I. Introduction :

The term 'Smart Farmer' means a platform that is dedicated to integrate farmer, Merchant/Markets, government and end user and thereby bridge the gap between them. It also let everyone to be updated with the changing market scenario. Bangladeshi farmers faced many challenges and one of them is that to get a good profit for the efforts and investment that they had put in. There exist different reasons like season limitation, crop life due to which farmer get very limited amount of time to study the market conditions. farmer has a limited amount of time to find out nearest market, current stock details. Smart Farmer App can solve these daily problems of farmers. Farmers will be able to get their required fertilizer to crop seedlings and seeds through this app. And they can sell their crops at the right price. And making the right profit. One of the problems faced by farmers is determining the amount of fertilizer applied to the land. As a solution to this problem, the pesticide calculator has been kept as a small part of the app. Through which the farmer will be able to determine the amount of fertilizer according to the amount of his land.

There are many mix e commerce apps in our country. Through which we can buy our daily necessities online. This 'Smart Farmer' app will be able to bring this modern trend to the farmers as well.

II. Objective of the 'Smart Farmer' app:

1. Farmers can easily purchase fertilizers and pesticides for their crops at the right price.
2. Farmers will know about the current market place.
3. Farmers can easily purchase medicine for their animals and birds at the right price.
4. With the help of pesticide calculator, they can determine the amount of fertilizer according to their land.
5. They can buy the seedlings or seeds they need for cultivation at the right price.
6. And they can also buy agricultural machinery through this 'Smart Farmer' app.
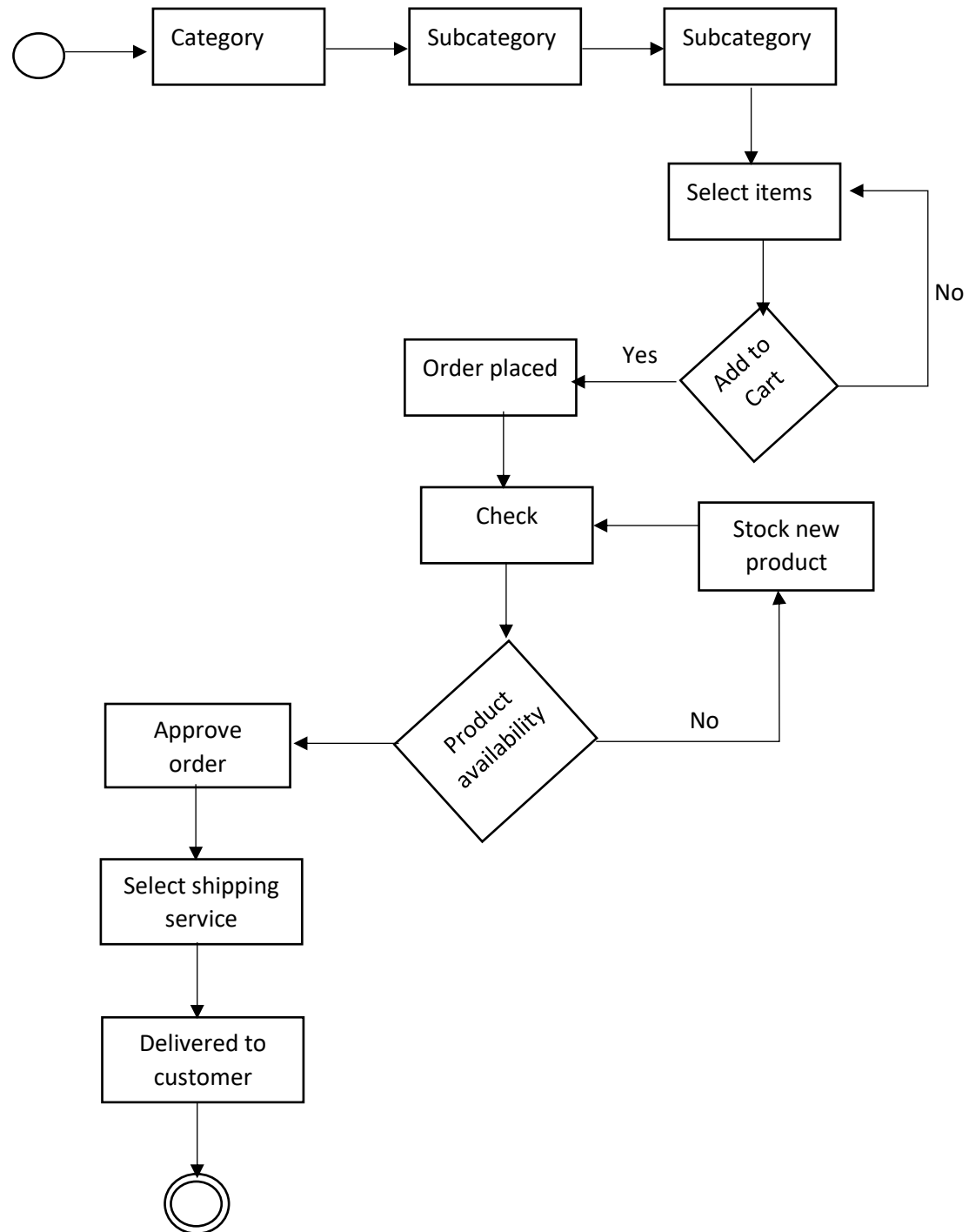
III. **Activity Diagram :**

Fig:1.1 activity diagram

To order a product, first select the category. Then we have to select the desired product by selecting the sub category and add it to the cart. If you want to order the product, you have to complete the order process. Once the order process is complete, if there is sufficient quantity on the seller's site, the order will be approved and the shipping method will be selected and delivered to the customer.

IV. <u>Features of 'Smart Farmer' app :</u>

1. Splash Screen : When we open the Smart Farmer app, we will see a splash screen of 2 seconds. Where our app name and logo appear.
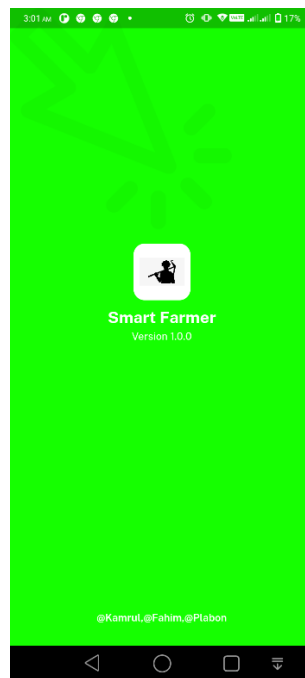

Fig:1.2 Splash screen

2. Log in and Sign up screen : At the end of the 2-second splash screen, the login and sign-up screen will appear in front of us. To access the app we must have an account with which account to log in. When logged in, the home page will appear in front of us. If there is no account, the user can sign up with the help of email and password.
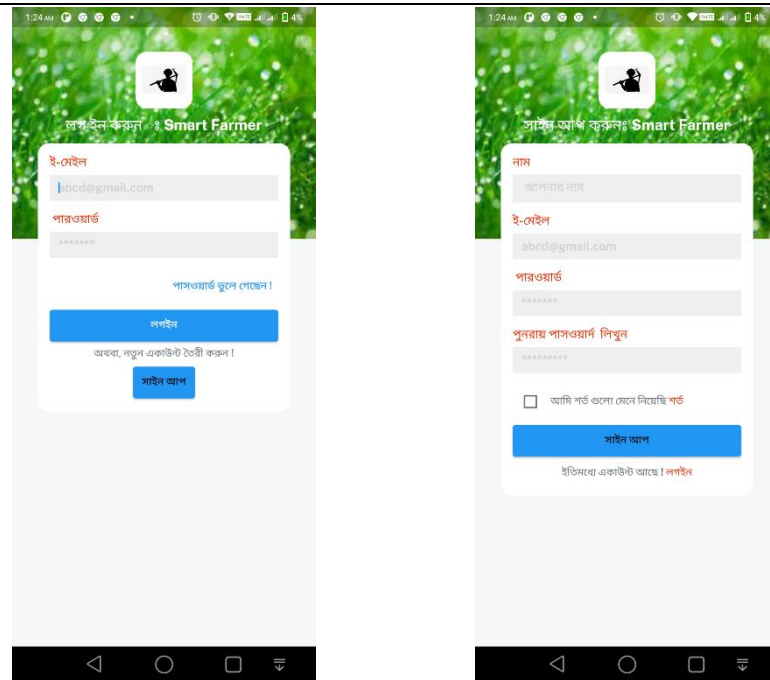
Fig:1.3 Log in and Sign up screen

3. Home Screen: At the top of the home screen is the search bar. Through which the user can search and find any product. We can get an idea of what kind of services we can get through this app from the home page. Here is the pesticide meter, popular product group and all product list. User can search from home screen, buy products from popular products list or all products list.
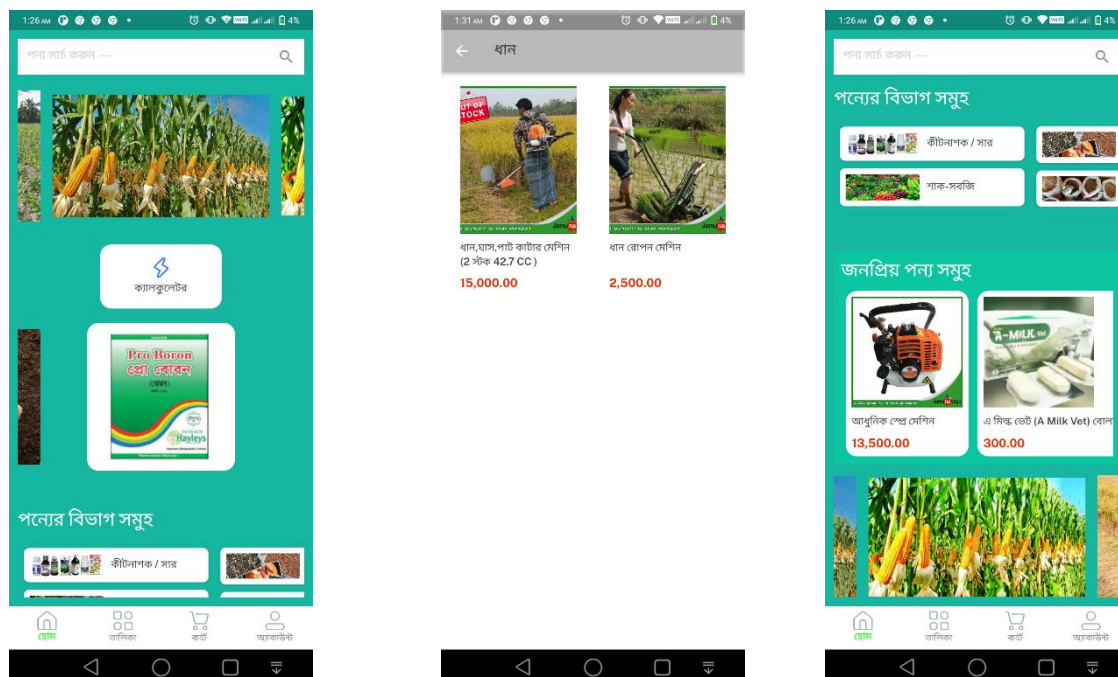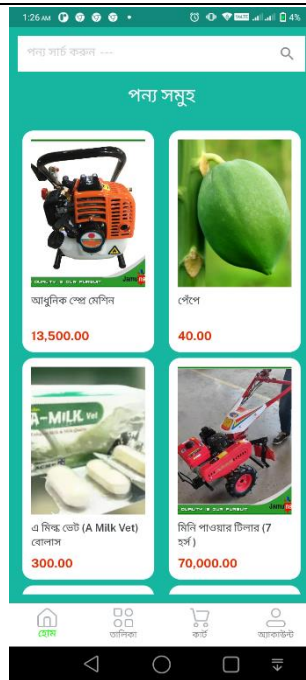

Fig:1.4 Home Screen

Fig:1.4 Home Screen

4.Pesticide Calculator : The pesticide calculator is mainly designed for paddy cultivation. Using this calculator, the amount of fertilizer can be determined for paddy cultivation.
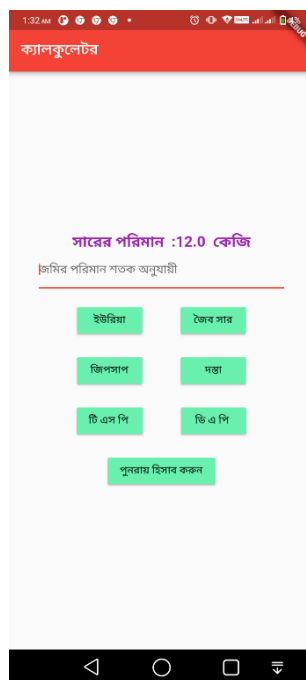

Fig:1.5 Pesticide Calculator

5. Category Screen : From the category, the user can select the category according to his needs and purchase the product.

Fig:1.6 Category Screen

6. Sub Category: The category is divided into some sub categories. With the help of this sub-category, the user can easily select products.
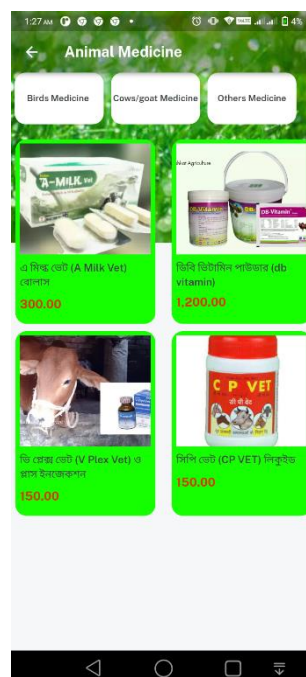

Fig:1.7 Category Details

7. Items Details: items Details stores all the information about the product. Protect Price, and information about Protect can be found here. The option to add products to the list of preferred products is available on this screen. The product can be added to the list of favorites by pressing the favorite button. In case of product order, quantity should be selected and added to the cart.
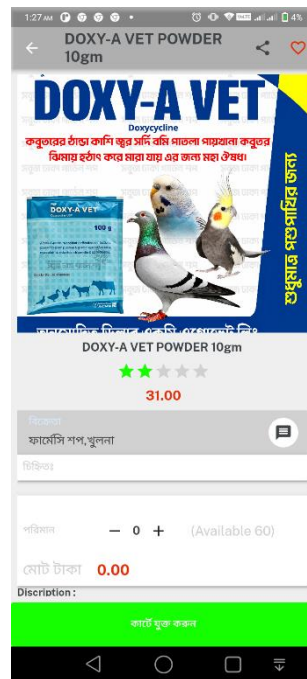

Fig:1.8 Items details

8.Chat : For any questions or to know anything about the product. Chat option can be used from item details screen.
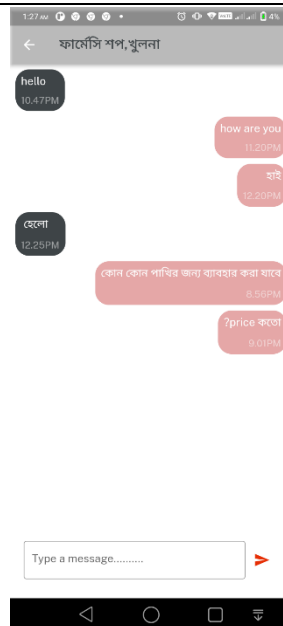
Fig:1.9 Chat Screen

9. Cart Screen : In the beginning, there is the cart screen. If the product is selected from the item details, the product will be added to the cart screen. There is a delete option to delete the product from the cart. All order processes are managed from this channel. If user press the order button from the cart screen, a form will appear. By filling this form and selecting the payment method, the user can complete the order process.
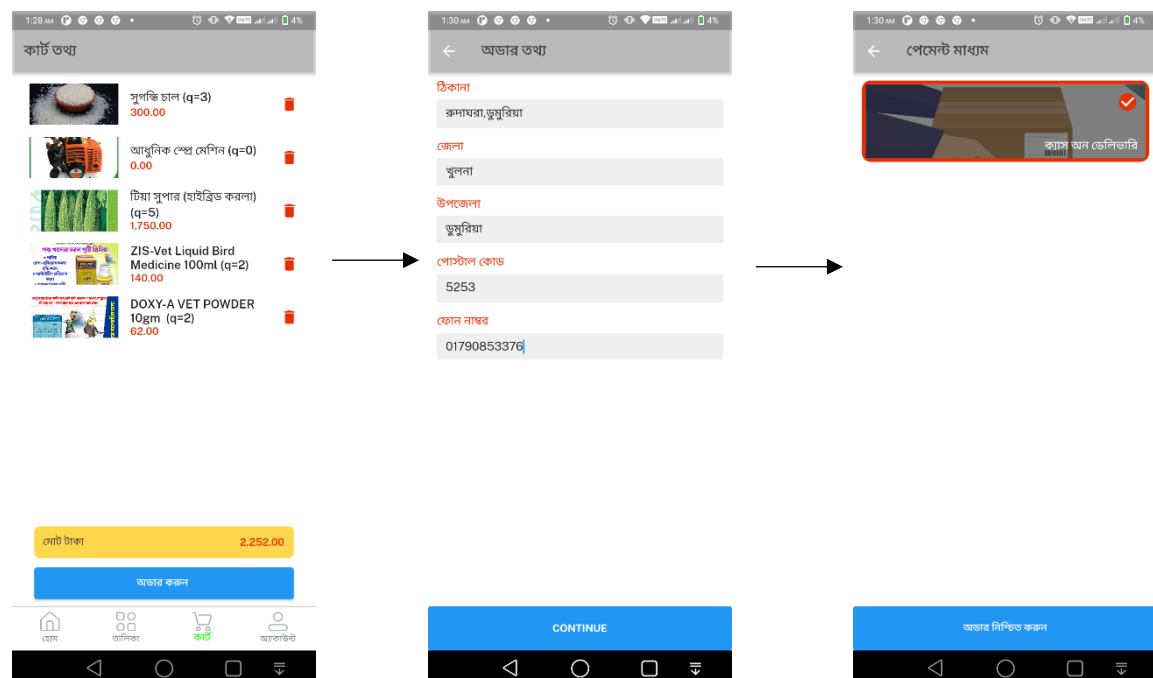

Fig:1.10 Order process

10.Profile Screen : The profile screen stores the user's details. This screen has log out button for logging out and user can change his picture and password with the help of edit button. Moreover, he can see the current status of his ordered products and the list of his favorite products.
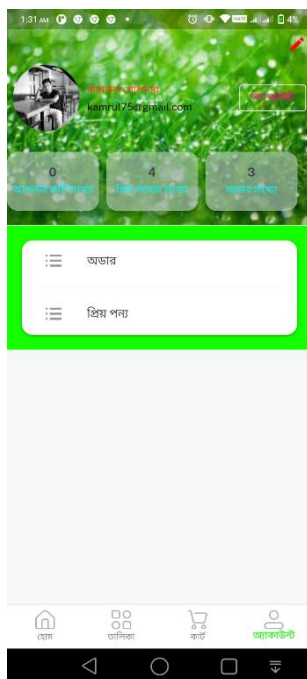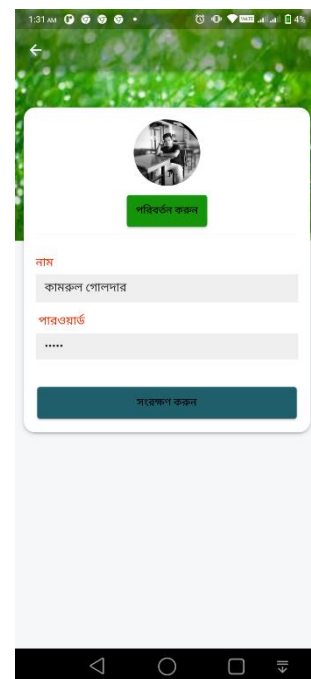

Fig:1.11 Profile Screen
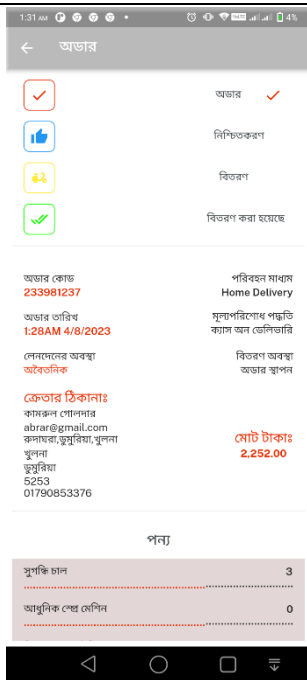

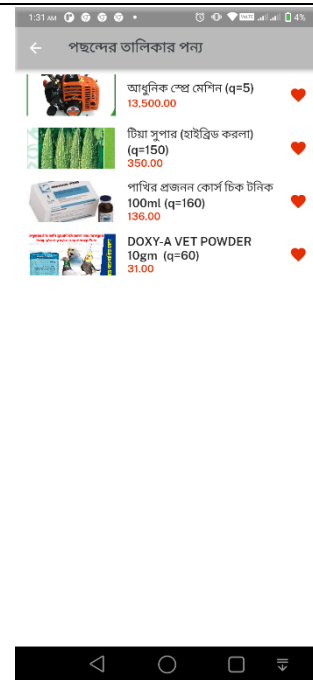Fig:1.12 Edit profile Screen

Fig:1.12 order details   Fig:1.13 Favorite list
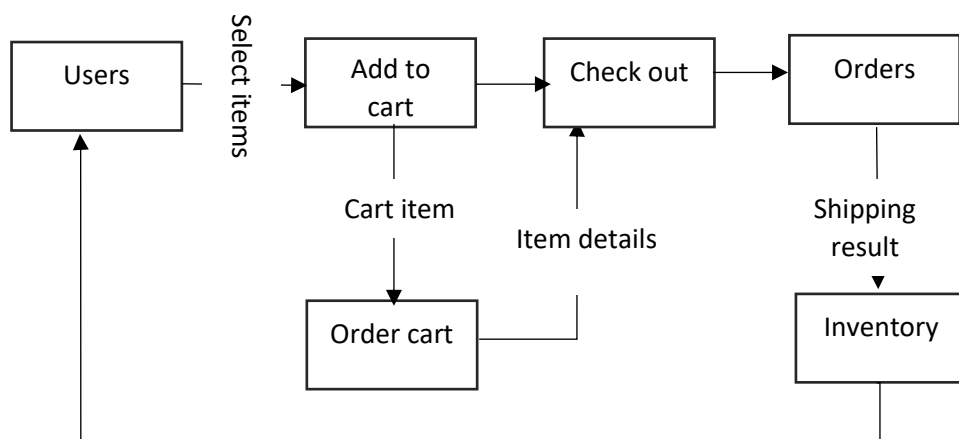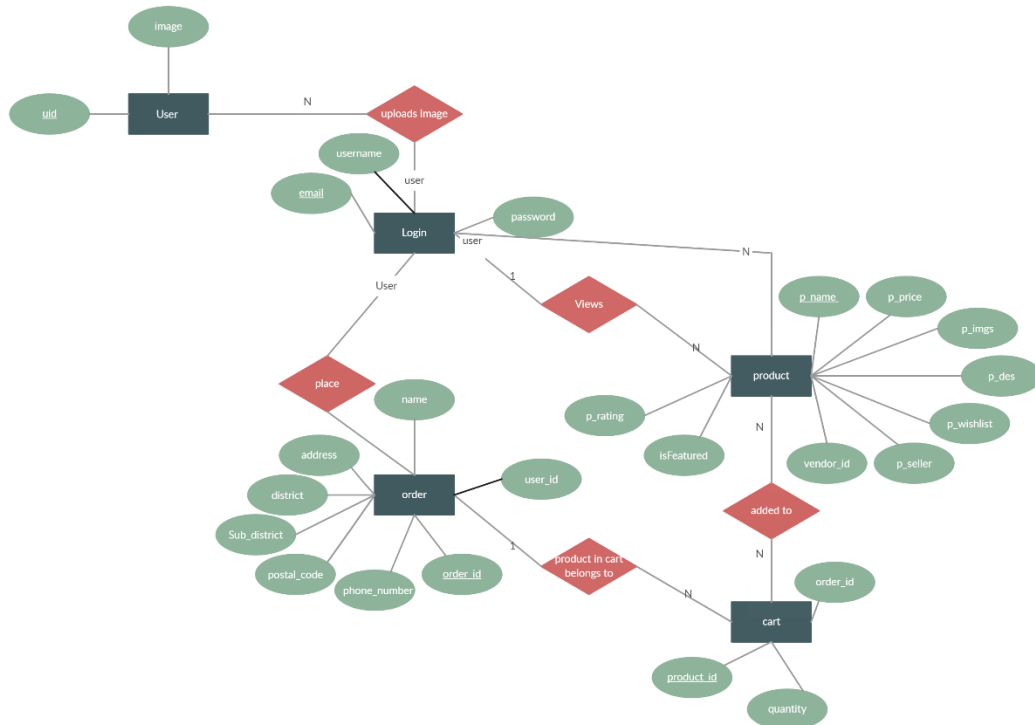
V. Data Follow Diagram :

Fig:1.14 data follow diagram

VI. ER Diagram

VII.   Target Population :

This app is mainly made targeting farmers. Although there are many favorite e-commerce apps in our country. There is no such platform for farmers. For which 'Smart Farmer' app is made for farmers.

VIII.   Social Benefit :

Through this app, farmers can buy fertilizers at the right price. As a result production difficulties will be reduced. Moreover, farmers can sell their crops at the right price. As a result, farmers will benefit. The product goes through many stages for sale and finally the product reaches the consumer. Selling products online will not require these steps. So the ,Product prices will be under control.

IX.   Conclusion :

With the help of this system, farmer can optimize his crop profit and launch complaint. Government can set minimum price for minimum quality of crop/product. Government can set and update rules and regulations time to time for better and effective management. Government can deal with different problem with the help of market details and load balancing technique.

Reference :
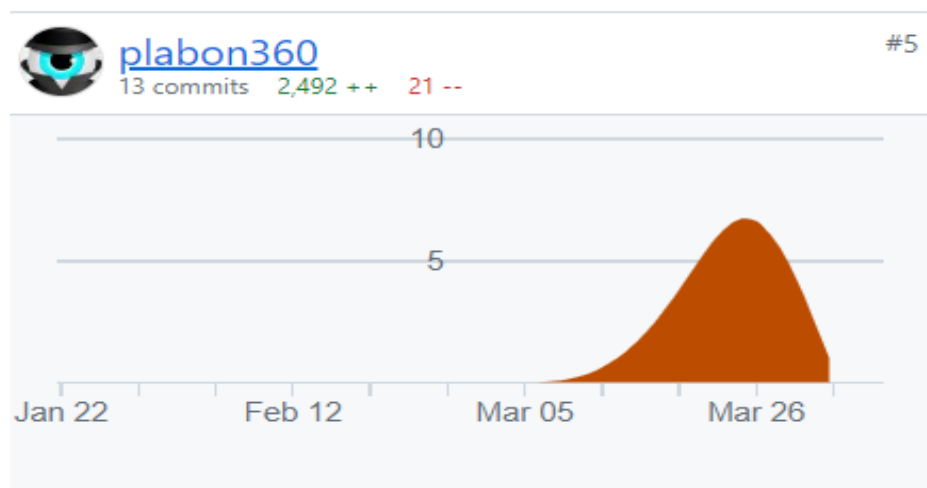
[1] Flutter® A HANDS ON GUIDE TO APP DEVELOPMENT, Marco L. Napoli,

[2] Link : Flutter Tutorial (tutorialspoint.com)

[3]Link : Learn (flutter.dev)

[4] Link : Flutter UI Tutorial - Email Client Gmail Clone App UI Design (Figma to Flutter) | PART 1 - YouTube

Individual GitHub link and screenshot :

1.Kamrul Golder : kamrul1027 · GitHub
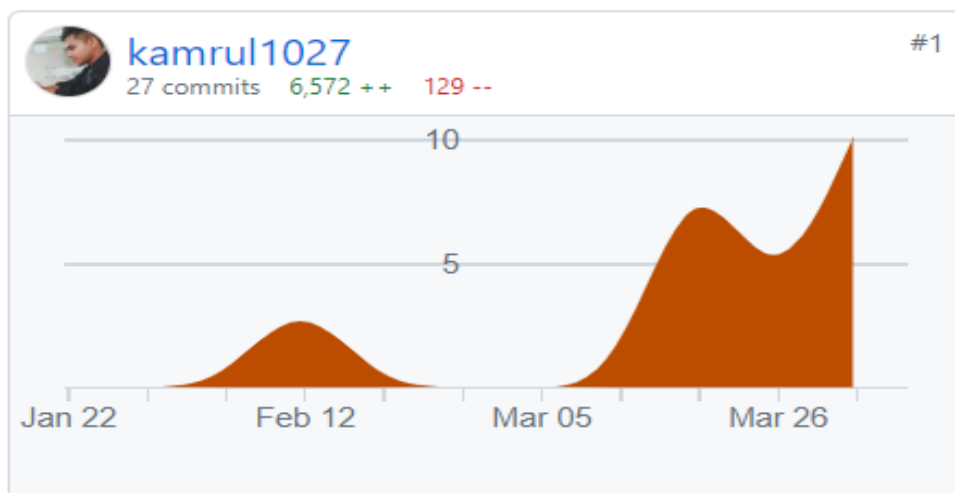
2.Plabon Biswash : plabon360 (Plabon Biswas Shovon) · GitHub

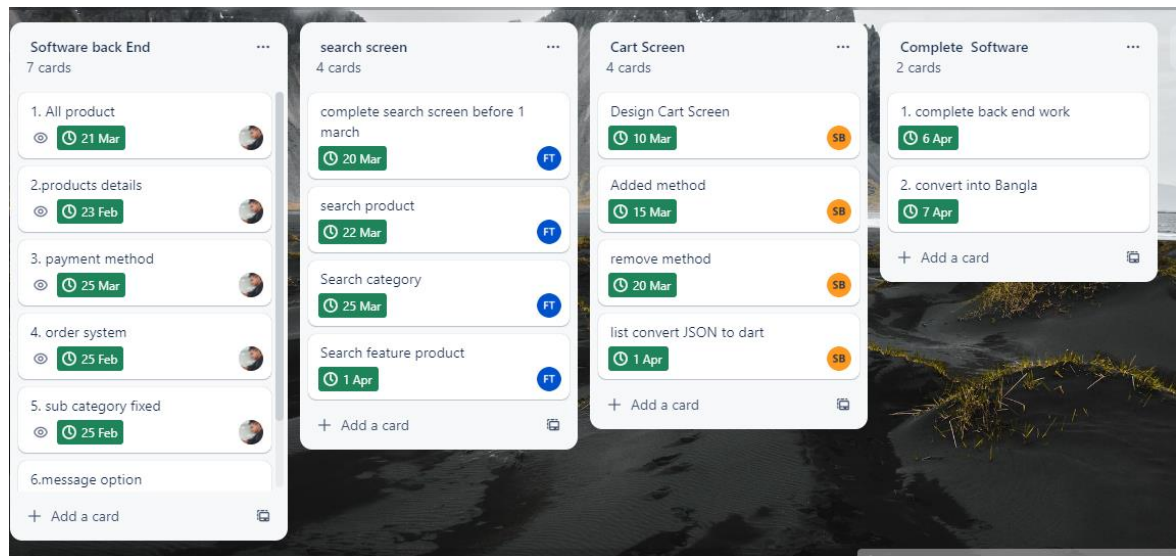**3.Fahim Faisal** fahimfaisaltarun (Fahim Faisal Tarun) · GitHub
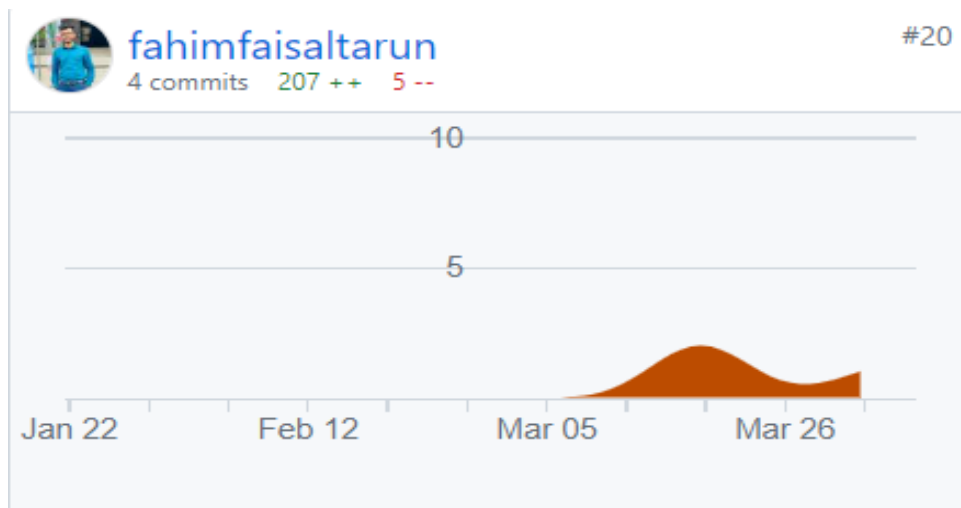
Task Scheduling App :

Board link :

https://trello.com/invite/b/u6UkzNUr/ATTIbed6d420e5877e76f1beb44eacfcea5e31807 CB5/smart-farmer

Software back End
7 cards

1. All product
👁 🕐 21 Mar

2.products details
👁 🕐 23 Feb

3. payment method
👁 🕐 25 Mar

4. order system
👁 🕐 25 Feb

5. sub category fixed
👁 🕐 25 Feb

6.message option

\+ Add a card

search screen
4 cards

complete search screen before 1 march
🕐 20 Mar   FT

search product
🕐 22 Mar   FT

Search category
🕐 25 Mar   FT

Search feature product
🕐 1 Apr   FT

\+ Add a card

Cart Screen
4 cards

Design Cart Screen
🕐 10 Mar   SB

Added method
🕐 15 Mar   SB

remove method
🕐 20 Mar   SB

list convert JSON to dart
🕐 1 Apr   SB

\+ Add a card

Complete Software
2 cards

1. complete back end work
🕐 6 Apr

2. convert into Bangla
🕐 7 Apr

\+ Add a card

Source Code