**TITLE:**

AI CHATBOT WITH VOICE INPUT SUPPORT (ENGLISH & TAMIL)

**Aim:**

The primary objective of this project is to develop an automatic AI-based chatbot that provides intelligent responses based on user input. The chatbot supports voice input in both Tamil and English, ensuring a seamless and interactive communication experience for users.

**FEATURES:**

* **Voice Input Support:** Users can interact with the chatbot using voice commands in both Tamil and English.
* **Text-to-Speech Output:** The chatbot provides voice responses in the selected language.
* **Language Selection:** Users can choose between Tamil and English for both input and output.
* **Activity Log:** Keeps track of user queries and displays them for easy reference.
* **Instant AI-Powered Responses:** Provides quick and contextually relevant answers using the Gemini Pro model.
* **User-Friendly Interface:** A simple and intuitive web interface for easy interaction.
* **Predefined Responses:** Handles common greetings and basic conversational inputs without needing AI processing.

**MODULES:**

1. **User Interface Module:**
   * HTML-based frontend for user interaction.
   * Displays activity logs, input fields, and response sections.
2. **Voice Recognition Module:**
   * Captures and processes voice input in Tamil and English.
   * Utilizes the Web Speech API for speech recognition.
3. **Text-to-Speech Module:**
   * Converts chatbot responses into spoken output.
   * Supports multiple languages with appropriate voice selection.
4. **AI Response Generation Module:**
   * Integrates with the Gemini Pro model to generate intelligent responses.
   * Handles user inputs not covered by predefined responses.
5. **Activity Log Module:**
   * Records user queries with timestamps.
   * Displays recent activity for user convenience.

**TECHNOLOGIES USED:**

* **Backend:** Python, Flask Web Framework
* **Frontend:** HTML, CSS, JavaScript
* **AI Model:** Gemini Pro API for conversational responses
* **Speech Recognition:** Web Speech API (for browser-based voice input)
* **Text-to-Speech:** Web Speech Synthesis API
* **Language Detection:** Lang detect Library
* **MarkdownParsing:** Markdown Library for formatted AI responses
* **Data Storage:** Lists, Dictionaries, Sessions

**HOW IT WORKS:**

1. Users interact with the chatbot using either text input or voice commands.
2. The system detects the language and processes the input.
3. Predefined responses are provided for basic greetings and common phrases.
4. For complex queries, the input is sent to the Gemini Pro model for AI-generated responses.
5. The chatbot displays and vocalizes the response based on the detected language.
6. All user interactions are logged and displayed in the activity section.

**Conclusion:**

This AI Chabot project offers an interactive and multilingual communication solution with voice input capabilities. By leveraging modern web technologies and the Gemini Pro AI model, it ensures responsive and user-friendly interactions tailored to both Tamil and English-speaking users.