CSE-115.4

PROJECT NO:1 (UPDATE REPORT)

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The Mysterious Island Adventure Game

1. Introduction :

The project titled "The Mysterious Island Adventure" is a simple text-based adventure game written in the C programming language. The game places the player on a mysterious island and allows them to make interactive choices that guide the narrative. The primary objective is to explore different locations on the island, survive its dangers, and potentially find a way to escape.
The design is based on a menu, and it uses loops and conditionals to handle user input and move around the different game rooms or environments

2. Project Overview :

The game places the player on a mysterious island, beginning on a beach. Players explore various locations — the jungle, cave, volcano, swamp, and abandoned village — by selecting from menu options. The objective is to uncover clues, collect treasures, and ultimately solve the island's mystery or choose to exit the game.

3.Technical Implementation :

The game is implemented using standard C programming constructs:

- **Control Structures**: while loops manage the game's main loop and room navigation, ensuring continuous gameplay until the player exits or wins.
- **Conditional Statements**: if-else and switch statements handle player choices and game logic.
- **Input/Output**: The printf and scanf functions facilitate interaction with the player through the console.
- **State Management**: Variables like inGame and inRoom track the player's current status and location, enabling smooth transitions between rooms.

4. Challenges Faced :

- Input Validation: Ensuring that non-integer or out-of-bound inputs don't crash the game is an ongoing consideration.
- **Code Modularity**: Currently, the logic is linear. Refactoring into functions for each room will improve readability and maintainability.
- **Scalability**: Managing the growing complexity of rooms and choices may require transitioning to a state-machine-based design in the future.

5.Future Plans and Improvements :

The following tasks are planned to advance the project:

• **Develop Remaining Locations**: Create detailed sub-menus for the cave, volcano, swamp, and village, each with unique choices and narrative elements.

• **Enhance Input Handling**: Implement a function to validate and sanitize user inputs, ensuring the game handles non-numeric or out-of-range inputs gracefully.

• **Introduce GameStatePersistence**: Add variables to track player inventory, health, or progress, allowing for more complex interactions (e.g., requiring a key found in the jungle to unlock a door in the village).

• **Testing and Debugging**: Conduct thorough testing to ensure location transitions and choice outcomes function as intended, addressing any bugs in the game loop or input processing

6.Conclusion :

The project is on track and has made good progress with a functional base framework and one completed room (Jungle). The foundation laid allows easy expansion of new rooms and game features. The next stage of development will focus on completing the remaining rooms and implementing enhancements such as an inventory system and more narrative depth.