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SECTION-5

TOPIC- HANGMAN

PROJECT REPORT

**MOTIVATION:**

During my school days, my friends and we often enjoyed playing Hangman during our leisure hours, and we became captivated by its blend of simplicity and strategy. This gave me the spark for developing game, and so we took up the challenge to create our own version of Hangman. we enjoyed very much its very simple mechanism that makes it plain but the depth involved in implementing game mechanics makes it interesting. This assignment not only allowed us to explore programming concepts but also gave us the opportunity to bring a classic game to life, merging our passion for gaming with our desire to learn about coding and game design.

**HIGHLIGHTS:**

* Implementing the core mechanics of Hangman, including word selection, letter guessing, and tracking incorrect attempts.
* Designing a simple yet engaging user interface that displays the current word status, guessed letters, and hangman progress.
* Incorporating a feature to randomly select words from a predefined list, ensuring each game offers a unique challenge.
* Developing input validation to handle invalid guesses and prevent repeated letter entries.
* Conducting thorough testing to identify and fix bugs, ensuring a smooth gameplay experience.
* Gaining hands-on experience with programming concepts, such as loops, conditionals, and data structures.

**WHAT DID YOU LEARN FROM THIS EXERCISE? CONCEPTS THAT YOU EXPLORED AND IMPLEMENTED OUTSIDE OF YOUR COMFORT ZONE.**

we learned several valuable concepts and skills, many of which pushed me outside my comfort zone:

* we gained a deeper understanding of game mechanics, including how to manage game states, handle user input, and create a responsive gameplay experience.
* we explored data structures such as arrays and dictionaries to efficiently manage the word database and track guessed letters, enhancing my programming skills.
* Designing a user-friendly interface was a new challenge. we learned how to create visually appealing layouts and ensure clear communication of game status to players.
* Encountering bugs and unexpected behaviour taught us the importance of debugging techniques and how to systematically identify and resolve issues.
* we learned about balancing game difficulty by adjusting word selection and implementing features like hints or timers, ensuring the game remains challenging but enjoyable.

Overall, this project not only expanded our technical skills but also fostered a greater appreciation for the intricacies of game development and user engagement.

**AREAS OF IMPROVEMENT: WHAT THINGS YOU COULD HAVE IMPROVED ON PROVIDED MORE TIME/EXPERIENCE?**

* Implementing varying difficulty levels with different word lengths or themes would cater to a broader audience and provide more replay value.
* Adding a multiplayer mode for competitive play could make the game more social and engaging, allowing friends to compete against each other
* Allowing players to create and input their own words would add personalization and variety, making each game unique.

**FUTURE SCOPE: HOW DO YOU FORESEE THIS PROJECT BEING USEFUL IN THE FUTURE?**

The Hangman project holds several potential future applications and benefits:

* It can serve as an educational game to help users expand their vocabulary and improve spelling skills, making it a useful resource for students and language learners.
* The skills and concepts developed during this project can be applied to create more complex word games or even entirely different genres, serving as a stepping stone for future game development endeavours.
* The game could be integrated into educational platforms or apps, providing a fun way for users to practice language skills in an engaging format.
* Future versions could incorporate multilingual support, making it accessible to a broader audience and promoting language learning in various contexts.
* AI Enhancements: Implementing AI elements could create new gameplay features, such as adaptive difficulty or personalized word suggestions based on player performance.

These future scopes indicate that the Hangman project has the potential to evolve and remain relevant in various contexts, from education to community engagement and game development.

**A DETAILED REPORT ON THE CONTRIBUTION OF EACH MEMBER TO THE PROJECT.**

NIRMALA: Structure and Flow

Outline of the Code: Develops the overall structure, ensuring that the game flows logically from start to finish.

Mechanism Implementation: Implements the core game mechanics, letter guessing, and tracking correct and incorrect guesses.

Game Continuation Logic: Ensures that after each game, the player is prompted to decide whether to play again or not.

DIVIJA: Refinement and Enhancements

Error Correction: Reviews the code for any logical or syntactical errors, ensuring smooth gameplay.

Sound Effects: Integrates sound effects to enhance the gaming experience, adding auditory feedback for actions like correct guesses or incorrect attempts.

Rule Enforcement: Ensures that the game follows all rules of Hangman, adjusting mechanics as necessary to maintain fair play.

Word and Hint Design: Curates and designs a comprehensive list of words and hints, ensuring they are engaging and appropriate for the game.