

Design Document

PROFESSIONAL PRACTICE IN IT

Maciej Majchrzak, Cristina Nita, Kamila Michel

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# Introduction

The purpose of this project is to create a Windows platform three-dimensional isometric game mainly using Unity game engine and Blender computer software.

The game is going to be called ‘Revelation of Worlds’ and it mainly focuses on the character waking up in the strange location with no recognition of prior events. As the player is being chased by multiple monsters while trying to defend against these monsters, there’s one main objective. Figuring out the puzzles hidden throughout the worlds, earning keys by completing puzzles, and trying to learn the truth behind lost memories.

While starting out the game, player will be present with the first, and the easiest map. Player either can earn enough of gold, by defeating enemies, to move onto the next world, or to try and figure out the hidden puzzle within the present world, or the player can do both at once.

With the completion of each puzzle player earns a key. There are four worlds, each with a single puzzle, and its key. Upon solving all four puzzles, and earning all four keys, player will be able to travel to final, fifth world where secret to the existence of these worlds, and puzzles await.

# System Requirements

“Generally, content developed with Unity can run pretty much everywhere. How well it runs is dependent on the complexity of your project.”

* <https://unity3d.com/unity/system-requirements>

ADD MORE ONCE PROJECT IS DONE!!!

# Technology Used and Why

|  |  |  |
| --- | --- | --- |
| Technology Used | Reason | Alternative |
| Unity 2017.3 | Reuse code and assets from your own tech | Unreal Engine |
| Blender | Free and Open 3D Creation Software | Autodesk Maya |
| Firebase | App Development Made Easy | Socket.io |
| C# | C# is Unity’s API | ------------------------------- |

# Architecture of the Solution

Preparation for the project:

1. Setting up the GitHub
   * Setting up the repository and making sure its correctly set up
2. Research about two idea projects
   * Website student advisor idea
   * Game idea
3. Selection of the project
   * Deciding on the project along with the supervisor
4. Installation of the required software
   * Unity
   * Blender

There is list of steps to follow with the creation of the game:

1. Basic Project Setup – for technological testing purposes
   * Creation of player
     + Basic cube
   * Creation of environment area
     + Basic plain square
   * Getting player to move around the environment
     + Basic movement around the area
   * Creation of collision
     + Not allowing cube to pass certain objects
   * Creation of enemies
     + Making cubes to chase after the player
   * Health and damage system
     + Enemies being able to damage player
     + Player being able to damage enemies
   * Death system
     + Game resets after player dies
   * Score system
     + Players score incrementing after defeating enemies
   * Puzzle system
     + Some easy to manage button-based system
2. Graphics Design Creation – editing and design using Blender and packages
   * Basic three-dimensional objects creation
     + Creating three-dimensional objects like trees, stones
   * Creation of different map textures
     + Forest-based map, winter-based map, etc.
   * Creation of characters
     + Multiple textures for characters
   * Creation of weapons
     + Used by diverse types of characters
3. Graphics Assets Placement – importing and editing created graphics into unity
   * Importing created assets in Blender into Unity
   * Organizing the assets – three-dimensional objects
     + Into folders
   * Placement of the objects
   * Adjustment of placed objects
     + Scaling, rotation, location
   * Placement of character
     + Replace the cube with character three-dimensional object
4. Addition of Start Up and Settings Menu – using unity’s canvas feature
   * Creation of basic canvas
   * Drawing buttons onto the canvas
   * Adding button functionality to the canvas
   * Adding several settings
     + Volume, resolution, etc.
   * Adding pause menu while in game
5. Additional Features
   * Addition of multiple character selection
     + Several types of characters
   * Implementing ability system
     + Adding more functionality than just normal attacks
   * Adding new maps
     + Addition of new maps
     + Movement between the maps
   * Implementing coin system
     + Defeated enemies drop gold
     + Gold used to purchase entrance to the next map
   * Implementing character selection menu
     + Prior to entering the game
   * Adding an information website for the game
6. Adding firebase functionality
   * Importing firebase SDK for unity
   * Implementing leaderboard systems for the players

# Design Methodology

# Features of the Implementation

# Limitations

# Known Bugs

# Recommendations for Future Development

# Conclusions