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)
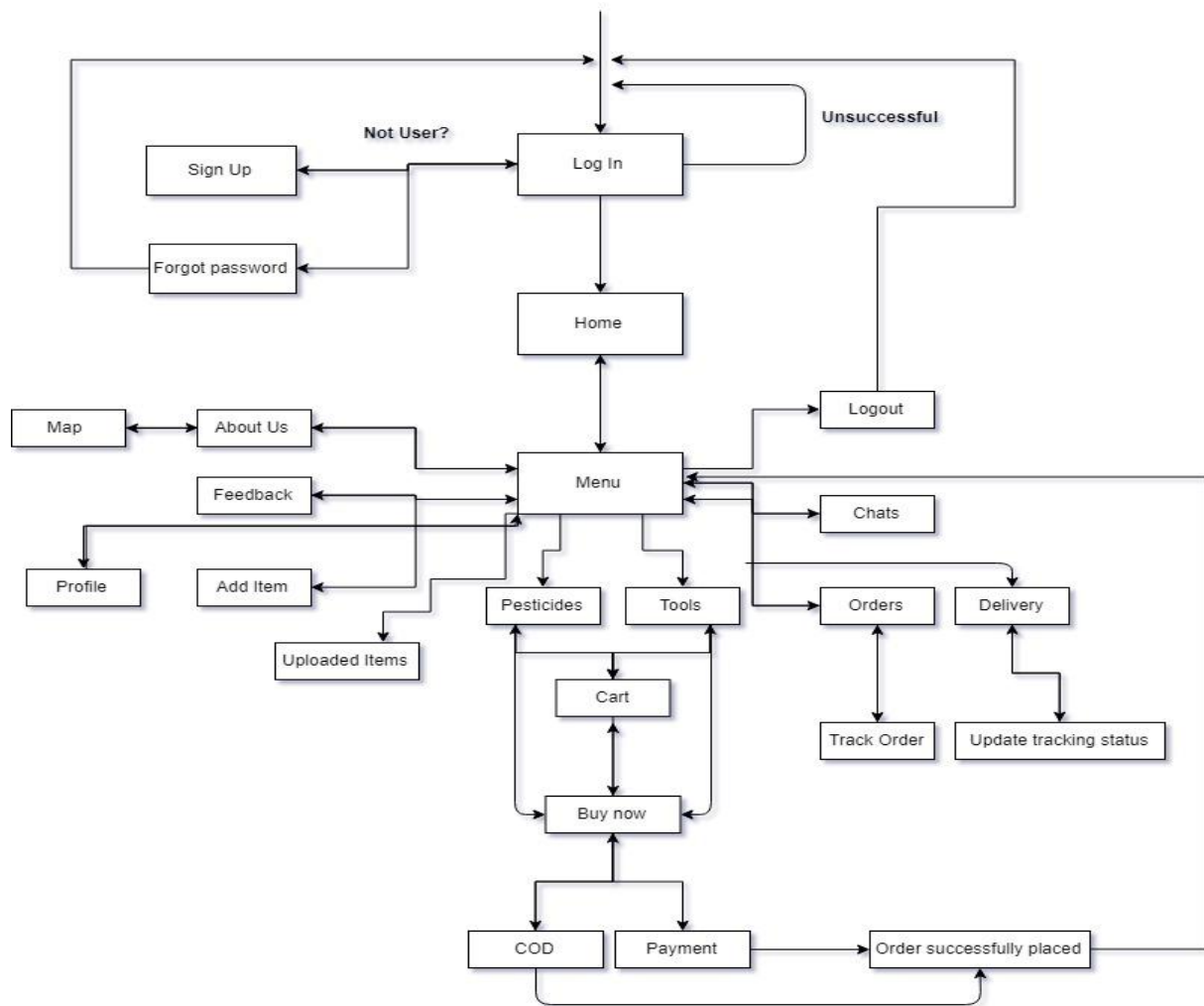
H/W :

      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):
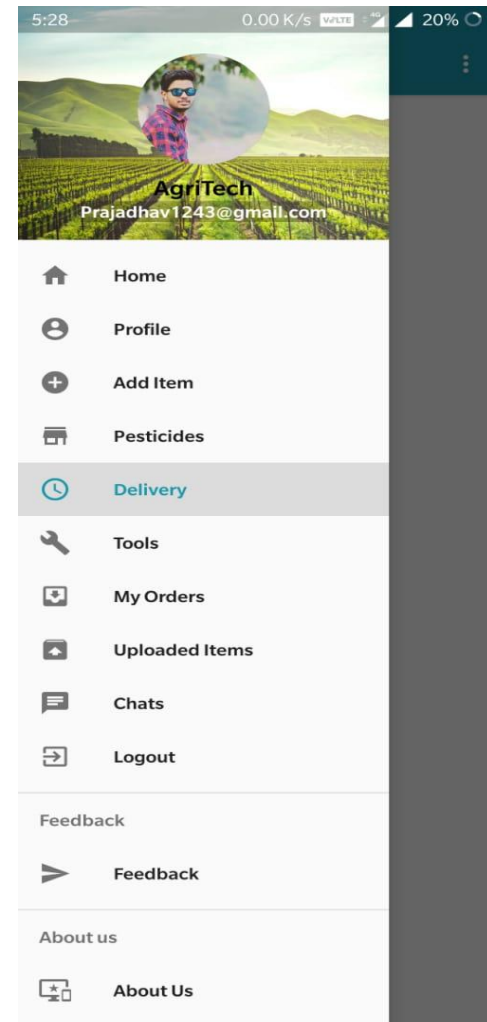 a. Price
  b. Name
  c. Category

Architecture Diagram
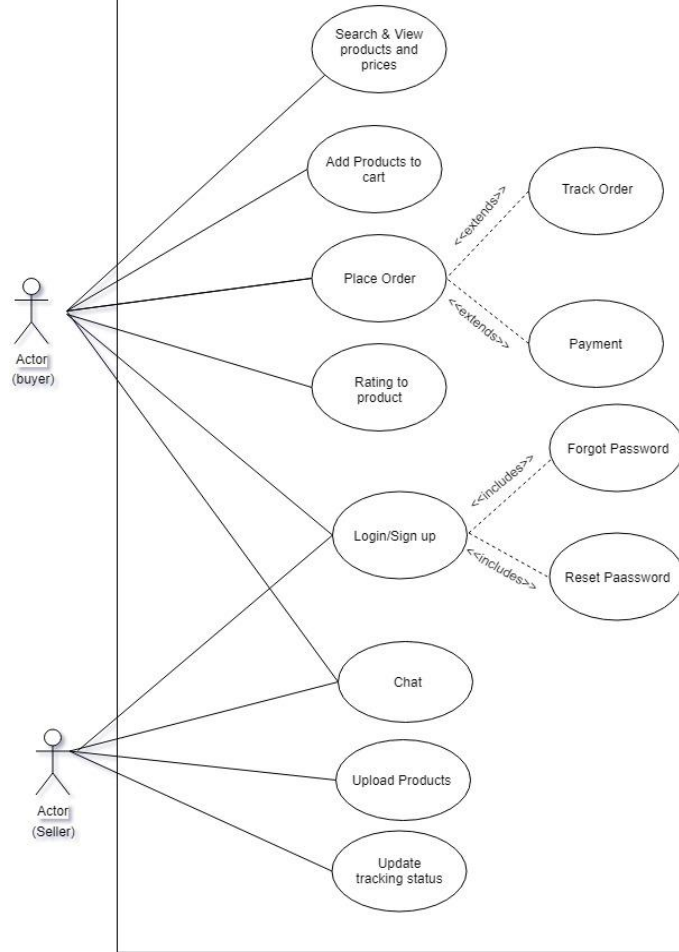
Use Case Diagram

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

Login

Forgot password

SignUp

HomePage

Profile   Edit Info

Profile Pic

Pesticides

☰ **Add Item** ⋮

Add Photo

Name

Price

Pesticide ▾

Description

Quantity : _____

SUBMIT

Add Item

☰ sola ✕

solabiol
Farming Tool
₹ 1099
★ ★ ★ ★ ★
🛒 Add to cart   🛒 BUY NOW

solabiol67
Pesticide
₹ 399
★ ★ ★ ★ ★
🛒 Add to cart   🛒 BUY NOW

Search
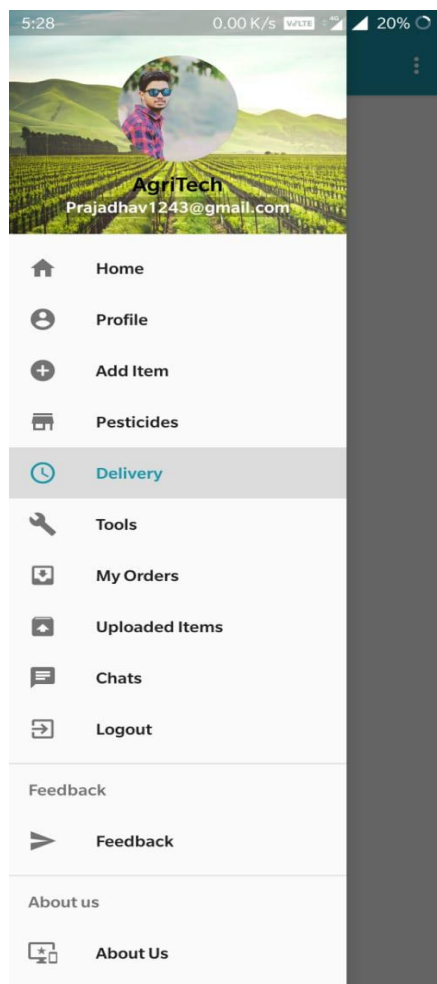
Navigation View
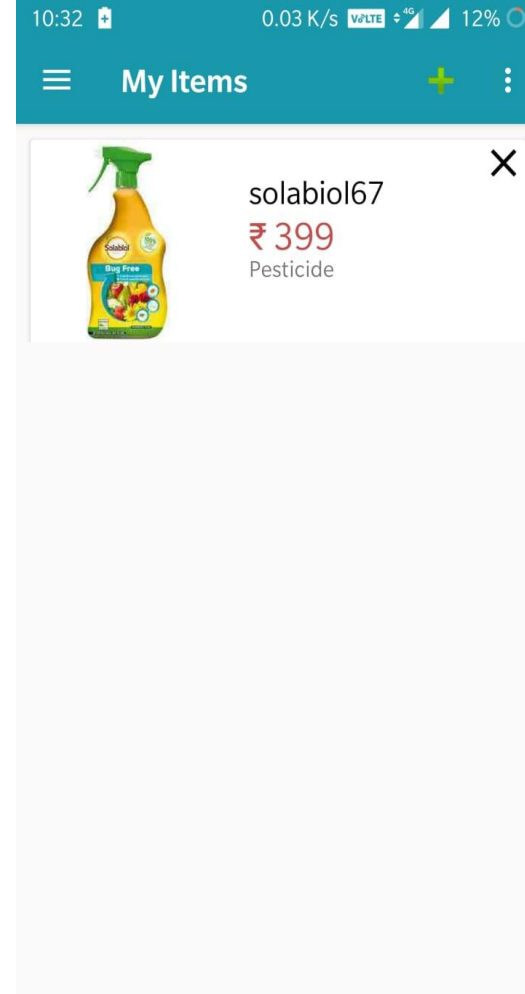
My items

Cart

Cart

Detail

Checkout

Payment Gateway

Order Placed

bugfree
Pesticide
₹ 399
Delivery:Pending
Payment Status:Pending
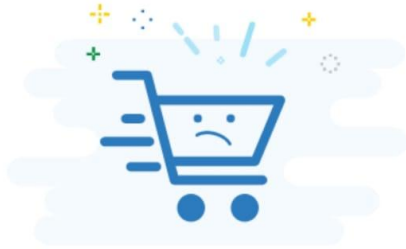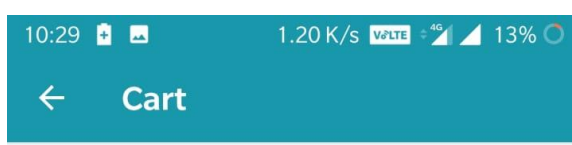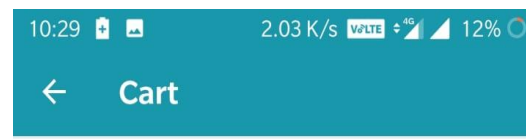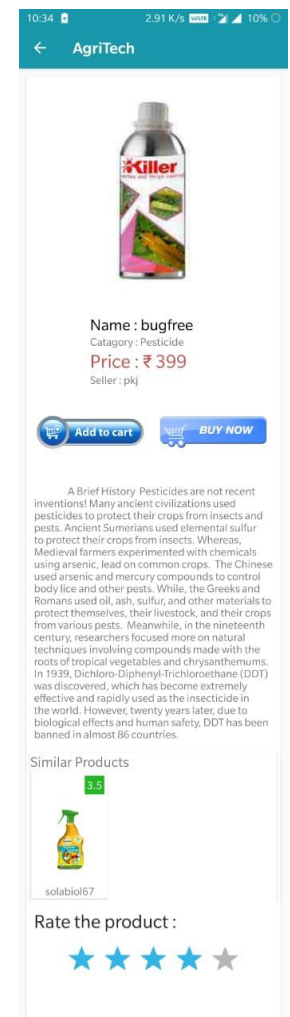
bugpack56
Farming Tool
₹ 569
Delivery:Pending
Payment Status:Pending

solabiol67
₹ 399
Pesticide

Delivery

My Orders

My Items
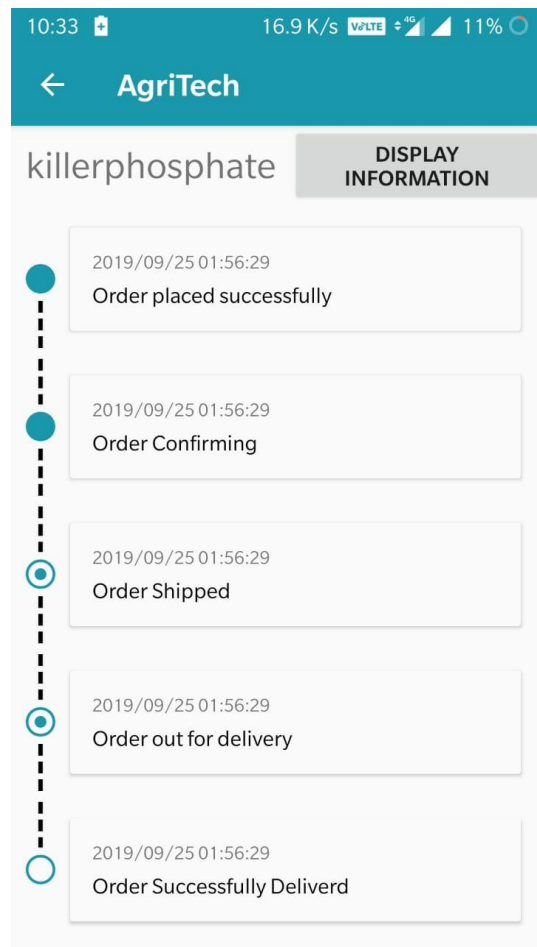
Order Tracking

Info of order

Chats
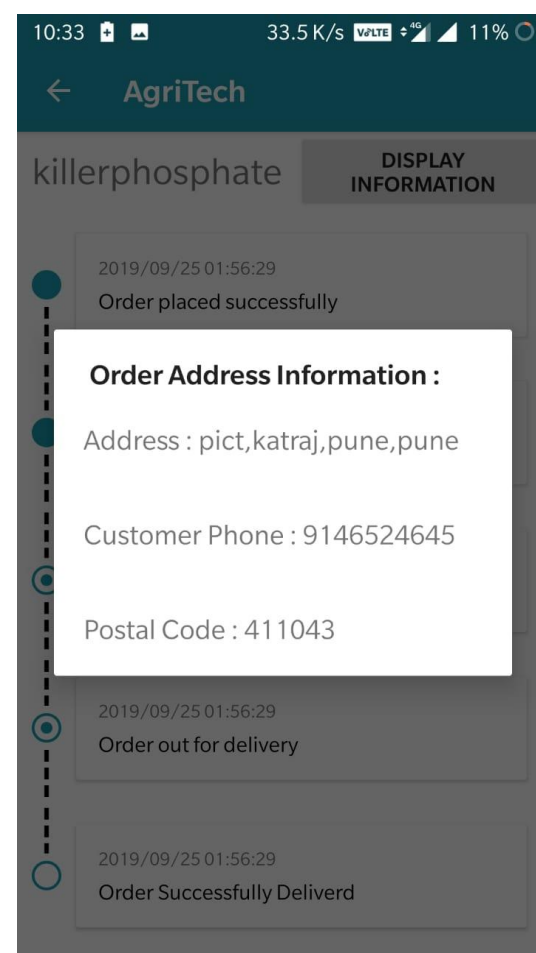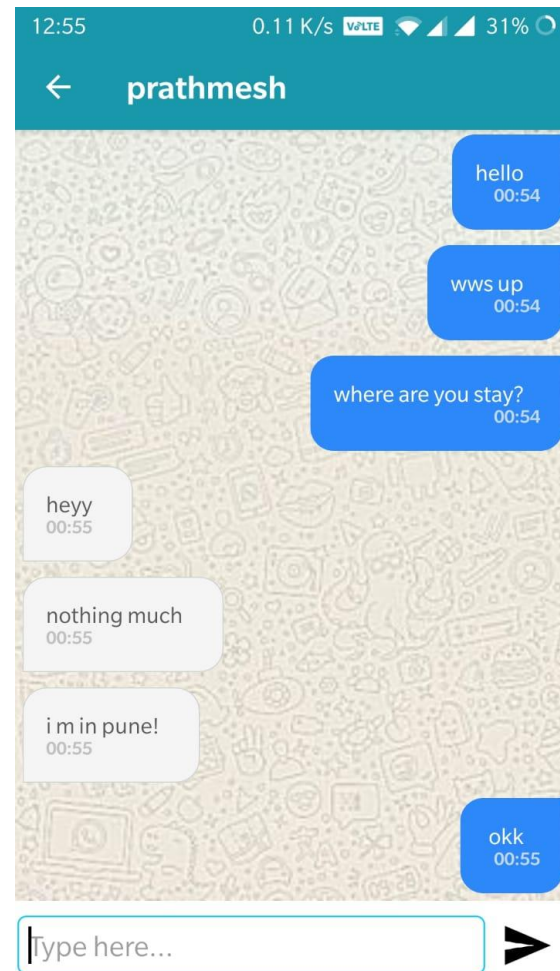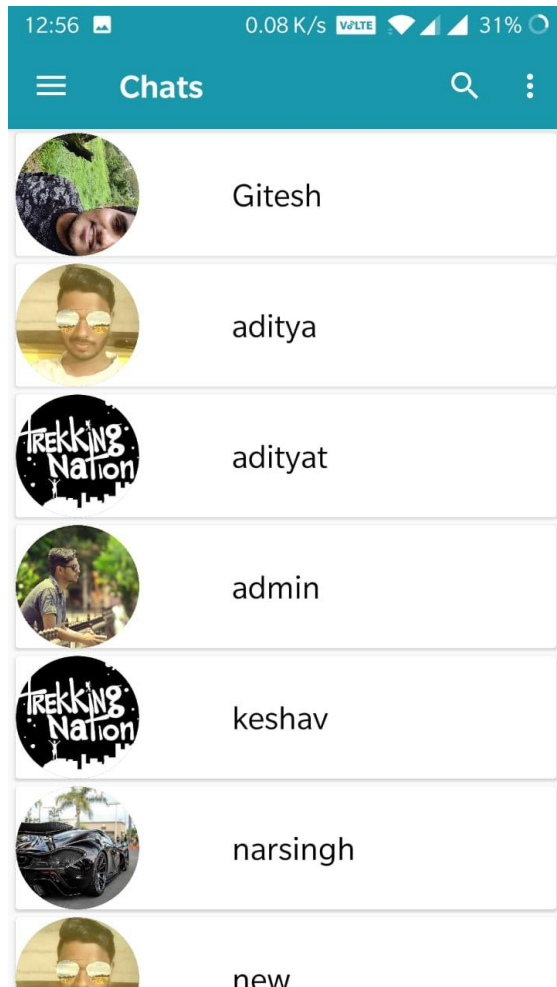
Chatting with seller or Customer
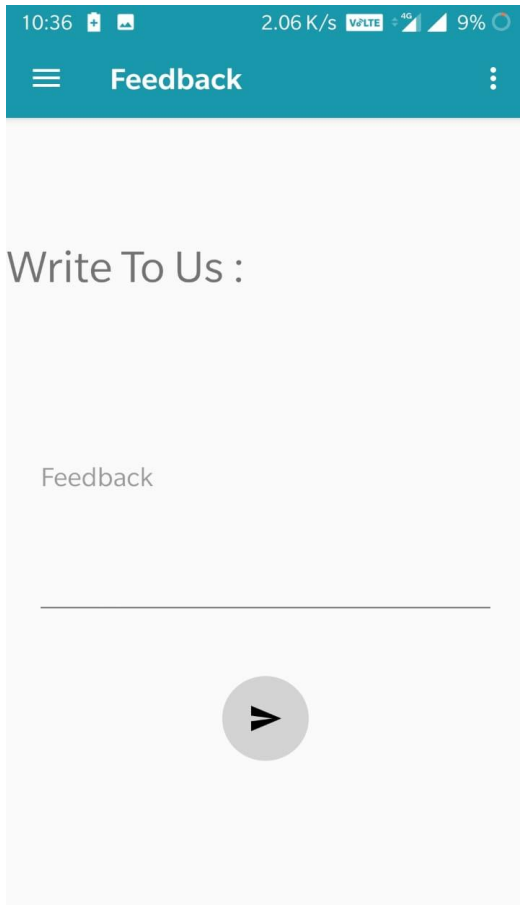
Feedback
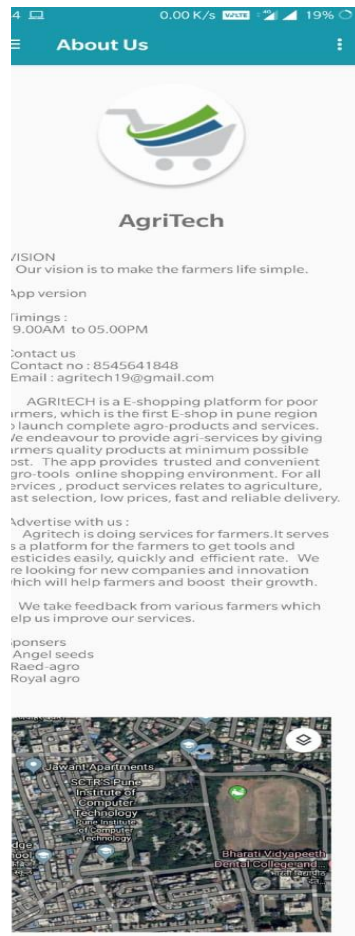
About Us
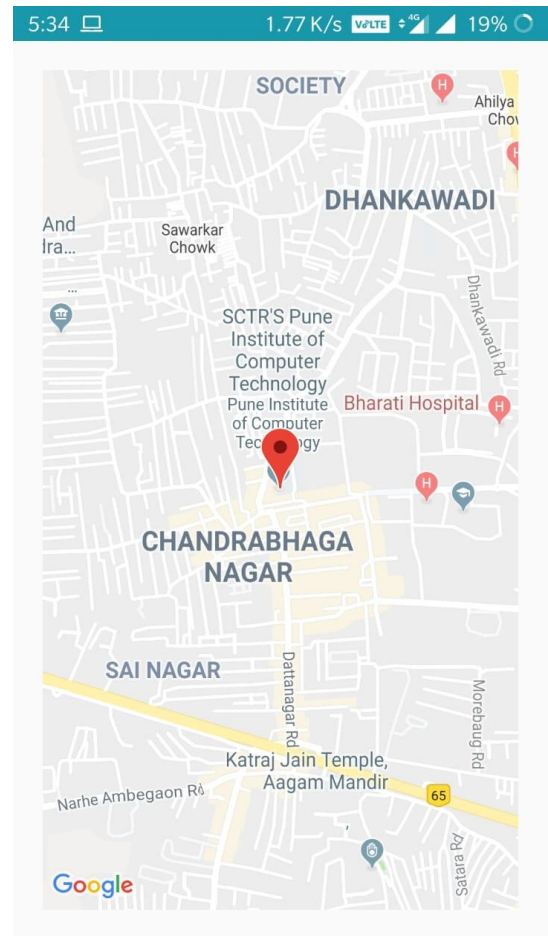
Map(Location of office)

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	

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				
!.	Users can write a feedback to us.	Feedback can be seen only be 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 (FirestoreRecyclerAdapter) - 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!!!