

# SMART AGRICULTURE MANAGEMENT SYSTEM

Presented By  
**Group NO. - 263**



# GROUP PROJECT

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# INTRODUCTION

- India is one of the major players in the agriculture sector worldwide and it is the primary source of livelihood for ~55% of India's population
- Agricultural information is an important factor that interacts with other production factors.
- Productivity of these other factors, such as land, labour, capital and managerial ability, can arguably be improved by relevant, reliable and useful information.
- Information supplied by extension, research, education and agricultural organizations helps farmers make better decisions.



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- Therefore, there is a need to understand the functioning of a particular agricultural information system in order to manage and improve it.
  - This is to emphasize the importance of agricultural management systems for agricultural development and to identify the strength and weaknesses of the current systems and led to recommendations for improving their performance.
  - This report presents initially the definitions and models related for agricultural management system.
  - Then it describes the analysis of agricultural information systems.
  - Thirdly, the findings of the related previous studies are reviewed.
  - Finally, the general conclusions about agricultural information systems are emphasized and implications for better agriculture information systems are suggested.

# Features provided by existing systems:

- Conservation and protection of natural resources
- Efficient use of pesticides and fertilizers
- Improvement in smallholders' livelihood and social wellbeing
- Data-based planning and management of agricultural production
- Sustainable Soil Management
- Water Conservation
- Implementation of good agricultural practices
- Support in export quality and documentation
- Safety and quality compliance
- Supply chain transparency



# PROBLEM IDENTIFICATION AND PROJECT OBJECTIVES

- No focus on shifting completely to organic farming with time.
- Very less farmers are aware about it and can not use them because of language barrier.
- They do not emphasise on suggesting most profitable crops that can be grown in that suitable environment.

# PROPOSED SYSTEMS:

- Developing a user friendly agricultural management system for the worldwide web which fulfil the Agriculture Interested People's requirements.
- Developing a common platform for all buying and selling of products related to agriculture
- Provide all the information for the Research Institutes, Buyers, Planters and Investors.
- Database updating can be done by authenticated users in the research institute.

- Monitoring and Backing up Database and Users details for future use.
- Proposing organic farming techniques using data from case study of Sikkim.
- Our website will have local languages to make it comfortable for farmers.
- Using case studies and current trends, we will predict few of the most profitable crops that can be grown in that region and are in high demand.

# METHODOLOGY PROPOSED AND WORK PLAN

- 01** Proposed interface for Admin
  
- 02** Proposed interface for User

# PROPOSED INTERFACE FOR ADMIN

## Login

Admin can access their account through this page. After successful login, this page was redirect to the home page. If admin doesn't have an account registers his account through registration page.

## Registration

every new admin has to register their details. After register you can access your account through login.

## Add fertilizers & soil

In this module admin will add the detail about different type of fertilizers and its usage. It will explain the whole information about fertilizers and its features and what are organic fertilizers, how you can use them to improve your product growth.

## View user queries / feedback

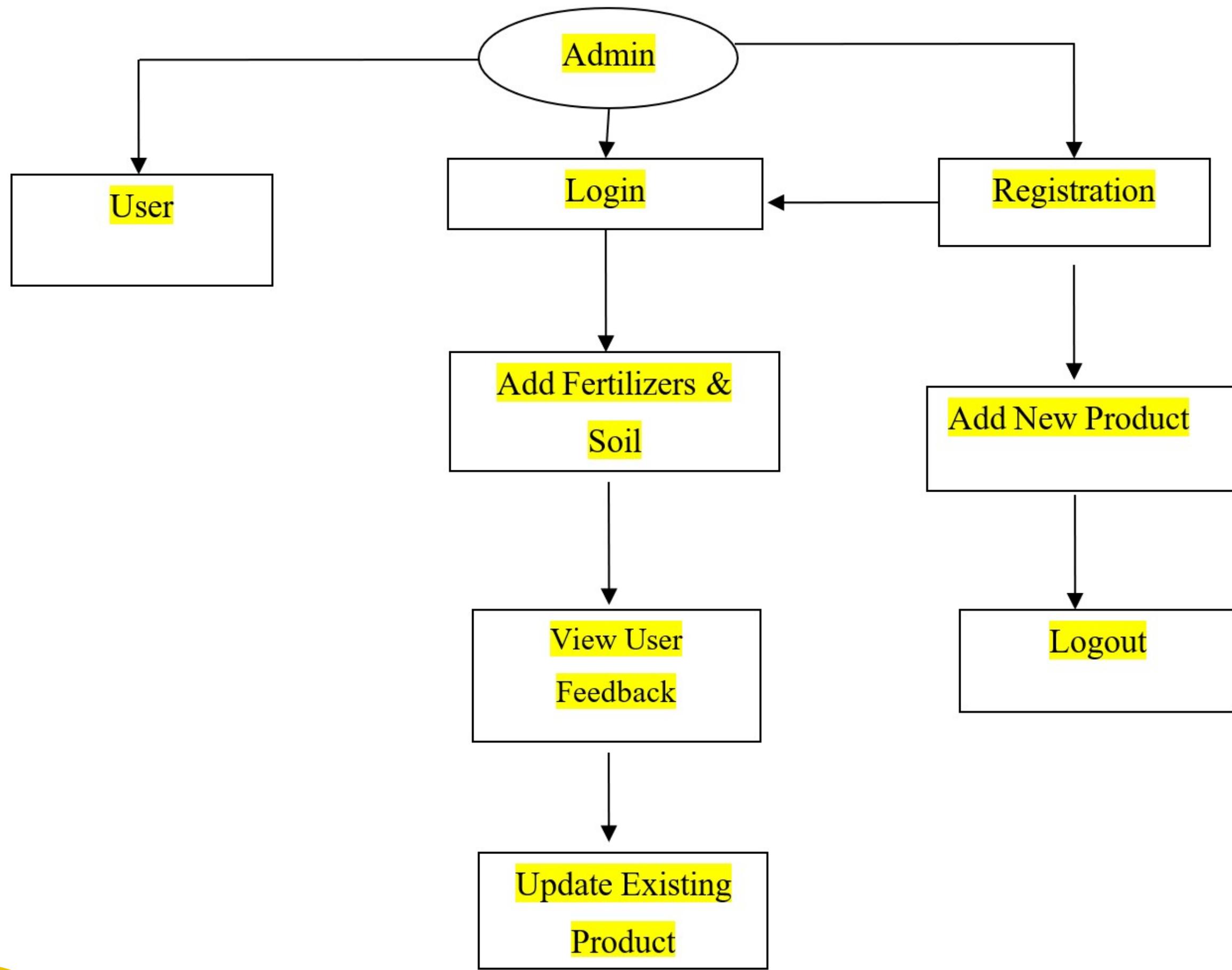
In this module Admin can view all the queries, doubts and feedback from user. And admin will respond to them. Admin have a permission to delete or decline the user feedbacks.

## Update existing product

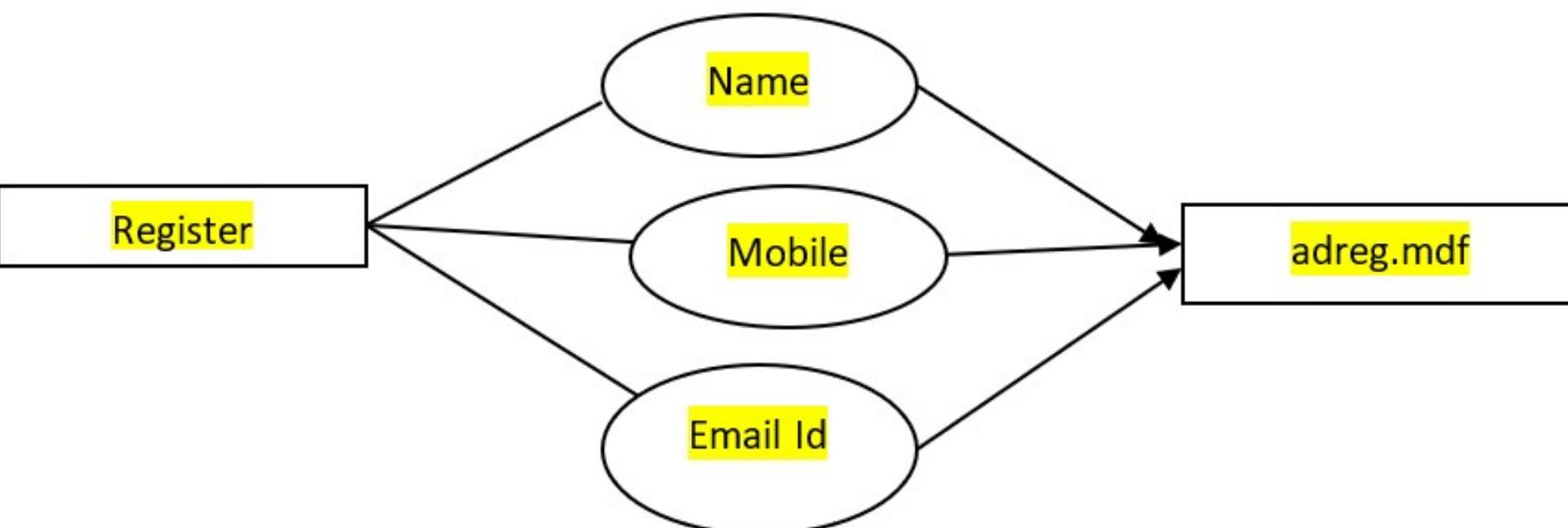
In this module admin will update or delete the existing details and update new information.

## Logout:

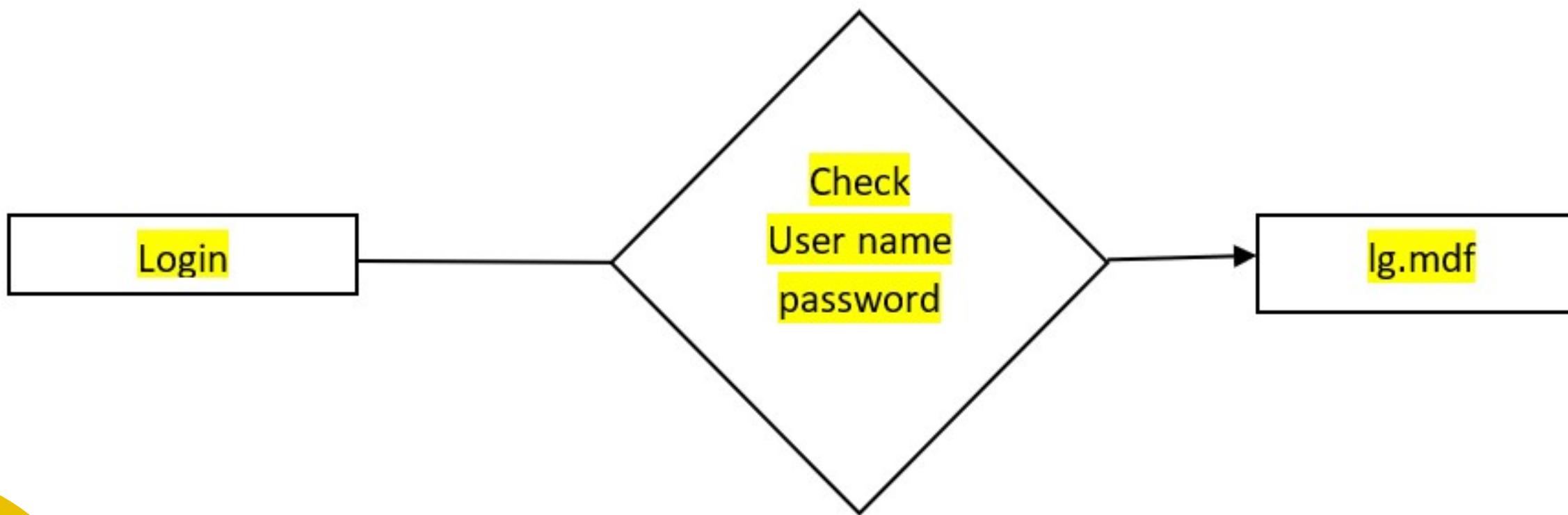
This module was used for admin can logged out his account. Once logged out your account no one can access your account without the knowledge of your username and password.



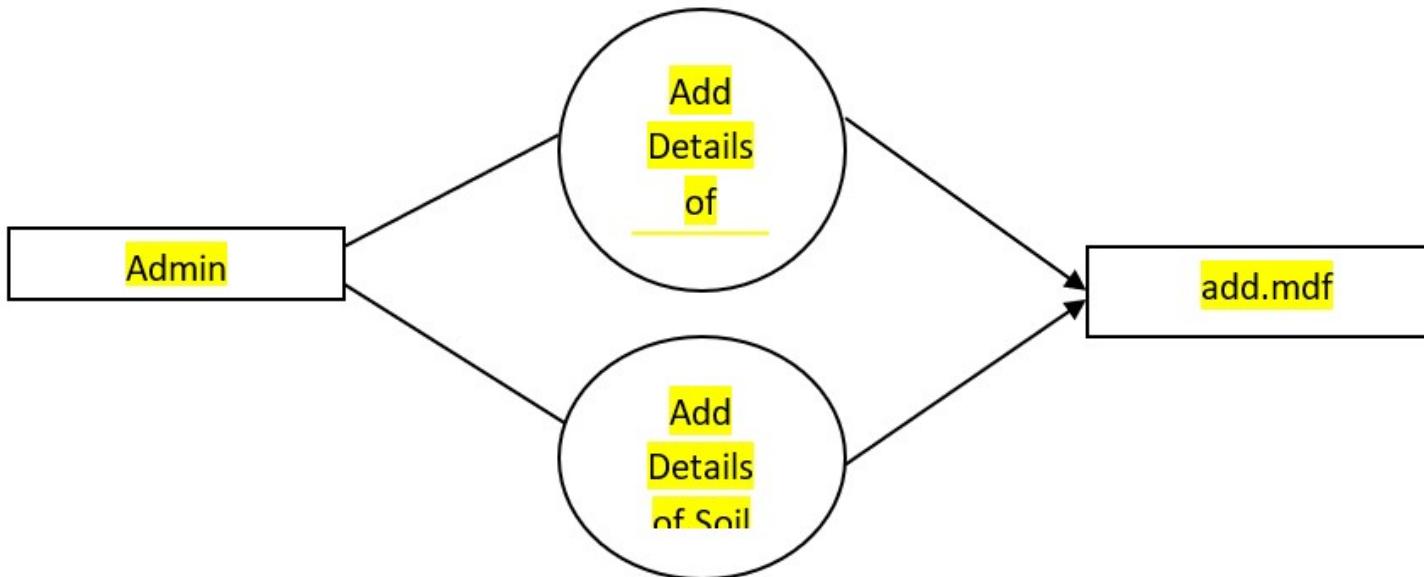
## **Registration:**



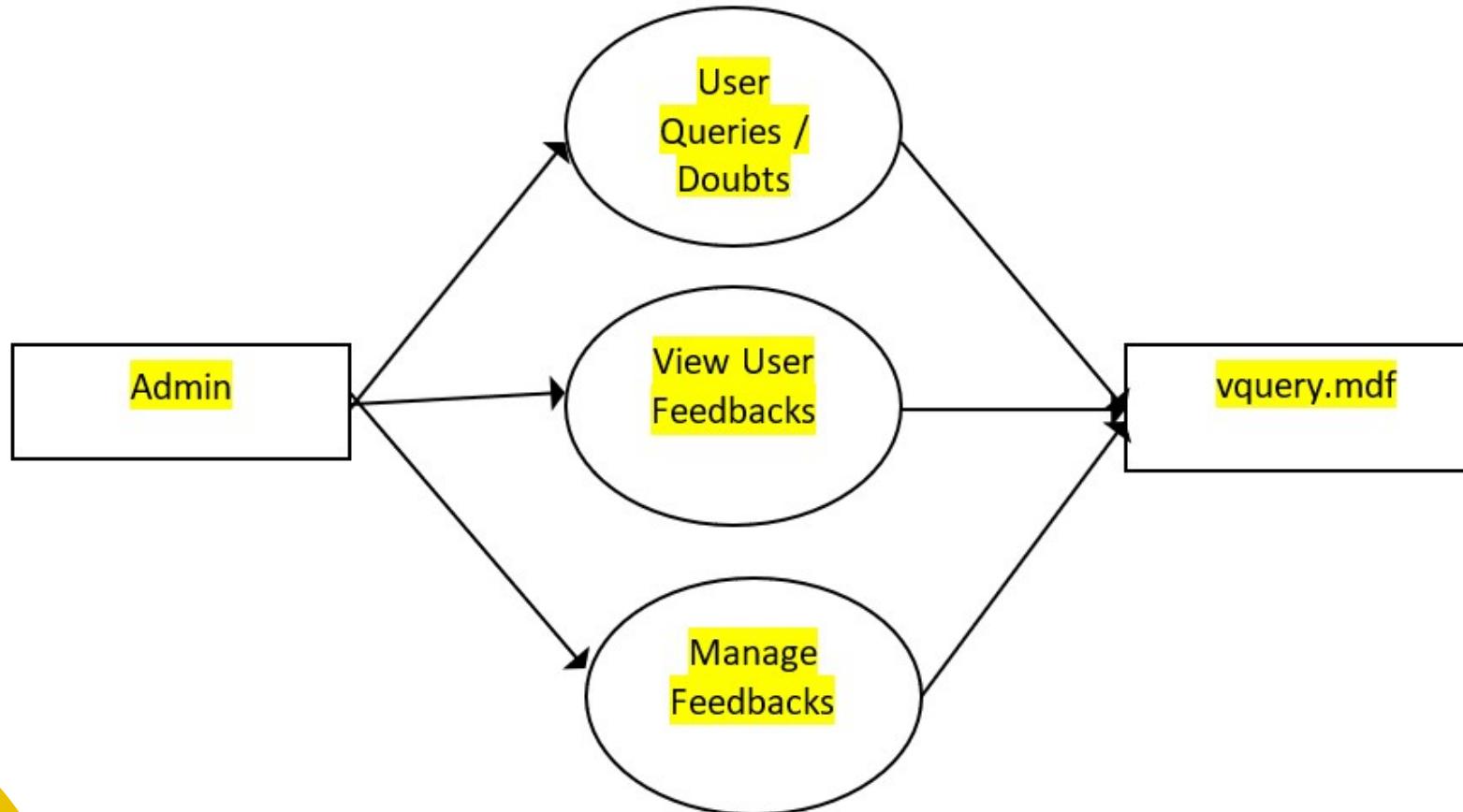
## **Login:**



### Add fertilizer & soil:



### View user queries / feedbacks



# PROPOSED INTERFACE FOR USER

## **Login**

User can access his account through they logged in. The Login Module is allowing him to enter a User Name and Password to log in. if user doesn't have an account he can register their details on registration page.

## **Sign up**

every new user has to register their details. Such us name, address, mobile no, land details. After registration only users get user account. By using this user account users can access their account. It's a Onetime registration, later by getting the Admin approval he/she can login to the home page.

## **View Information**

user or public can view all the information about the agricultural Management system. If the given information had any fault or fake user can send original detail about that information to admin.

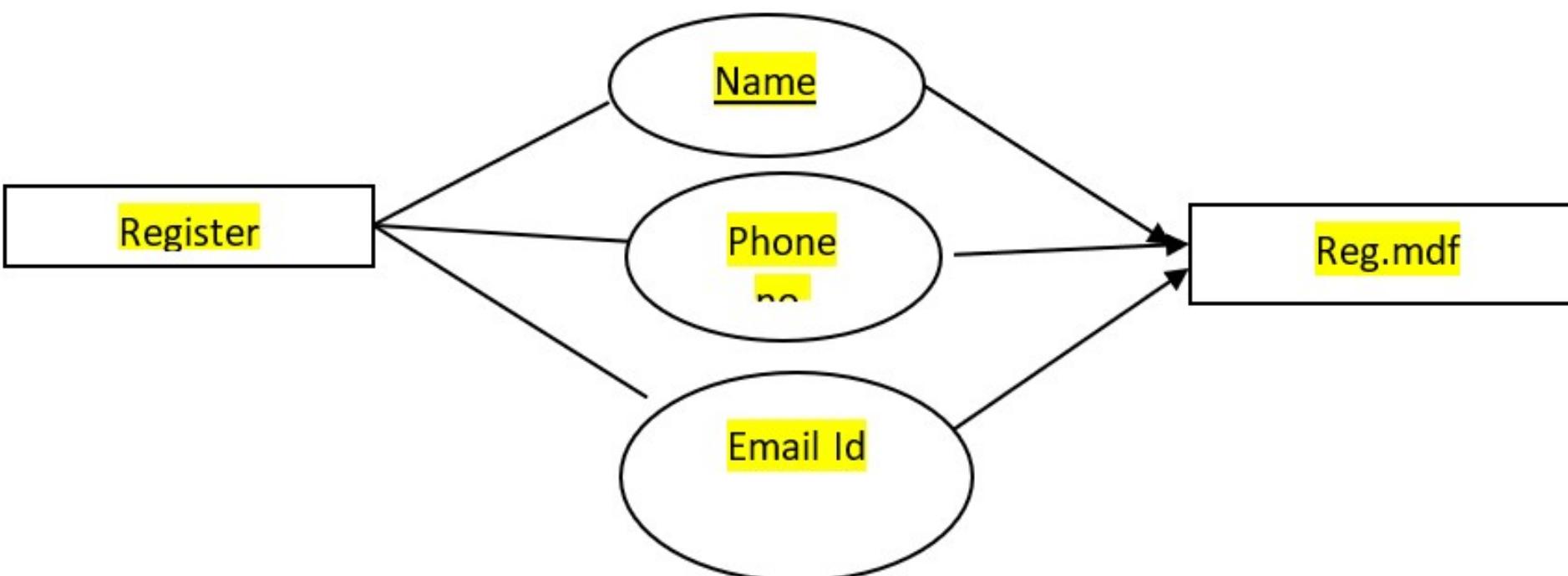
## **Send Feedback**

In this module user send the feedback about the website and its information. This will help us to increase the rate of our website.

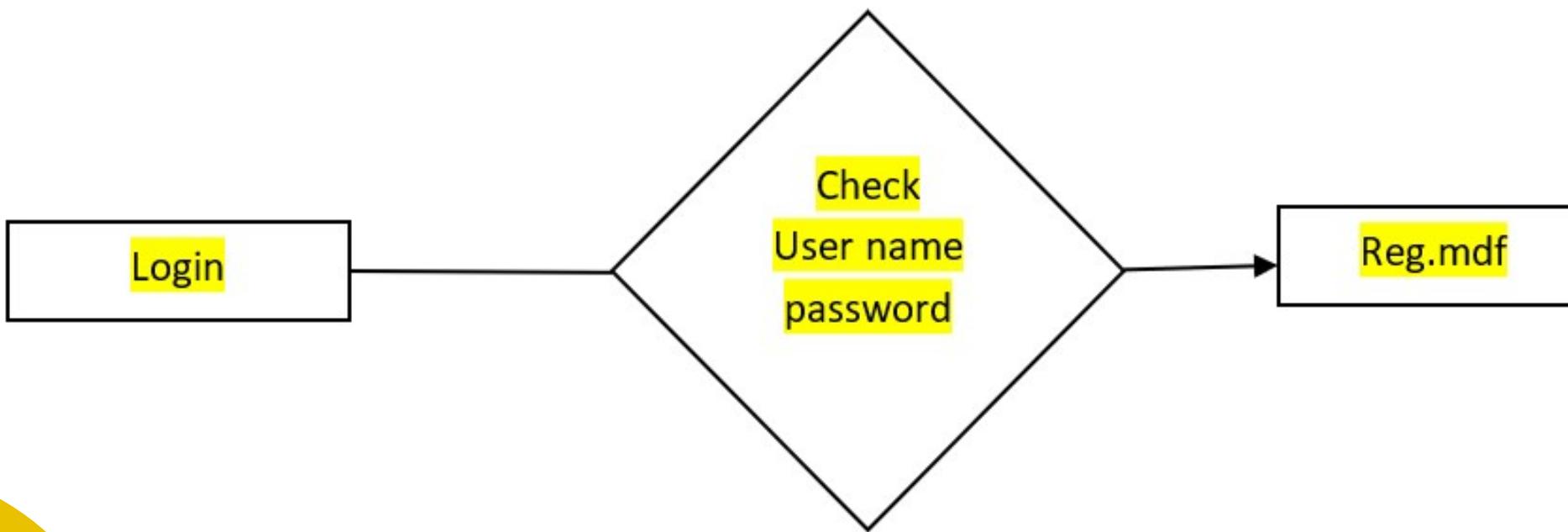
## **Logout:**

This module was used for user can logged out his account. Once logged out your account no one can access your account without the knowledge of your username and password.

## **Registration:**



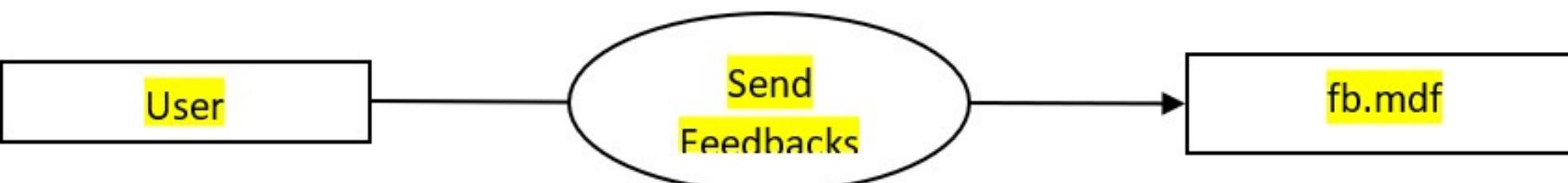
## **Login:**



## **View information**



## **Send feedback:**



# SOFTWARE SPECIFICATION

Operating System

: Windows

Front-End

: HTML/CSS/Js

Web Server

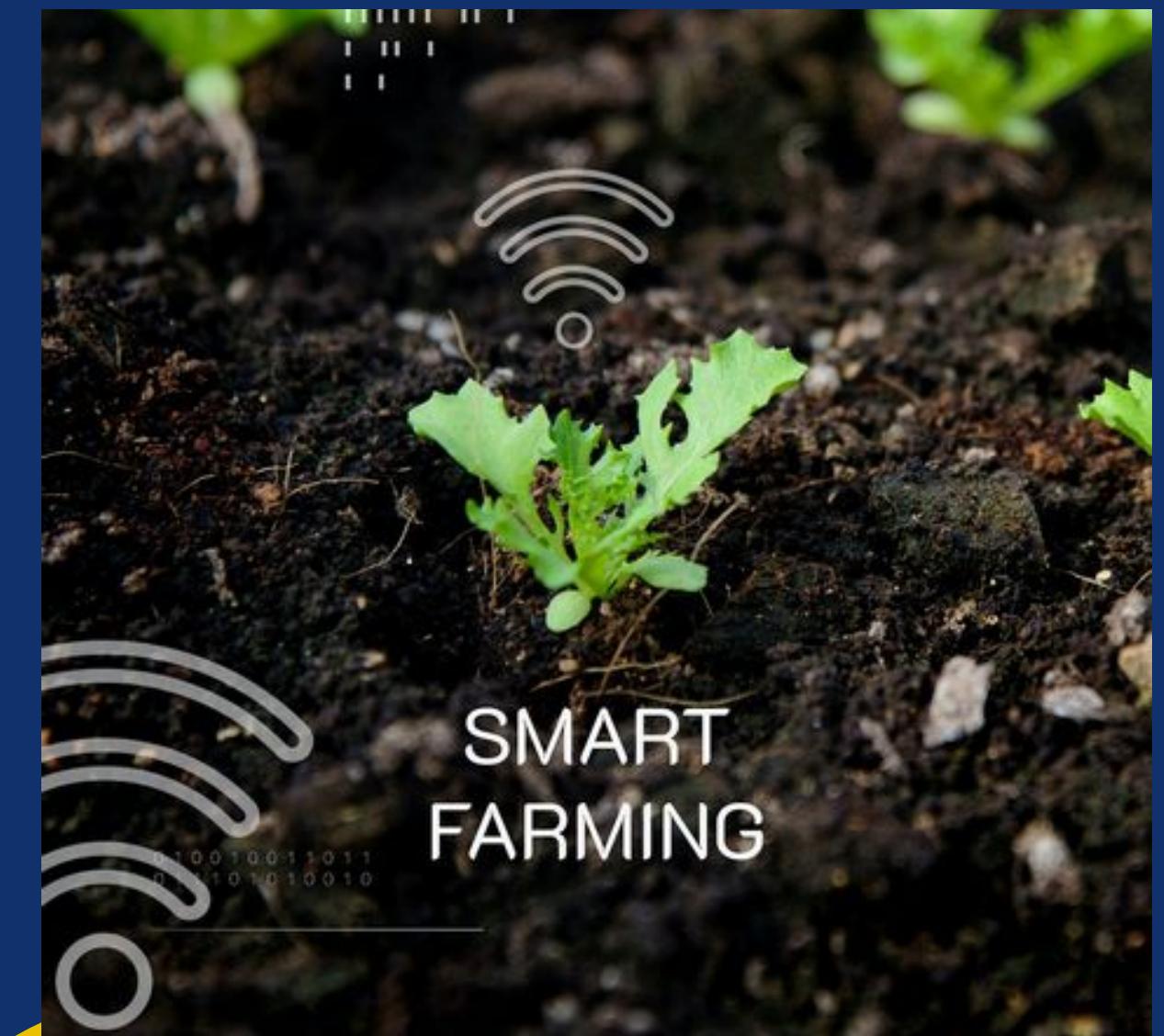
: Apache

Back End

: Mysql/Django

# OUR FEATURES :

- SOIL IDENTIFICATION
- SOIL QUALITY MONITORING
- MONITORING CLIMATE CONDITIONS
- LIVESTOCK MONITORING
- CROP YIELD OPTIMISATION
- GREENHOUSE AUTOMATION
- CROP MANAGEMENT
- FARM LOAN CALCULATOR





## SOIL IDENTIFICATION

- using soil sensors to measure soil moisture, temperature, and nutrient density enables farmers to address the individual needs of each crop.
- The result of this is reduced costs and healthier crops.



# SOIL QUALITY MONITORING

- smart farming sensors in the soil can identify the condition of the soil to help farmers apply smart precision farming techniques, optimise applications and conduct soil restoration where necessary.
- Soil quality is one of the defining factors in healthy crops and a good yield, so being able to understand soil conditions and optimise them allows farmers to reap significant benefits.



Climate change

WEATHER AND CLIMATE

## MONITORING CLIMATE CONDITIONS

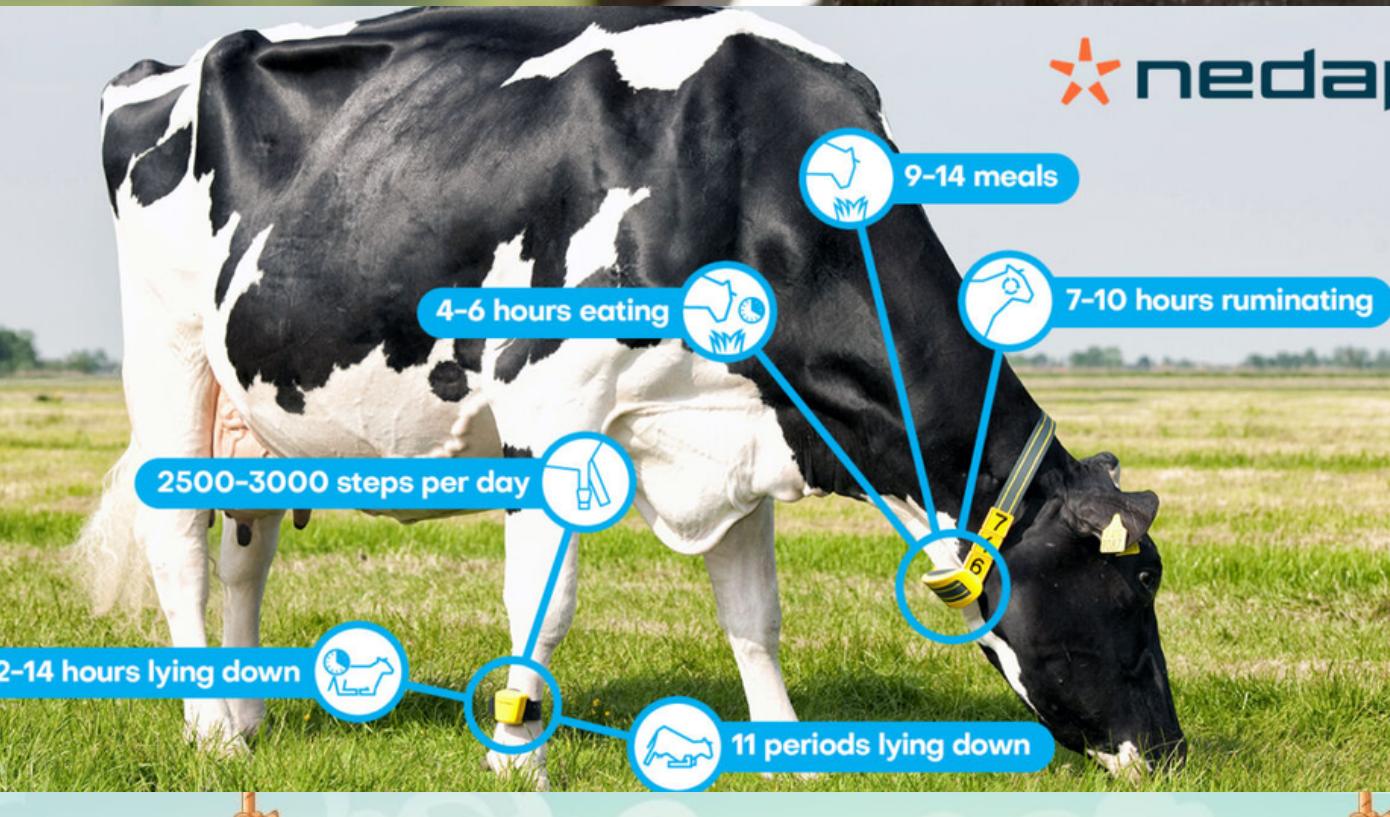
- Some of the most widely used smarter agriculture devices include weather stations that combine data from various smart farming sensors. These sensors collect data about the environment and send it to the cloud, helping farmers to tailor their responses according to climate conditions

# LIVESTOCK MONITORING

- Smart technologies can help farmers monitor livestock health and location. Livestock tracking devices collect data on stock location, and livestock temperature monitoring devices can help farmers identify sick animals.

The benefits of livestock monitoring include :-

- Early disease detection and containment
- Reduce vet and antibiotic spend
- Early detection of movement or tampering
- Quick recovery of stolen livestock
- Reduced labour dependence
- Expedite diagnosis and treatment
- Accurately predict calving
- Raise productivity





## Preparing The Field For **IMPROVED CROP YIELD**



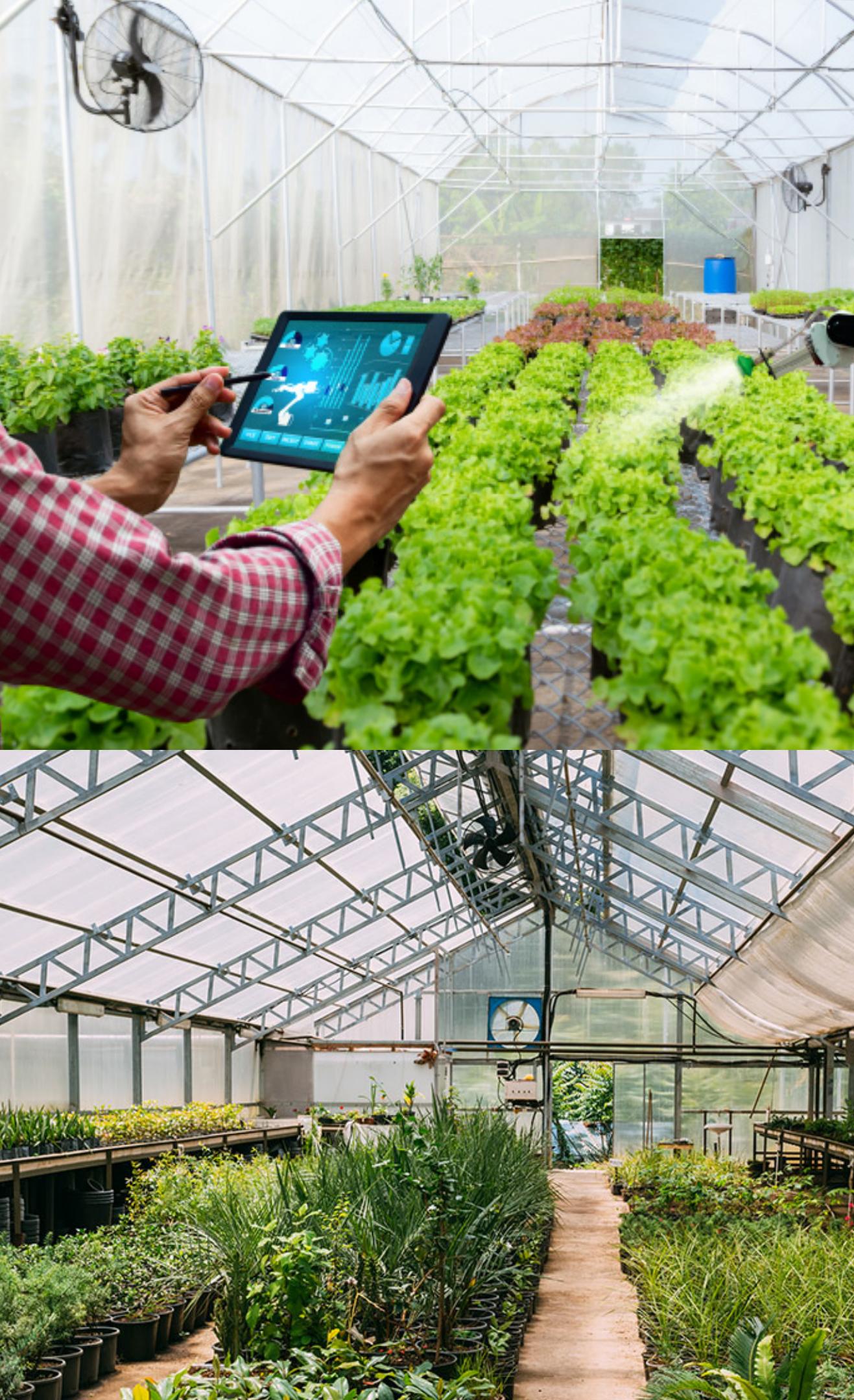
# CROP YIELD OPTIMISATION

Real-time data taken from a smart agriculture solution can optimise crop yields by:

- Using data such as moisture levels, soil quality and weather conditions to suggest a practical plan for harvesting.
- Recommending preventive measures to decrease the chances of crop damage.
- Optimising the productivity of individual plants through smart precision farming.

# GREENHOUSE AUTOMATION

- In the past, farmers have used manual interventions to control the greenhouse environment. By using smart agricultural farming, they can gain accurate real-time information on greenhouse conditions, including:
  - Lighting
  - Temperature
  - Soil condition
  - Humidity
- Along with reporting on greenhouse condition data, smart weather stations can also use predefined settings (and machine learning) to automatically adjust the environmental conditions to match the given parameters.





# CROP MANAGEMENT

- Crop management devices can be placed in the field to collect data specific to crop farming, including temperature, precipitation and overall crop health. Having this knowledge accessible at any time, from anywhere allows the farmer to monitor crop growth efficiently and take steps to prevent any unwanted outcomes.



# FARM LOAN CALCULATOR

**Our interactive payment calculator can help you determine relative financing costs, based on your own inputs.**

## TERMS-

- Loan amount- Total amount of your loan.
- Payment- Payment for this loan.
- Interest rate- Annual interest rate for this loan. Interest is calculated each period on the current outstanding balance of your loan. The periodic rate is your annual rate divided by the number of periods per year.
- Number of payments- Number of payments for this loan.



## Agriculture Loan Interest Rate



- Payment frequency- Choose how often payments will be made.
- The options are weekly (52 payments per year), bi-weekly (26 payments per year), semi-monthly (24 payments per year), monthly (12 payments per year), bi-monthly (6 payments per year), quarterly (4 payments per year), semi-annual (2 payments per year), and annually (1 payment per year).
- Interest paid- Total amount of interest that will be paid on this loan. This total assumes all payments are made as scheduled, and there are no prepayments of principal.
- Total payments- Total all payments for this loan. This includes all interest and principal. This total assumes all payments are made as scheduled, and there are no prepayments of principal.

# **THANK YOU**

**UNDER THE GUIDENCE OF :  
DR. VIJENDRA SINGH BRAMHE SIR**