Title: AI-Powered FAQ Chatbot

1. Introduction:

In today's digital world, customer support plays a crucial role in user satisfaction. Chatbots provide a smart, efficient, and real-time solution to handle frequent queries. This project focuses on building an AI-powered FAQ chatbot capable of answering common questions and collecting user feedback. The bot is designed to assist users interactively, using a simple UI and a backend with basic Natural Language Processing (NLP) or keyword matching.

2. Abstract:

This project aims to develop an interactive chatbot that answers Frequently Asked Questions (FAQs) using NLP or a simple ML model. Built using React (frontend), Node.js (backend), and optionally integrated with TensorFlow.js or the OpenAI API, the chatbot can respond to user inputs in real-time. Feedback is collected using thumbs-up/down buttons, and unanswered questions are stored for future improvement.

3. Tools Used:

- **Frontend:** React.js
- **Backend:** Node.js + Express
- **Styling:** Inline CSS
- **AI/NLP:** Keyword matching logic (extendable to TensorFlow.js/OpenAI API)
- **Storage:** Text file (`unanswered_questions.txt`) for storing unknown queries
- **Others:** Fetch API, useState Hook, JavaScript

4. Steps Involved in Building the Project:

1. **Planning and Requirement Analysis:**
    - Decided chatbot features: answering FAQs, collecting feedback, storing unknown queries.
2. **Backend Setup:**
    - Created an Express server.
    - Handled POST requests to `/ask` to respond to FAQs using keyword-based logic.
    - Stored unknown questions in `unanswered_questions.txt`.
    - Created `/feedback` route to log feedback.
3. **Frontend Development:**
    - Built a React UI with a chatbot interface.
    - Aligned user and bot messages (right/left).
    - Added thumbs up/down feedback buttons under bot replies.
    - Connected frontend to backend using Fetch API.
4. **Testing:**
    - Tested known and unknown queries.
    - Verified feedback logging.
    - Confirmed alignment and input interactions.

5. Conclusion:

The FAQ Chatbot successfully demonstrates how AI and web technologies can be combined to create a functional support assistant. It answers pre-defined questions, collects user feedback, and stores unknown questions, making it easy to train and improve over time. This chatbot can serve as a base for more advanced AI chat assistants in web applications.