Student Name: Ifeatu Nwanekwu

Student ID: 0004062

Project Title: Hangman Game – An Interactive Word Puzzle Application

Topic Selection

Computer Science Relevance: Game Development & Algorithm Design
Focus: Developing an interactive Hangman game where players guess words by selecting letters, with a focus on logic, user engagement, and entertainment.

Introduction

Hangman is a classic word puzzle game that challenges players to guess a hidden word by selecting letters within a limited number of attempts. The game promotes critical thinking, vocabulary, and pattern recognition. While simple, Hangman remains a widely recognized and enjoyed game across various age groups. It offers the opportunity to blend entertainment with learning by making language and word puzzles engaging and fun.

This project aims to create an interactive, digital version of Hangman using modern web technologies. The goal is to design a user-friendly interface, with customizable difficulty levels, player feedback, and word categories. By incorporating intuitive game mechanics, the Hangman game will provide a rewarding and enjoyable experience for users.

Objectives

1. To design and develop an interactive Hangman game that allows users to play solo or with friends.
2. To implement difficulty settings that adjust the word complexity and number of allowed attempts.
3. To create a dynamic scoring system that tracks player performance.
4. To integrate a range of word categories, allowing users to choose from different themes (e.g., animals, countries, movies).

Methodology

1. **Front-End Development:** Utilize HTML, CSS, and JavaScript (React.js) for the UI/UX design.
2. **Back-End Development:** Use Python (Django) for back-end logic and MySQL for database management.
3. **Scoring and Difficulty Levels**: Implement a scoring system based on the number of correct guesses and remaining attempts. Allow users to select difficulty levels (easy,

medium, hard), affecting word length, complexity, and the number of allowed incorrect guesses.

Expected Outcomes

1. A fully functional Hangman game with an engaging interface where players can guess words and receive real-time feedback on their progress.
2. An adjustable difficulty system that offers a tailored gaming experience for users with different skill levels.
3. A scoring system that tracks player performance across games encourages replay ability.
4. A variety of word categories to keep the gameplay fresh and interesting.

Timeline

1. **Weeks 1-2:** Literature Review and Research
2. **Weeks 3-5:** Front-End Design
3. **Weeks 6-8:** Back-End Development
4. **Weeks 9-10:** Scoring System, Difficulty Levels, and Testing
5. **Weeks 11-12:** Final Testing and Deployment