

Supplementary Specification

Introduction

This document captures non-functional requirements, constraints, and supplementary features for the Rokue-Like Game project. These requirements define the overall quality attributes and design constraints for the system.

Usability

User Interface Design:

- Intuitive UI with minimal complexity for players of all experience levels.
- Real-time visual indicators for:
 - Remaining time (timer display).
 - Player lives.
 - Collected enchantments and their effects.

Player Feedback:

- Sound and visual cues for important actions, such as:
 - Finding a rune.
 - Successfully using an enchantment.
 - Being hit by a monster.

Accessibility:

- Ensure text and visuals are clear and easy to read, even on smaller screens.
- Avoid color combinations that may be problematic for colorblind users.

Reliability

Recoverability:

- In the event of a crash or unexpected shutdown, allow the game to restore progress from the last hall completed.

Fault Tolerance:

- Handle errors such as failed resource loading or invalid user input without crashing the game.

Performance**Loading Times:**

- Ensure hall transitions and Build Mode load times are under 3 seconds on supported hardware.

Real-Time Responsiveness:

- Maintain frame rates of at least 30 FPS during gameplay to ensure smooth player interactions.

Scalability:

- Support generation of halls with increasing complexity without significant performance degradation.

Supportability**Extensibility:**

- Modular design to allow future expansions, such as:
 - New hall themes.
 - Additional enchantments or monsters.
 - Multiplayer functionality.

Configuration:

- Allow customization of Build Mode parameters (e.g., maximum and minimum objects per hall).

Compatibility:

- Ensure the game runs smoothly on all desktop platforms, with minimal differences in user experience.

Implementation Constraints

Technology Stack:

- Use Java as the primary programming language.
- Use Java Swing as the gui library.

Hardware Requirements:

- Minimal hardware is enough.

Interfaces

Player Interface:

- Provide a main menu with the following options:
 - Start Game.
 - View Help Screen.
 - Exit Game.
- In-game interface must display:
 - Timer and life counters.
 - Collected enchantments.
 - Pause and return main menu buttons

Application-Specific Domain Rules

Rune Collection Rules:

- Each hall must contain exactly one rune, hidden within an interactive object.
- The player cannot exit a hall without first collecting the rune.
- Rune can be teleported away to another object by a specific monster.

Monster Rules:

- Monsters must behave consistently based on their types:
 - Archer Monsters shoot at the player if within range.
 - Fighter Monsters pursue the player when nearby.
 - Wizard Monsters teleport runes periodically.

Enchantment Rules:

- Storable enchantments must be usable at any point after collection.
- Immediate enchantments (e.g., Extra Time, Extra Life) take effect as soon as collected.