AI-AGROBOT UNIVERSAL AI-BASED AGRICULTURAL ASSISTANT

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Project Statement

Agriculture plays a crucial role in our economy, yet many farmers lack access to expert guidance at the right time. The AI-AgroBot project aims to solve this issue by providing an interactive chatbot system that gives real-time crop advice, fertilizer suggestions, and pest solutions — in multiple languages.

It also includes image analysis for identifying crop health conditions using AI.

Outcomes

- *A multilingual AI chatbot that answers farming-related queries.*
- *Smart image analysis feature to detect crop health status.*
- *Secure user authentication system for farmers and admin.*
- *Admin dashboard to manage users, chatbot knowledge base, and chat history.*
- *Centralized database to store all interactions and user profiles.*
- *Promotes digital and smart agriculture solutions.*

Modules to be Implemented

Voice Command Feature:

Let users talk to the bot instead of typing.

Real-Time Weather Updates:

Give crop suggestions based on weather.

More Languages:

Expand chatbot to more Indian regional languages.

Mobile App Integration:

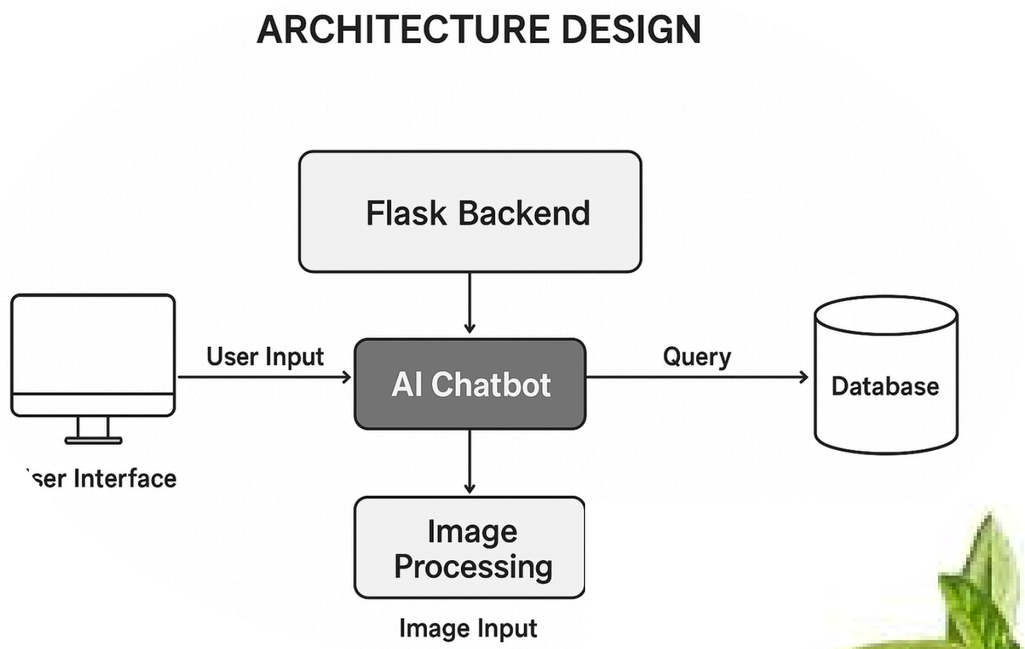
Make the system available offline for rural users.

Machine Learning Crop Prediction:

Predict future yield and disease risks.

Architecture Design

Explanation:
The architecture follows a client-server model, where Flask acts as the backend framework. The chatbot logic processes user input, retrieves responses from the knowledge base or AI API, and sends replies back to the frontend.



Database Scheme

Database Used: SQLite

Tables:Users Table
id, email, password, name, role, crop, region, language

ChatHistory Table
id, user_id, user_message, bot_response, created_at

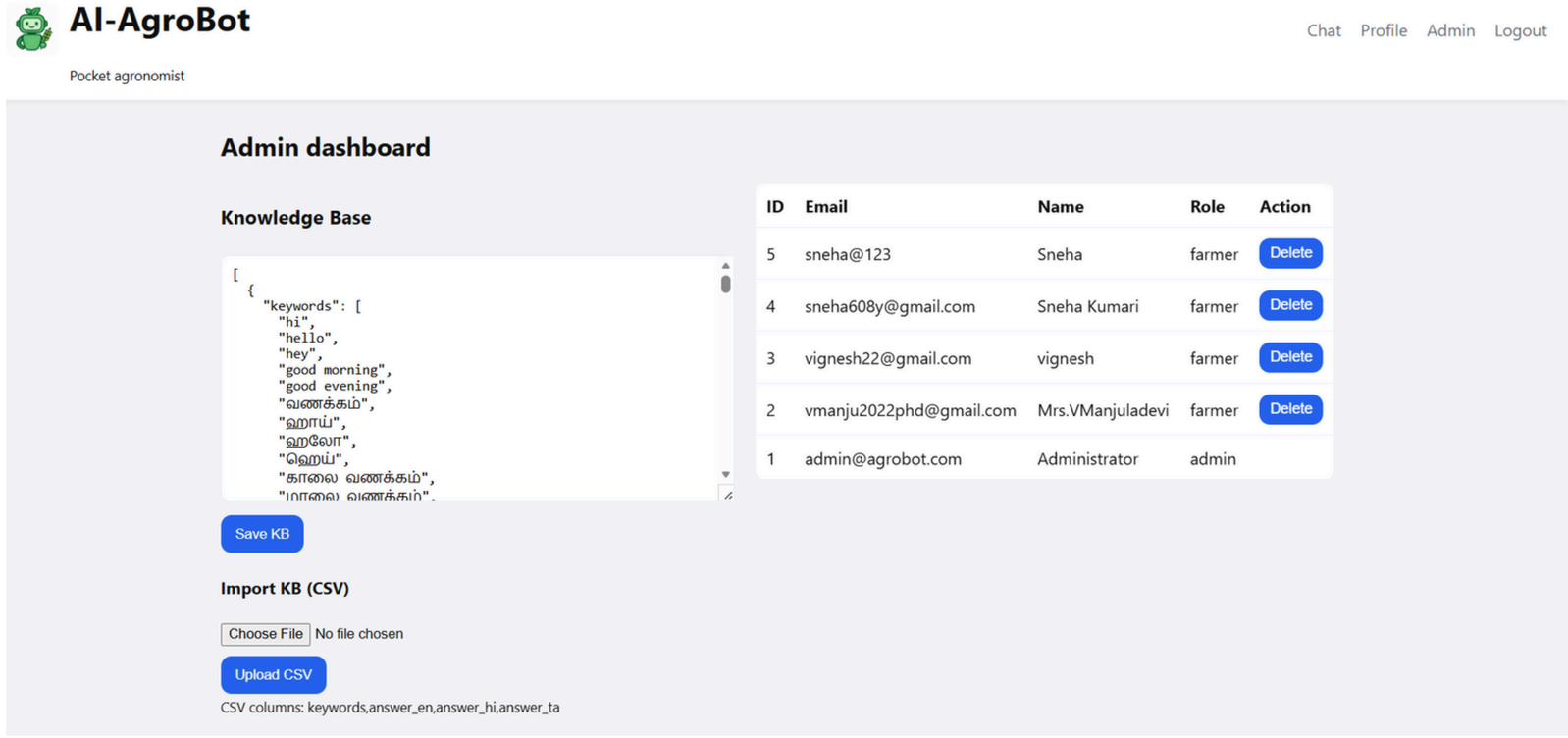
Purpose:
Stores user data, login info, and chat records for analysis and admin control.

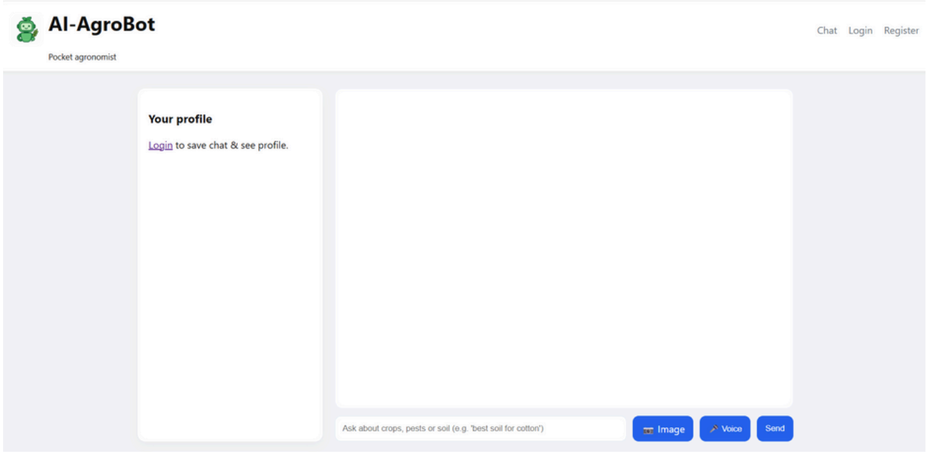
Sample Code

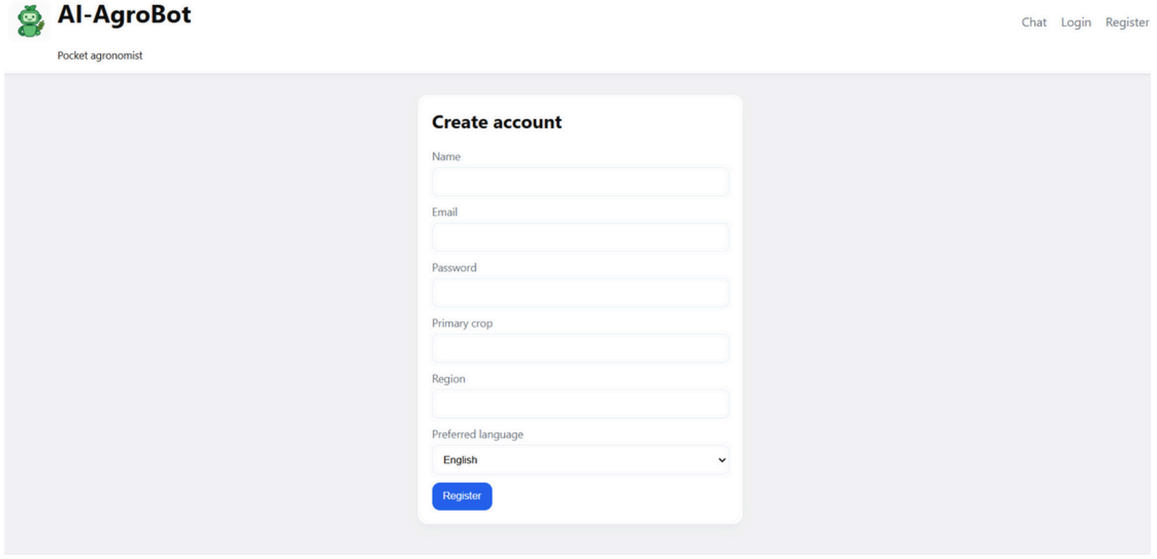
```
@app.route("/get", methods=["POST"])
def chatbot_response():
    if "user_id" not in session:
        return jsonify({"response": "Please log in to chat with me!"})
    user_message = request.json["message"]
    bot_reply = get_response(user_message)
    return jsonify({"response": bot_reply})
```

Output

The chatbot successfully responds to farming-related questions, gives fertilizer and pest suggestions, and analyzes plant health using uploaded images.







CONCLUSION

As I mentioned earlier, AI-AgroBot is a complete digital assistant for farmers.
It combines AI, image processing, and web technologies to simplify agricultural problem-solving.
This project aims to empower farmers with instant, data-driven advice and make agriculture more efficient and sustainable in the future.



Thank you very much!

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