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SECJ3553 - ARTIFICIAL INTELLIGENCE - SECTION 15

**PROJECT PROPOSAL - GROUP 4**

**PROJECT TITLE:**

**AI Chatbot for Spoken English Practice**

**Theme: Smart Education**

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1. **AI solution**

The AI Chatbot for Spoken English Practice is an advanced educational tool designed specifically for students aiming to enhance their English-speaking skills. It is designed to simulate real-life conversations, providing a platform for students to practice spoken English in a comfortable and interactive environment. Equipped with scoring mechanisms, the chatbot can track students' progress over time, generating comprehensive reports that highlight individual strengths and areas needing improvement. Besides that, students’ English teachers may also see the results and report and they can give feedback to their students. By offering personalized feedback and targeted language exercises, this AI solution empowers students to develop fluency, pronunciation, and confidence in spoken English, ultimately fostering a more effective and engaging learning experience.

1. **The goal of AI solution**
2. **Target User**

The target users for the AI Chatbot for Spoken English Practice are students of all ages who seek to improve their English-speaking skills. This includes individuals at various proficiency levels, from beginners looking to build a foundation in spoken English to advanced learners aiming to refine their fluency and pronunciation. The chatbot is also beneficial for English language learners who wish to practise and enhance their conversational skills in a convenient and interactive manner.

1. **Problem Statement**

The problem this project addresses is the need for an effective and accessible platform to help students improve their spoken English skills. Many English learners struggle to find opportunities for regular and meaningful practice, which can hinder their progress and confidence in using the language in real-life situations. Traditional language learning methods often lack the interactivity and feedback necessary for targeted improvement.

The AI Chatbot for Spoken English Practice aims to solve this problem by offering a solution that:

1. Simulates Real-life Conversations: Provides an environment where students can engage in realistic dialogues, allowing them to practice spoken English in a comfortable setting.
2. Monitors Progress and Provides Feedback: Offers scoring mechanisms and generates comprehensive reports, enabling students to track their advancement, identify strengths, and pinpoint areas that require improvement. English teachers can also use these reports to provide personalized feedback to their students.
3. Monitors Progress and Provides Feedback: Offers scoring mechanisms and generates comprehensive reports, enabling students to track their advancement, identify strengths, and pinpoint areas that require improvement. English teachers can also use these reports to provide personalized feedback to their students.
4. **Process of Emphasize in DT**
5. **Process of Define in DT**

In the process of defining the AI Chatbot for Spoken English Practice within the Design Thinking framework, the team starts by empathizing with the users, recognizing the global demand for English proficiency today. Understanding the challenges faced by English learners, the team identifies the need for an effective and accessible platform for spoken English practice. The problem statement highlights the lack of opportunities for regular and meaningful practice, hindering students' progress and confidence. Moving into the Define phase, the team outlines specific goals, such as simulating real-life conversations, monitoring progress, providing personalized feedback, and enhancing confidence and fluency. The emphasis is on creating an immersive experience that mirrors real-world interactions and fosters a supportive environment for language practice. The objectives include not only addressing the professional demand for English proficiency but also recognizing its relevance in various aspects of life, from online learning to communication with diverse linguistic communities. The team envisions the AI Chatbot as a solution that goes beyond traditional language learning methods, offering a dynamic and interactive approach to meet the evolving needs of English learners at different proficiency levels.

1. **Problem**
2. **Suggested Solution**
3. **Knowledge Representation (KR)**

AI Chatbot Knowledge Representation (KR) for Spoken English Practice:

|  |  |
| --- | --- |
| **KR Number** | **Description** |
| KR 1 | The AI chatbot facilitates simulated real-life conversations, providing an interactive platform for students to practice spoken English in a comfortable and engaging environment. |
| KR 2 | It incorporates scoring mechanisms to systematically track and monitor students' progress over time, generating comprehensive performance reports. These reports highlight individual strengths, areas needing improvement, and patterns of development in spoken English skills. |
| KR 3 | The chatbot enables English teachers to access detailed progress reports, allowing them to provide personalized feedback to their students based on their performance and areas requiring improvement. |
| KR 4 | Tailored for students across diverse proficiency levels, from beginners to advanced learners, the chatbot aids in developing fluency, accurate pronunciation, and language confidence through targeted exercises and conversational interactions. |
| KR 5 | Emulating real-world dialogues, the chatbot creates an immersive experience, fostering dynamic and authentic conversations that mirror actual interactions. |
| KR 6 | It effectively monitors, records, and analyses students' language proficiency progress, aiding them in identifying specific areas that require improvement while recognizing their achievements. |
| KR 7 | Providing personalized feedback based on individual performance, the chatbot guides students by highlighting their strengths and offering targeted suggestions for enhancement in pronunciation, fluency, and vocabulary usage. |
| KR 8 | The platform establishes a supportive and encouraging environment, fostering learners' confidence and fluency in spoken English by offering engaging exercises, encouraging practice, and providing constructive feedback. |
| KR 9 | Offering a comprehensive learning experience, the chatbot engages users in interactive exercises, role-playing scenarios, and contextual conversations to enhance language proficiency and practical application. |
| KR 10 | Employing natural language processing (NLP) techniques, the chatbot adapts to users' conversational patterns, providing tailored and contextually relevant responses, thus enhancing the authenticity of the learning experience. |
| KR 11 | The chatbot operates as an accessible and flexible tool, catering to users' varying schedules and learning preferences, allowing for consistent, self-paced, and convenient language practice sessions. |