Capital University of Science & Technology

Term Project Proposal

Department of Electrical and Computer Engineering

Project Title	Rock-Paper-Scissors Game Against the Computer
Course Title	CPEG1611

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Idea:

The Rock-Paper-Scissors game against the computer is a simple program where a player competes with an AI by selecting one of three choices: Rock, Paper, or Scissors. The computer randomly chooses its move, and the program determines the winner based on standard rules:

- Rock beats Scissors.
- Scissors beats Paper.
- Paper beats Rock.

The game announces the winner, declares a tie if both choose the same option, and may offer options to replay or track scores.

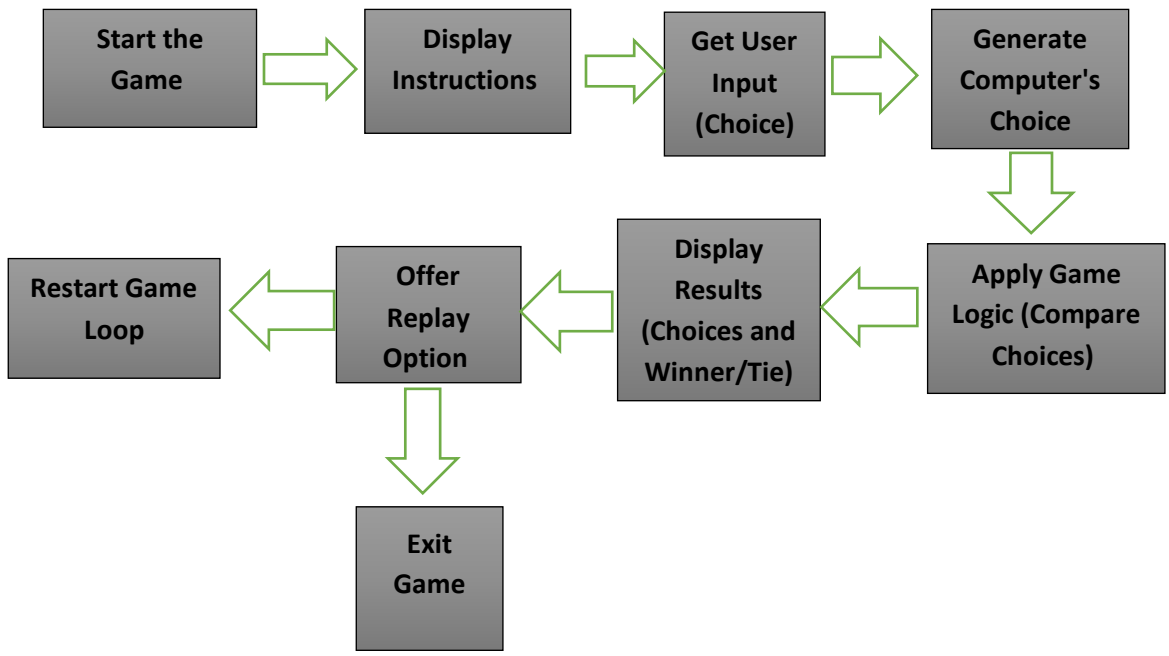
Objectives:

- **User Interaction**: Allow the player to input their choice (Rock, Paper, or Scissors).
- **Randomized AI Behavior**: Implement a system for the computer to randomly select its choice.
- **Game Logic**: Apply the rules of Rock-Paper-Scissors to determine the winner.
- **Result Display**: Show the player's choice, the computer's choice, and the game outcome (win, lose, or tie).
- **Replay Option**: Provide the player with an option to play multiple rounds.
- **Score Tracking**: Keep track of wins, losses, and ties across multiple games.
- **Input Validation**: Ensure the player's input is valid and handle invalid entries gracefully.
- **User Experience**: Deliver clear instructions and an engaging interface.

Applications:

- **Entertainment**: Provide a fun and simple game for users to play.
- **Learning Tool**: Serve as an educational project for beginners to learn programming concepts like randomness, conditional logic, and user input handling.
- **AI Experimentation**: Use it as a platform to explore AI behavior, such as pattern recognition or predictive algorithms.
- **Practice Interface Design**: Create text-based or graphical interfaces for user interaction.
- **Game Development Basics**: Offer an introduction to creating interactive games.
- **Stress Testing**: Test random number generators or algorithms in programming environments.
- **Team Competitions**: Implement multiplayer modes or leaderboards for friendly challenges.

Block Diagram:



Instructor Remarks

Student 1 Signature: _____

Student 2 Signature: _____

Instructor's Signature: _____ **Date: _____**