**Word Mystery – A Console-Based Word Guessing Game in Java**

Abstract

This project aims to develop an interactive word-guessing game titled Word Mystery, inspired by the classic Hangman game. The objective is to provide an engaging console-based game where users guess letters to uncover a hidden word within a limited number of attempts. The game helps enhance vocabulary and logical thinking, while also demonstrating core Java programming concepts.

Methodology

The application was built using the Java programming language and follows an object-oriented design. A predefined set of words is stored in an array, from which one is randomly selected during runtime. The user inputs letters via the console, and the system validates each guess, updating the display accordingly. The game continues until the word is guessed or the maximum number of incorrect attempts is reached. Java features such as Random, Scanner, Set, loops, and methods are used to control game flow and user interaction.

Methods

**main(String[] args):**The entry point of the program where the Hangman game logic is executed including input handling, word generation, and gameplay loop.

**displayGuessedWord():**Prints the current state of the guessed word with underscores (\_) for unknown letters and actual characters for correctly guessed ones.

**updateGuessedWord(char guessedChar):** Replaces the underscores in guessedWord with the correctly guessed character wherever it appears in wordToGuess.

**isWordGuessed():**Checks if the entire word has been guessed by comparing guessedWord with wordToGuess.

Results

The program successfully allowed users to play the word-guessing game with clear instructions, real-time feedback, and proper tracking of both correct and incorrect guesses. It handled invalid input, repeated guesses, and ended the game appropriately with either a win or loss message. The interactive nature and simple logic made the game user-friendly and effective in demonstrating programming logic.

Conclusion

The Word Wizard game serves as an effective beginner-level project to demonstrate basic Java programming skills. It reinforces the use of control structures, string manipulation, collections, and modular design. This project highlights the potential of simple games as learning tools and opens the door for enhancements like GUI integration or expanded word banks in future versions.