Software Requirement Specification Document

War Machine

Team Members

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1 Introduction

1.1 Purpose

"War Machine" is an action-packed tank simulation game that immerses players in a dynamic battlefield environment where they control a tank and engage in combat by shooting a flying object. The game aims to provide an engaging user experience that combines strategic gameplay with fast-paced action, allowing players to test their skills in different combat scenarios

1.2 Project Scope

The scope of the "War Machine" game project encompasses the design, development, and deployment of a tank-based action game that allows players to engage in realistic combat.

2 Functional Requirements

1. **Gameplay Mechanics**:
    - Control mechanics for maneuvering the tank.
    - Aiming and shooting mechanics for targeting and firing at objects in 2D.
2. **User Interface (UI)**:
    - The UI contains Play button in home page and play again button to begin game again after player is defeated.
3. **Platform Support**:
    - Initial release on PC, with potential expansion to console platforms based on demand.
4. **Realism:**
    - The game will not aim for a highly realistic simulation rather, it will prioritize fun and engaging gameplay mechanics over accuracy.
5. **Score:**
    - On every successful hit there must be a score label whose value increments.

3 Overall Description

“War Machine” is envisioned as an engaging tank combat game set in a variety of immersive environments. The product is designed to be a standalone application that combines dynamic gameplay with strategic elements, appealing to both casual gamers and enthusiasts of action-oriented titles.

3.1 System Interfaces

1. **Game Engine**:
    - The game will utilize a robust game engine called Gdevelop to manage graphics, physics, and gameplay mechanics, ensuring smooth performance and high-quality visuals.

3.2 Design and Implementation Constraints

The design of the project is very simple and easy to understand by the end user. It con not run in any other platform other than Windows in its initial release. The game is fully 2D so, free movements are not accepted. The game also offers very less customization options.

4 System Requirements

- **Minimum Requirements**:
    - OS: Windows 10 or equivalent
    - Processor: Dual-core CPU (2.5 GHz)
    - RAM: 4 GB
    - Graphics: DirectX 11 compatible GPU with at least 2 GB VRAM
    - Storage: 10 GB available space
- **Recommended Requirements**:
    - OS: Windows 10 or equivalent
    - Processor: Quad-core CPU (3.0 GHz)
    - RAM: 8 GB
    - Graphics: DirectX 11 compatible GPU with at least 4 GB VRAM
    - Storage: 20 GB SSD recommended

5 Other Nonfunctional Requirements

5.1 Performance Requirements

The performance requirements for “War Machine” are essential to ensure a smooth, responsive, and engaging gaming experience. These requirements outline the expectations for system performance during gameplay, including frame rates, load times, and resource usage.

5.1.1 Frame Rate

- **Minimum Frame Rate**: The game must maintain a minimum frame rate of 30 frames per second (FPS) at the lowest graphics settings to ensure basic playability.

- **Recommended Frame Rate**: For an optimal experience, the game should achieve 60 FPS or higher at medium to high graphics settings, providing smoother animations and enhanced gameplay fluidity.

5.1.2 Load Times

- **Startup Time**: The game should load to the main menu within 15 seconds on a standard SSD, ensuring quick access for players.

5.1.3 Resource Usage

- **CPU Usage**: The game should utilize no more than 70% of the CPU resources during normal gameplay to leave sufficient processing power for background tasks and system stability.
- **Memory Usage**:
    - Minimum: The game should operate with a minimum of 4 GB of RAM in use during gameplay.
    - Recommended: The game should efficiently use up to 8 GB of RAM for optimal performance with additional resources allocated for background processes.

- **Power Efficiency**: For potential portable devices, the game should be optimized to consume minimal battery power while maintaining performance. Players should expect at least 4 hours of gameplay on a fully charged device at medium settings.

6 Conclusion

This Software Requirements Specification (SRS) document provides a comprehensive overview of the functional and non-functional requirements for War Machine. By detailing the system's objectives, user interactions, and performance criteria, this document serves as a foundational blueprint for the development team.