
AgriTech

SDL PROJECT

Problem Statement:

Implementing a android app for farmers to get agricultural tools and pesticides easily and quickly at affordable cost .

Team:

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Motivation and Need :

- Insufficient agriculture infrastructure and facilities.
- Lack of awareness regarding the advanced agricultural tools and techniques among farmers.
- Lack of availability of pesticides at near by shops.
- About 74% of farmers are from the rural population.
- The major problem was unavailability of the pesticides at nearby shops at a affordable price.
- Some seasonal pesticides were rarely available in the market which cause a huge loss to farmers and become compelling for farmers to pay high amount.

Idea:

- Integrating agri-business partners.
- Connecting farmers through chat services.
- Enhancing government productivity and value and financial services for needy farmers.
- Benefits thousands of farmers through our services.
- Farmers can buy pesticides without delay at a low cost and can track their delivery.

H/W and S/W Requirements (for building project) :

S/W :

- Android Studio installed

- Emulator to test apps

- Java SDK 7

- Firebase account(Database)

H/W :

- Min Dual core CPU

- Min 2GB RAM

- 400 MB hard disk space plus at least 1 GB for Android SDK,emulator system images, and caches

H/W and S/W Requirements (for Running Application) :

S/W :

- Internet Connection

- Device permissions (Storage, Internet, location)

H/W :

- Android Smartphone

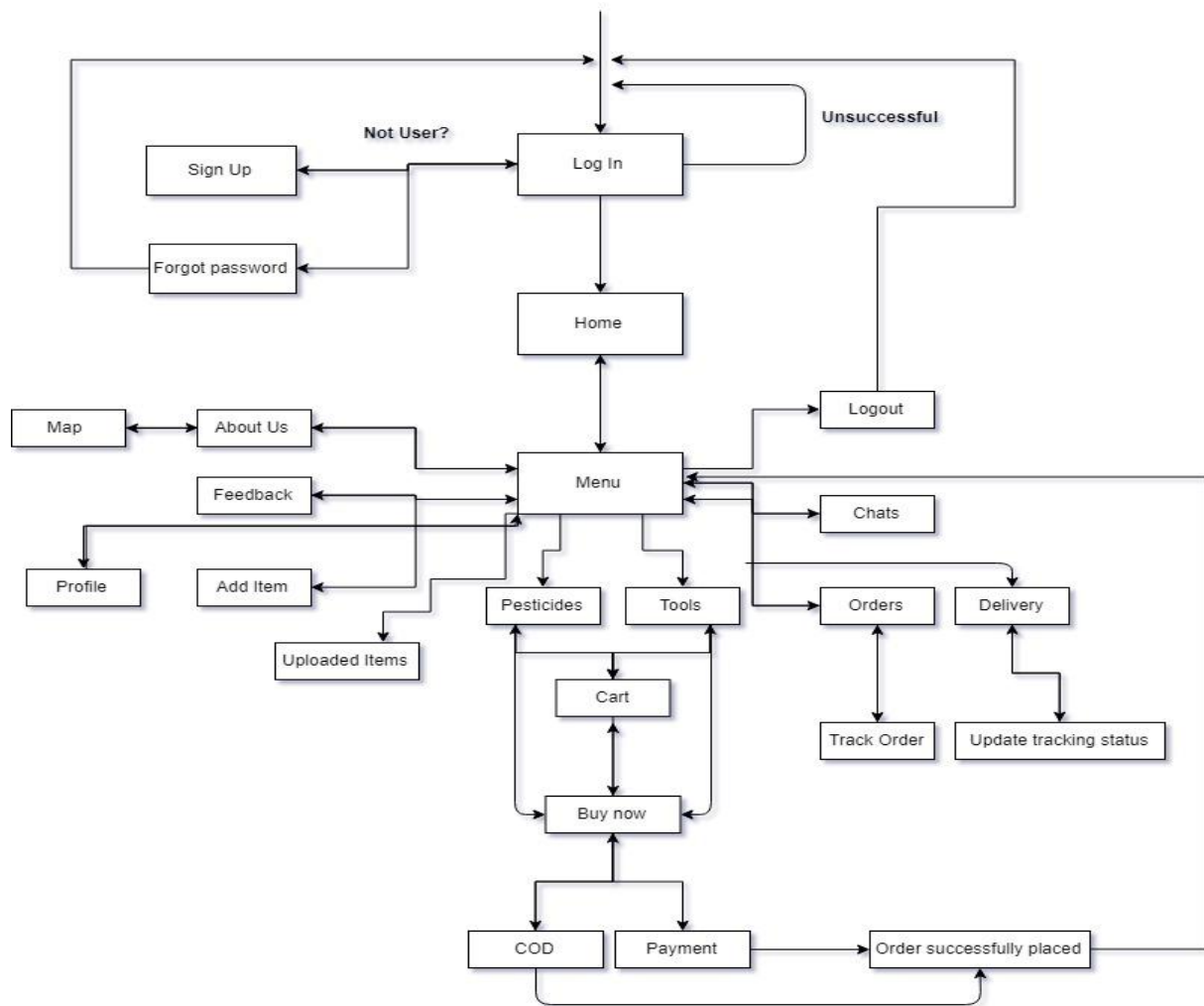
- Android Version 7 or above

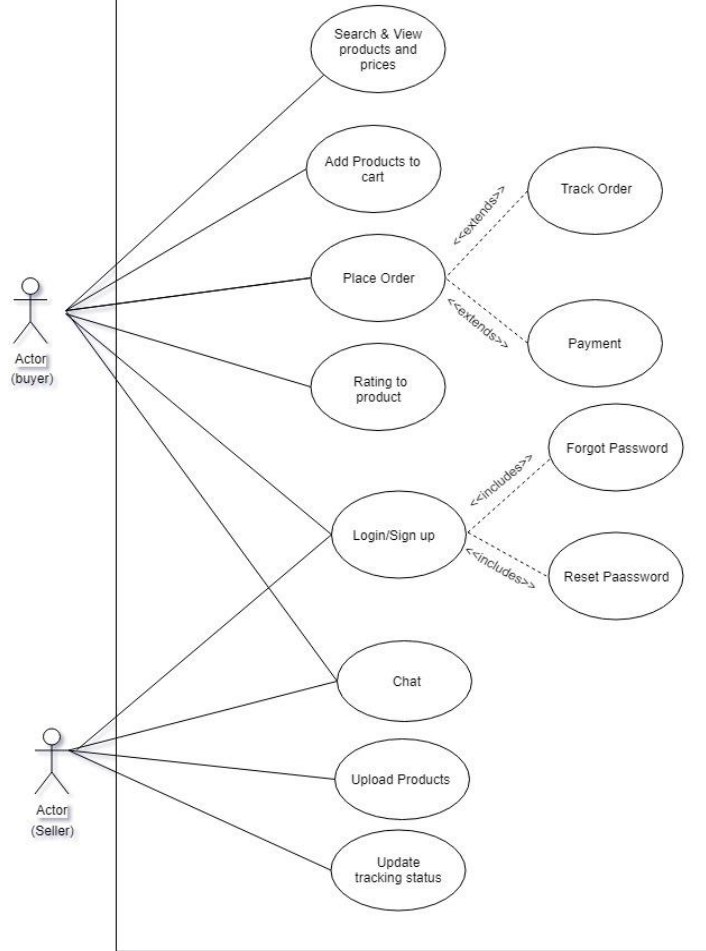
- Memory 128MB

Algorithms/API :

- Paytm payment gateway API
- Google Maps API
- Google mail SMTP server .
- Sort algorithm to order by (Lexicographic Sorting):
 - a. Price
 - b. Name
 - c. Category

Architecture Diagram

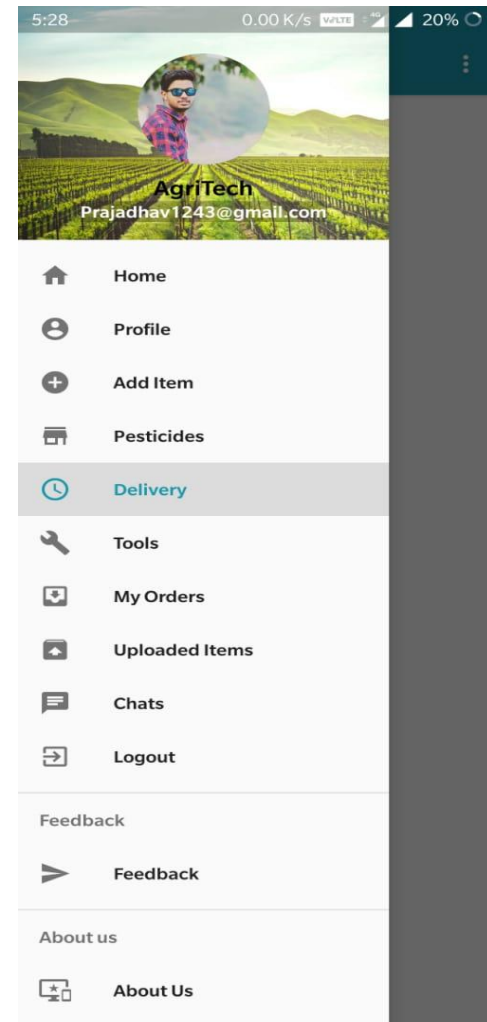





Use Case Diagram

About app and Features:

- Login and signup page(with forgot password)
- Home page
- Profile
- Myfeed(Pesticide Store)
- Tools
- My orders(with order tracking)
- Delivery(for updating status)
- Online payment gateway and COD
- Chats(To chat with sellers and customers)
- Logout
- Feedback,About us



10:07 0.21 K/s VLTE 21%



UserName

Password

[Forgot password? click here!](#)

LOGIN

SIGN UP

Login

10:07 0.46 K/s VLTE 21%

AgriTech

Username

SUBMIT

An OTP is sent to your registered Email address

OTP

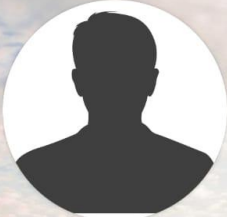
Password

Confirm Password

CHANGE PASSWORD

Forgot password

10:07 0.69 K/s V<E 21%



Username

Password

Confirm Password

Email

Phone

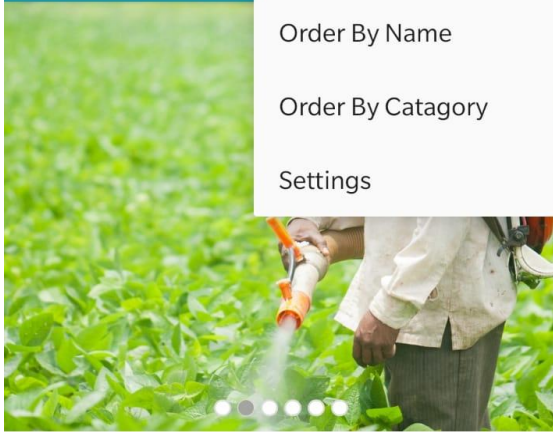
SIGN UP

SignUp




10:24 3.60 K/s V<E 4G 19%

Home

- Order By Price
- Order By Name
- Order By Catagory
- Settings



Highly Rated

4.1	4.0	4.0
		
bugfree	bugpack56	spray

Pesticides

HomePage



Account Info



Username

pkj



Mobile

9146524645



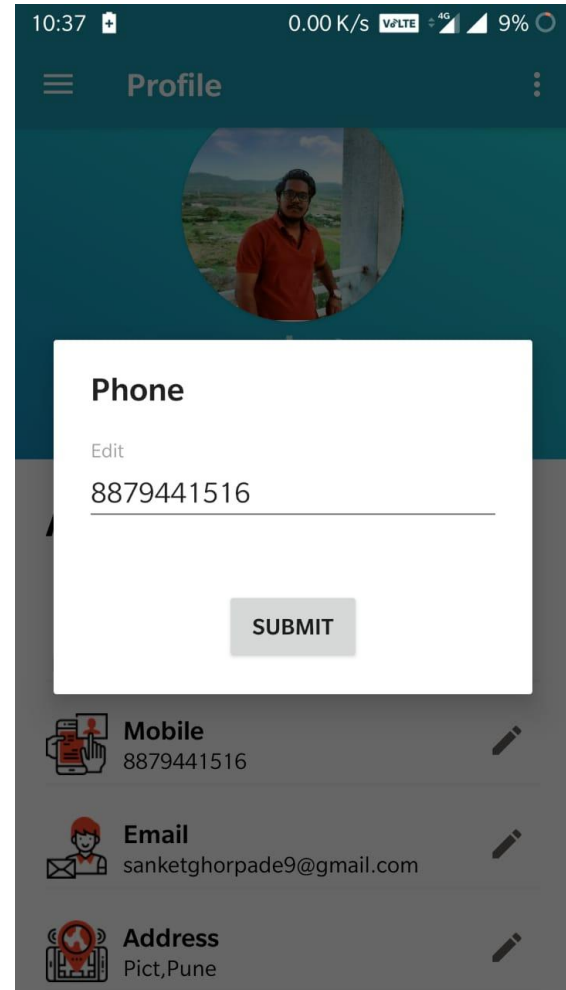
Email

prajadhav1243@gmail.com

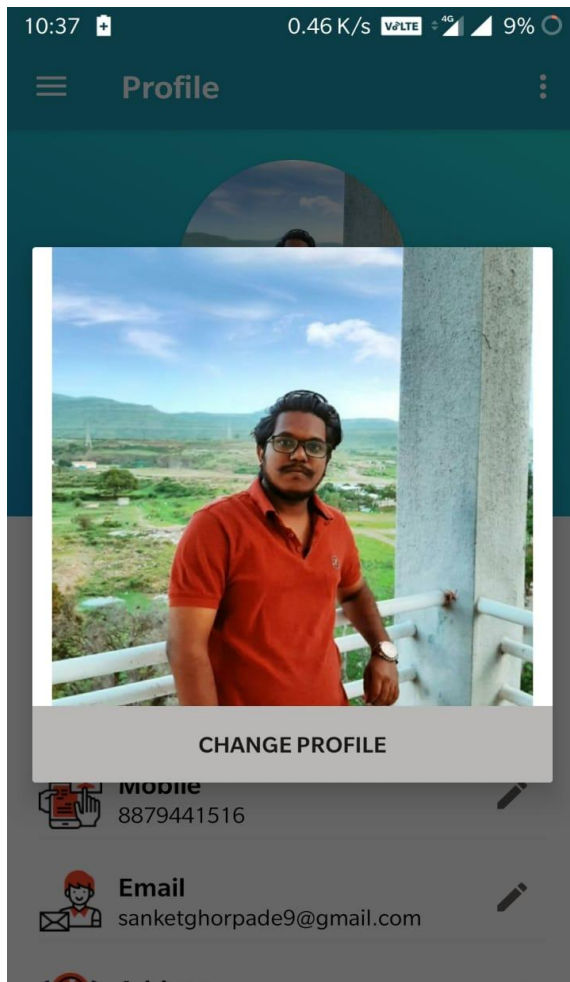


Address

Profile



Edit Info



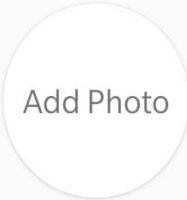
Profile Pic



Pesticides

5:35 0.44 K/s VOLT 4G 19%

☰ Add Item ⋮



Name

Price

Pesticide

Description

Quantity :

SUBMIT

Add Item

10:29 2.25 K/s VOLT 4G 13%

☰ sola ✕

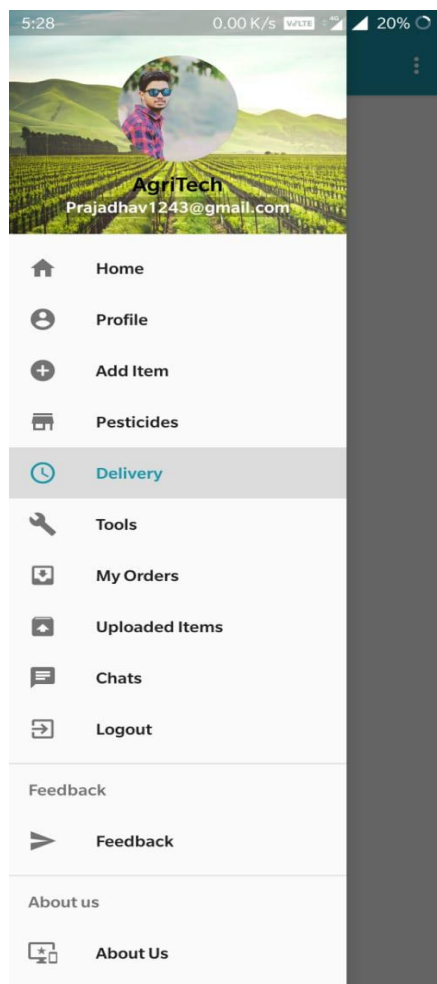


solabiol
Farming Tool
₹ 1099
★★★★☆
 

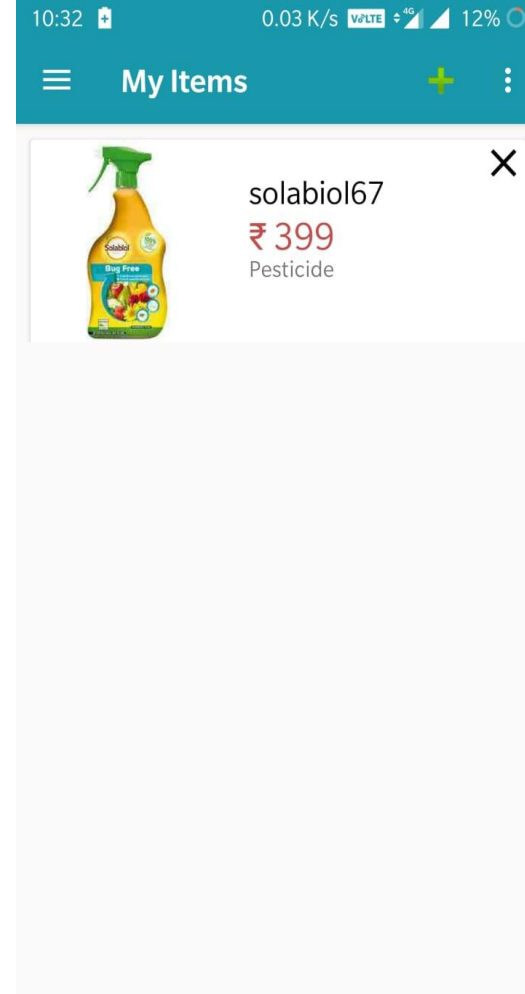


solabiol67
Pesticide
₹ 399
★★★★☆
 

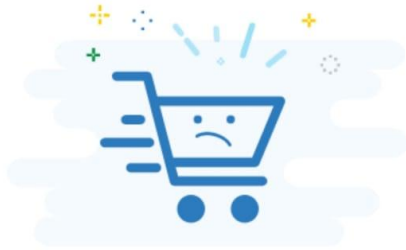
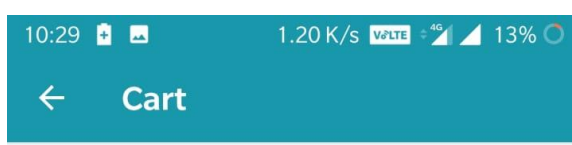
Search



Navigation View



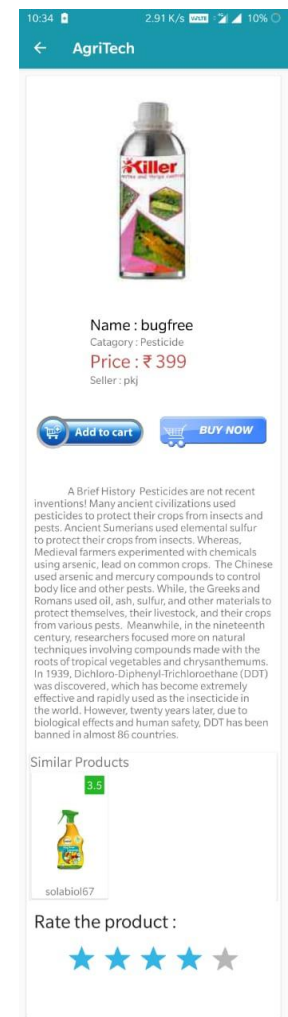
My items



Cart



Cart



Detail


10:35

0.03 K/s

VOLTE

100%

Checkout



bugpack56
Farming Tool
₹ 569

Apartment/Colony Name

ashwini bunglow

Area Name

dhankwadi

City Name

katraj

Postal Code

411043

District Name

pune

Phone

9422552855

CASH ON DELIVERY

ONLINE PAYMENT*

Checkout


10:36

6.01 K/s

VOLTE

9%

paytm

 Login to use Paytm balance or your saved cards

Login

Total amount to be paid ₹ 399.00

Select an option to pay

Debit Card

Card No.

Month Year
MM YY

CVV

Pay Now

Other payment modes

Credit Card

Net Banking

Payment Gateway


10:35

4.70 K/s

VOLTE

100%

AgriTech



Your Oder has
been Successfully

thank
you

Order Placed



bugfree

Pesticide

₹ 399

Delivery: Pending

Payment Status: Pending

Delivery



bugpack56

Farming Tool

₹ 569

Delivery: Pending

Payment Status: Pending

My Orders

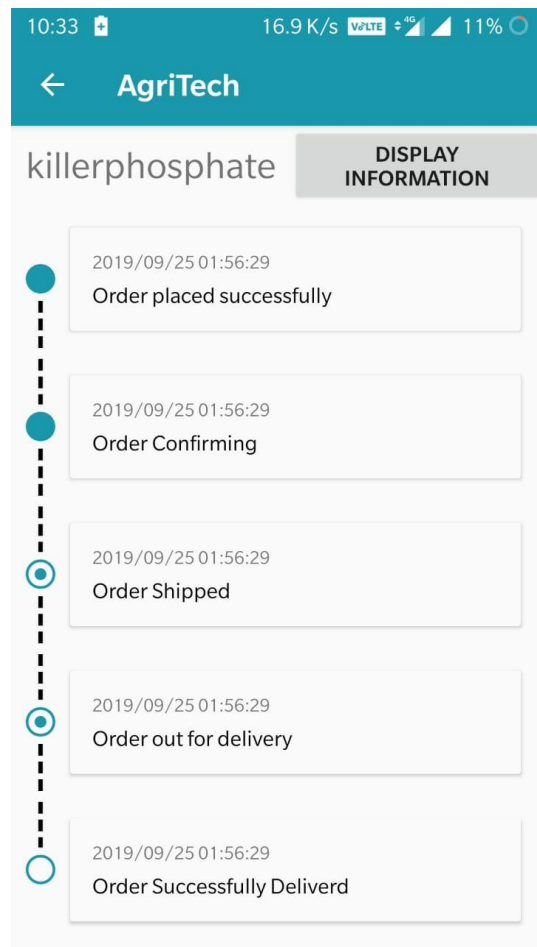


solabiol67

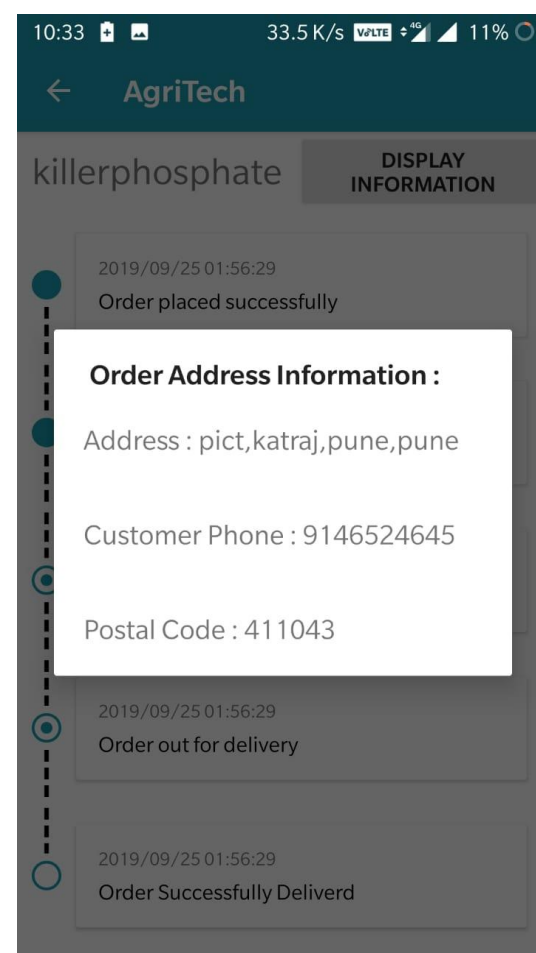
₹ 399

Pesticide

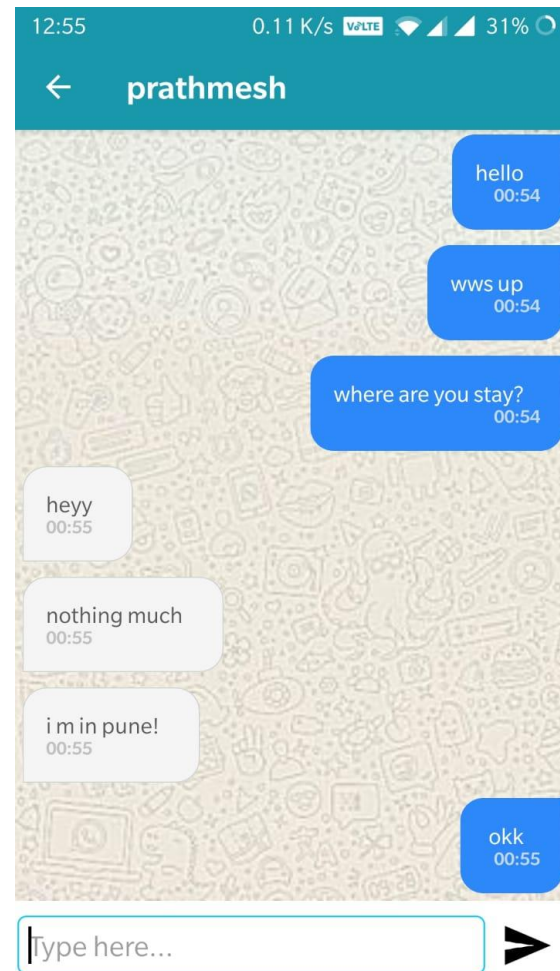
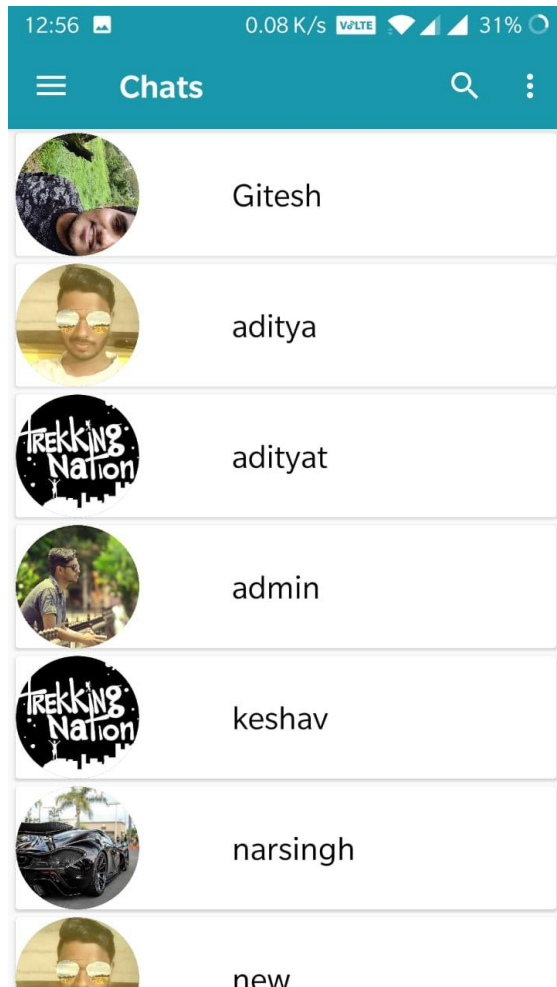
My Items



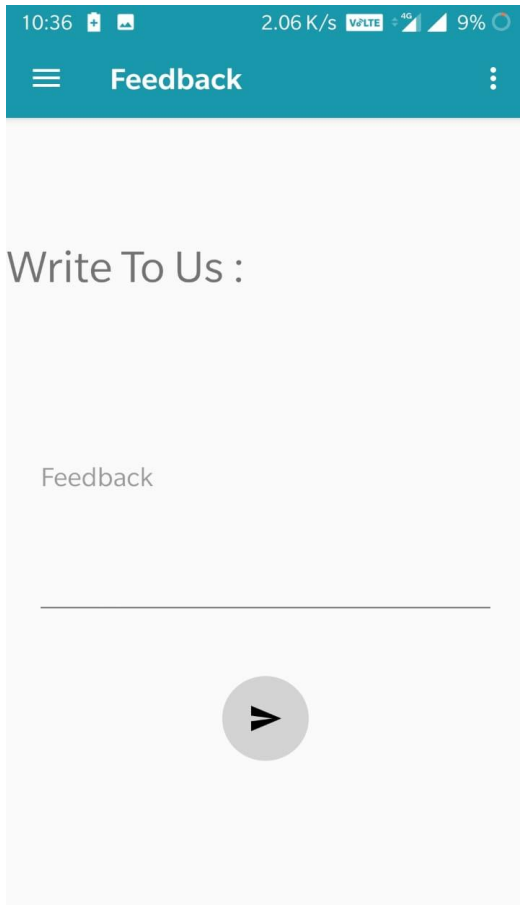
Order Tracking



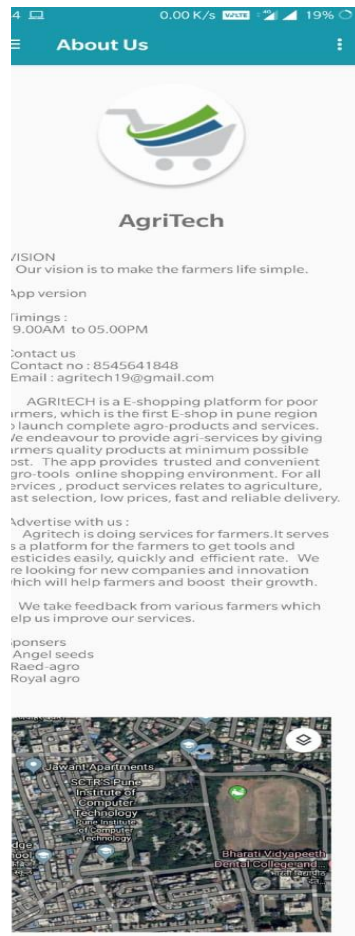
Info of order



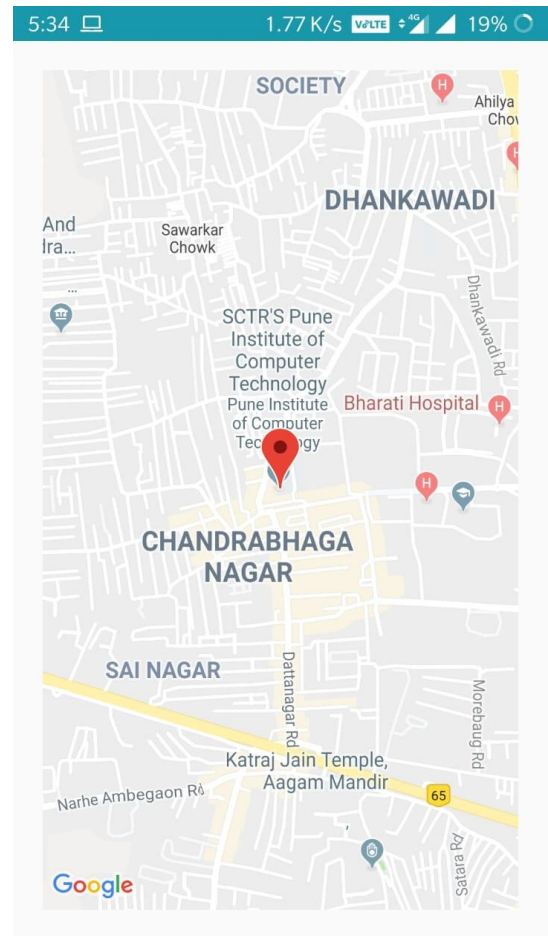
Chatting with seller or Customer



Feedback



About Us



Map(Location of office)

Technology Stack:

Backend: Java



Frontend: Xml



Payment Gateway CheckSum Server : PHP



Database :  Firebase

Storage : Firebase storage and internal storage of mobile

Development Environment: Android Studio



Test Cases :

SR. NO.	TEST CASE DESCRIPTION	EXPECTED RESULT	ACTUAL RESULT	REMARK
SIGNUP PAGE				
1.	Enter username, email, phone no, Set passwd.	New account Created successfully and can login. Homepage page will open.	Same as expected	User shouldn't be already registered.
LOGIN PAGE				
1.	Enter correct username and password	User successfully logged in.	Same as expected	Forgot password will receive OTP on email.
2.	Enter incorrect username and password	Toast showing incorrect username or password	Same as expected	

HOMEPAGE

1.	Clicks an option from the navigation drawer	Activity corresponding to that option opens	Same as expected	
2.	Clicks logout from the navigation drawer	User successfully Same as expected logged out and login activity opens	Same as expected	

PROFILE

1.	Users can view and update their phone no, email, profile, username.	Data updated successfully.	Same as expected.	
2.	User can delete the account permanently	Account deleted successfully and signup page appears.	Same as expected.	

ADD ITEM

1.	Enter item name, images, price type, Quantity.	Item will appear in feed for buyers.	Same as expected	
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Pesticides				
1.	Pesticides available to buy will appear with all detail and rating.	Users are able to buy pesticides.	Same as expected.	
2.	Pesticides can be added to cart	Appear in cart.	Same as expected	

Delivery				
1.	Buyers can track their order	Shipment of order is seen to buyers.	Same as expected.	

Chats				
1.	Users of the app can chat with each other.	Chats are visible only for private users.	Same as expected.	

Feedback				
1.	Users can write a feedback to us.	Feedback can be seen only by app administrators.	Same as expected.	

About us				
1.	Users can see our office location in map and our vision and mission.	Maps working good and vision and mission is visible.	Same as expected.	

Conclusion :

- The AgriTech App will help poor farmers to get Agricultural tools and Pesticides at affordable prices.
- It will help sellers in improving their business of pesticides using Agritech app.
- This application will make the process of viewing, buying, requesting and payment related to agricultural tools and pesticides very simple.

Future Scope and Enhancements:

- Currently available in english and planning to launch in other regional languages.
- Implementation of chatbot in app for answering questions of farmers using tensorflow API.
- Farmers can only upload farming tools and pesticides which can be validated using image processing.
- We can deploy our web app synchronised with android-AgriTech app.

References

- [1] Youtube. “ FirebaseUI - Firestore + RecyclerView (FirestoreRecyclerView) - Android Studio Tutorial ”.[Online] Available: <https://www.youtube.com/playlist?list=PLrnPJCHvNZuAXdWxOzsN5rgG2M4uJ8bH1>

- [2] Cloud Firestore Documentation [Online] Available: <https://cloud.google.com/firestore/docs/>

- [3] Android Documentation [Online] Available: <https://developer.android.com/docs>

- [4] Udemy android course for beginners. [online] Available : www.udemy.com

- [5] Error solving : Stack Overflow, github [online] Available : <https://github.com/>

Thank You!!!