AGRO LIFE

PROJECT

DATABASE MANAGEMENT SYSTEMS

Team Members

Roshni Devi Jammula (RA2011028010104)

Jayanth Sai Yarlagadda (RA2011028010054)

Reddy Jyothi Sri D (RA2011028010108)

The Project

1. It focuses on helping farmers around the globe.

2. It provides basic requirements like organic fertilizers, pesticides, seeds, etc.

3. It gives knowledge about modern farming which is eco-friendly(tutorials).

4. Collects soil samples and provides suitable recommendations (collection centres).

The History

1. In the present situation, the soil is gradually degrading because of improper farming. Also, high usage of chemical fertilizers and pesticides accounts for soil degradation.

2. Due to a lack of knowledge about organic farming, farmers are mainly engaged in inorganic farming for profits.

Limitations

1. The app does provide fertilizers, pesticides, and seeds but they are lacking the feature of studying the soil type before proving the resources. Not all soil types accept all fertilizers and seeds.

2. The app doesn’t emphasize the importance and need for organic farming.

Approach

1. A person with basic coding skills in any preferred programming language. (for creating a website)

2. A person with a degree qualification. and license. (delivery)

3. A person with basic designing knowledge in UI/UX.

Benefits

1. Soil is one of the most important deciding factors about the type and quality of crops growing on a farm. A farmer’s farm can’t flourish if they don’t know about the background of the farm, soil. We help them know their soil better, all the while providing them with resources best suited for their soil.

2. Increases agriculture productivity and lowers production costs.

3. Lessens chemical application in crop production.

4. Reduces environmental and ecological impacts.

Why would you like to sell organic fertilizers online?

The prominent reason to start organic fertilizer business online, everybody is shifting towards organic whether it is food or fertilizers. According to the Technavio report, organic fertilizer market size is poised to grow by USD 1.36 billion during the period 2019-2023.

Not to forget, the demand for grains, vegetables, pulses, and other agricultural yields will not be going to stop ever. And, people are demanding environmentally sustainable products which somehow lead to organic fertilizers.

Further, giving all this a thought, you won’t be sorry if you start your organic fertilizers selling business online. Fortunately, we came across

software named Pabbly Subscription Billing that can fulfill your desire without much work. The software lets you create a beautiful checkout page for selling organic fertilizers online. Additionally, some of its amazing features involve:

- List various kind of organic fertilizers in a single checkout page
- Offer unlimited coupon codes and discount to a customer
- Generate profession invoices
- Add taxation charges

Advantages Of using this App

The use of organic-based fertilizers in sustainable agriculture benefits farmers, growers, consumers and the environment in many ways. As empirically demonstrated, organic-based fertilizers help to:

- boost both nutrient efficiency and organic matter content in the soil;
- nurture the soil with organic matter that reduces dependency on chemical inputs;
- restore and maintain soil fertility to nurture plant growth;
- enhance the biological activity and biodiversity of soils;
- enhance the quality attributes of produce as well as yield;
- improve the efficiency of nutrient use to produce more robust crops;
- facilitate the slow release of nutrients in response to the dynamic needs of plants;
- boost the efficiency of water use to render crops more resilient and drought-resistant;
- reduce the impact of farming and safeguard ecosystems by minimizing leaching.
- enhance crop resistance to erosion by improving the soil’s organic matter content.

- improve the efficiency of resource use by incorporating natural raw materials.

Test Plan

We as team have decided that the testing will follow top-down approach, as it will go well with Agile method of software development. With this method the testing can begin at the start of the project with continuous integration between development and testing. Agile Testing methodology will be continuous and helps us finish our projects before deadline. We will 1st go through the components , then test the archetype and then other minute details. After completing the functional testing we will move on to non-functional testing.

Scope of Testing

The scope of testing for Agrolife application includes testing API integration with consistent data along with Computed-Generated test cases, making test-cases for different modules to check if the code can withstand boundary cases can arise if an exception arises.

Functional Testing

Unit Testing	Unit testing is the first level of testing and will be performed by the developers themselves. It is a process of ensuring individual components of piece of software at the code level are functional and work as they were designed to.
System testing	System testing is a black box testing method used to evaluate completed and integrated system, as a whole , to ensure if it meets specific requirements.
Integration testing	After each unit is thoroughly tested, it is integrated with other units to create modules or components that are designed to perform specific tasks or activities. The integration of the various modules are tested in the phase.
Acceptance testing	Acceptance testing is the last phase of functional testing and it is used to access whether or not

	the final piece of software is ready for delivery. If not, user feedback is taken and following changes are made.

Modules and the aspects they will be testing

User interface testing	The testing of this particular module code will consist of checking if the application displace all the required buttons and check if the settings panel is in with the main screen. The layout and search bar should be placed in a user friendly manner .
API Integartion	The testing of the code of this module deal with the connectivity and processing of different applications. We will check that how much traffic that the website can handle, in short the number of applications running simultaneously to provide data such as scraping tool.
Payment	The need of this module is to ensure the security reliability and performance of payment gateway by encrypting and securing the payment details between user and merchant while providing a smooth payment experience.

Backup	In this module, we will be checking if the backup is being made and is being retrieved as and when the user wants to.

Non-Functional

Performance testing	It is an non functional testing technique used to determine how an application will behave under various conditions.
Security testing	With the presence of cloud base testing platforms and cyber attacks, there is a growing concern and need for security of data being used and stored in software. It is an non functional and software testing technique used to determine if the information and data in a system is protected.
Data latency	It is an key metric that helps to determine the effectiveness of the application this makes the faster delivery of the data that is much more important.
Availability	This application is available in whatever browser we are using. As it is an user friendly application. Loging in is effective.

Executive Summary:

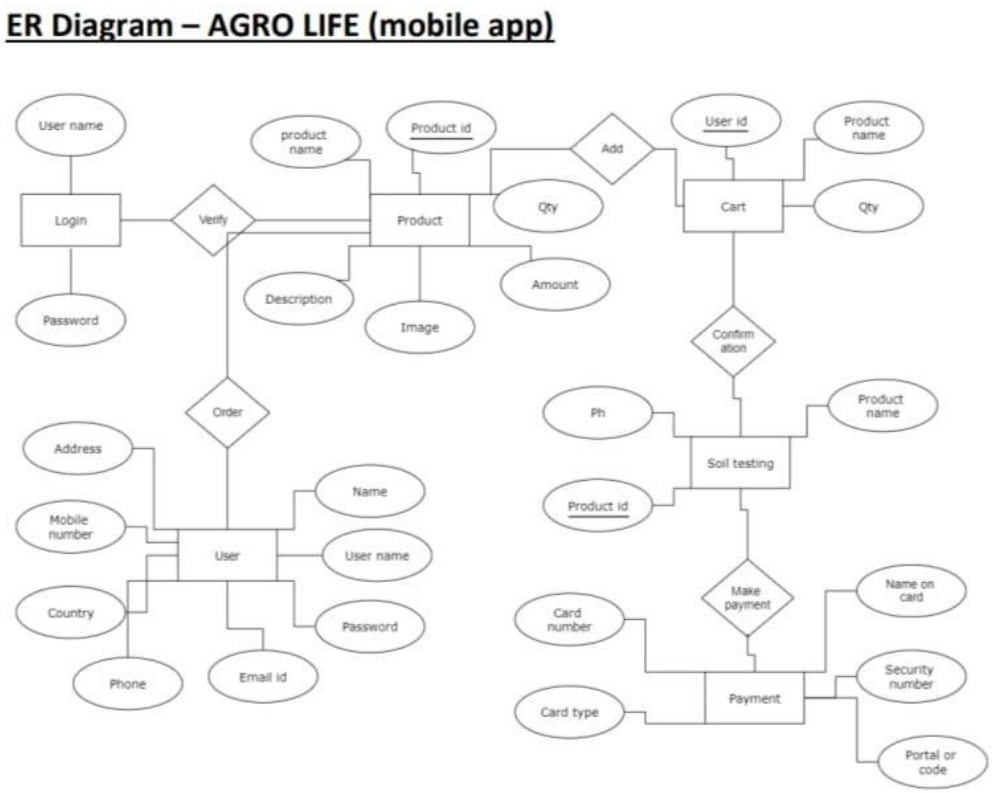
• The Scope of testing of our agro life application includes Testing API integration with consistent data with Computed-Generated tests ,making test cases for different modules to check if the code can withstand boundary cases that can arise if an exception arises. Eg: Test for payment portal or for selecting the pesticides and fertilizers.

• The objective of this testing includes testing of all modules and to check if any exception exists in any of the modules.

• Regression(Re-running the test cases after change) testing would be important part of software practice that would ensure our application still functions as expected after any code changes,updates, or improvements.

• Lastly critical path testing would be aimed at exploring the functionality used by typical daily activities.

Entity – Relationship Diagram



SQL DECLARATION

create table farmer(

farmerphone number,

farmername varchar2(20),

```
 surname varchar2(20),
 age number,
 address varchar2(100),
 fertiliser varchar2(20),
noofacres number
  ) ;
```

```
insert into farmer values(9865636751 , 'suresh' ,'vidistha' , 34, 'venkatapuram' ,'Phosphorus',5);
insert into farmer values (9561478525 , 'ramesh' ,'kaki' ,42, 'kadapa' ,'Potassium',2);
insert into farmer values (9966644557 , 'durgesh' ,'yogi' ,33, 'telangana' ,'Micronutrien',6);
insert into farmer values (8822664412 , 'mallesh' ,'bhuvan' ,33, 'chennai' ,'Nitrogen',5);
insert into farmer values (7891236552 , 'tejesh','vallaba' ,44, 'tirupati' ,'calcuim',9);
insert into farmer values (2563971556 , 'murali','gangisetty' ,42, 'madhuravanam' ,'potassium',8);
insert into farmer values (9966733221 , 'mohan','gurram' ,44, 'tambaram' ,'magnesium',7);
```

```
select *from farmer
```

FARMERPHONE	FARMERNAME	SURNAME	AGE	ADDRESS	FERTILISER	NOOFACRES
9865636751	suresh	vidistha	34	venkatapuram	Phosphorus	5
9561478525	ramesh	kaki	42	kadapa	Potassium	2
9966644557	durgesh	yogi	33	telangana	Micronutrien	6
2563971556	murali	gangisetty	42	madhuravanam	potassium	8
9966733221	mohan	gurram	44	tambaram	magnesium	7
2563971556	murali	gangisetty	42	madhuravanam	potassium	8
9966733221	mohan	gurram	44	tambaram	magnesium	7
9865636751	suresh	vidistha	34	venkatapuram	Phosphorus	5
9561478525	ramesh	kaki	42	kadapa	Potassium	2
9966644557	durgesh	yogi	33	telangana	Micronutrien	6
8822664412	mallesh	bhuvan	33	chennai	Nitrogen	5
7891236552	tejesh	vallaba	44	tirupati	calcuim	9
2563971556	murali	gangisetty	42	madhuravanam	potassium	8
9966733221	mohan	gurram	44	tambaram	magnesium	7

Download CSV

14 rows selected.

```
select farmername,fertiliser
from farmer
where noofacres<=6
```

FARMERNAME	FERTILISER
suresh	Phosphorus
ramesh	Potassium
durgesh	Micronutrien
suresh	Phosphorus
ramesh	Potassium
durgesh	Micronutrien
mallesh	Nitrogen

Download CSV

7 rows selected.

Conditions Required

select farmername,fertiliser

from farmer

where noofacres<=6;

Conclusion

The database is created and executed for the given project (AGROLIFE).