Project Synopsis

Project Title

AI use of Automated Rock-Paper-Scissors Game

Introduction

Background of the Project

The Rock-Paper-Scissors game is a classic hand game played around the world. It serves as a decision-making tool and a fun activity. The goal of this project is to create a digital version of this game using Python, making it accessible on computers and enhancing user interaction with a simple, intuitive interface.

Problem Statement

Traditional physical Rock-Paper-Scissors requires two players to be present. There is a need for a digital version that allows a single player to play against a computer, making the game more versatile and accessible anytime, anywhere.

Objective

Primary Objective

Develop an interactive Rock-Paper-Scissors game that can be played against a computer.

Secondary Objective

* Enhance the game with user-friendly interfaces and real-time feedback.
* Ensure the game follows the standard rules of Rock-Paper-Scissors.
* Implement a scoring system to track wins and losses.

Scope

Inclusions

* Single-player mode against a computer.
* Simple command-line interface for interaction.
* Real-time feedback on the game outcome.
* Scoring system for tracking wins and losses.

Exclusions

* Multiplayer functionality.
* Graphical User Interface (GUI) beyond basic command-line interaction.

Limitations

* Limited to command-line interface interaction.
* Basic computer AI with random choice generation.

Methodology

Approach

* Utilize an iterative development process with incremental improvements.
* Incorporate user feedback to refine the game.

Data Collection

* No extensive data collection required; focus on algorithm development and testing.

Tools and Techniques

* Python programming language.
* Random library for computer choice generation.
* Command-line interface for user interaction.

Analysis

* Test game functionality to ensure correct implementation of rules.
* Analyze user feedback to improve user experience.

Implementation Plan

Timeline

Day 1: Requirement gathering and initial design.

Day 2: Development of the basic game loop and command-line interface.

Day 3: Implement scoring system and user feedback mechanisms.

Day 4: Testing, debugging, and final adjustments.

Resources

Human Resources

* Python Developer: Implements the game.
* Tester: Ensures the game functions correctly.

Materials and Equipment

* Computer with Python environment set up.
* Development tools (e.g., Jupyter in anaconda).

Budget

* No significant costs are anticipated as the project requires only basic programming tools

Expected Outcome

Deliverables

* A fully functional Rock-Paper-Scissors game playable via the command line.
* A scoring system to track game outcomes.
* Documentation for game usage and development process.

Impact

* Provide a digital version of a classic game.
* Enhance user engagement with an interactive and enjoyable activity.

Risks and Mitigation

Risk

* If the user inputs something other than 'r', 'p', 's', or 'q'. its give a error.

Mitigation

* Implement through testing.
* Maintain clear communication and regular progress updates within the team.

Conclusion

The Automated Rock-Paper-Scissors Game project aims to create an engaging and accessible version of the classic game using Python. With a focus on simplicity and user interaction, the project will deliver a functional and enjoyable game experience.