

# **AGROW - A ONE-STOP SOLUTION TO ALL FARMER NEEDS**

## **Problem that we are solving**

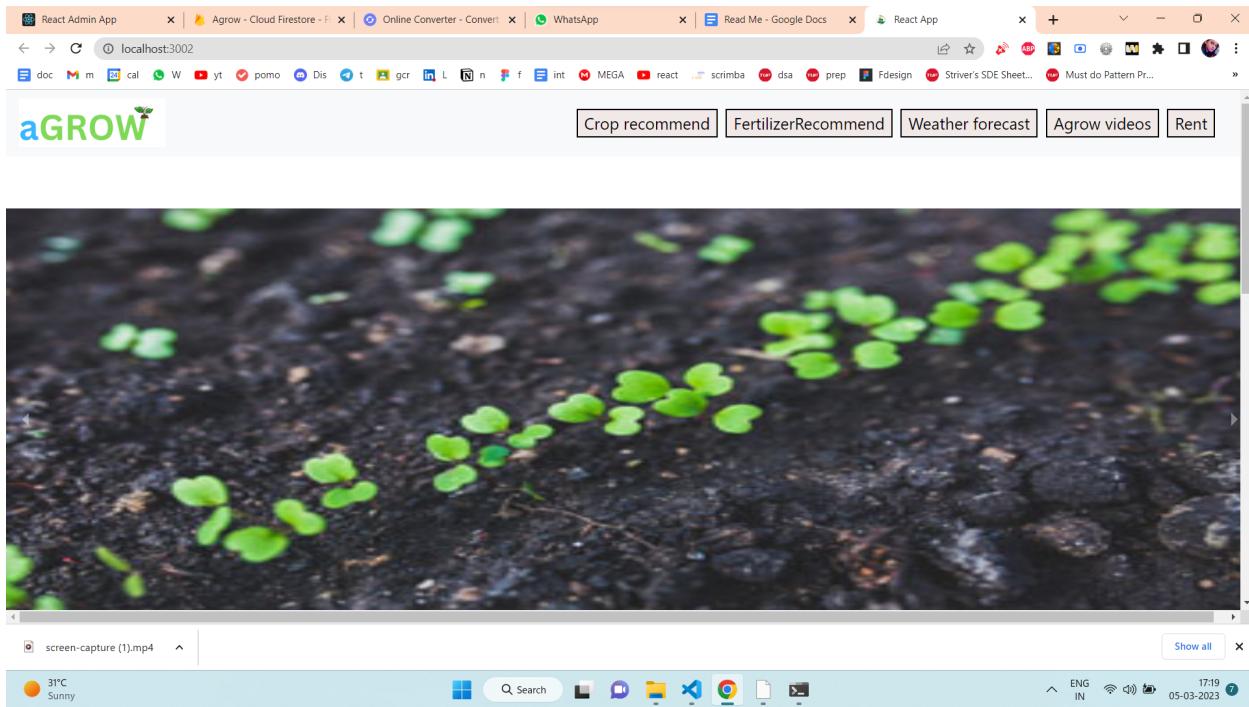
Agriculture is the backbone of the Indian economy, with close to 70% of the population still depending on agriculture for its livelihood. the lack of profit from farming for the farmers, and other factors like monsoon failure, climate change, high debt burdens, government policies and price surges have resulted in The Indian farmer suicide crisis. With around 15 farmers committing suicide per day in 2021, the situation is dire. Despite many earnest attempts made by the government like The green revolution, the suicide charts have maintained a steady upward slope. In order for this crisis to be resolved, there needs to be an improvement in agricultural practices. Suggests methods to overcome this crisis and enable higher growth prospects in agriculture

The Idea for Agrow emerged as a compulsive need we felt to do something about the rising cases of suicide among farmers. Solving any one part of the problem would never be the solution, hence our project's aim was to tackle the issue from all ends and make an impact on the lives of our "Annadatas".

## **TimeLine**

We started our project three months ago as a team, not much of the app was developed but ideas were discussed. A simple front end was developed for the same. All new features like Chat Bot,

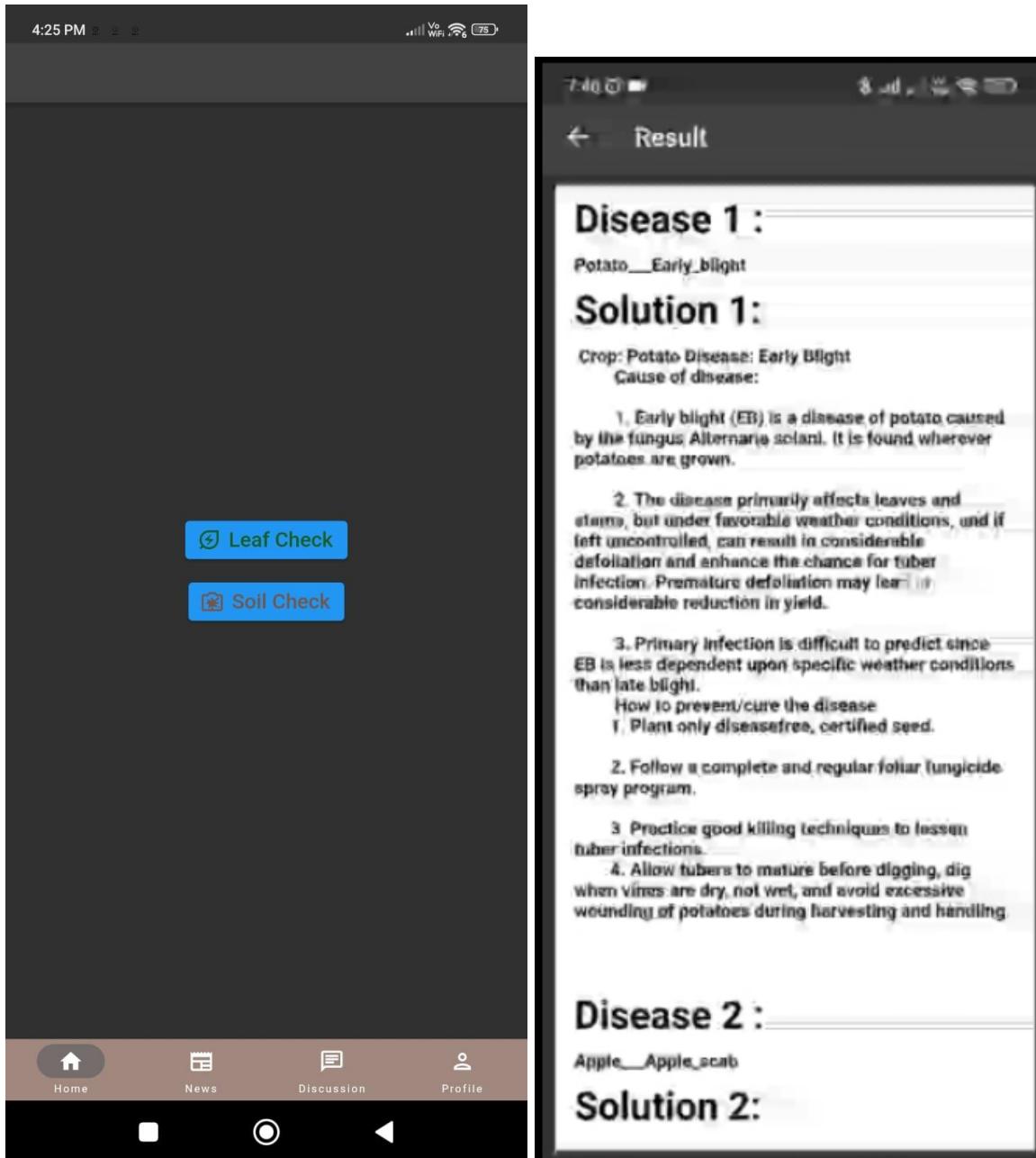
Crop Recommendation , MarketPlace etc were developed in the course of the hackathon. The old website is this:



## Description and all features

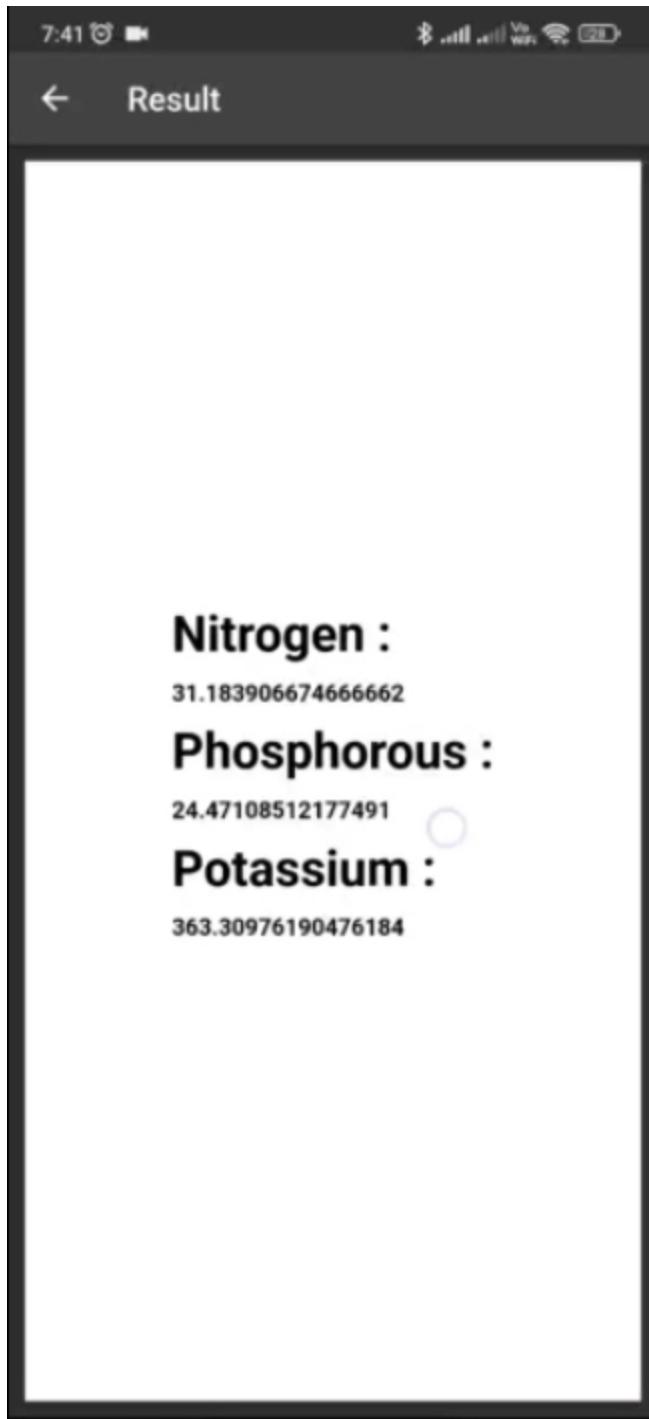
Agrow is an amalgamation of various features achieved using both a react web app and a Flutter Mobile App.

**Leaf Disease Detection:** A CNN model is trained with over 38 classes of diseases in plants and preventive measures and cures for the diseases. The farmer takes a picture of the infected leaf from the mobile app and is listed with three of the most probable diseases the leaf could have.



## Soil Nutrient Detection:

The farmer takes a picture of the soil through the mobile app and with our CNN and OpenCV algorithm, we return the N, P and K values in the soil. We calculate the ratio of the type of soil (sandy, loamy, clayey etc) and from this ratio and the weather data, we estimate the NPK values for a given location.



## Crop Recommendation:

Using our NPK values, the farmer can feed this data into the website to receive crop recommendations for max yield and max profit. Not only does it recommend

crops that grow best for the soil based on NPK values, but it also recommends highly profitable export value-rich crops that can help farmers make a profit by eradicating poverty as a reason for farmer suicides.

AgroW

Search... 

English     

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MAIN

Landing Page

LISTS

Rent

Weather

Crop Rec.

Fertilizer Rec.

USEFUL

News

Chat

SERVICE

System Health

Logs

Settings

USER

Profile

Logout

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Enter N, P, K values in soil

**Crops that can be grown are**

Crop 1:  
Crop 2:  
Crop 3:

# Fertilizer Recommendations:

For the recommended crops, we also provide fertilizer recommendations on the website to maximize the yield further.

The screenshot shows the AgroW website interface. On the left is a sidebar with navigation links: MAIN (Landing Page, Lists, Rent, Weather, Crop Rec., Fertilizer Rec.), USEFUL (News, Chat), SERVICE (System Health, Logs, Settings), and USER (Profile, Logout). The main content area has a search bar at the top. Below it, there are several input fields for soil parameters: 'Enter N, P, K values in soil.', 'Temperature:' (input field), 'Humidity:' (input field), 'Moisture:' (input field), 'Soil Type:' (input field), 'Crop Type:' (input field), and 'Nitrogen:' (input field). A tooltip from the Snipping Tool indicates that the screenshot has been copied to the clipboard. The status bar at the bottom right shows 'Screenshot copied to clipboard and saved'.

# ChatBot:

Mental Health issues are of rising concern. Our mental health chatbot is catered towards dealing with different issues faced by the farmers.

## **Rent Equipment:**

Rich Farmers can lend their equipment like tractors and Bull carts to other farmers who can not afford them. Other farmers can borrow these for use at a small price. This helps the lending farmers to earn small additional money while poorer farmers get to use this equipment and maximize their profits without having to buy them.

4:25 PM

Vo WiFi

← Borrow or Lend

keshab0121@gmail.com



Bull

Durable

Contact us

harsh3101gupta@gmail.com



+

**AgroW**

Search...

English

Add New User

	Image:	Farmer Name	Ramu krishna
Address	Kori gali, uttar pradesh		
Product	Tractor		
Email	email@gmail.com		
Password	password here		

**Send**

**AgroW**

Search...

English

Add New User

	ID	User	Farmer Name	Address	Phone	Product	Price per day	Email	Password	Action
<input type="checkbox"/>	VOSv...		wetgw4gt	ishiaka@g...	4356	123453433	sdgdjh	2etae	<a href="#">View</a> <a href="#">Delete</a>	
<input type="checkbox"/>	ailGS...		Ramu kaka	uttar prad...	80887272...	Tractor	300	ramuhāma...	<a href="#">View</a> <a href="#">Delete</a>	
<input type="checkbox"/>	cODt...		ish	ishiak	is23w2h@...	23543y64	passsword...		<a href="#">View</a> <a href="#">Delete</a>	

[Add New](#)

## Marketplace:

Middleman and transport costs end up eating money from the farmer's pocket leaving them with less money and profits than deserved. Our mobile app provides a marketplace where farmers can list their products and sell it at a price such that they make a sufficient profit while also ensuring the consumer has to pay less. The conversation is kept private and negotiable by the farmer.

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## Market Place

### Borrow or Lend



### Groceries



Home News Discussion Profile

4:25 PM

## Items

← harsh3101gupta@gmail.com



 Potatoes

Fresh Potatoes of best quality available, Contact for purchasing

 Contact us

harsh3101gupta@gmail.com



 Tomatoes

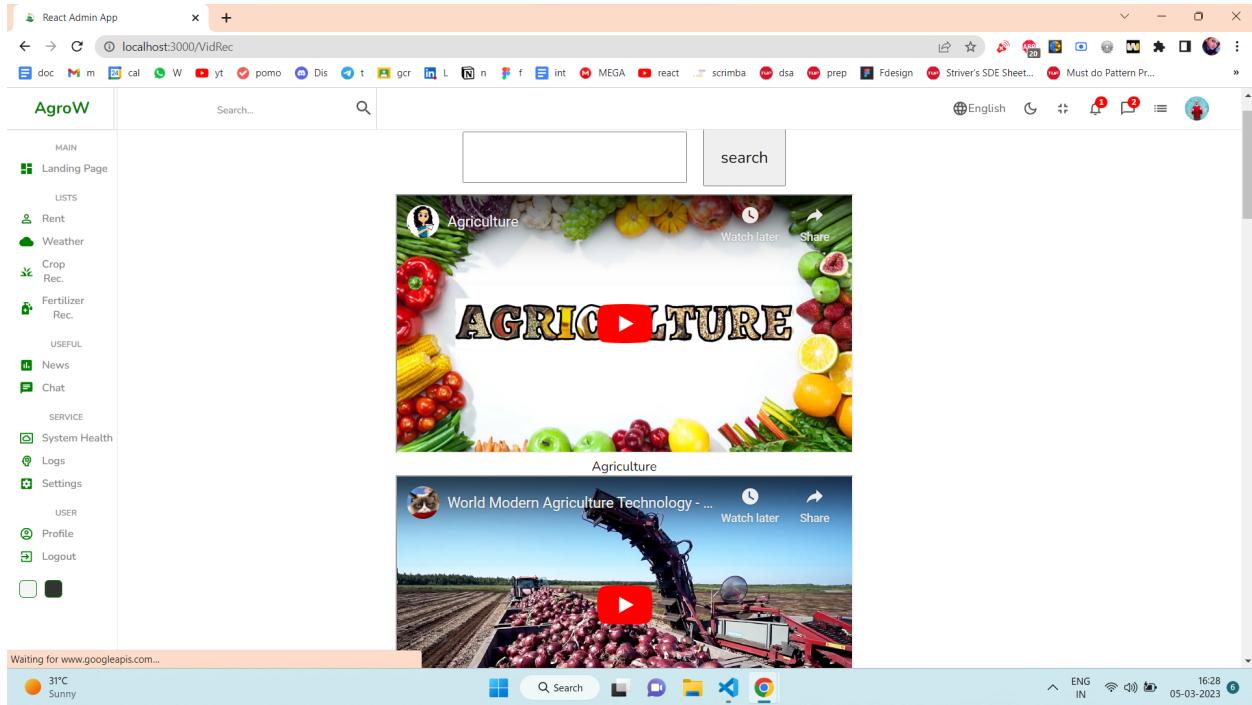
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## Weather Conditions:

Weather details are important for farmers to make predictions. We use a weather API to provide this info so farmers can make informed decisions.

# VideoFeed:

It uses Youtube API to provide farmers with top recommendations and ongoing discussions in the agricultural field to advance their knowledge.



# News:

A news API so farmers can stay on top of new trends and be aware of things in their community.

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News Api

INDIAN INSTITUTE OF MANAGEMENT



MP: IIM Indore receives re-accreditation from EQUIS, maintains its â€œTriple Crownâ€



How can India reap benefits of demographic dividend

NO  
image  
available

Home News Discussion Profile



# Landing Page

AgroW

Search...

English

1 2

Logout

MAIN

Landing Page

LISTS

Rent

Weather

Crop Rec.

Fertilizer Rec.

USEFUL

News

Chat

SERVICE

System Health

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About Us

