



CS551 Advance Software Engineering

FOURTH INCREMENT REPORT

Farmers Ville

Group#11

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Project Proposal

Project Title: Farmers Ville

Group number: 11

Group Members:

1. Naga Krishna Vadlamudi (56)
2. Manoj Prabhakar Ejjirothu (10)
3. Sudheer Kumar Nagaruri (37)
4. Pratap Rao Kadari (20)

Project Goal: To develop an app which helps farmer in the entire cycle of cultivation and marketing the crop.

Significance: This project would be helpful to Farmer in cultivating a crop in most effective way. It helps the farmer in assessment of suitable conditions for harvesting a crop based on the weather forecast. It's a complaisant for the farmer to know the current prices of crops and trending technologies in the field of cultivation.

Objectives:

1. To aid the farmers in improving the cultivation of crops by suggesting weather conditions, fertilizers and agriculture related articles.
2. Create a unique platform where the farmer can market his crop without any mediator.
3. Notifying the farmer about the current market prices and trends.

System Features:

1. **Marketing:** This app helps the farmers to sell his crop directly to the consumer.
2. **Market Locations:** This app will provide nearest market locations where farmer can sell his products.
3. **Market prices:** This app provides market prices of all agricultural products.
4. **News:** This app provides current agricultural news.
5. **Notification:** Notification of Availability of the products and feedback on the products sold
6. **Ratings :** Ratings can be given to all the products available for sale and for the products sold as well.
7. **Latest Trends and Technologies:** This app has the access to USDAs latest journals on Agriculture which have latest cultivation methods being used around the world.
8. **Suggestions:** This app guides farmers in selecting the Fertilizers and pesticides for particular crop.
9. **Weather Reports:** This app provides latest weather forecast updates to farmer based on his location, which helps the farmer in planning harvesting.

Bibliography:

- Farming Assistant Web Service - <http://nevonprojects.com/farming-assistant-web-service/>
- “Market Locations” by Foursquare API
- “Market Prices” by Agricharts API
- “Weather” by Open Weather API
- “News” by Agricharts API
- “Latest Journals” by USDA PubAg API

Fourth Increment Report

As a part of the Fourth increment we have implemented the chat application between the users and User Account Settings. Implemented the Current Market prices of the vegetables with notification of any change in the prices. We have also added the feature of the hyperlinks to the currents trends technology and the pesticides module.

Features:

1. **Marketing:** Marketing has two features – Selling and Buying. Selling helps the farmer to sell his products directly to the consumer without any mediator. Farmer can just post his product details like variety, quantity, images etc through his login. Buying helps the farmer/consumer to browse available list of products. If he is interested in any of the products, he can contact directly seller with the contact information provided.
2. **Market Locations:** This feature helps the farmer in showing nearby markets list based on his current location to sell his products. This feature is implemented using Four Square API which shows the nearby farmer market locations available.
3. **Weather Forecast:** Weather forecast gives the weather forecast details of farmer's current location for coming 5 days with data every 3 hrs. Icons and description of weather is shown. This information helps farmer is planning his crop activities like harvesting, seeding etc., efficiently.
4. **Latest trends and technologies:** USDA has the latest journals on agriculture cultivation and also provides methods to increase the productivity. This app has access to USDA journals and thereby provides information to the farmers. With the information gained farmers could adopt new methods. . It also informs farmers about the fertilizer's that has to be used for a specific crop. It provides information about the upcoming technologies in the field of agriculture.
5. **Suggestions:** This application also provides suggestions to farmers regarding which crop has to be cultivated for certain climatic conditions which would increase the productivity and also informs them about the fertilizers and pesticides for specific crop. It also suggests about the pesticides that have to be avoided that could harm the crop.
6. **Market price:** In this feature we are using "Agricharts API" and we will show the current market prices of crops. Market prices of a crop will change every day based on various factors and it's difficult for a former to search/enquire about market prices daily. So with a single click, farmer can fix the affordable price for his crop and sell it in the market. He can also decide to sell or not on that day based on his total expenditure at the time of cultivation and gain the profit.

7. **News:** We are taking “Agricharts API” for this features’ implementation. We will populate the all agricultural related news. Farmer can get the information about business, technology and latest trends etc. Using this information farmer can predict the availability and price of a particular crop in the near future.

Service Description:

1. **Weather:** Weather forecast information is displayed using API provided by <http://openweathermap.org/>. API gives information of weather for coming 5 days with data for every 3 hours.
2. **Market Places:** Market locations are displayed using Four Square API. This API has option to search places based on category. We are using farmer markets category to get market places.
3. **Market Prices:** Current Agricultural products market prices are displayed using Agri Charts API.
4. **Agriculture News:** Daily trending agriculture news is displayed using Agri Chart API. New specific to agricultural products like corn or wheat can be retrieved.
5. **Latest Journals:** USDA PubAg API supports the integration of apps for accessing and searching a database of agricultural publications. The database contains over 41,000 full-text journal articles by USDA staff and includes over a million citations

GitHub URL

<https://github.com/nagakrishna/ASE-Project.git>

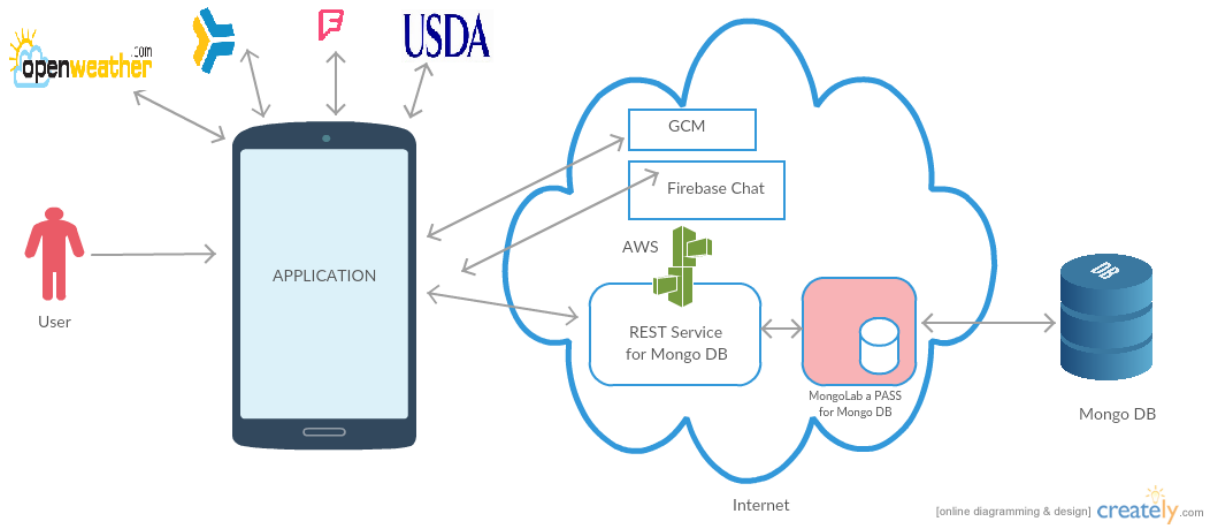
Challenges Faced during 4th Increment:

- For Push notification we had to use the Google Cloud Messaging Services.
- Creating Chat Application using the Fire Base was complex.

Total Feature Implemented so far:

- Weather Forecast
- Market Places Location Details
- Login and Register Pages
- Buyer and Seller Module
- Suggestions
- News
- Market Prices with notification
- User Account Settings
- Trends and Technologies
- Pesticides

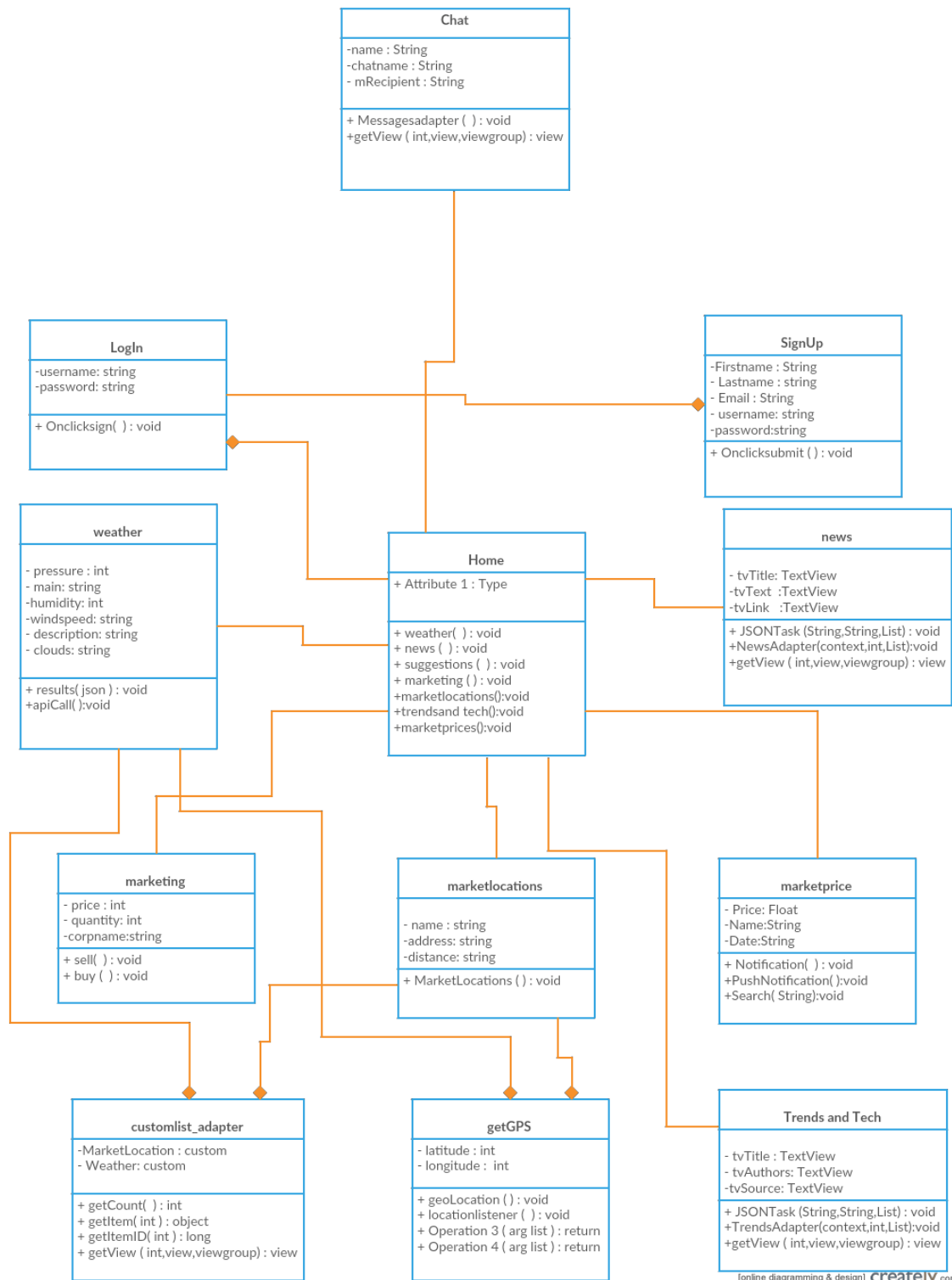
Architecture Diagram



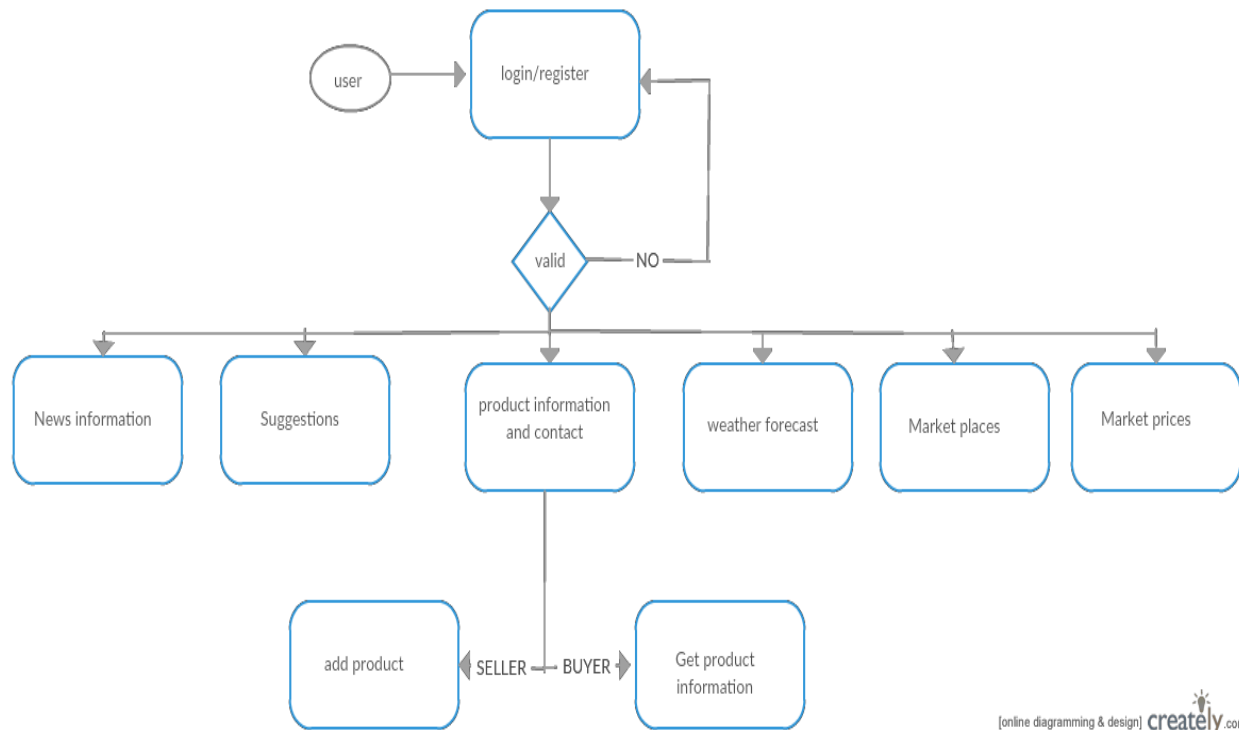
Use Case Diagram



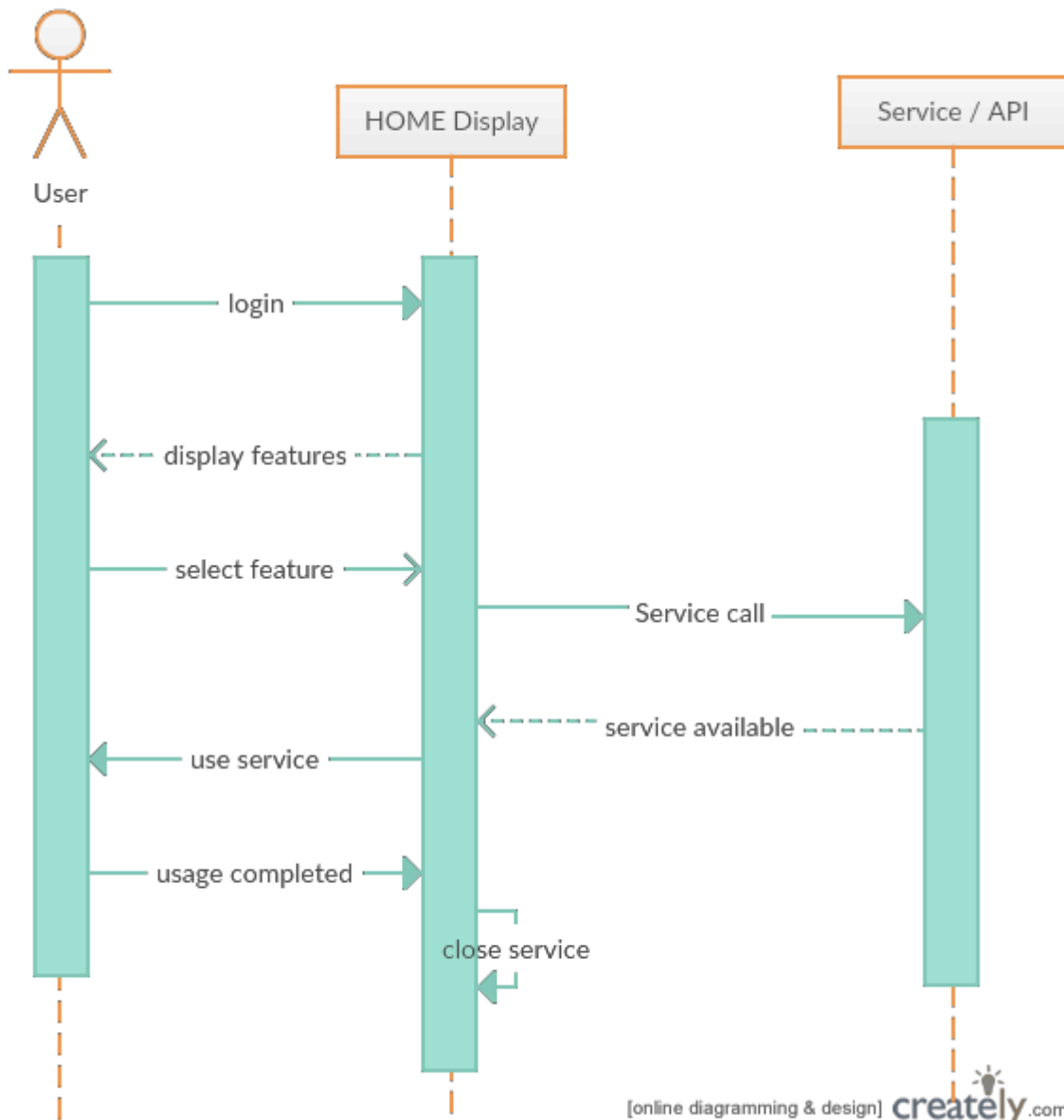
Class Diagram:



Activity Diagram

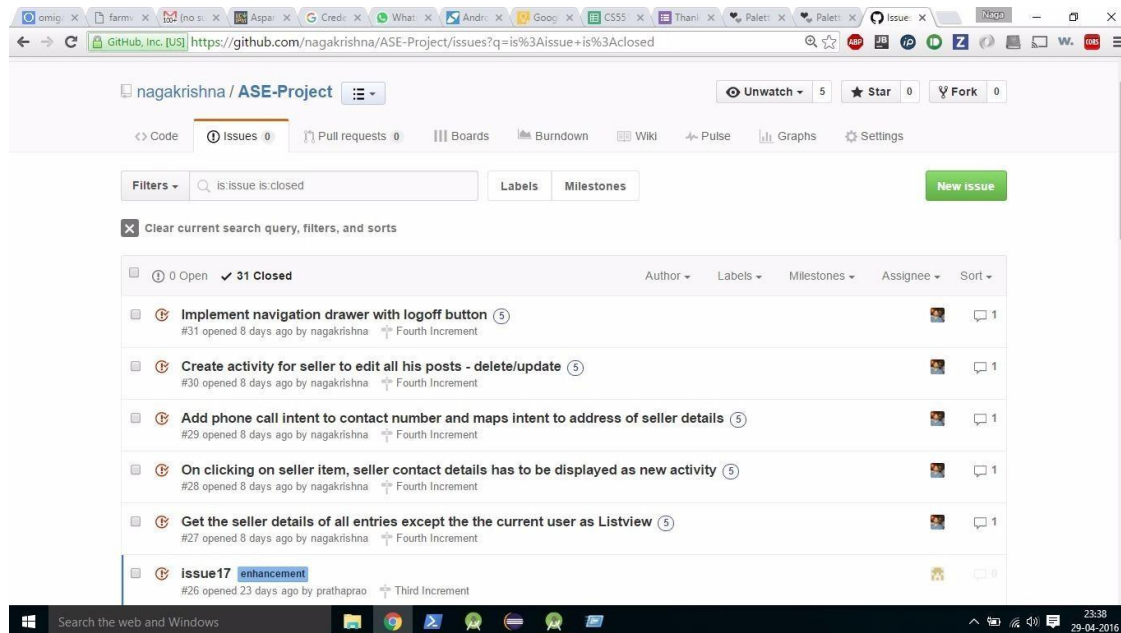


Sequence Diagram



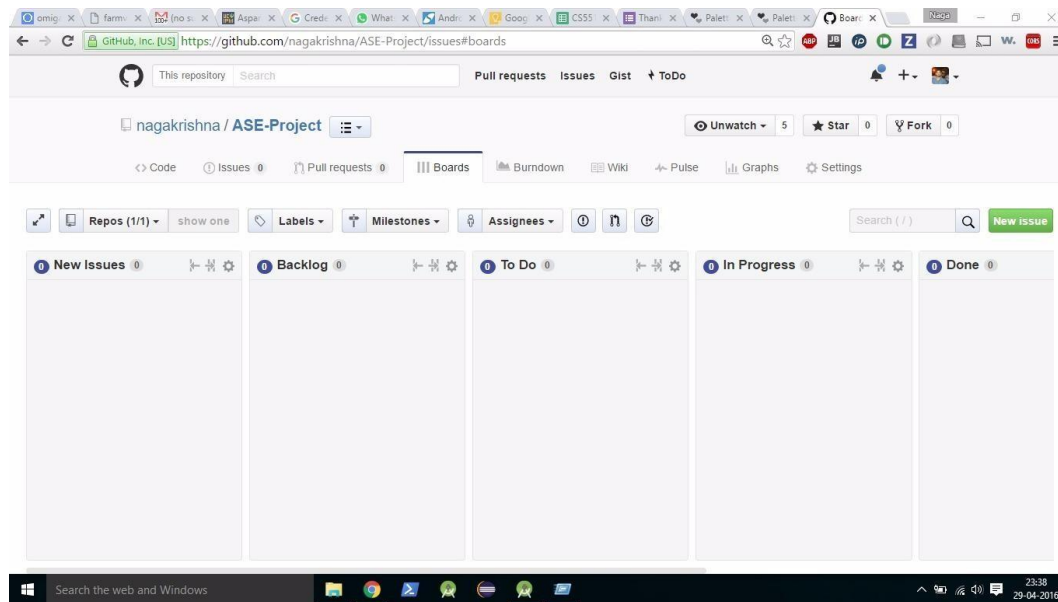
Issues Tool Bar

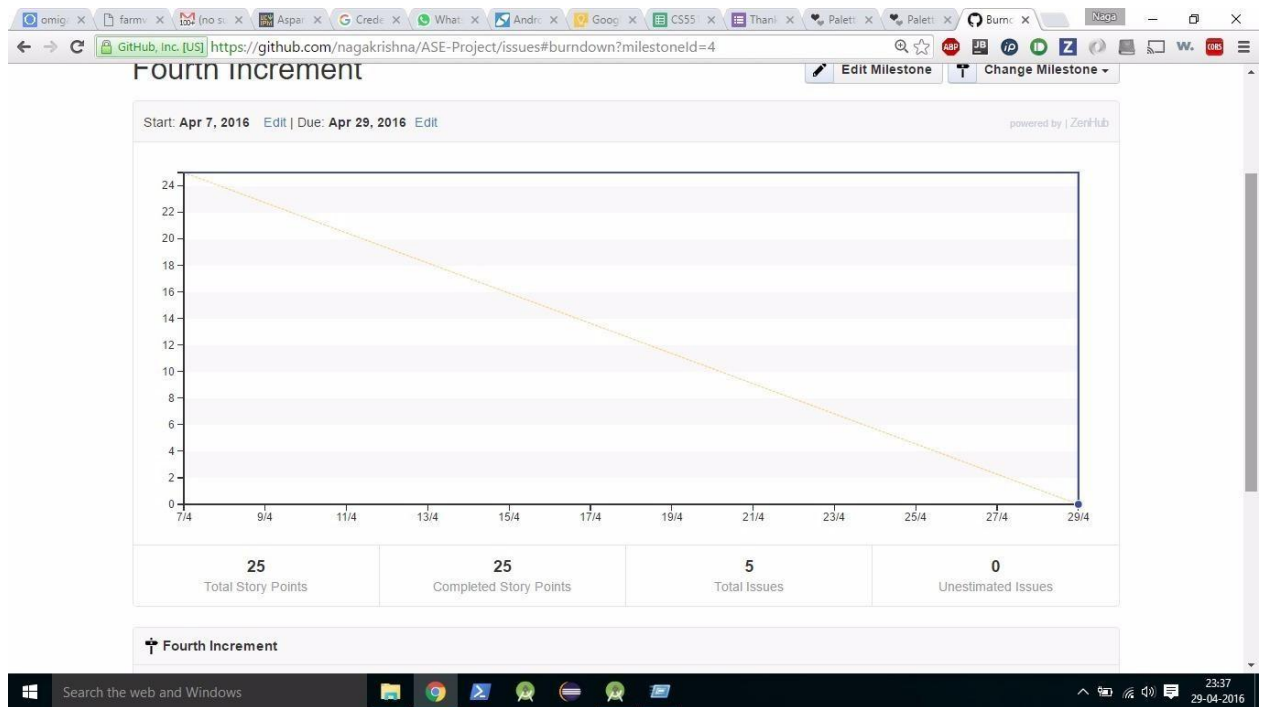
Tasks have been assigned to each of us and we had regularly updated the status of each task assigned to us. We have completed most of the tasks assigned to us for the third increment. Milestone is created for fourth increment.



Burn Down Graph

The burn down chart for the tasks assigned and the completed tasks. The Third increment has to be completed by 04/06 . By the end of the task completion we got the above burn down chart.





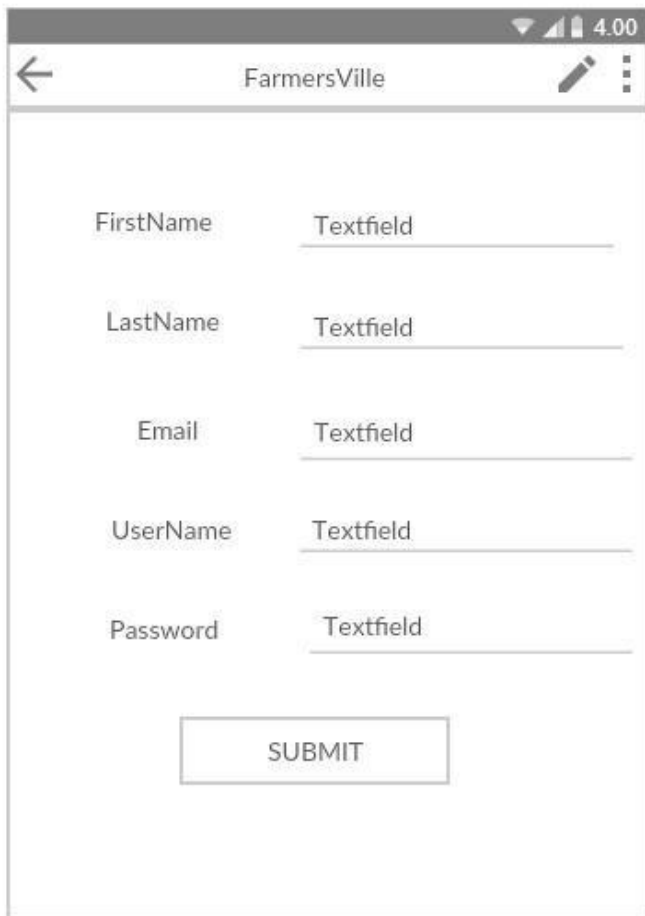
Wire Frames

Login Page



The wireframe shows a mobile application interface for 'FarmersVille'. At the top is a status bar with icons for signal, battery, and the time '4.00'. Below this is a header bar with the text 'FarmersVille' and a menu icon (three vertical dots). The main content area contains two text input fields, each preceded by a label: 'Username' and 'Textfield' on the first line, and 'Password' and 'Textfield' on the second line. Below the password field are two rectangular buttons stacked vertically, labeled 'SignIn' and 'SignUp'.

Sign Up Page



A mobile application interface for a sign-up page titled "FarmersVille". The interface features a dark grey header bar with a back arrow on the left, the app name "FarmersVille" in the center, and a pencil icon and a three-dot menu icon on the right. Below the header, the page contains five text input fields, each with a label to its left: "FirstName", "LastName", "Email", "UserName", and "Password". Each label is followed by a textfield placeholder labeled "Textfield". At the bottom of the form, there is a rectangular button with the text "SUBMIT". The status bar at the top right shows a Wi-Fi icon, a cellular signal icon, a battery icon, and the time "4.00".

4.00

← FarmersVille

FirstName Textfield

LastName Textfield

Email Textfield

UserName Textfield

Password Textfield

SUBMIT

Market Trade Page

4.00

← MarketTrade

SELLER

BUYER

Product

Quantity

Kg

Description

Crop
Image

POST

Application Home Page



Weather Page

Weather



Date

Temp

Humidity

Date

Temp

Humidity

Date

Temp

Humidity

Suggestions

4.00

← Suggestions

search crop

Market Locations Page



The image shows a mobile application wireframe for a 'Market Locations' page. At the top is a dark grey header bar with a back arrow, the title 'Market Locations', a pencil icon, and a menu icon. Below the header, the page is divided into three identical, vertically stacked sections by thin horizontal lines. Each section contains three input fields: 'Market Name' and 'Distance' are side-by-side at the top, and 'Address' is a larger field below them. The text in the input fields is light grey, indicating they are placeholders. The overall design is clean and minimalist, using a light grey color scheme for the form elements.

Buyer Page

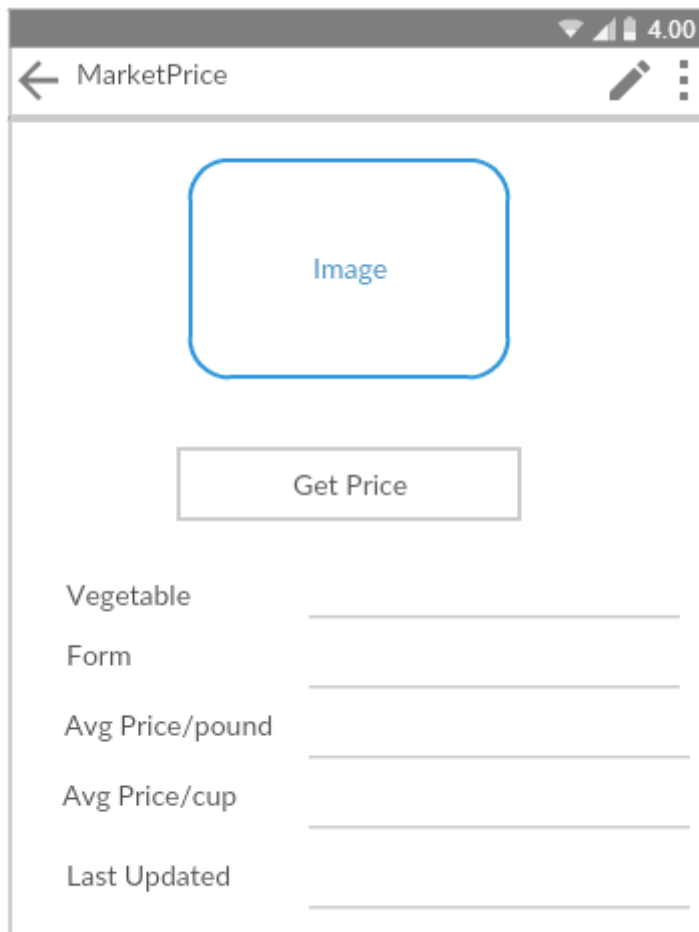
The image shows a mobile application interface for a market trading platform. At the top, there is a status bar with a Wi-Fi icon, signal strength bars, a battery icon, and the time 4:00. Below the status bar is a header bar with a back arrow icon, the text "MarketTrade", a pencil icon, and a three-dot menu icon. The main content area is divided into two columns: "SELLER" on the left and "BUYER" on the right. Under the "SELLER" column, there are three input fields labeled "Product", "Quantity", and "Description". Each input field has a horizontal line for text entry. The "BUYER" column is currently empty.

SELLER	BUYER
Product	
Quantity	
Description	

News Module

Mobile app wireframe for a News Module. The screen displays a top status bar with a back arrow, the title "News", and icons for edit and menu. Below the status bar is a "Head Line" section. This section contains a box with the title "NEWS" and four dashed lines for text input. Below this box is a URL field starting with "http://". A second identical "Head Line" section is positioned below the first one.

MarketPrices



A mobile application mockup titled "MarketPrice". The interface includes a status bar at the top with a Wi-Fi icon, signal strength bars, battery level, and the time "4.00". Below the status bar is a header with a back arrow, the title "MarketPrice", and icons for editing and a menu. The main content area features a large rounded rectangle labeled "Image". Below this is a "Get Price" button. At the bottom, there are five input fields with labels: "Vegetable", "Form", "Avg Price/pound", "Avg Price/cup", and "Last Updated".

MarketPrice

Image

Get Price

Vegetable

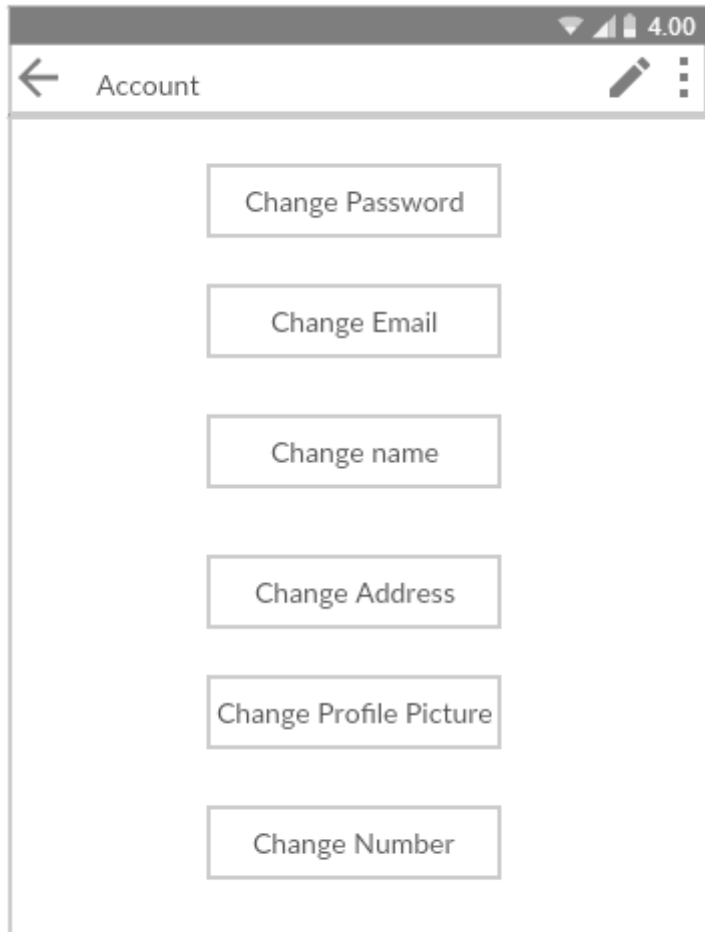
Form

Avg Price/pound

Avg Price/cup

Last Updated

Profile



A mobile application interface for an account settings page. The top status bar shows a Wi-Fi icon, signal strength bars, a battery icon, and the time 4:00. Below the status bar is a header with a back arrow, the text "Account", a pencil icon, and a three-dot menu icon. The main content area contains six rectangular buttons stacked vertically, each with a light gray border and centered text: "Change Password", "Change Email", "Change name", "Change Address", "Change Profile Picture", and "Change Number".

Trends and Tech

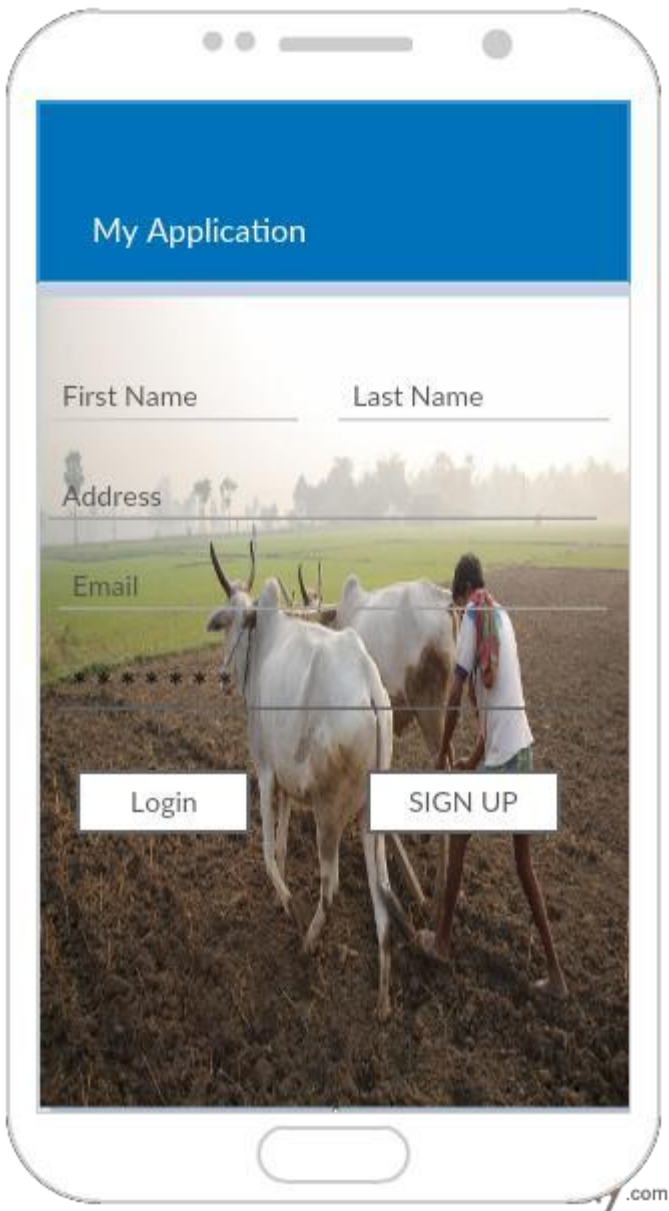
The image shows a mobile application interface for a 'Journals' app. At the top, there is a status bar with a Wi-Fi icon, signal strength bars, a battery icon, and the time '4.00'. Below the status bar is a header bar with a back arrow icon on the left, the title 'Journals' in the center, and a pencil icon and a three-dot menu icon on the right. The main content area is divided into two identical sections by a horizontal line. Each section contains three text input fields stacked vertically. The first field is labeled 'Article Name', the second is labeled 'Authors', and the third is labeled 'Source'. The fields are outlined with a thin grey border. The bottom of the screen shows a portion of an Android navigation bar with a small 'n' icon.

Mock Ups

Login Page



Sign Up Page



My Application

First Name Last Name

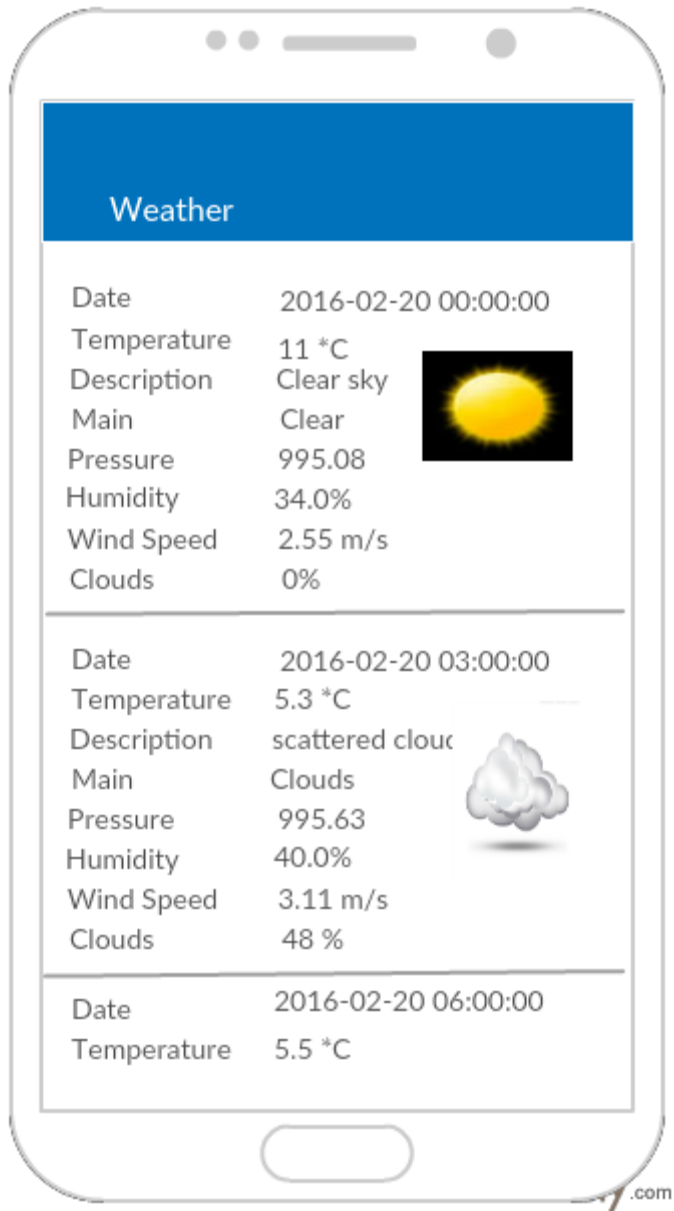
Address

Email

Login SIGN UP

7.com

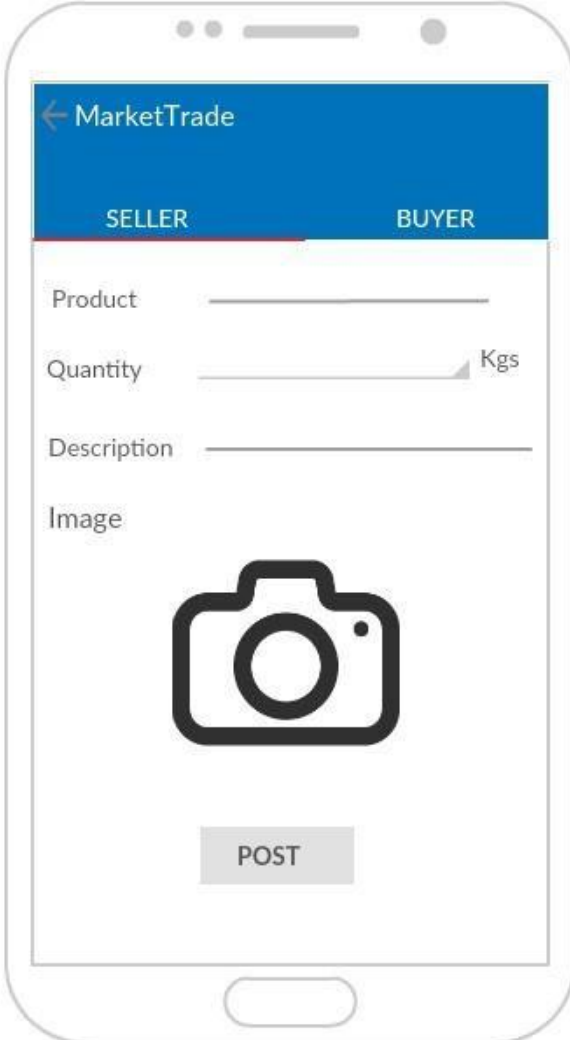
Weather Page



Home Screen Page



Market Trade Page



A mobile application interface for a market trade page. The screen is framed by a grey border representing a smartphone. At the top, a blue header bar contains a white left-pointing arrow and the text "MarketTrade". Below the header, there are two tabs: "SELLER" (highlighted with a red underline) and "BUYER". The main content area is white and contains the following elements: a "Product" label followed by a text input field; a "Quantity" label followed by a text input field and a "Kgs" unit label; a "Description" label followed by a text input field; an "Image" label followed by a large black camera icon; and a grey rectangular button with the text "POST" at the bottom.

← MarketTrade


SELLER BUYER

Product

Quantity Kgs

Description

Image

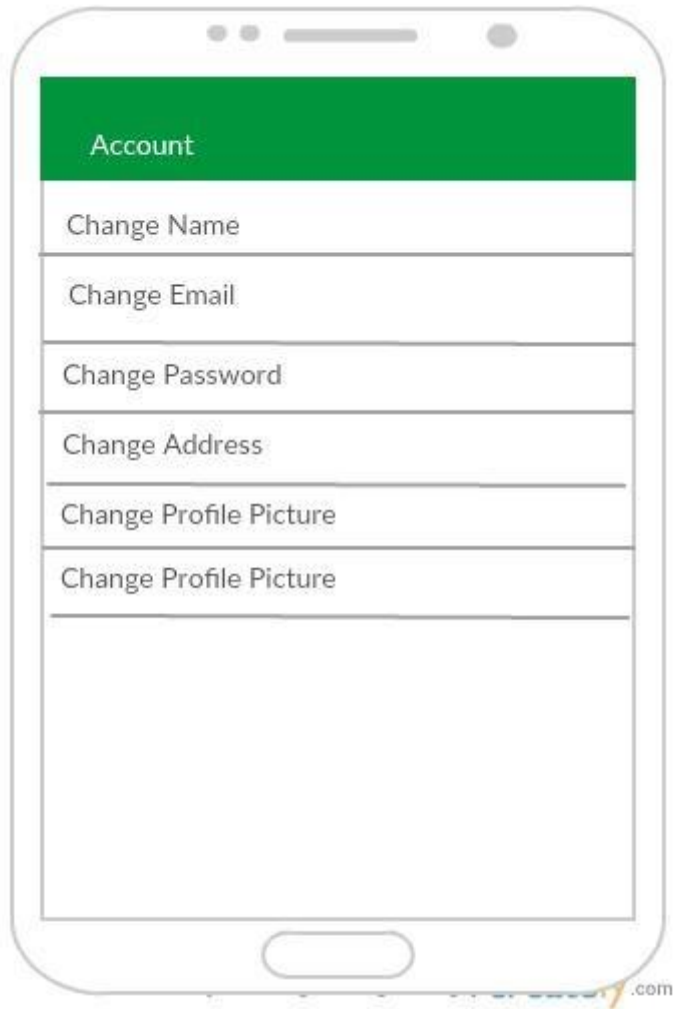


POST

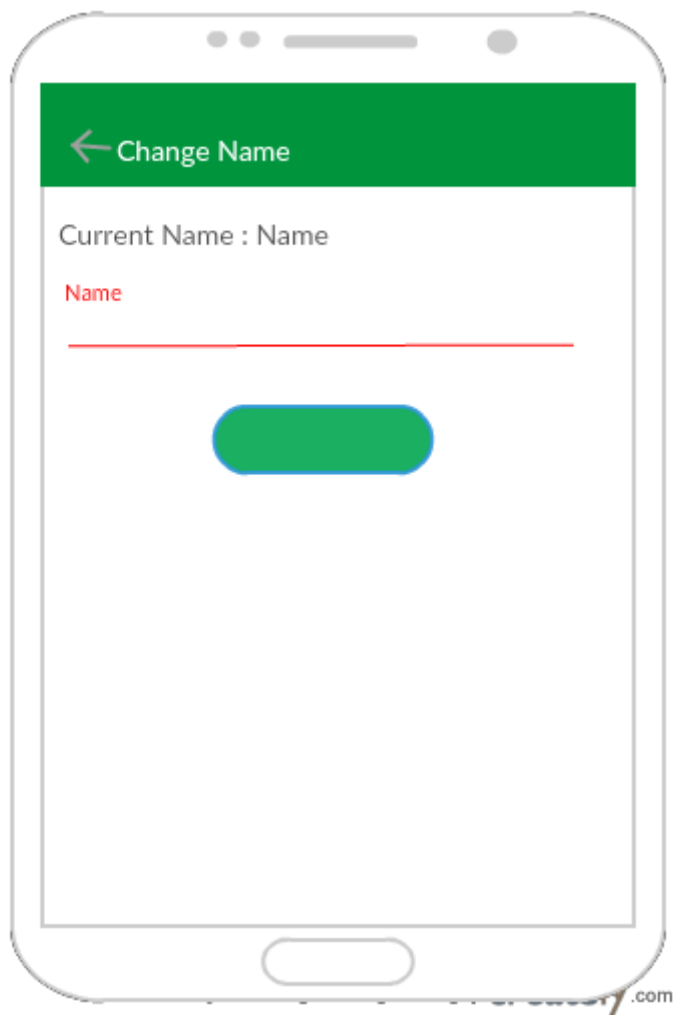
Market Locations

MarketLocations	
Name:	Independence Farmers Market
Address	Independence,MO,64050, United states
Distance	9.56 miles
Name:	Liberty Farmers Market
Address	Liberty,MO 64068, United States
Distance	16.96 miles
Name:	Olathe Farmer's Market
Address	200 W Santa Fe St Poplar, Olathe, KS 66061,United State
Distance	16.71 miles
Name:	black bob farmer's Market
Address	14570 W 151st Ter,Olathe, 66062, United States
Distance	15.39 miles

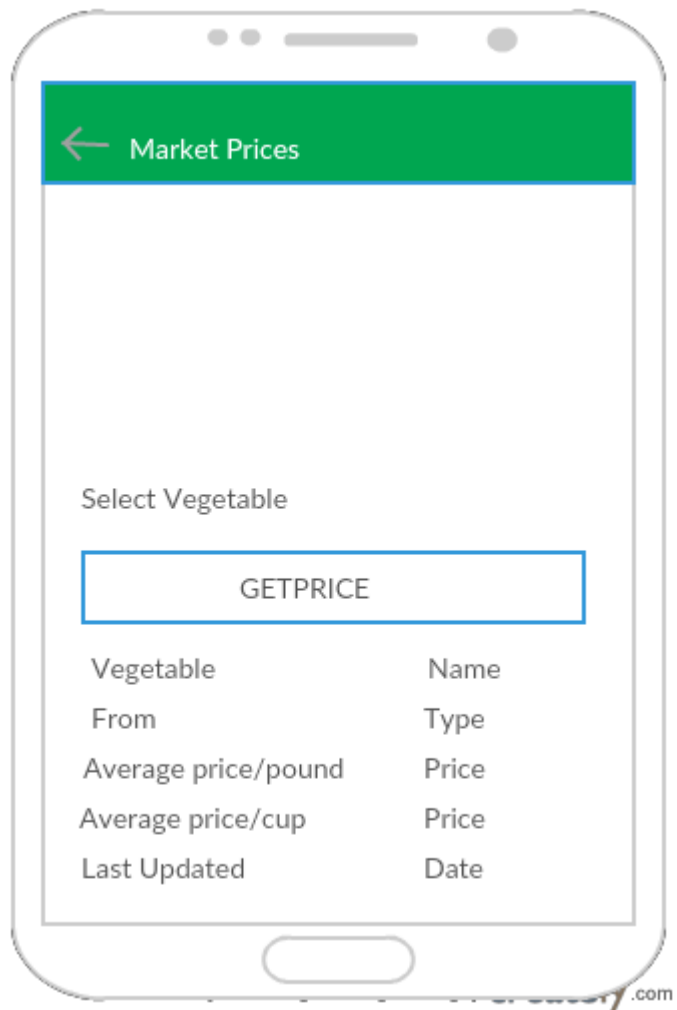
Account Dtails



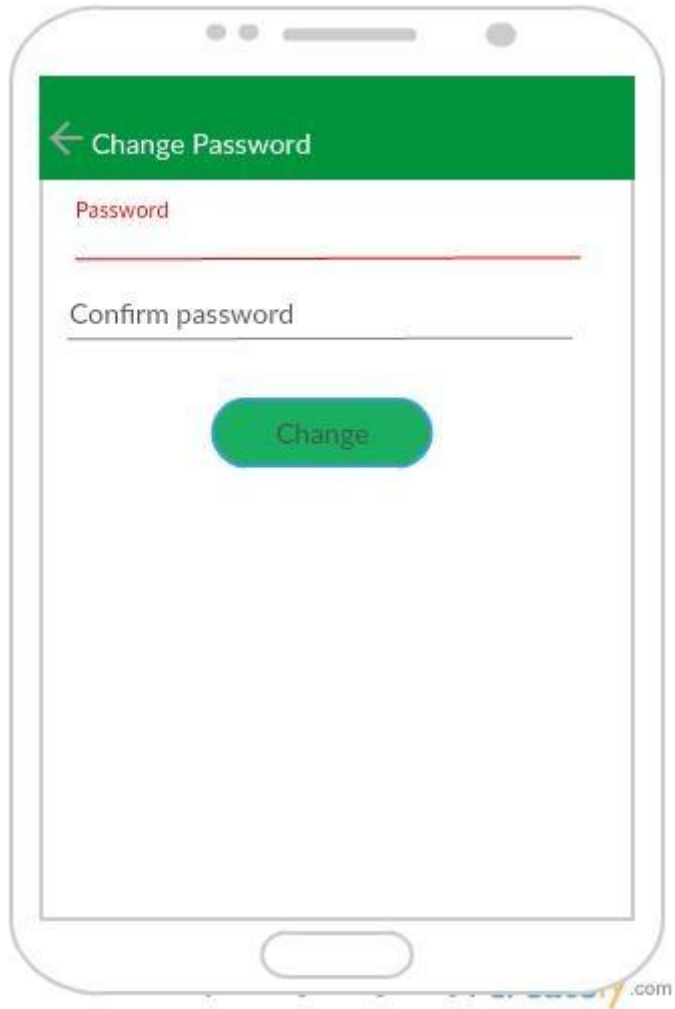
ChangeName



MarketPrices



ChangePassword



A mobile application interface for changing a password. The screen features a green header bar with a white back arrow and the text "Change Password". Below the header, there are two input fields: the first is labeled "Password" in red text and has a red underline; the second is labeled "Confirm password" in black text and has a black underline. A green rounded rectangular button with the text "Change" is positioned below the input fields. The entire interface is displayed within a white rounded rectangle representing a smartphone, which includes a home button at the bottom and a status bar at the top.

← Change Password

Password

Confirm password

Change

www.dreamtode.com

ChangeEmail

A mobile application interface for changing an address. The screen has a green header bar with the text "Change Address". Below the header, there are two labels: "Current Address:" and "Address". Under the "Address" label, there is a red horizontal line. Below the line, there are two green buttons: "Current Address" and "Change".

Change Address

Current Address: Address

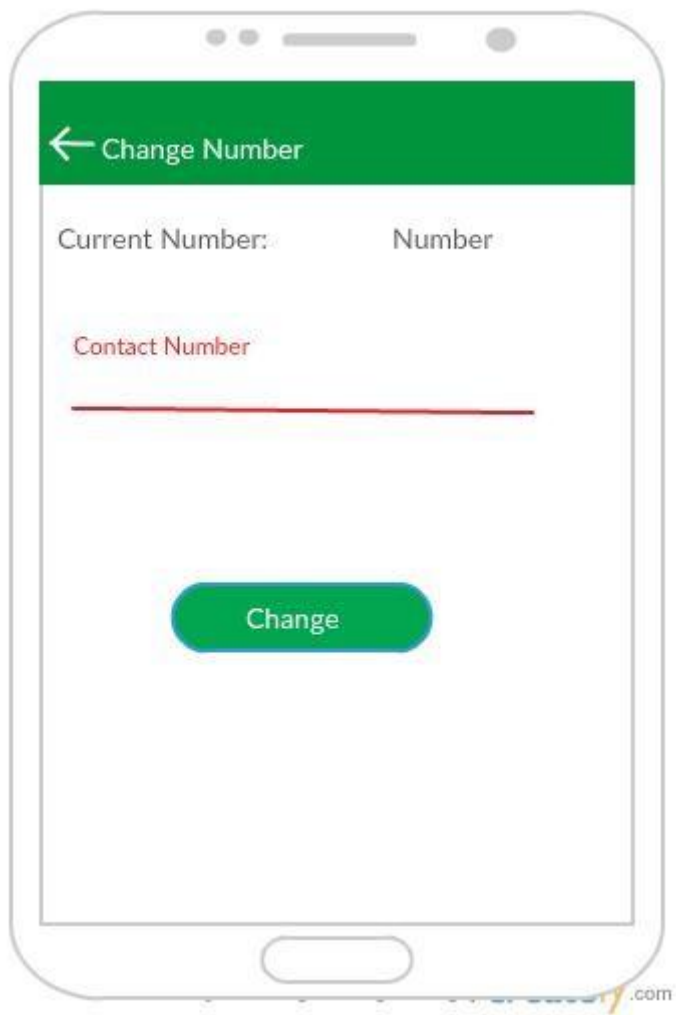
Address

Current Address

Change

www.123.com

ChangeEmail



← Change Number

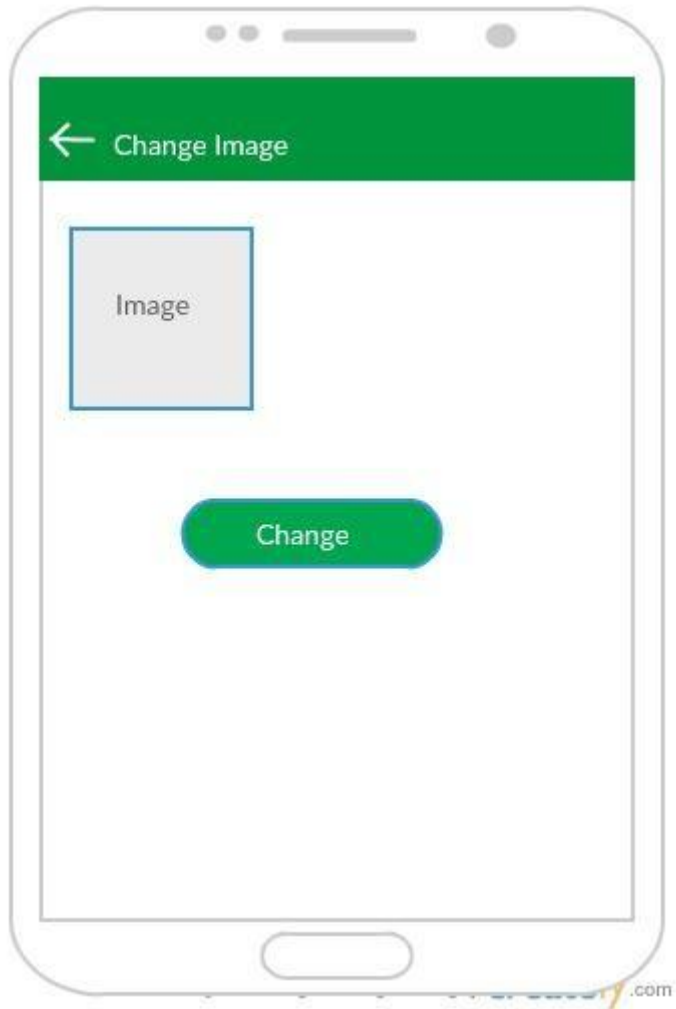
Current Number: Number

Contact Number

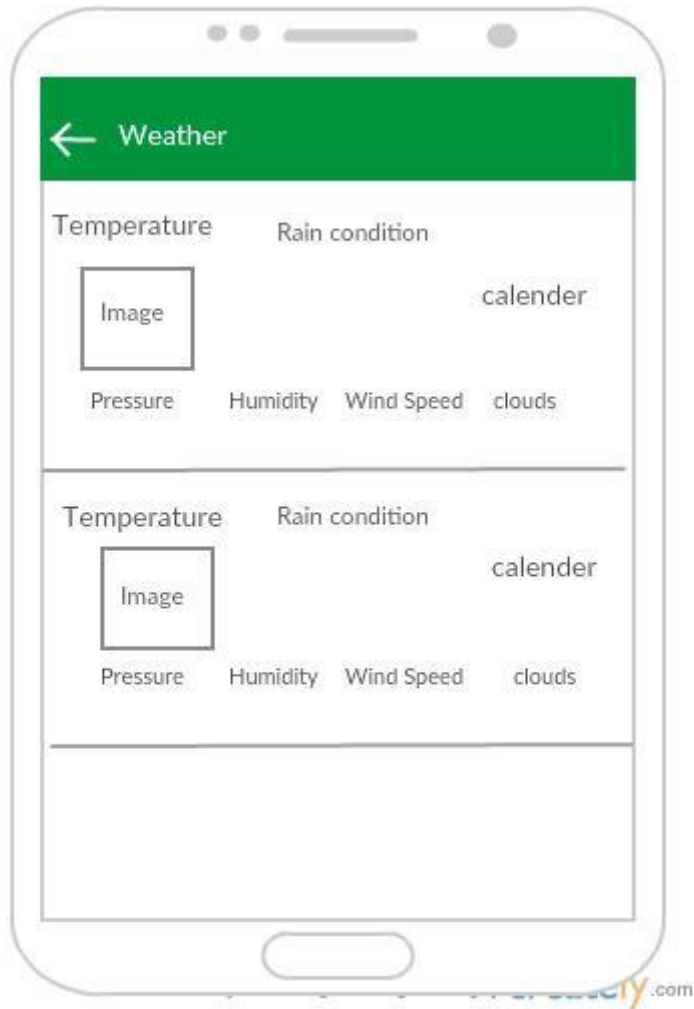
Change

www.dreamtodev.com

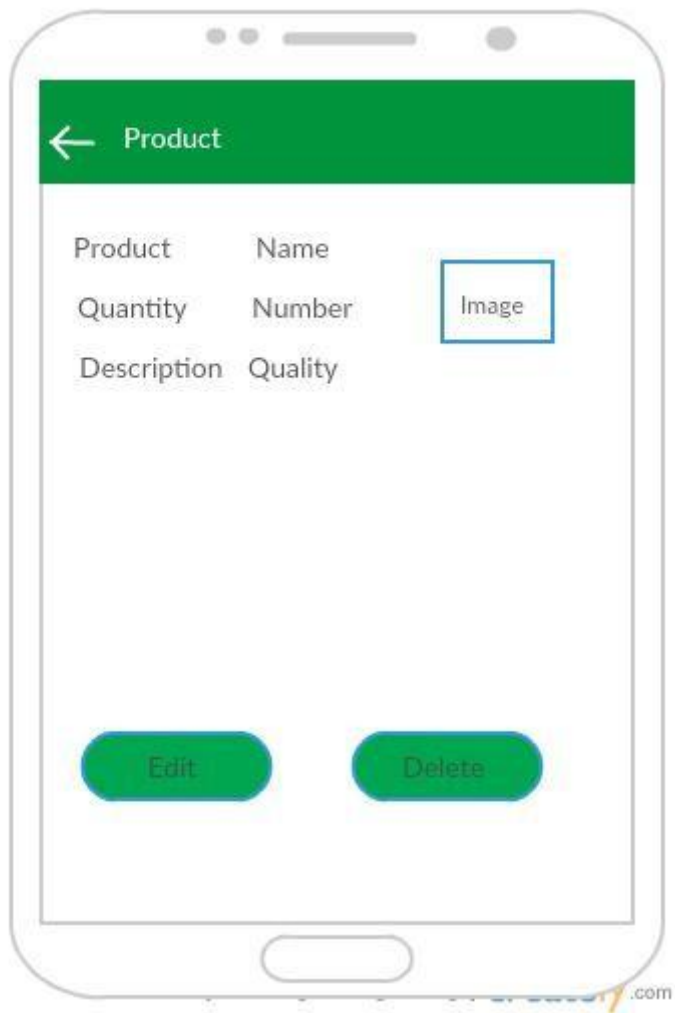
Changeimage



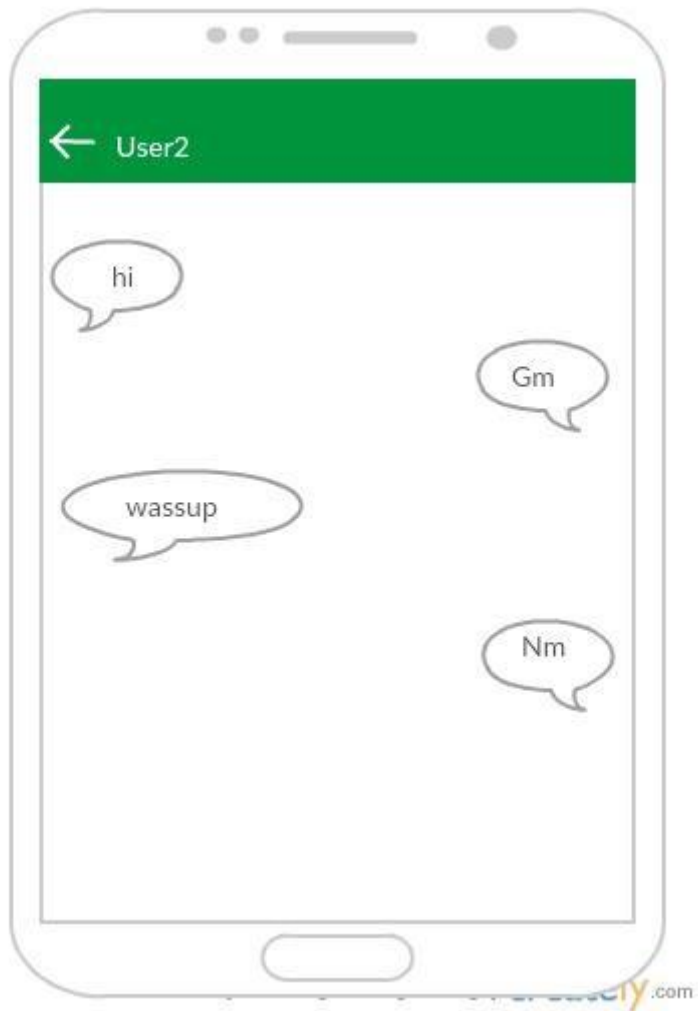
Weather



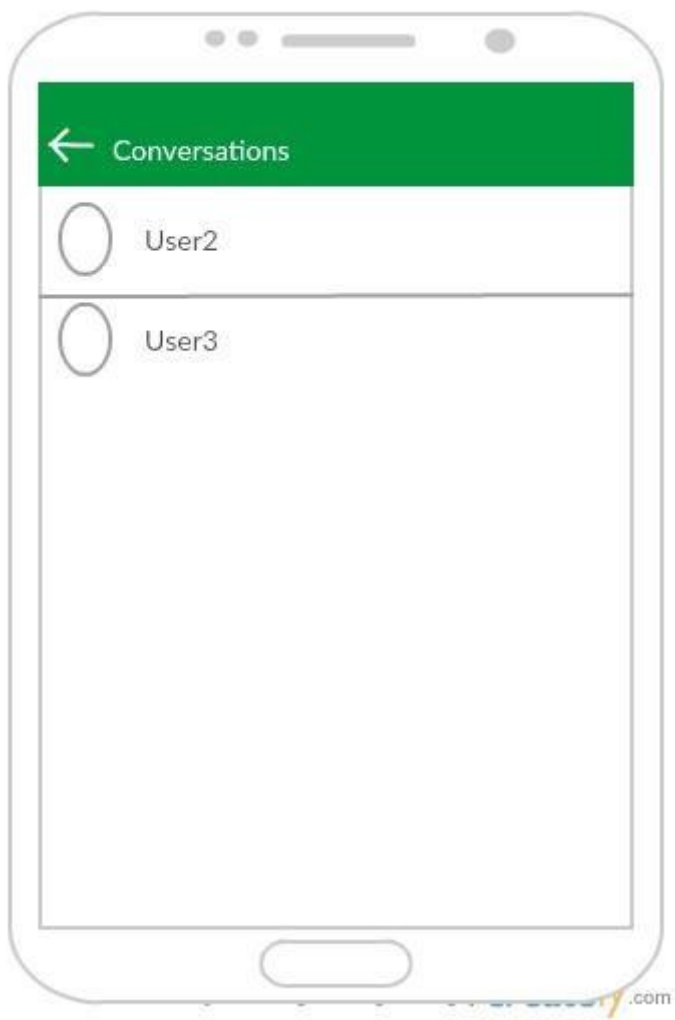
Product



User



Conversations



EditPost



← Edit Post

Product

Quantity

Description

Image 

Edit Post

www.dreamtost.com

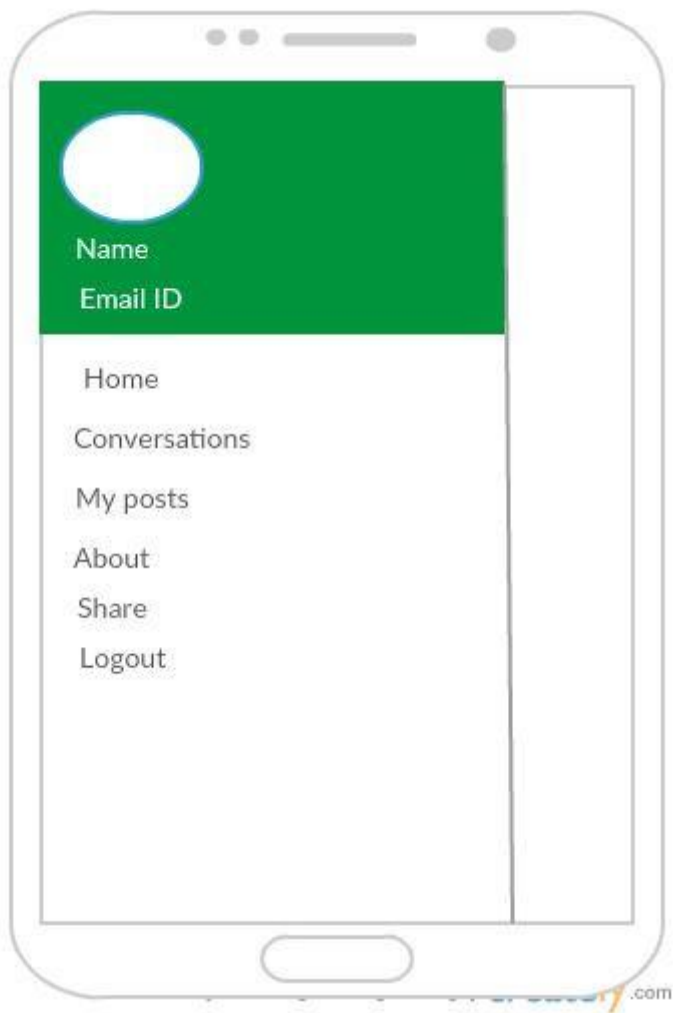
News



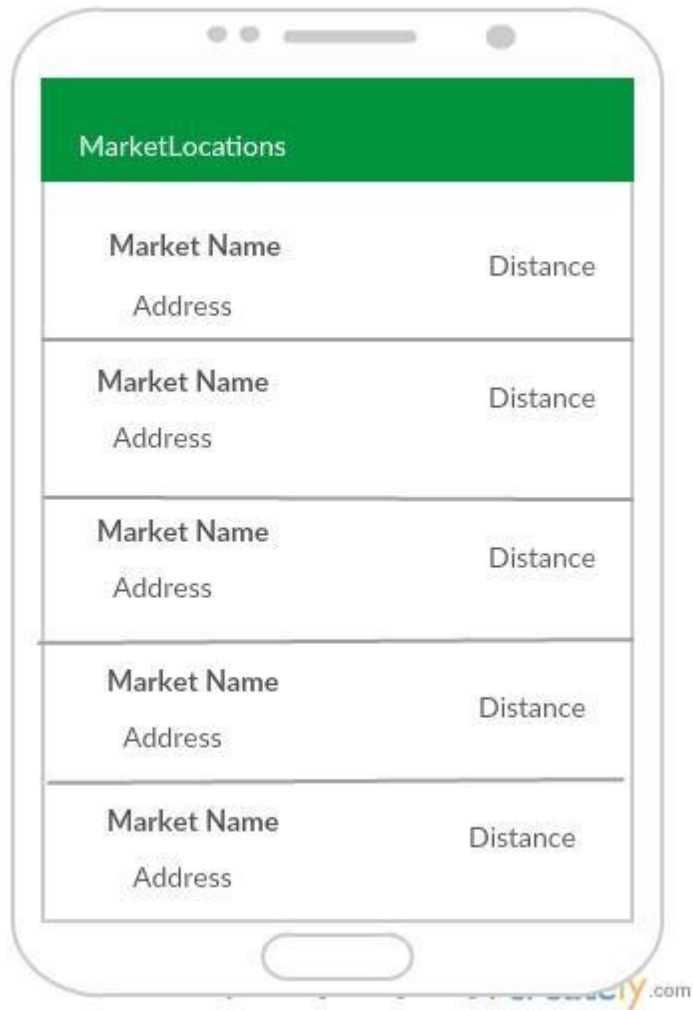
Journals



Account Details



MarketLocations



MarketLocations		
Market Name	Address	Distance
Market Name	Address	Distance
Market Name	Address	Distance
Market Name	Address	Distance
Market Name	Address	Distance

Buyer Page



The image shows a mobile application interface for a 'Buyer Page'. At the top, there is a blue header bar with two tabs: 'SELLER' and 'BUYER'. The 'BUYER' tab is currently selected, indicated by a red underline. Below the header, the main content area is white and contains three input fields. Each field is preceded by a label: 'Product:', 'Quantity:', and 'Description:'. Each label is followed by a horizontal line representing an input field. The entire interface is framed within a rounded rectangle representing a smartphone, with a home button at the bottom.

SELLER	BUYER
Product: _____	
Quantity: _____	
Description: _____	

MarketTrade Page

MarketTrade

SELLER

BUYER

Product	Date Text field	
Quantity	Quantity Text field	Image field
Description	Description Text field	

Product	cotton	
Quantity	2kg	
Description	good	

Product	paddy	
Quantity	5kg	
Description	Good	

News Activity Page



User Stories

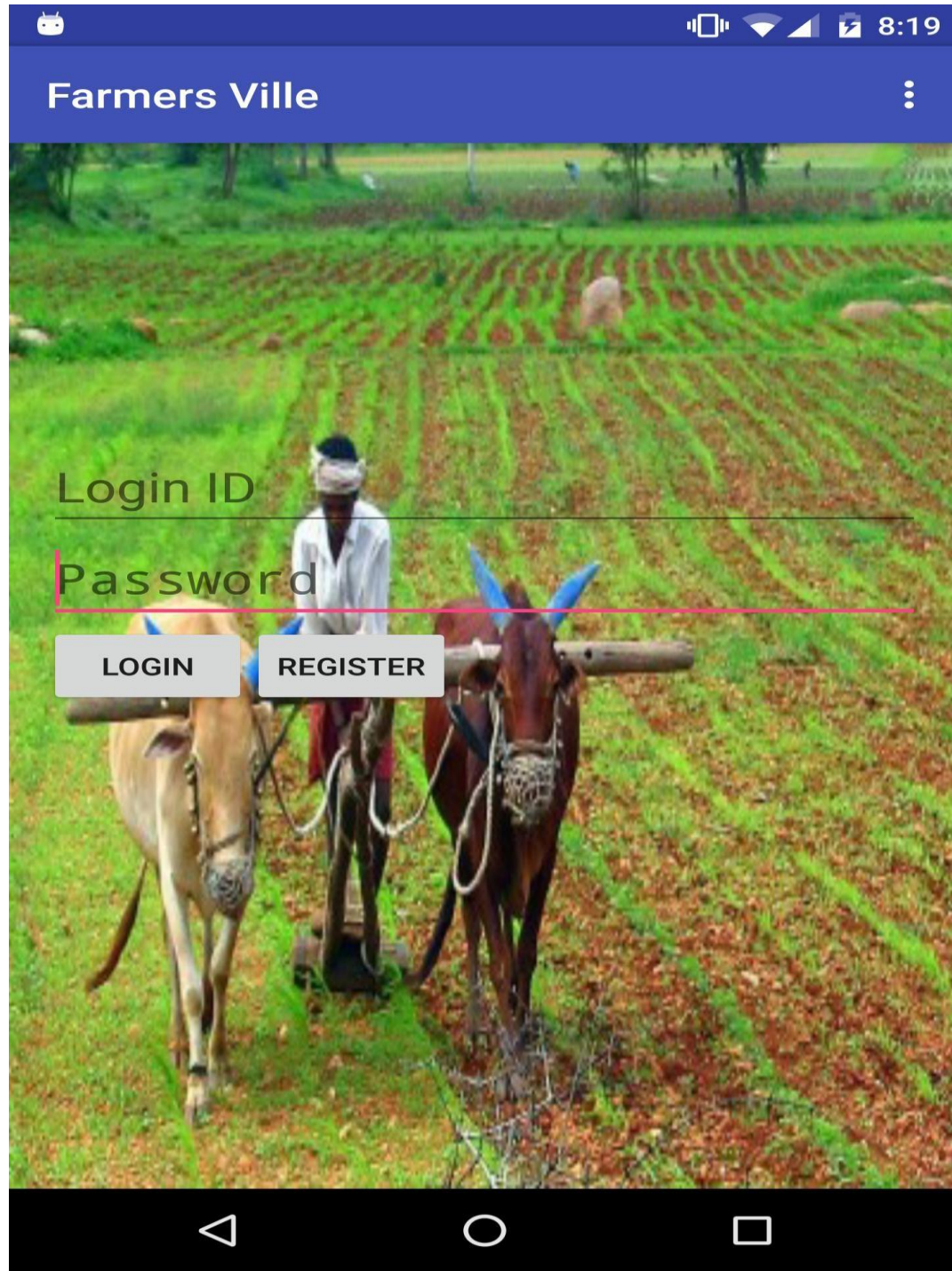
As a	I want to	so that
User	sell and buy crop	I can do marketing without any mediator and gain more profit
	check near market locations	I can directly go and sell the product
	check current market prices	I can set the crop price at affordable levels
	read the present agricultural news	I can get awareness of market trends and predict the particular crop business
	latest trends and technologies	I can implement the latest methods and increase the productivity
	get the suggestions	I can apply those techniques to my cultivation and reduce the loss
	chat	I can communicate with other customers
	profile	I can change the personal details
	weather forecast	I will plan the harvestation effectively

Test Cases

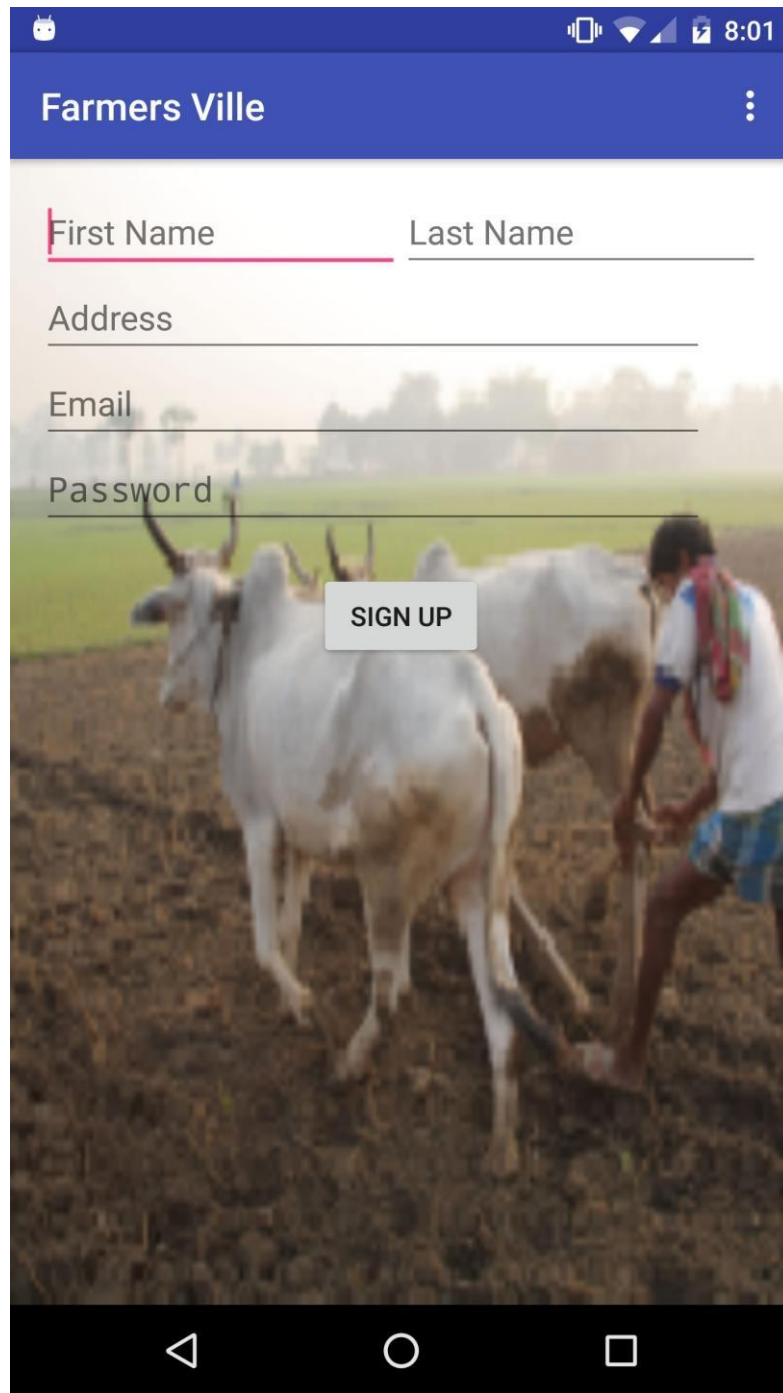
Testcase Name	Test Description	Expected Result	Pass/Fail
Login	Enter invalid <u>userid</u> and valid password	invalid login error message should be displayed	Pass
	Enter valid <u>userid</u> and invalid password	invalid login error message should be displayed	Pass
	Enter valid <u>userid</u> and valid password	Application should be redirected to home page	Pass
Sign Up	Enter <u>emailid</u> with * symbol	invalid <u>emailid</u> should be displayed	Pass
	Enter password with only numbers	please check password instructions should be displayed	Pass
	Enter <u>firstname</u> with numbers	invalid first name should be displayed	Pass
Weather feature	click on the "weather button"	the weather forecast page should be populated	Pass
Marketing Feature	click on the "BUY & SELL" button	the market trade page should be populated	Pass
<u>MarketLocations</u>	click on the locations button	<u>near by</u> market locations should be populated	Pass
News	click on the news button	latest agricultural news will be populated	Pass
Suggestions	click on the suggestions button	search option for crop data will be populated	Pass
<u>MarketPricing</u>	click on the Live Market Prices button	List of the prices will be populated	Pass
Profile	Click on the profile button	Get the Options to change the personal data	Pass
Chat	Click on chat button	chat view will be populated	Pass

Final Screen Shots

Loginpage



Signup Page

A screenshot of a mobile application's signup page titled "Farmers Ville". The page features a background image of a farmer plowing a field with two white oxen. The form includes input fields for "First Name", "Last Name", "Address", "Email", and "Password". A "SIGN UP" button is positioned over the lower part of the background image. The top status bar shows the time as 8:01 and various icons. The bottom navigation bar contains standard Android navigation icons.

8:01

Farmers Ville

First Name Last Name

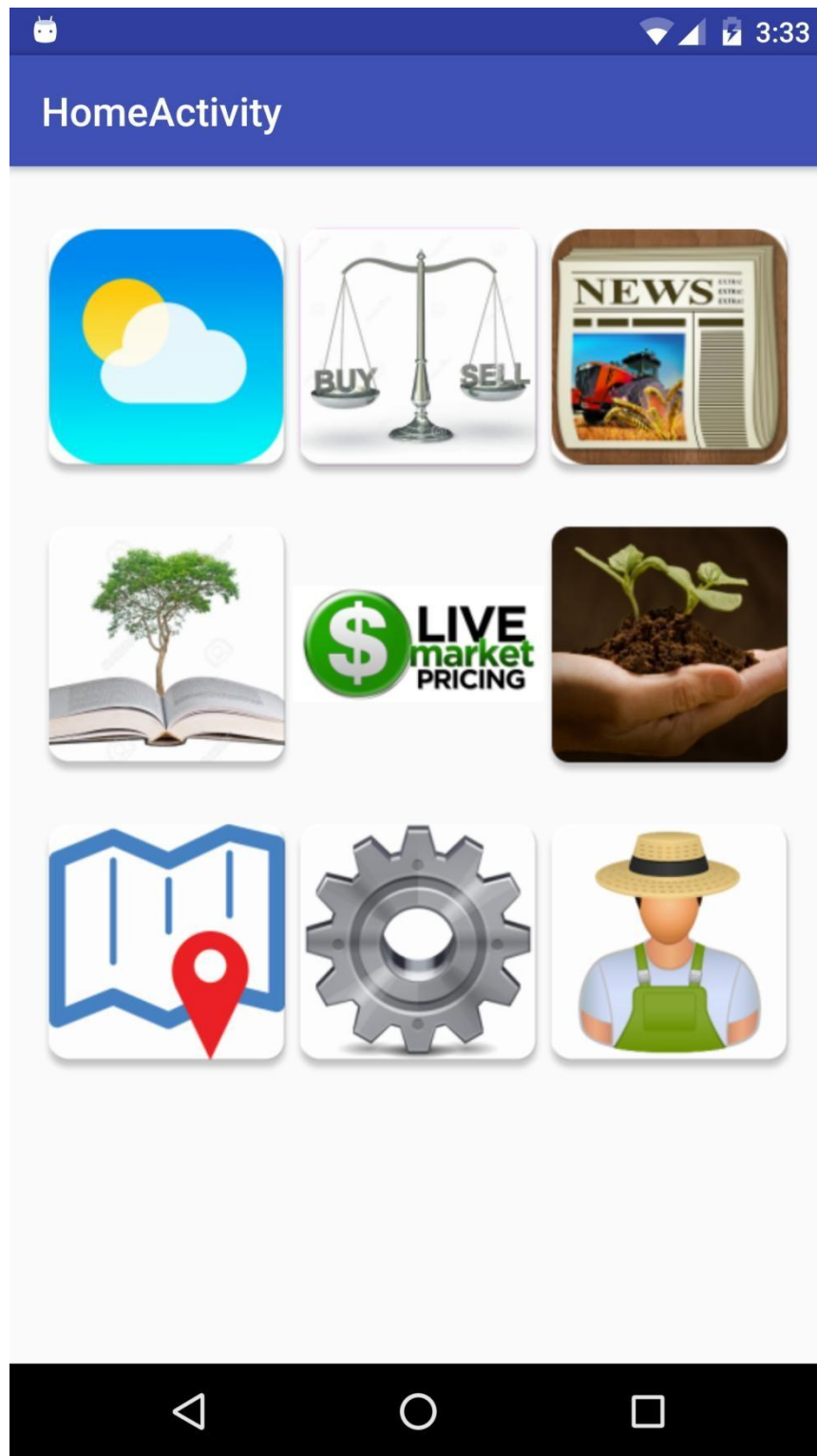
Address

Email

Password

SIGN UP

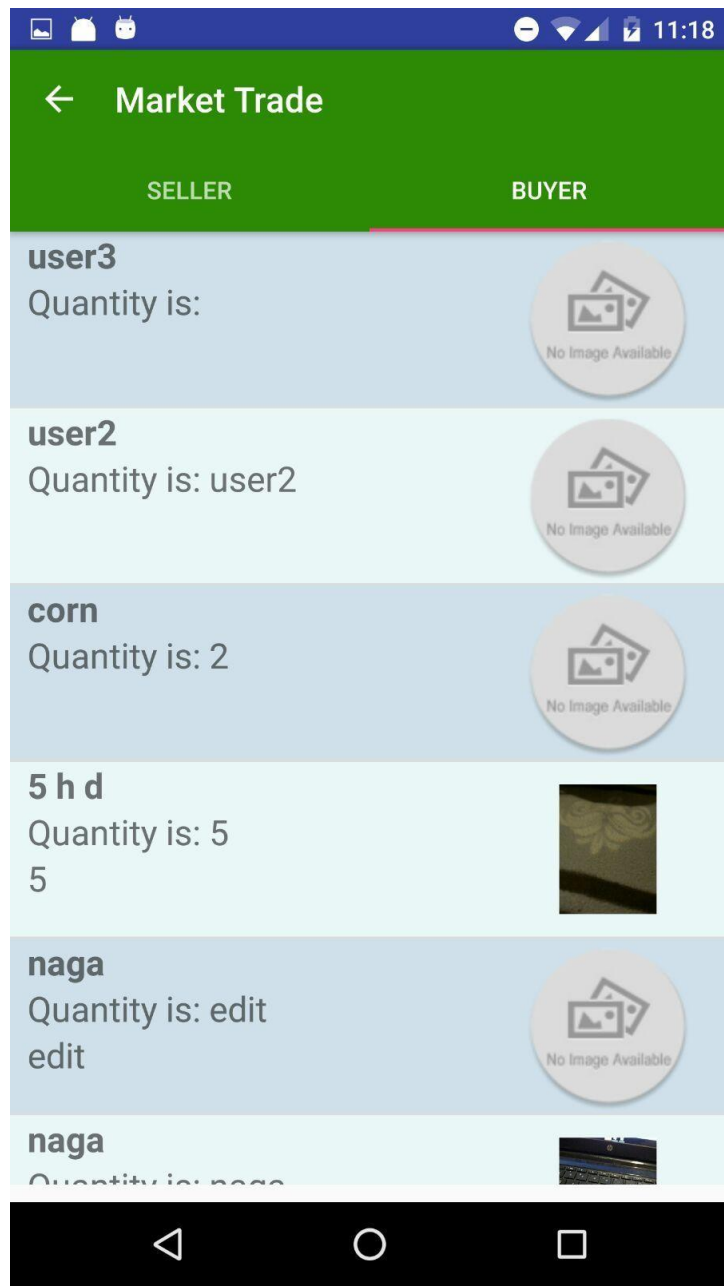
Home Screen









Weather Page




Market Page



Market Trade

11:18

 **Market Trade**


SELLER

BUYER

Product Details

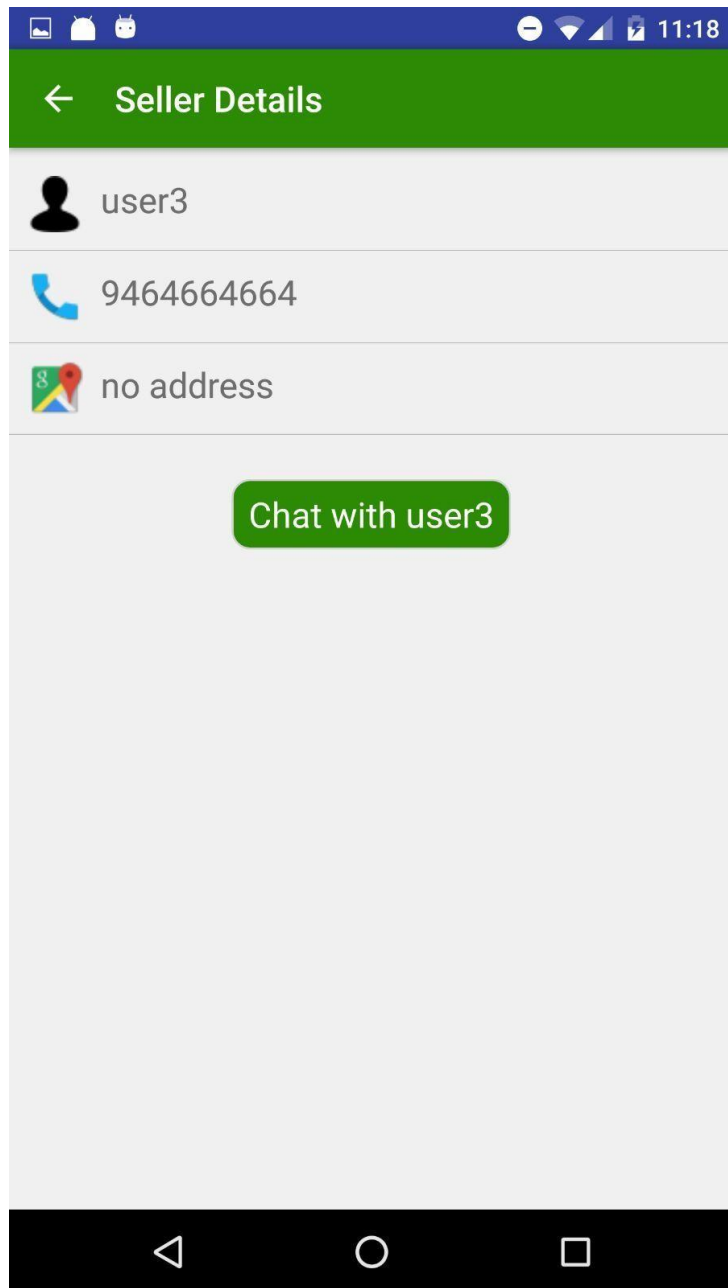
Product Quantity

Description

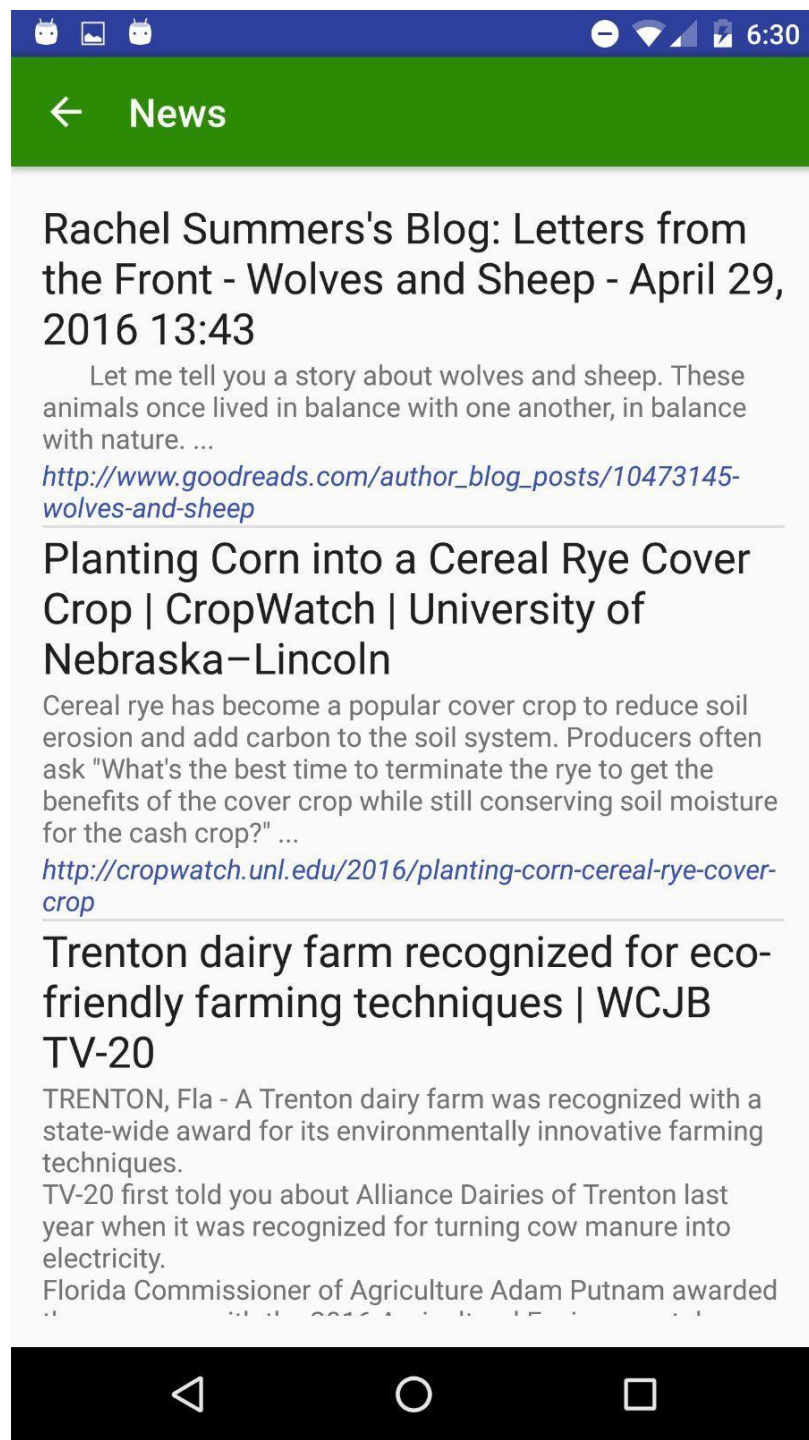


Post




Seller Details



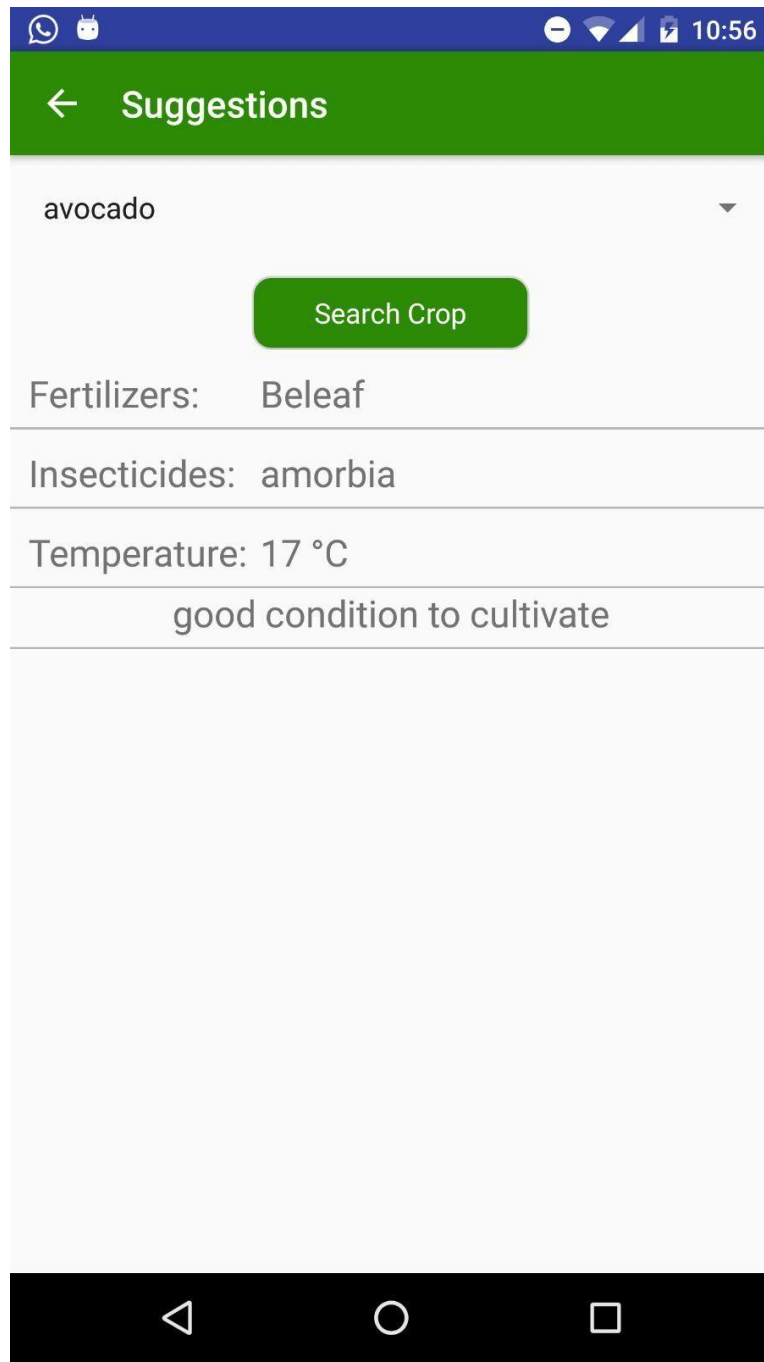
News Module



Market Locations

	
	
Lee's Summit Farmers Market 113 SE Douglas St Douglas, Lees Summit, MO 64063, United States	13.59 miles
Hippie Chow at BADSEED Farmers Market 1909 McGee St 19th and McGee, Kansas City, MO 64108, United States	3.82 miles
Edens Acres Raytown, MO, United States	6.41 miles
Greenmarket Kansas City, KS, United States	5.89 miles
Parker Farms CSA Pick-up 6737 W 75th St Frtizs Chili Parking Lot, Overland Park, KS 66204, United States	5.55 miles
Belton Farmers Market 300 Block Loop Rd, Belton, MO 64012, United States	15.81 miles
Rosedale Farmers Market 248 Marshall St, Kansas City, KS 66103, United States	3.04 miles
Rosedale Farmers Market Kansas City, KS, United States	2.31 miles
Mi Pueblito Meat Market	6.59 miles
	

Suggestion Module



The screenshot shows a mobile application interface with a blue status bar at the top containing icons for WhatsApp, a robot, and system status (battery, Wi-Fi, signal, and time 10:56). Below the status bar is a green header bar with a white back arrow and the text 'Suggestions'. The main content area is white and contains a search bar with the text 'avocado' and a dropdown arrow. Below the search bar is a green button with the text 'Search Crop'. Underneath the button are four rows of suggestions, each separated by a horizontal line: 'Fertilizers: Beleaf', 'Insecticides: amorbia', 'Temperature: 17 °C', and 'good condition to cultivate'. At the bottom of the screen is a black navigation bar with three white icons: a triangle, a circle, and a square.

avocado ▼

Search Crop

Fertilizers: Beleaf

Insecticides: amorbia

Temperature: 17 °C

good condition to cultivate

AccountDetails

