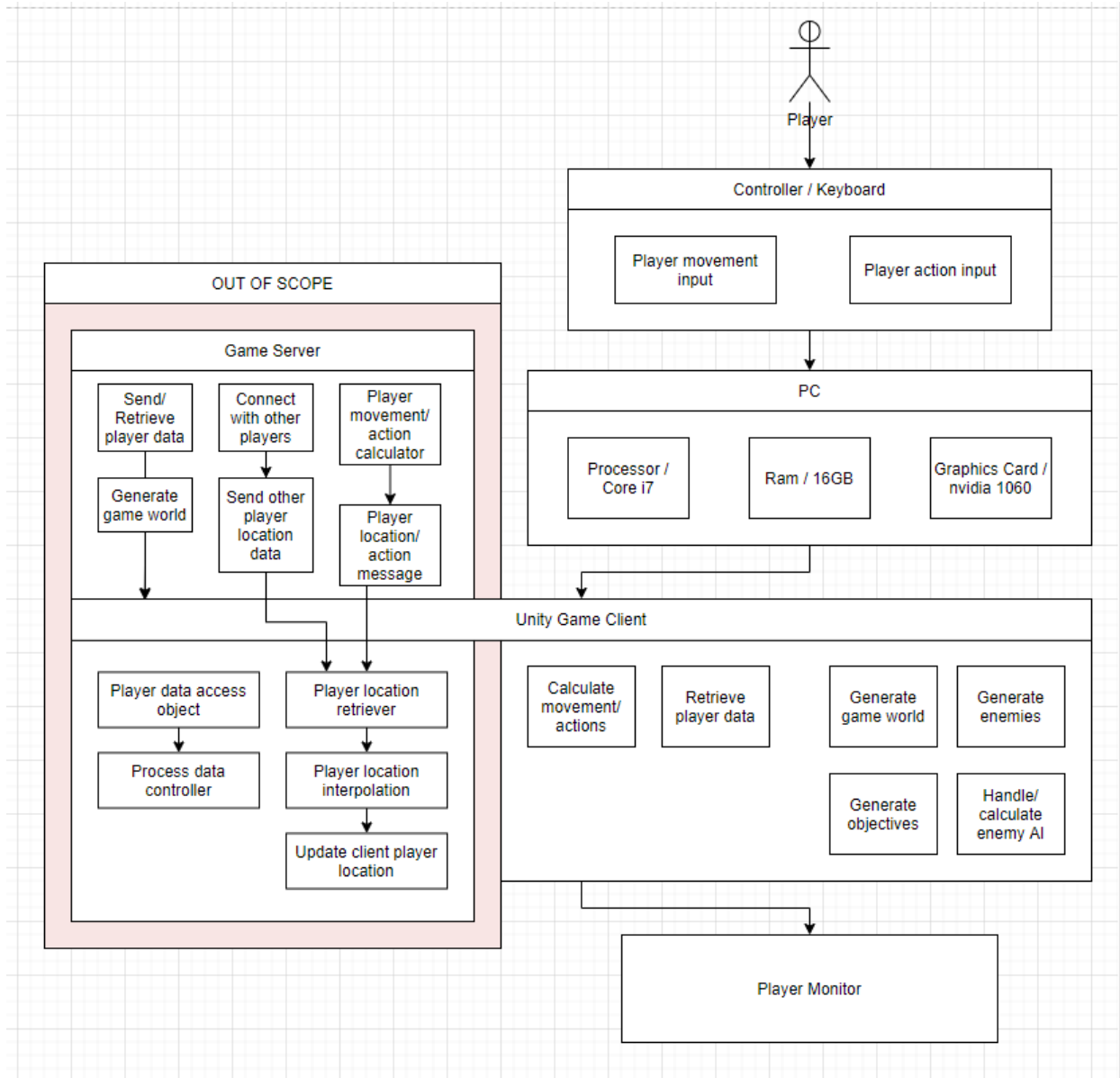
Use Cases

Tab in user stories spreadsheet.

Technical Requirements

Technology or Tool	Justification
Unity Real-Time Development Platform	It is the most widely used videogame development platform, with the most developer support available.
Visual Studio 2022 v.17.3.3	Unity has a lot of built in support for scripts and files created through Visual Studio. Visual Studio 2022 also has the best support for C# based programming.
C# v.10.0	C# is the language utilized and supported by Unity, and it the most recent version of the language is 10.0.
Riptide Networking v.2.0.0 (Out-of-Scope)	Riptide is a simple, lightweight multiplayer networking library for use in Unity. This is an Out-of-Scope technology.
Aseprite v.1.2.31	Aseprite is a graphical design tool with an emphasis in designing pixel-based art. This tool is for making the art for the game.
Studio One 6	This is a music production software that will be used to design the sounds and music for the game.

Logical System Design



User Interface Design

