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PROJECT WORK-3 REPORT on

ANNADATA

Submitted by

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Under the Guidance of

Prof. Manjunath

Assistant Professor, BMSCE

in partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

in

COMPUTER SCIENCE AND ENGINEERING



B.M.S. COLLEGE OF ENGINEERING

(Autonomous Institution under VTU)

BENGALURU-560019

Oct-2022 to Feb-2023

B. M. S. College of Engineering,
Bull Temple Road, Bangalore 560019
(Affiliated To Visvesvaraya Technological University, Belgaum)
Department of Computer Science and Engineering



CERTIFICATE

This is to certify that the project work entitled “**FARMSAVE**” carried out by **VIBHA V SHANBHAG (1BM20CS184), AFIFAH KHAN (1BM20CS195), AFRAH MAHMUD (1BM20CS194) AND UMA DEVI S A(1BM21CS413)** who are bonafide students of **B. M. S. College of Engineering**. It is in partial fulfillment for the award of **Bachelor of Engineering in Computer Science and Engineering** of the Visveswaraiah Technological University, Belgaum during the year 2022-2023. The project report has been approved as it satisfies the academic requirements in respect of **Project Work-3 (20CS5PWPW3)** work prescribed for the said degree.

Signature of the Guide
Dr. Manjunath
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BMSCE, Bengaluru

External Viva

Name of the Examiner

Signature with date

1. _____

2. _____

B.M.S. COLLEGE OF ENGINEERING
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING



DECLARATION

We, **VIBHA V SHANBHAG (1BM20CS184), AFIFAH KHAN (1BM20CS195), AFRAH MAHMUD (1BM20CS194) AND UMA DEVI S A (1BM21CS413)**, students of 5th Semester, B.E, Department of Computer Science and Engineering, B. M. S. College of Engineering, Bangalore, hereby declare that, this Project Work-1 entitled "Project Title" has been carried out by us under the guidance of Namratha M, Assistant Professor, Department of CSE, B. M. S. College of Engineering, Bangalore during the academic semester Oct 2022- Feb 2023.

We also declare that to the best of our knowledge and belief, the development reported here is not from part of any other report by any other students.

Signature

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1. INTRODUCTION

Farmers are facing a lot of issues and plant diseases are a significant yield and quality constraint for farmers, which also cause huge loss economically. we decided to come up with a smart solution to the problem by including the features such as smart connect, current and future weather forecasts, selling the produce for profitable prices and making sure that the farmer doesn't cultivate the same crop that is already being grown in surplus. Farming apps are the most convenient and useful medium to guide farmers in farming. It gives you the guideline for doing proper scientific way of farming, crop cultivation, sowing or harvesting of any crop or vegetables. Farmers can easily solve their farming problems related to pest or insect attack or any problems which put them in a difficult situation.

A farming app can be the best friend of farmers in farming which can enhance their productivity without spending a single amount of money. You can easily download it from your Google play store without paying a single rupee.

Farm App provides a useful agriculture information such as land preparation, crop sowing, crop planning, fertilizer management, seed treatment, pest and disease management, crop diagnosis, and treatment, weed treatment, and irrigation. This farm app is the preferred agriculture app among farmers. Through digital agriculture solutions, plans to help Indian farmers in solving their issues by identifying pests and crop diseases that damage their crops.

2. DESIGN LAYOUTS: SCREEN SHOTS OF MOBILE APP / WEBPAGES

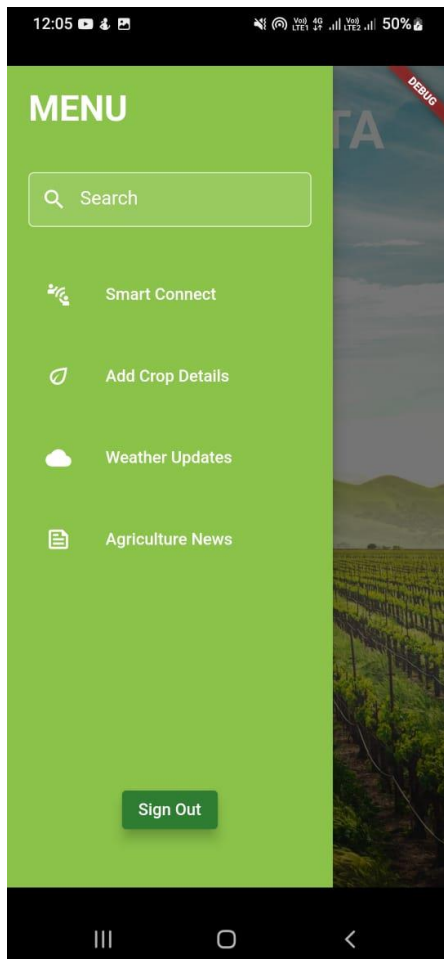


FIG 1. MENU BAR

The menu bar makes it easier for the user to search or reach the Smart connect page, Add crop details, check weather updates and check agricultural news

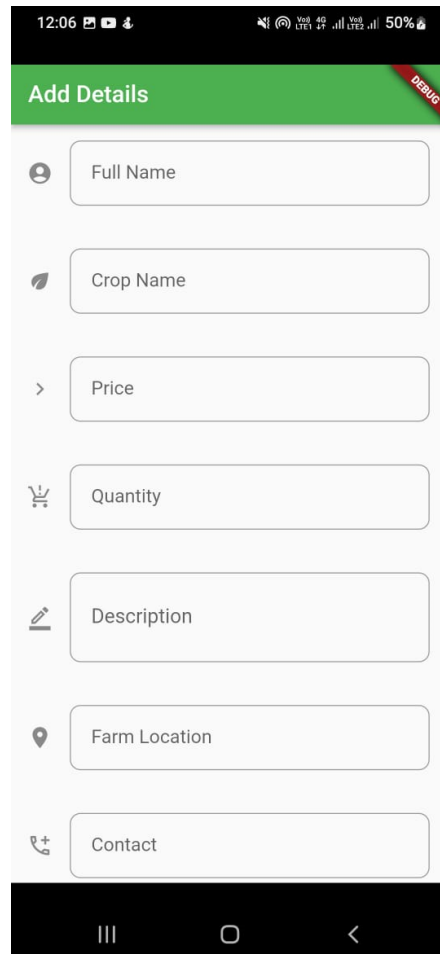


FIG 2. ADD CROP

The 'Add details' page helps the farmer to upload details of his crop such as the name of the crop, quantity, location etc...



FIG 3. SMART CONNECT

That will display all farmers who have registered with the app and provide details of crops such as quantity, price etc.



FIG 4. HOME

The home page is the page the farmer will arrive at as soon as he opens the app. The homepage makes all the other pages accessible.

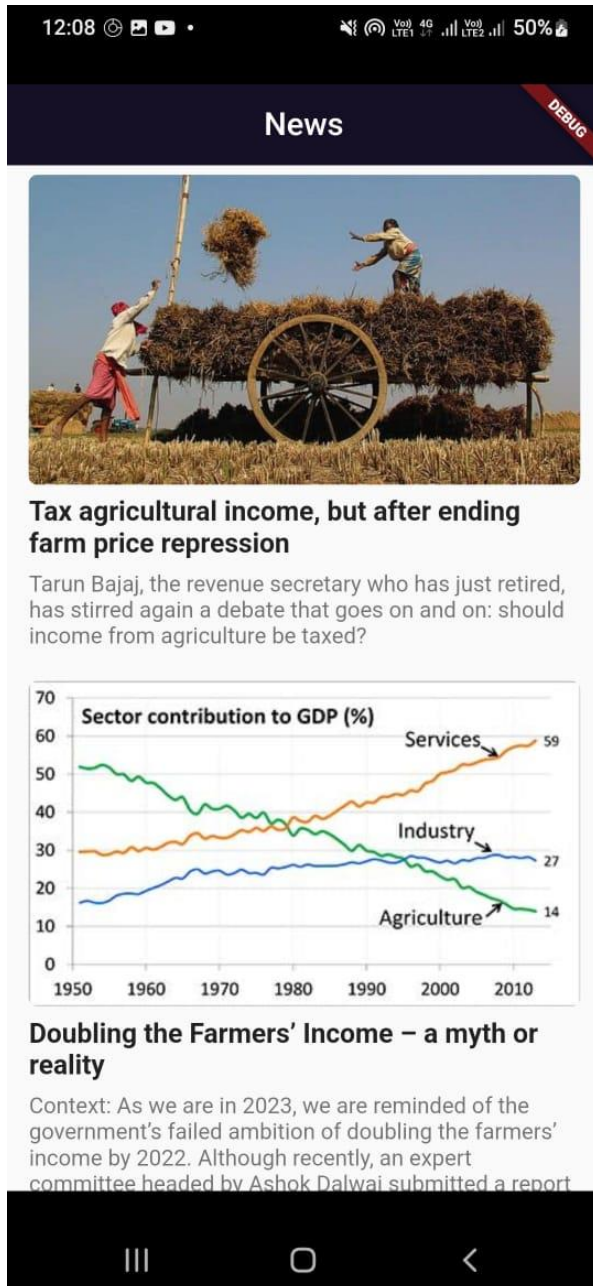


FIG 5. NEWS PAGE

This page fetches the latest news relevant to the farmer and displays it

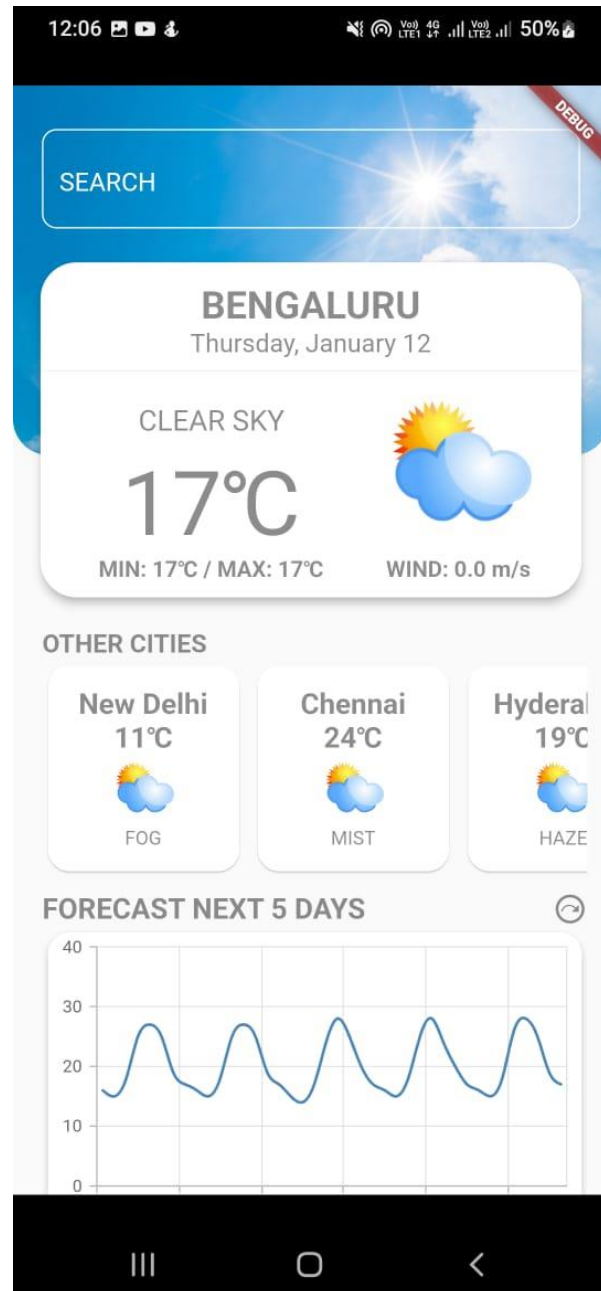
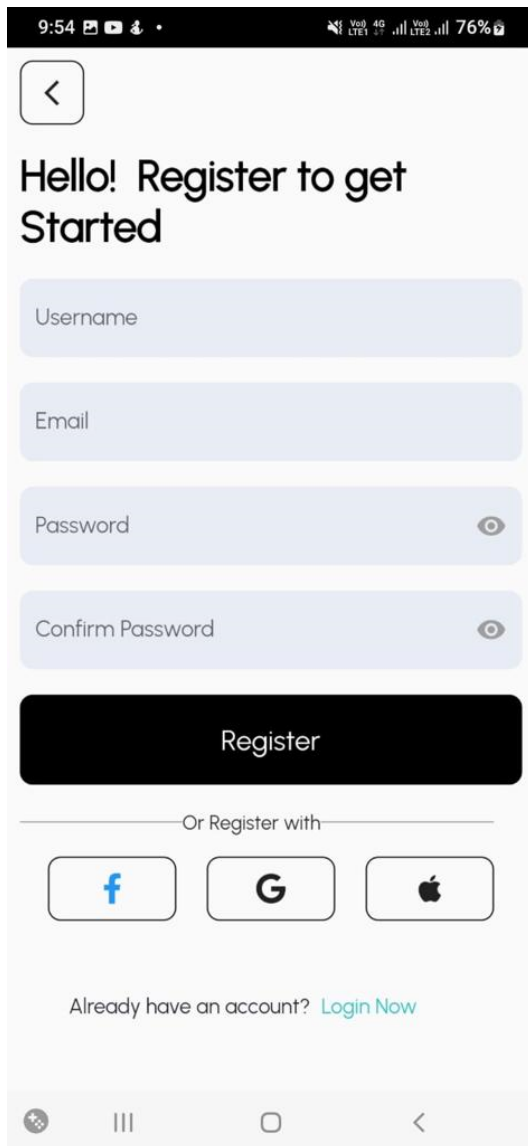
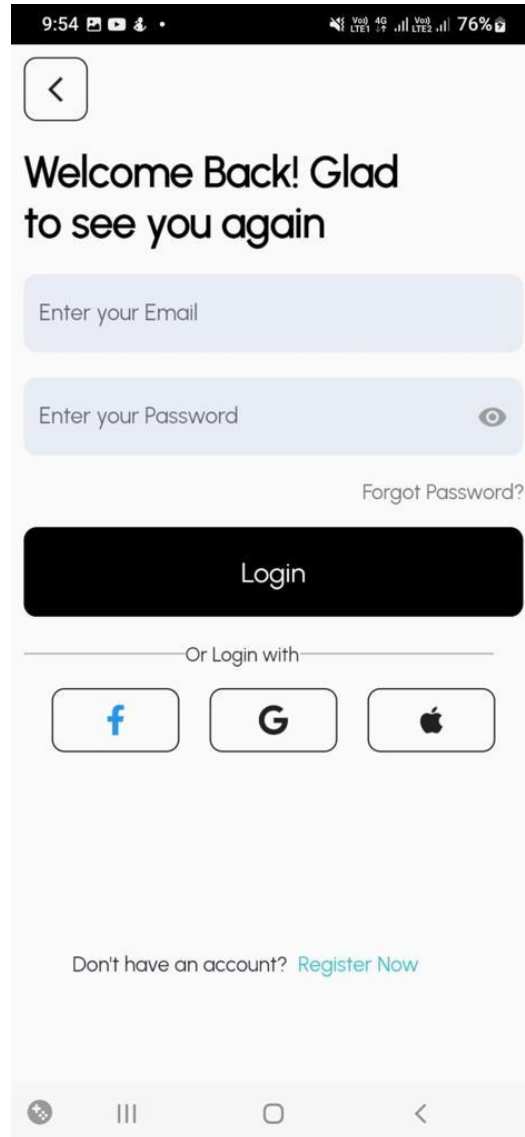


FIG 6. WEATHER PAGE

The weather page will display the current weather and will also display the weather forecasts



The farmer needs the register before he can start using the app to store all his information.



The login page will allow the user to login into their account to retain all saved details.

3. DATABASE TABLE SCREEN SHOTS

smartconnect

Authentication

Users Sign-in method Templates Usage Settings

Search by email address, phone number, or user UID Add user

Identifier	Providers	Created ↓	Signed In	User UID
vibhavs217@...	✉	Jan ...	Jan ...	agih2005fYbBylyN...
varaprasadva...	✉	Jan ...	Jan ...	bNtV00Q2azd30Pf...

Rows per page: 50 1 – 2 of 2

FIG 9. AUTHENTICATION

Here, to authenticate the user, the mail id, user id and details of creation and last signed in is saved.

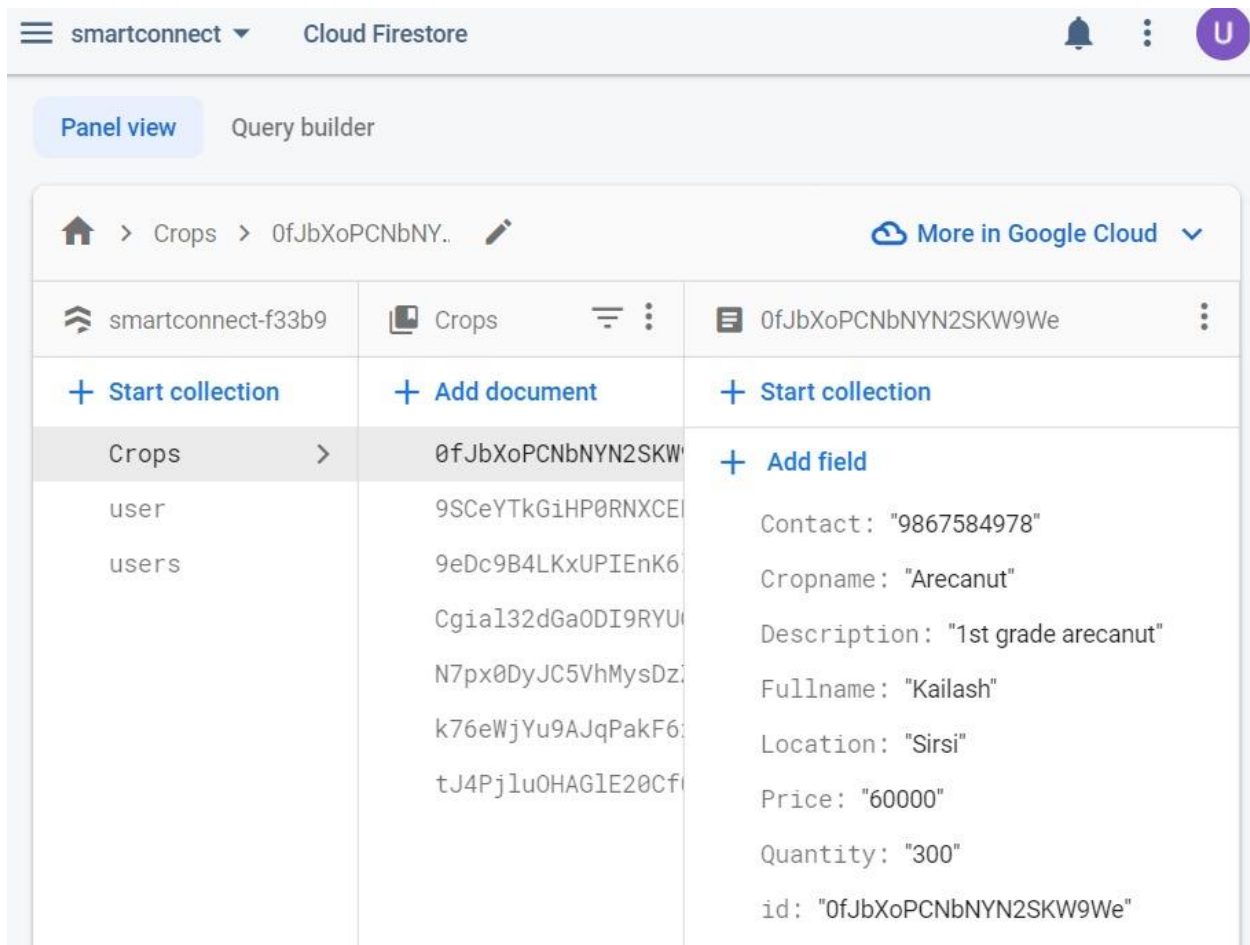


FIG 10. USER DATA

In the cloud firestore, all the crop details is stored and saved.

4. LEARNINGS FROM THE PROJECT

The main aim of our project was to help farmers by providing them with useful information so that they can avoid growing crops that are already being cultivated in surplus. And they can sell their products at the right time for the right price without the intervention of middle men. We also learned about the lack of available datasets for farmers to get their information from. Every day, farms produce thousands of data points on temperature, soil, usage of water, weather condition, etc. With the help of artificial intelligence and machine learning models, this data is leveraged in real-time for obtaining useful insights like choosing the right time to sow seeds, determining the crop choices, hybrid seed choices to generate more yields and the like. AI systems are helping to improve the overall harvest quality and accuracy – known as precision agriculture. AI technology helps in detecting disease in plants, pests and poor nutrition of farms. AI sensors can detect and target weeds and then decide which herbicide to apply within the region. This helps in reduced usage of herbicides and cost savings. Many technological companies developed robots, which use computer vision and artificial intelligence to monitor and precisely spray on weeds. These robots are able to eliminate 80% of the volume of the chemicals normally sprayed on the crops and bring down the expenditure of herbicide by 90%. These intelligent AI sprayers can drastically reduce the number of chemicals used in the fields and thus improve the quality of agricultural produce, and bring in cost efficiency. These apps connect agricultural producers around the world and provide them with shared knowledge on ways to maximize their land's productivity while protecting its resources for future generations. Such shared knowledge is becoming more critical as agricultural producers seek to meet the food, fiber and fuel needs of a growing population. Farmers often have lots of questions and confusions in mind about their farms, crops, diseases, climate, control measures, etc. and with apps, farmers can build effective farming strategies that help them save water during the entire process and grow crops that bring them many profits.

5. REQUIREMENTS

Functionalities under user login

- i. Farmers can make an account and enter details of crops they grow
- ii. Displays list of farmers and details of crops they grow
- iii. Farmer can add and delete information as and when required

Functionalities of other pages

- I. Weather Page - Will display current weather as well as give future weather forecasts.
- II. News Page - Fetches latest agricultural news and displays it.
- III. ChatBot - Will help the farmer by answering some commonly asked queries.
- IV. Smart Connect page - That will display all farmers who have registered with the app and provide details of crops such as quantity, price etc.

6. SOFTWARE REQUIREMENTS:

2.1 Hardware Requirements:

- A PC with the following or greater specifications:
 - Intel Core i3 or higher
 - 8 GB RAM
 - 500 GB Hard Drive
- A stable internet connection (2Mbps or higher)

2.2 Software Requirements:

Operating system: Windows, Linux

Front end technologies are: flutter, dart

IDE: VS Code, Sublime text

Back end requirement: Firebase authentication

Server: cloud firestore

7. REFERENCES:

<https://stackoverflow.com/>

<https://www.w3schools.com/>