Software Requirements Specification (SRS)

Project: Paper Cut
Version: 1.0.0 (Base Release)
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1. Introduction

1.1 Purpose

The purpose of **Paper Cut** is to provide a lightweight, command-line Rock-Paper-Scissors game demonstrating modular C programming, input validation, and CLI interactions. This project is intended for educational purposes and casual gameplay.

1.2 Scope

Paper Cut allows users to:

- Play Rock-Paper-Scissors in a terminal
- Validate user inputs
- Replay multiple rounds without restarting the application
- Run on multiple platforms: Windows, Linux, macOS

1.3 Definitions, Acronyms, and Abbreviations

- **CLI**: Command-Line Interface
- **ISO C99**: C programming standard from 1999
- **SRS**: Software Requirements Specification

1.4 References

- Keep a Changelog 1.1.0
- Semantic Versioning 2.0.0

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2. Overall Description

2.1 Product Perspective

Paper Cut is a standalone command-line game written in C. It is modular, cross-platform, and lightweight (~2 KB source code, ~137 KB executable).

2.2 Product Functions

- Prompt the player for input (`r`, `p`, `s`)
- Validate input and handle invalid entries gracefully
- Generate random computer choices
- Compare player and computer choices to determine the winner
- Display results and prompt for replay

2.3 User Characteristics

- Users with basic knowledge of terminal or command-line operations
- No advanced technical expertise required

2.4 Constraints

- Written in ISO C99
- Requires GCC or Clang compiler
- Terminal-based interaction only (no GUI in base release)

2.5 Assumptions and Dependencies

- The terminal supports standard input/output operations
- Random number generation is supported

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3. Specific Requirements

3.1 Functional Requirements

ID	Requirement
FR1	Accept player input for `rock`, `paper`, or `scissors`
FR2	Validate player input and handle invalid inputs
FR3	Generate a random choice for the computer
FR4	Determine the winner of each round
FR5	Display game results to the user
FR6	Allow replay without restarting the program

3.2 Non-Functional Requirements

- **Performance**: Minimal memory footprint (~2 KB source, ~137 KB executable)
- **Portability**: Runs on Windows, Linux, and macOS
- **Usability**: Simple CLI interface with clear instructions and prompts

3.3 Interface Requirements

- **User Interface**: Terminal/console-based text interaction
- **Hardware Interface**: Keyboard input

- **Software Interface**: None (standalone)

3.4 Future Enhancements

- Multiplayer mode (local/online)
- GUI version (SDL or GTK)
- Statistics tracking for wins/losses
- Coloured terminal output

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4. Appendices

4.1 Sample Output

```
Enter 'r' for rock, 'p' for paper and 's' for scissors
r
You chose 'r' and computer chose 'r'. It's a draw!

Do you want to play again? (y/n): y

Enter 'r' for rock, 'p' for paper and 's' for scissors
s
You chose 's' and computer chose 'p'. Congrats, you won!

Enter 'r' for rock, 'p' for paper and 's' for scissors
p
You chose 'p' and computer chose 's'. Oops, computer won!

Do you want to play again? (y/n): n

Come back anytime to relive the fun! :)
```

4.2 References

- MIT License: LICENSE
- GitHub Repository: Paper Cut
