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Krishivani - An AI Featured Android Based Mobile App Serving One Stop Solutions in Farming & Agriculture

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Abstract: ***We have created an app to help farmers with all their farming and gardening needs in one place. The app provides various features like weather information, daily news, buy/sell/rent of farming machineries, mandi prices of all the crops along with a chatbot that assist the farmers in gaining additional knowledge like best time to grow crops, new fertilizers available in market etc. We also mentioned the problems we faced while making and testing the app.***

I. INTRODUCTION

This project is about creating a mobile app using Android Studio to help farmers with their farming needs in one place. The app has many helpful features for farmers who know very little or nothing about modern farming technologies. These features make their work easier.

The app uses APIs to collect real-time information and provide accurate data. It has a simple and easy-to-use design to help solve the problems farmers face and make farming easier.

This app shows how technology can support agriculture to make a smart and helpful app for farmers.

II. APP REQUIREMENTS

A. Hardware Requirements

1) A laptop/system to build the app on the required platform.

2) Physical device to test the application's efficiency.

B. Software Requirements

1) Android Studio

Android Studio is a platform that allows to create mobile based applications by using Java/Kotlin and support both front-end and back-end of the app.

2) API

Using of APIs from online sources that provide real time data of weather and market prices for crops.

3) Database

Using SQLite database within android studio for all the market prices like storing, deleting and updating.

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4) OpenAI

Using OpenAI's GPT model to create Chatbot that generates response from the model to fulfill all the requests made by users in the app.

III. EXPERIMENTAL SETUP

1) Step 1: Design & User Interface

- Trying out different designs to find the best one.
- Creating an easy and user-friendly interface.

2) Step 2: App Structure & Navigation

- Deciding on the number of pages and content for each.
- Ensuring clean and clear navigation within the app.
- Setting up the backend for user and admin functionalities, including CRUD operations.

3) Step 3: Testing & Performance

- Testing partial functionality of the app on online mobile simulators to measure response time and speed.
- Checking the communication between the database and the backend with multiple inputs.

4) Additional Features

- In later versions, adding pages for nearby shops and local markets (mandis) where farmers can buy/sell their products.
- Adding a language translation option to help farmers understand the app in their local language.
- Currently implemented manually but in later versions to upgrade with an API for accurate location-based data in mandi prices.

5) Overall Process

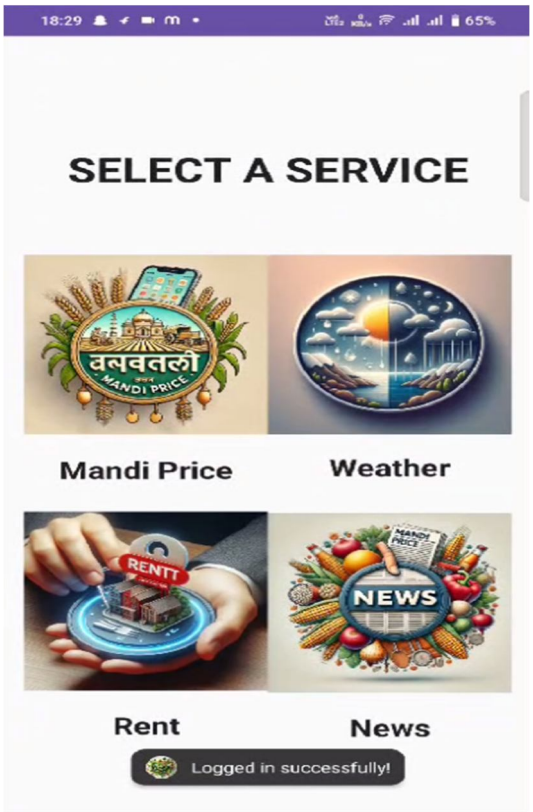
Testing individual features and combining them to create a fully functional app.

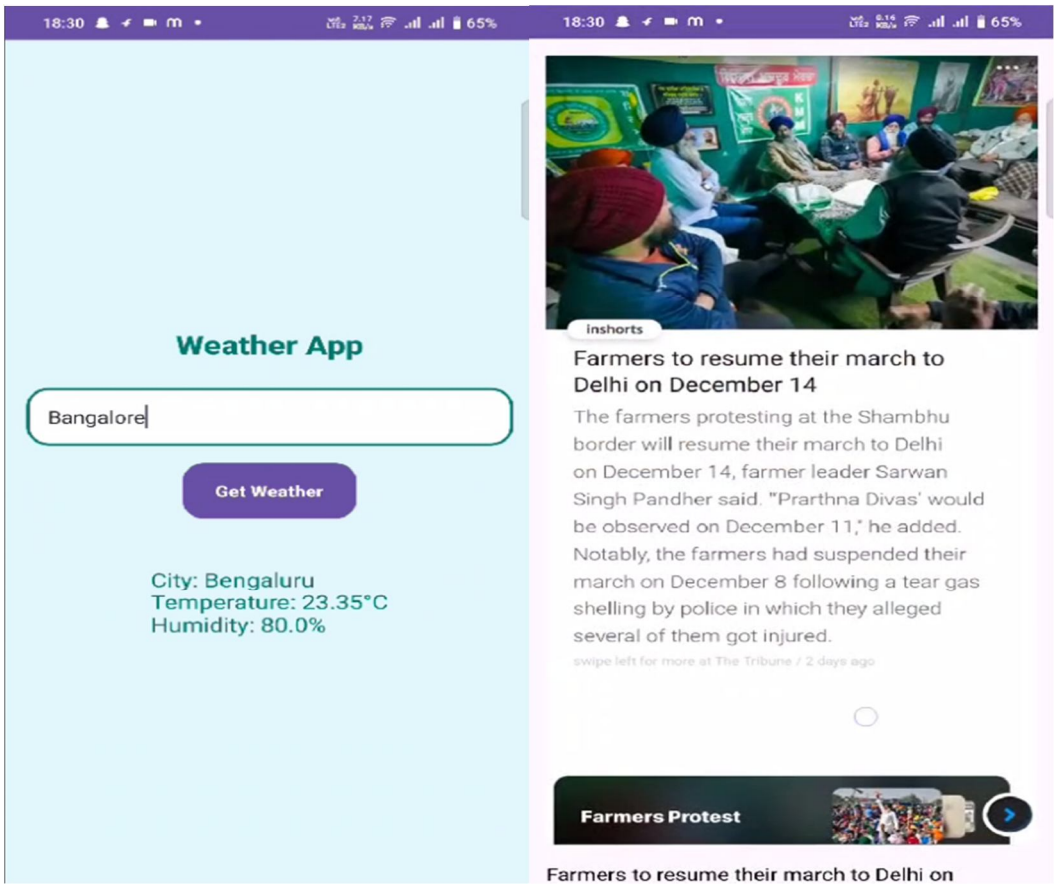
IV. STEPS TO NAVIGATE IN THE APP

1) Start the app by signing up through email ids.
2) Login by using the same credentials during sign-up.
3) Select one among the services provided in the home page dashboard.
4) Check out the multiple services offered based on your requirements.
5) Get AI assist with the help of the Krishi AI chatbot to get solutions for any issue

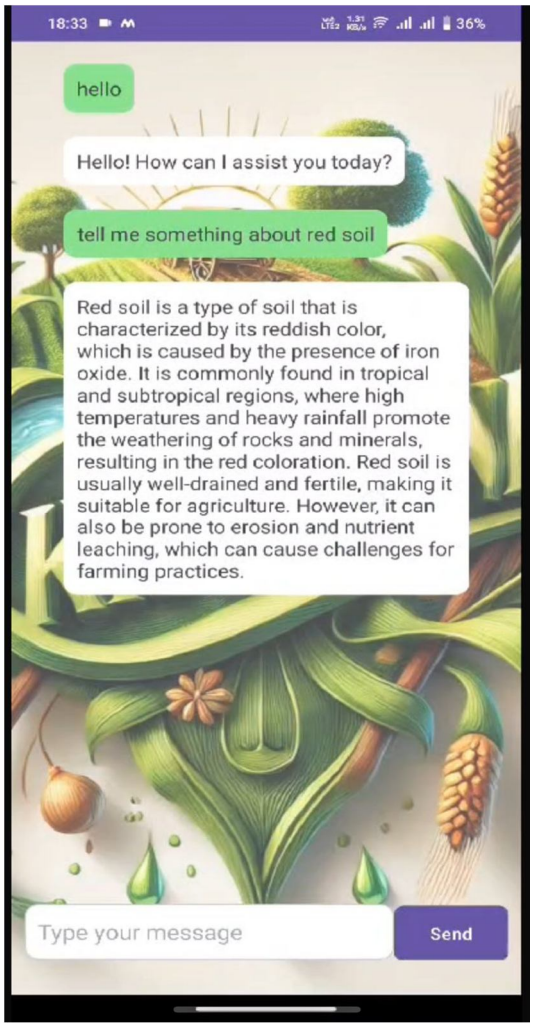
V. OUTPUT IMAGES




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65%
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News
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18:30
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Weather App
Bangalore
Get Weather
City: Bengaluru
Temperature: 23.35°C
Humidity: 80.0%
18:30
65%
inshorts
Farmers to resume their march to Delhi on December 14
The farmers protesting at the Shambhu border will resume their march to Delhi on December 14, farmer leader Sarwan Singh Pandher said. "Prarthna Divas' would be observed on December 11," he added. Notably, the farmers had suspended their march on December 8 following a tear gas shelling by police in which they alleged several of them got injured.
Farmers Protest
Farmers to resume their march to Delhi on

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VI. RESULTS AND DISCUSSIONS

The development and testing of the mobile app for farming and agriculture have shown good results. The app is easy to use and helps farmer access important features like weather updates, market prices, renting farming tools, daily news and Chatbot.

The app's backend system, which includes CRUD operations, works well and allows administrators to manage it smoothly. Tests on mobile simulators showed that the app runs quickly and connects properly to the database, backend and API's.

Pages for local markets and farming equipment have been added manually and have been helpful so far. There are plans to add more accurate location-based information using other APIs in the future.

VII. CONCLUSION

The mobile app has proven to be a helpful tool for giving farmers what they need for modern farming. The simple design and easy navigation make it accessible for farmers with little experience using technology.

With ongoing testing and improvements, the app is becoming a complete platform to support farmers in different parts of their daily work. Future updates, like adding location-based services and multilingual translation, will make the app even easier.

This will help modernize farming and make it more efficient.

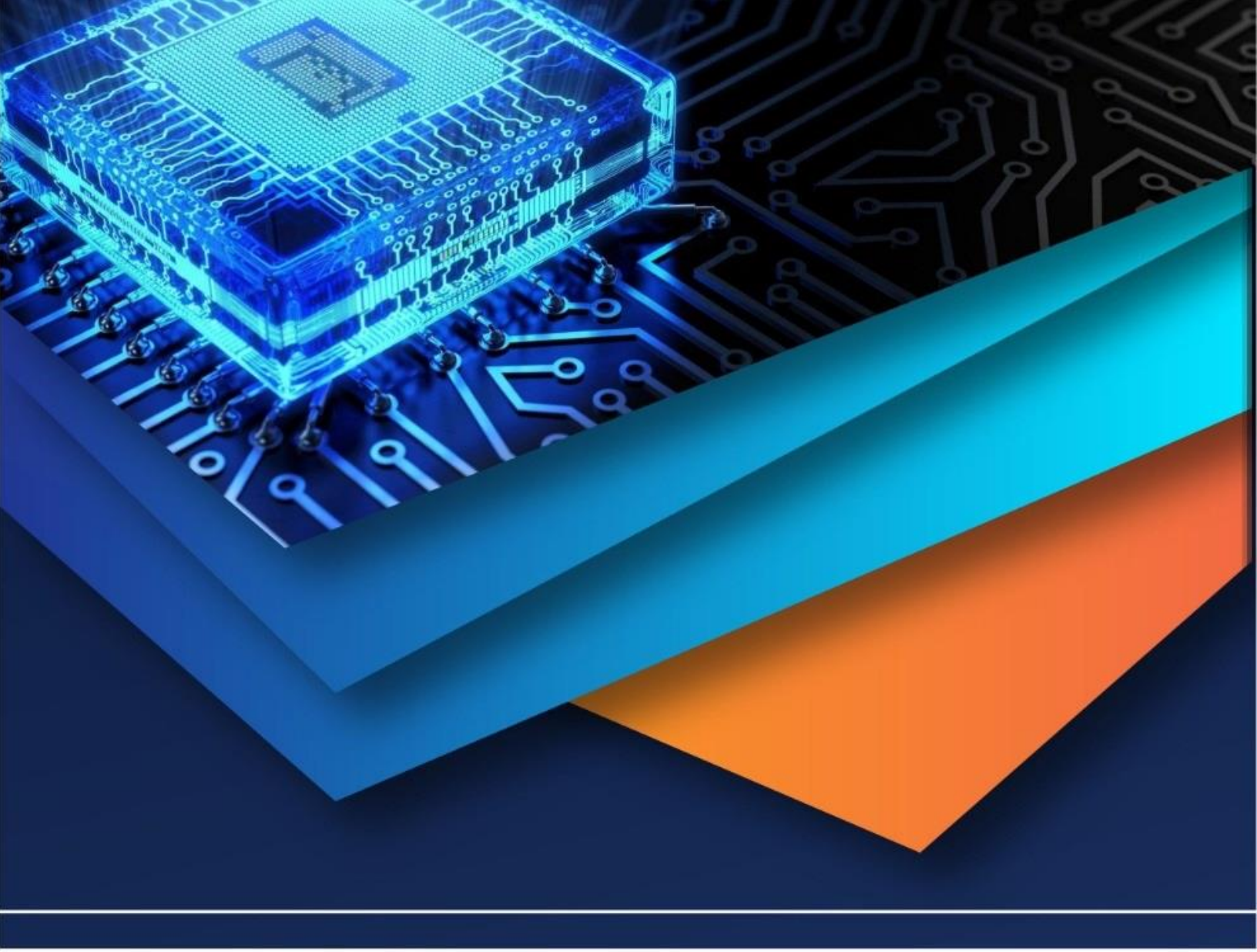
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