Project Proposal

BCS-6B

CLUE

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1. Introduction

"Clue" is an interactive AI-powered game where the player must identify the murderer using a series of Yes/No questions. The game features multiple suspects, each with distinct characteristics and alibis. The player strategically eliminates suspects based on the agent's responses. The goal is to identify the murderer within a limited number of questions, enhancing logical reasoning and deduction skills.

2. Existing System

Several deduction-based games exist, such as "Guess Who?" and "Clue," which involve questioning mechanics to eliminate possibilities. However, these games rely on predefined boards or cards and require human opponents. Some digital adaptations exist, but they often include complex mechanics or multiplayer requirements.

3. Problem Statement

Most existing mystery deduction games are:

- Designed for multiplayer, requiring multiple human participants.
- Physically constrained (board games) or require predefined setups.
- Lacking AI-driven gameplay that adapts dynamically to player decisions.
- Offering limited interactivity in single-player mode.

4. Proposed Solution

Our solution is a **single-player AI-driven game** where:

- The player interacts with an AI agent that provides Yes/No answers to user queries.

- The AI dynamically selects a murderer from a pool of suspects and adjusts responses accordingly.
- The game is replayable, with randomized suspect selection each session.
- The user has a limited number of questions to guess the murderer correctly.
- A hint system provides strategic clues to enhance user engagement.

5. Salient Features

- **AI-Powered Questioning System:** The agent processes Yes/No questions and responds accurately.
- **Dynamic Suspect Selection:** Each round features a randomly chosen murderer, weapon (used to murder) and room (in which murder was done).
- **Limited Questions Mechanic:** Players must solve the mystery before exhausting their allotted questions.
- **Hint System:** Provides additional clues based on player progress.
- **User-Friendly Interface:** A simple and interactive UI for smooth gameplay.
- **Replayability:** Multiple characters and randomized selections ensure fresh experiences each session.

6. Tools & Technologies

- **Programming Language:** Python
- **Frameworks:** Flask (for backend), React.js (for frontend)
- **AI Libraries:** NLTK or spaCy (for natural language processing) (may change later)
- **Database:** SQLite or Firebase (for storing character data and game logic)
- **Operating System:** Windows/Linux
- **Development Tools:** VS Code, Postman (for API testing), GitHub (for version control)

This project aims to create an engaging, interactive experience for users who enjoy detective-style gameplay while leveraging AI to provide an immersive experience.