CMPE 491

ANALYSIS REPORT

for

"Sanctified Retribution"

By

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Introduction

Sanctified Retribution is a 2D Roguelike action game developed by our team using the Unity game engine. Featuring pixel art style and a captivating storyline, the game offers players an immersive experience in a world filled with challenging enemies, interactive characters, and intriguing maps. Our team also used Aseprite and Blender for designing the game's maps, characters, and items.

In this analysis report, we will provide an overview of the game's features and functionality, as well as assess its reliability, performance, usability, security, scalability, compatibility, maintainability, and portability. We will also examine the game's interface design, including menus, tutorials, and interactive elements, and evaluate its effectiveness in enhancing the player's experience. Finally, we will discuss the potential for future updates and expansions and outline any areas for improvement or further development.

Functional requirements for the project:

Game Mechanics:

- The player can move in four directions (up, down, left, and right).
- The player can interact with objects in the environment, such as doors, chests, and levers.
- The player can attack enemies with a melee weapon or a ranged weapon.
- The enemies have an AI system that allows them to move and attack the player.
- The enemies have different types and abilities, which affect the way the player plays the game.
- The game includes boss battles, which require the player to use different strategies and techniques to defeat them.
- The game includes puzzles and challenges that the player must solve to progress through the game.

User Interface:

- The game has a main menu with options for starting a new game, loading a saved game, adjusting game settings, and exiting the game.
- The game screen displays all necessary information about the game, such as the player’s health, available items and weapons, and progress through the game.
- The user interface includes interactive elements such as buttons and menus.
- The game provides helpful hints and tutorials to teach players how to play the game and how to navigate the various challenges they will encounter.

Graphics and Art:

- The game has a 2D pixel art style.
- The game uses the Aseprite and Blender programs for character and item designs, and for the map design, respectively.
- The game includes various environments, such as dungeons, forests, and villages, each with unique visual elements.

- The game includes different character sprites for the player, enemies, and non-playable characters (NPCs).
- The game includes different item sprites for weapons, armour, consumables, and other items.

Audio:

- The game has a soundtrack that includes background music and sound effects.
- The game includes different sound effects for various actions, such as attacking, interacting with objects, and opening doors.
- The game includes voice acting for dialogue between characters.

Saving and Loading:

- The game allows the player to create and select save data.
- The game saves the player's progress automatically at certain points, such as after completing a level or defeating a boss.
- The game allows the player to load saved data and continue playing from where they left off.
- The game prevents cheating and exploits, such as save file manipulation.

Compatibility and Portability:

- The game is compatible with a wide range of hardware and software configurations.
- The game is designed to be executed on Windows.
- The game is portable for use on different devices.

Performance:

- The game runs smoothly without significant lag or frame rate drops.
- The game is stable and free from crashes or game-breaking bugs.
- The game is optimised for performance on various hardware configurations.

NONFUNCTIONAL REQUIREMENTS:

Reliability: We want the game to be stable and free from crashes or game-breaking bugs, so that the user can enjoy a smooth and uninterrupted gaming experience without losing progress or having to restart the game.

Performance: We expect the game to run smoothly without significant lag or frame rate drops, so that the user can enjoy the game without any frustrating slowdowns or glitches that could impact their gameplay experience.

Usability: We want the game to be intuitive and easy to understand for players of all skill levels, so that we can easily navigate the game's menus, controls, and features without needing to consult external sources or tutorials.

Security: We want the game to protect to prevent cheating. In addition to protecting user data, players should also be assured that the game provides a fair and secure playing environment. The game should have measures in place to prevent cheating, such as detecting and blocking the use of third-party software or unauthorised modifications to the game code.

Scalability: We want the game to be designed with future updates and expansions in mind, so that players can continue to enjoy new content and features as they are added to the game.

Compatibility: We designed the game to be compatible with a wide range of hardware and software configurations, so that players can play the game on their preferred devices without any compatibility issues or limitations.

Maintainability: We want the game to be easy to maintain and update, so that the development team can quickly fix any bugs or issues that arise, and so that the game can continue to receive regular updates and improvements over time.

Portability: We want the game to be portable for use on different devices, so that players can play the game on their preferred platform, whether that is a desktop computer, laptop, or mobile device.

Stating Scenario:

The player launches the game and is greeted by the main menu, which includes options to start a new game, load a saved game, or access various settings. If the player chooses to start a new game, they are taken to a character creation screen where they can customise their character's appearance and choose their starting class. Once they have completed character creation, the game begins with a cutscene introducing the story and setting.

After the cutscene, the player finds themselves in the starting area of the game, where they can explore and begin their adventure. If the player chooses to load a saved game, they are taken to a list of saved games from which they can select the one they wish to continue playing.

In the options menu, the player can adjust settings such as sound, language, and graphics. They can also change the language of the game, enable or disable subtitles, view credits, and exit the game.

Overall, the start menu provides the player with a range of options to tailor their experience to their liking, whether they want to jump right into the game or adjust settings before starting their adventure.

Save Game Scenario:

In the game, players can create new save points to continue their progress later. When the player clicks on the “Load Game” button, a stimulus is triggered, prompting the game to respond by loading the previously saved game state. This allows the player to resume their game from where they left off. The game save feature is useful for players who cannot complete a level or task in one sitting and want to continue playing later. By providing a seamless game save experience, players can enjoy the game at their own pace without worrying about losing progress. The game also allows multiple save game slots so that players can create and switch between different save points to experiment with different strategies or playstyles.

In Game Scenario:

Once the player selects "New Game" from the main menu, they are taken to the game's opening scene. The scene introduces the game's storyline and mechanics. After the opening scene, the player is presented with the game's first level. The level is designed to be easy and serves as a tutorial for the player to learn the game's basic controls and objectives.

During gameplay, the player has the option to adjust the game's settings through the pause menu. The pause menu can be accessed by pressing the "Esc" key or the designated button on the gamepad. The pause menu displays the current game progress, sound options, graphics options, subtitle options, and the option to save the game.

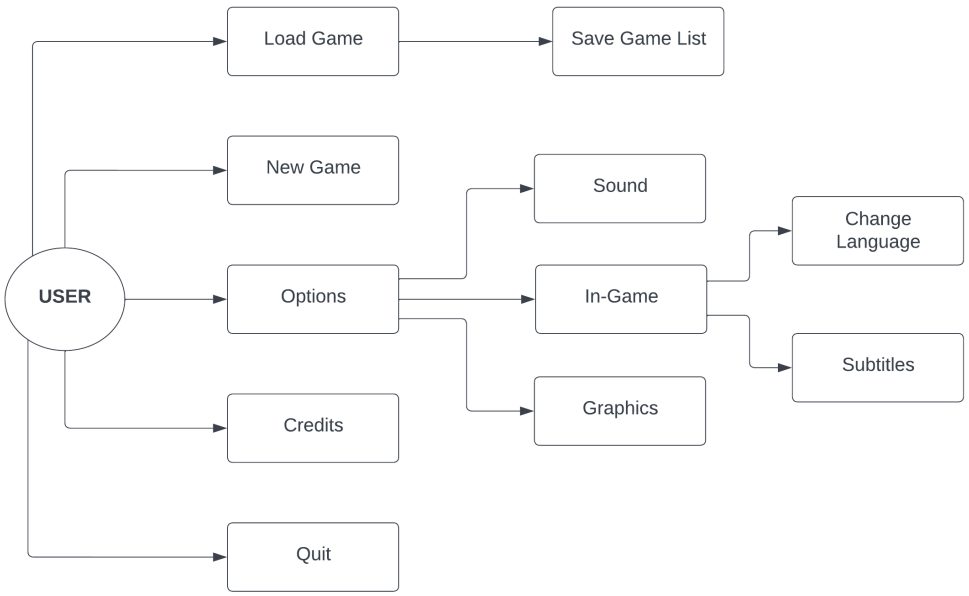
The sound options allow the player to adjust the volume of the game's music, sound effects, and dialogue. The graphics options allow the player to adjust the resolution, brightness, and other visual settings. The subtitle options allow the player to turn on or off the game's subtitles.

If the player needs to take a break or stop playing, they can save the game's progress by selecting the "Save Game" option in the pause menu. When the player wants to resume playing, they can select the "Continue" option from the main menu, which loads the latest saved game.

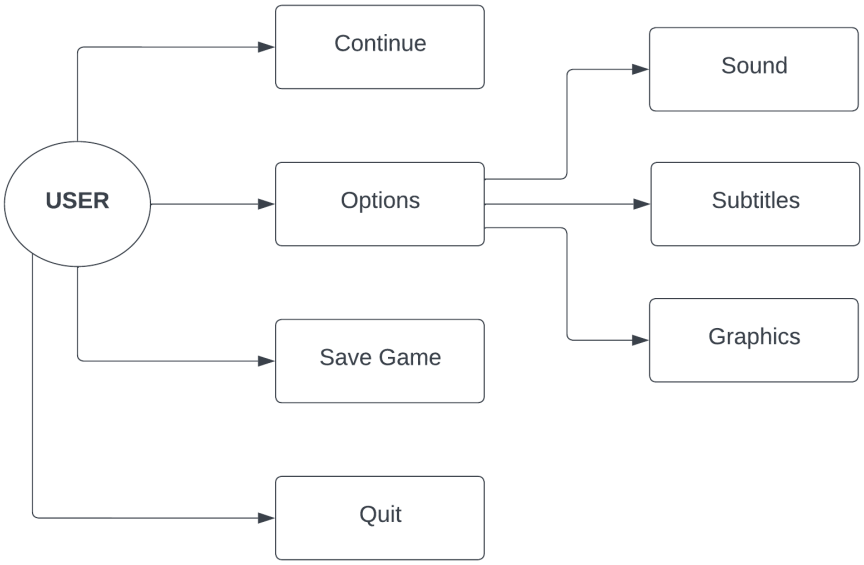
If the player wants to exit the game, they can select the "Exit" option from the pause menu or the main menu. The game then saves the player's progress and returns to the main menu.

Use Case Models

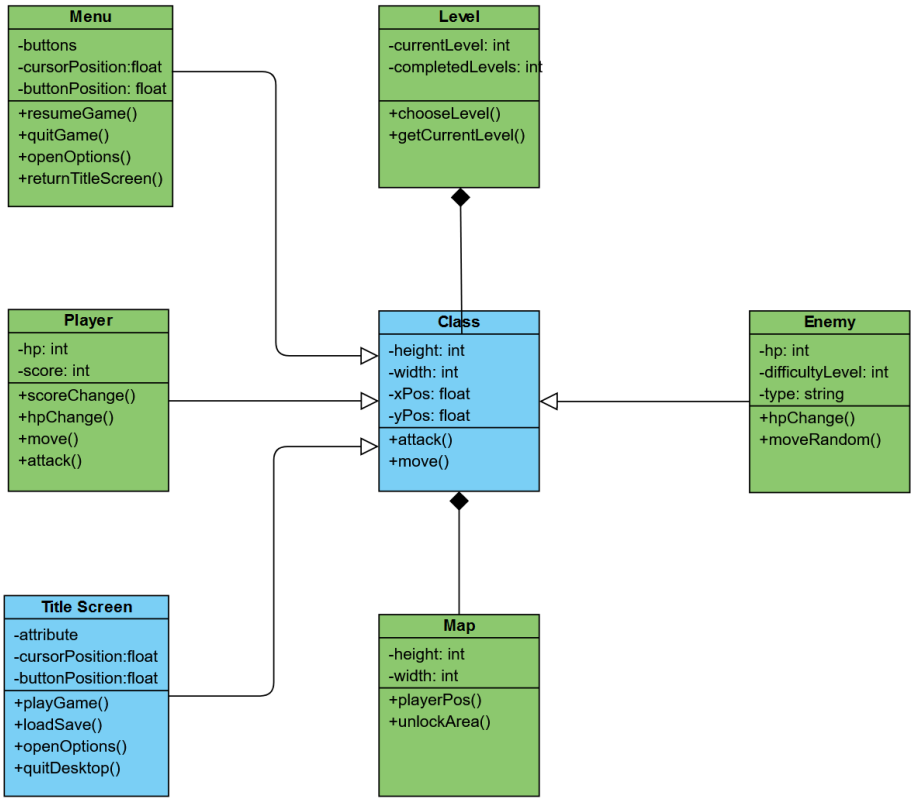
Start menu use case model.



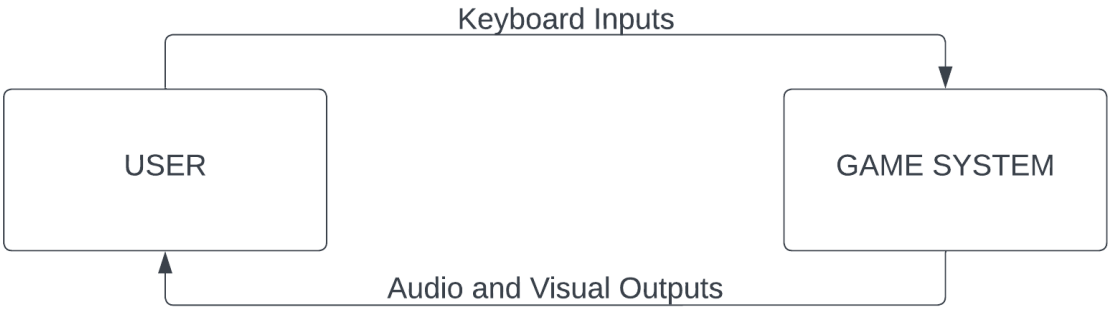
In-game menu use case model.



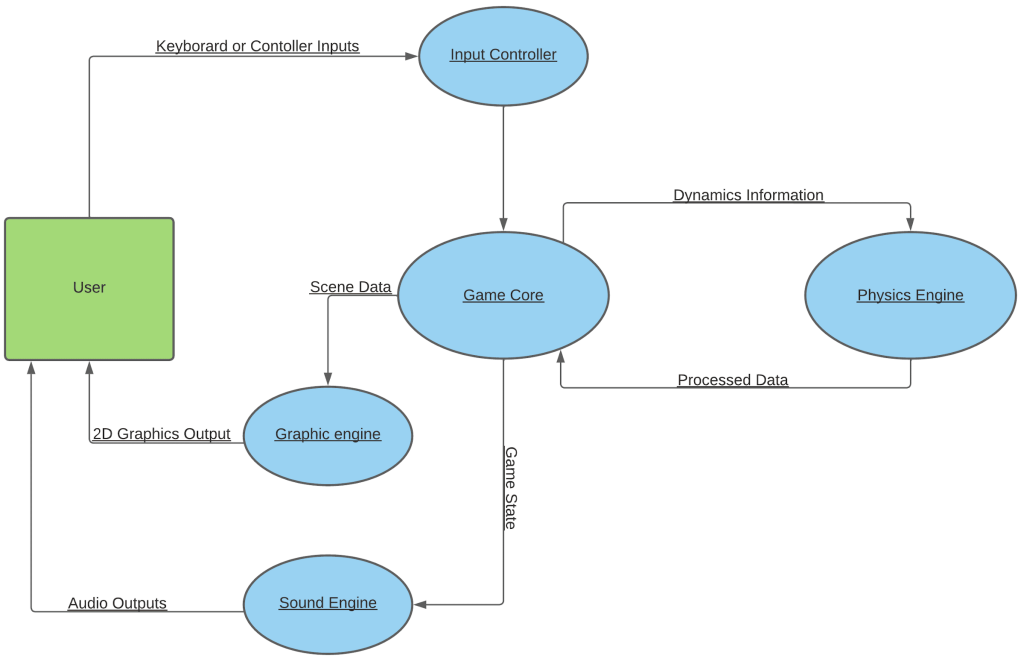
Object and Class Model



Level 0 of Data Flow Diagram



Level 1 of Data Flow Diagram



User Interface

Title screen of the game.