



CS551 Advance Software Engineering

THIRD INCREMENT REPORT

Farmers Ville

Group#11

Naga Krishna Vadlamudi (56)
Manoj Prabhakar Ejjirothu (10)
Sudheer Nagaruri (37)
Pratap Kadari (20)

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

Third Increment Report

As a part of the third increment we have implemented storing and retrieving images of crop in mongo db, implemented crop prices and fertilizer suggestion module by storing data in mongo db and retrieving that. Account specific module is not yet implemented.

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 3rd Increment:

- API for the market prices is not available for free, so have to manually store and retrieve the data from mongo DB.
- Integrating of the Account module with the other module is still an issue, we have to still find a solution for that.

Total Feature Implemented so far:

- Weather Forecast
- Market Places Location Details
- Login and Register Pages
- Buyer and Seller Module
- Suggestions
- News
- Market Prices

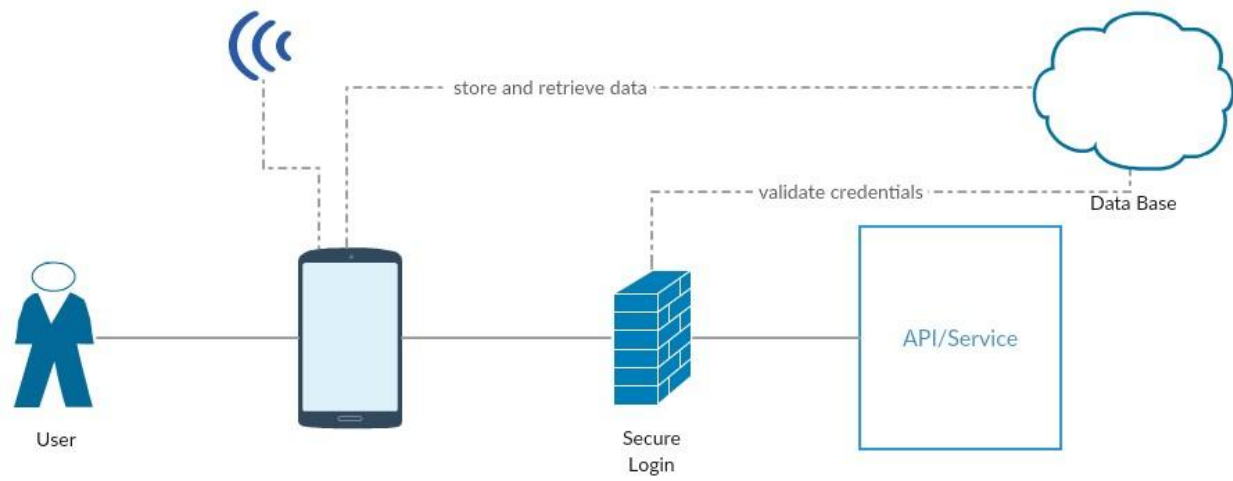
Features to be implemented:

- Account Module
- Setting Module
- Trends and technologies

Improvements:

- UI improvements on all modules

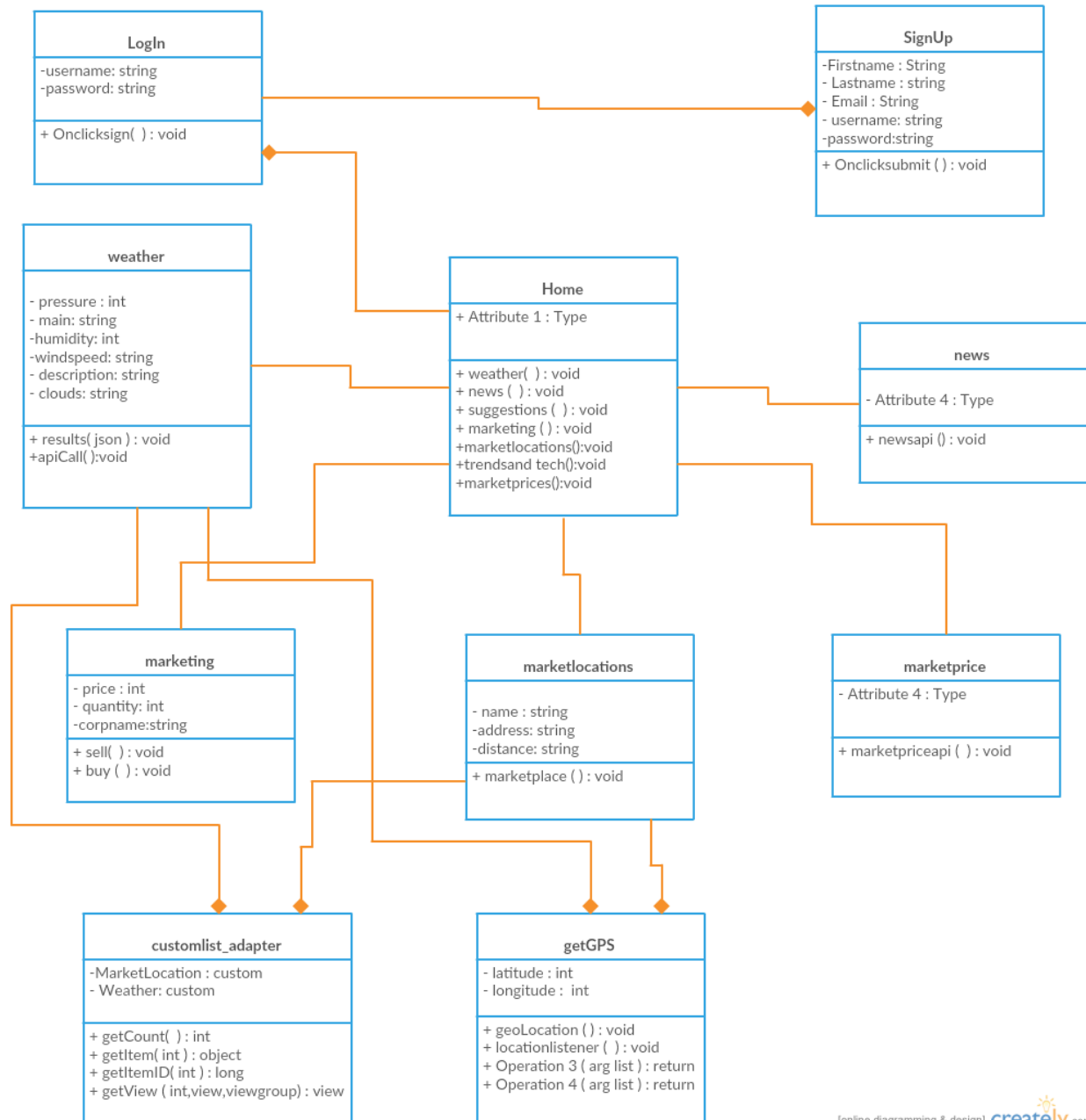
Architecture Diagram



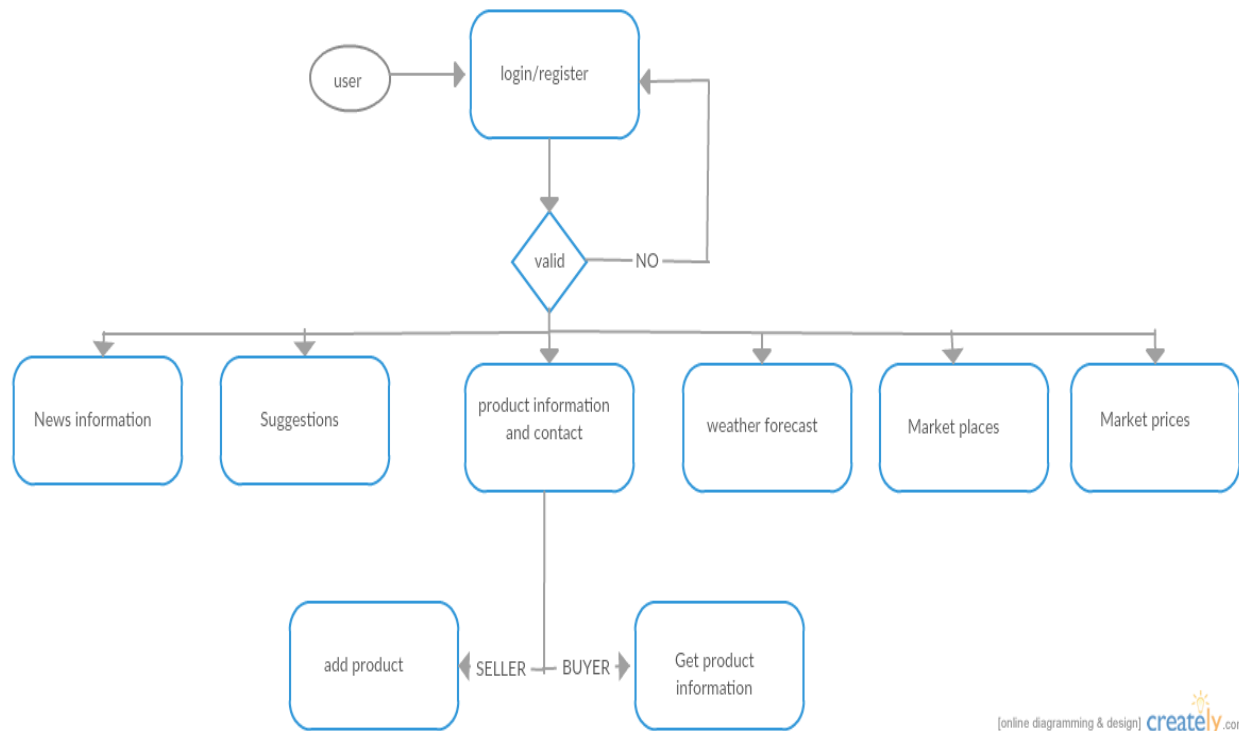
Use Case Diagram



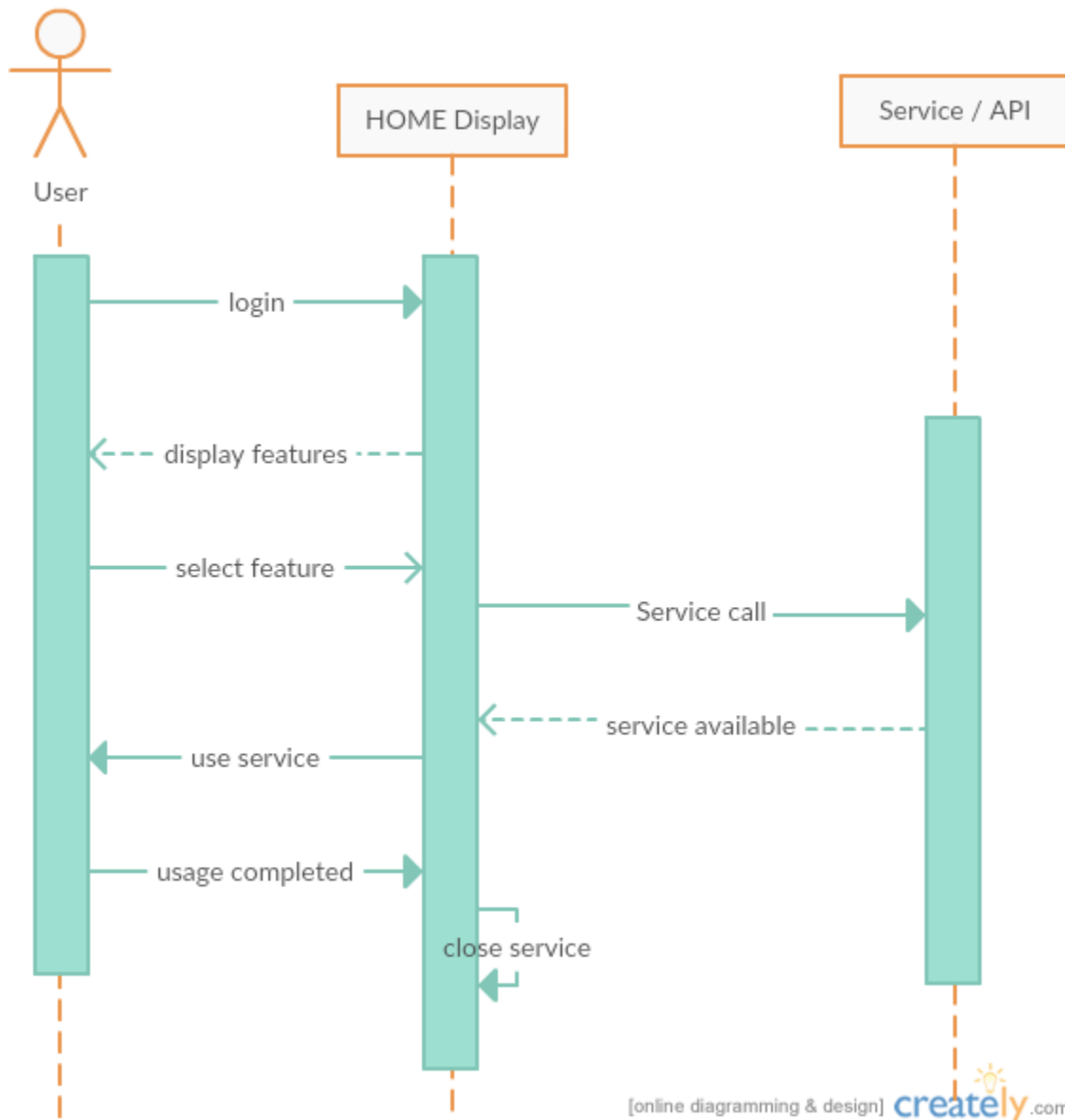
Class Diagram:



Activity Diagram

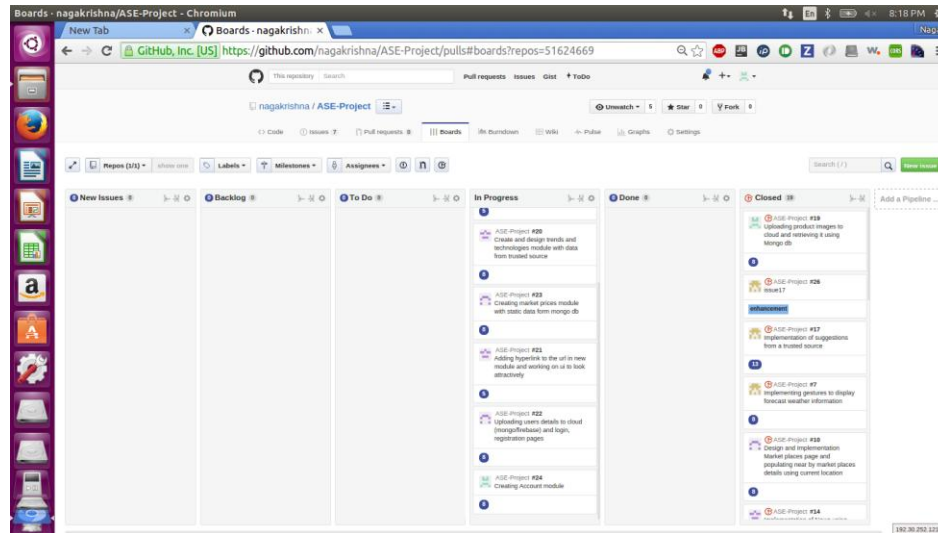


Sequence Diagram



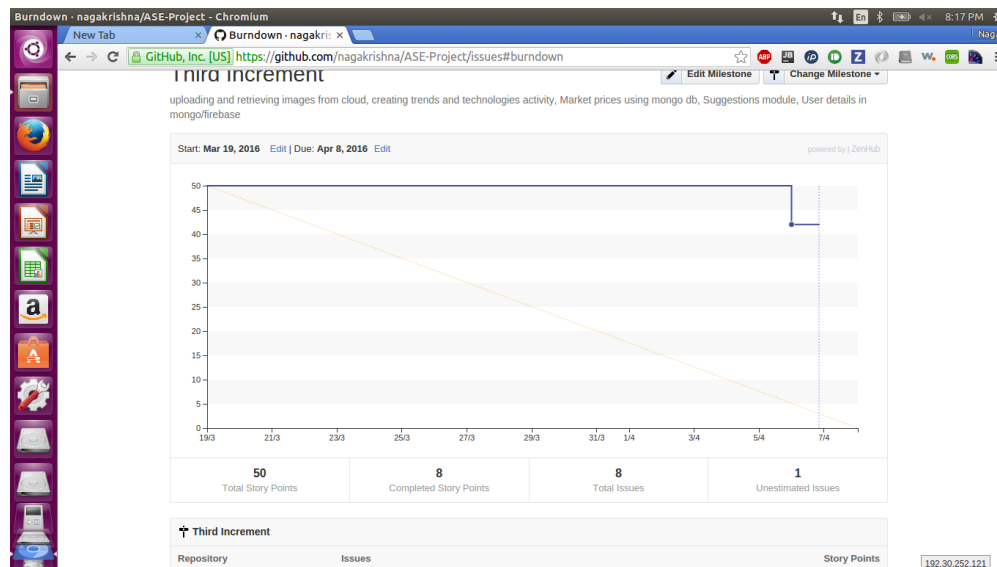
Issues Tool Bar

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 dark status bar with icons for signal, battery, and the time '4.00'. Below this is a white header bar with the text 'FarmersVille' on the left and a pencil icon and a three-dot menu icon on the right. The main content area is white and contains two text input fields. The first field is labeled 'Username' and the second is labeled 'Password'. Below the password field are two rectangular buttons: 'SignIn' and 'SignUp'.

4.00

FarmersVille

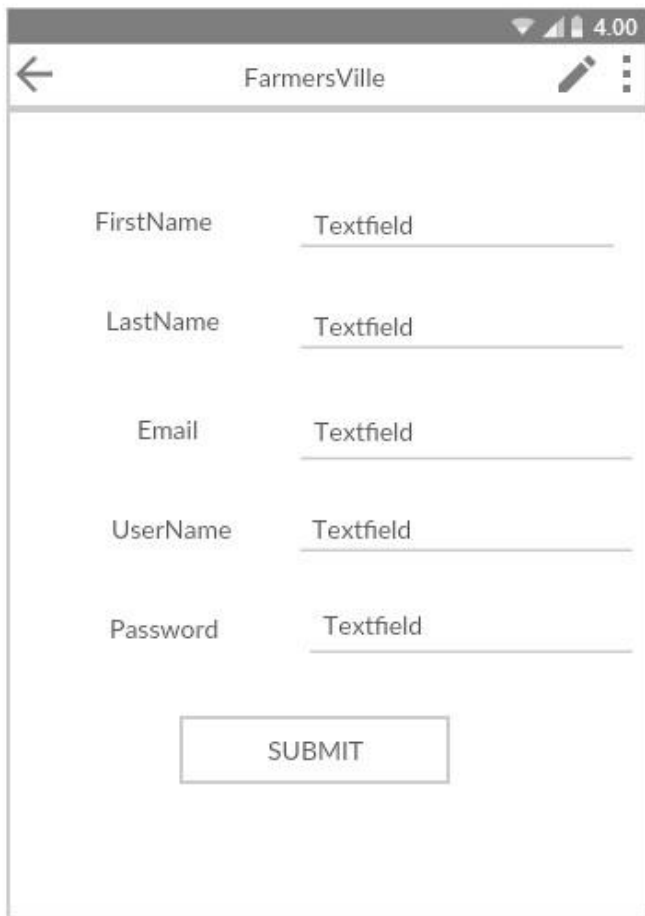
Username Textfield

Password Textfield

SignIn

SignUp

Sign Up Page



A mobile application interface for a sign-up page. At the top, a dark grey header bar contains a back arrow on the left, the text "FarmersVille" in the center, and a pencil icon and a three-dot menu icon on the right. Below the header, the main content area is white. It features five rows of labels and text input fields: "FirstName", "LastName", "Email", "UserName", and "Password". Each label is positioned to the left of its corresponding "Textfield" input. At the bottom of the form, there is a rectangular button with the text "SUBMIT".

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

4.00

←

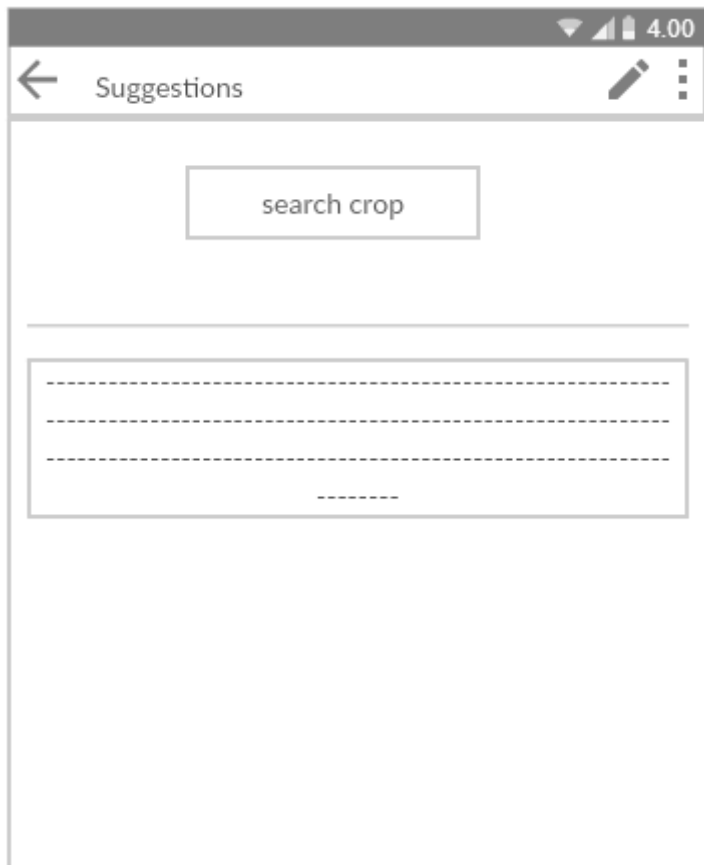
Weather

Date	
Temp	
Humidity	

Date	
Temp	
Humidity	

Date	
Temp	
Humidity	

Suggestions



A mobile application mockup for a screen titled "Suggestions". The interface includes a top status bar with a back arrow, the title "Suggestions", and icons for a pencil and a menu. Below the title bar is a search input field with the placeholder text "search crop". A horizontal separator line follows. Below the separator is a list container with three dashed lines for text and a dashed line for a footer. The bottom of the screen features a footer with the text "[online diagramming & design] createely.com".

4.00

← Suggestions

search crop

[online diagramming & design] createely.com

Market Locations Page

4.00

←

Marketlocations

Name

Address

Distance

Name

Address

Distance

Buyer Page

← MarketTrade

SELLER	BUYER
Product	
Quantity	
Description	

News Module

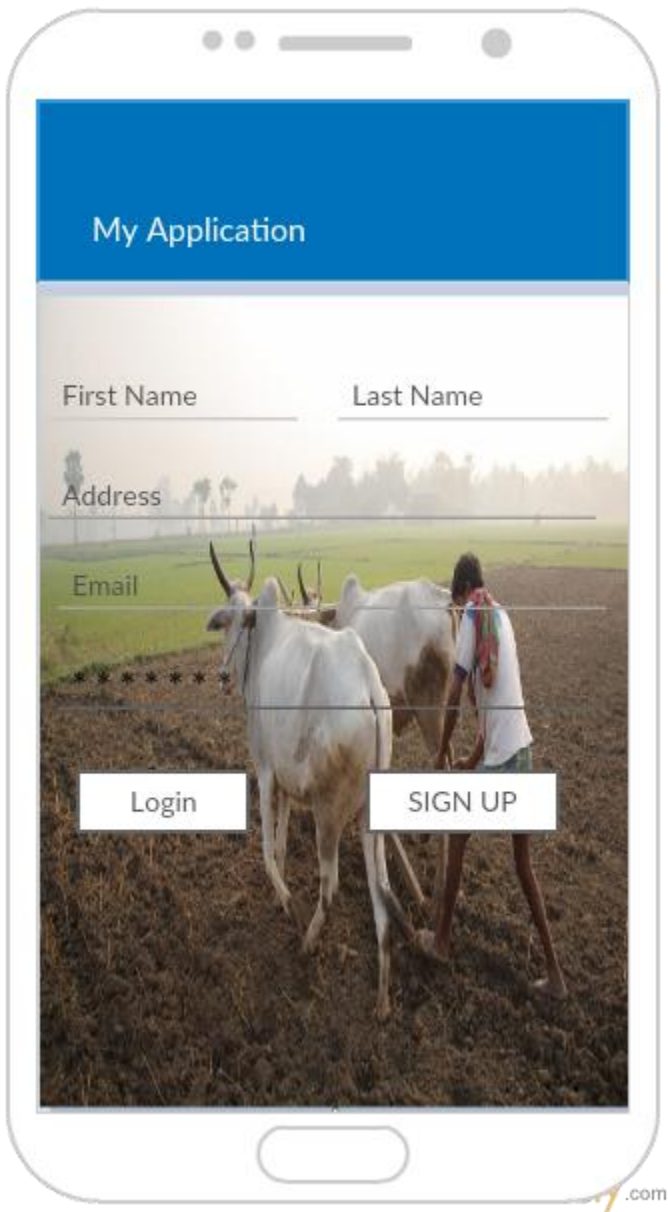
The wireframe illustrates a mobile application interface for a news module. At the top, a dark grey status bar displays a Wi-Fi icon, a cellular signal icon, a battery icon, and the time 4:00. Below this is a white header bar with a back arrow on the left, the title 'News' in the center, and a pencil icon and a three-dot menu icon on the right. The main content area consists of two identical news item containers stacked vertically. Each container has a 'Head Line' label above a large text box. The first news item's text box contains the word 'NEWS' followed by four horizontal dashed lines. Below the text box is a URL input field containing 'http://-----'. The second news item's text box contains two horizontal dashed lines followed by a single centered dashed line. Its URL input field also contains 'http://-----'.

Mock Ups

Login Page



Sign Up Page



My Application

First Name

Last Name

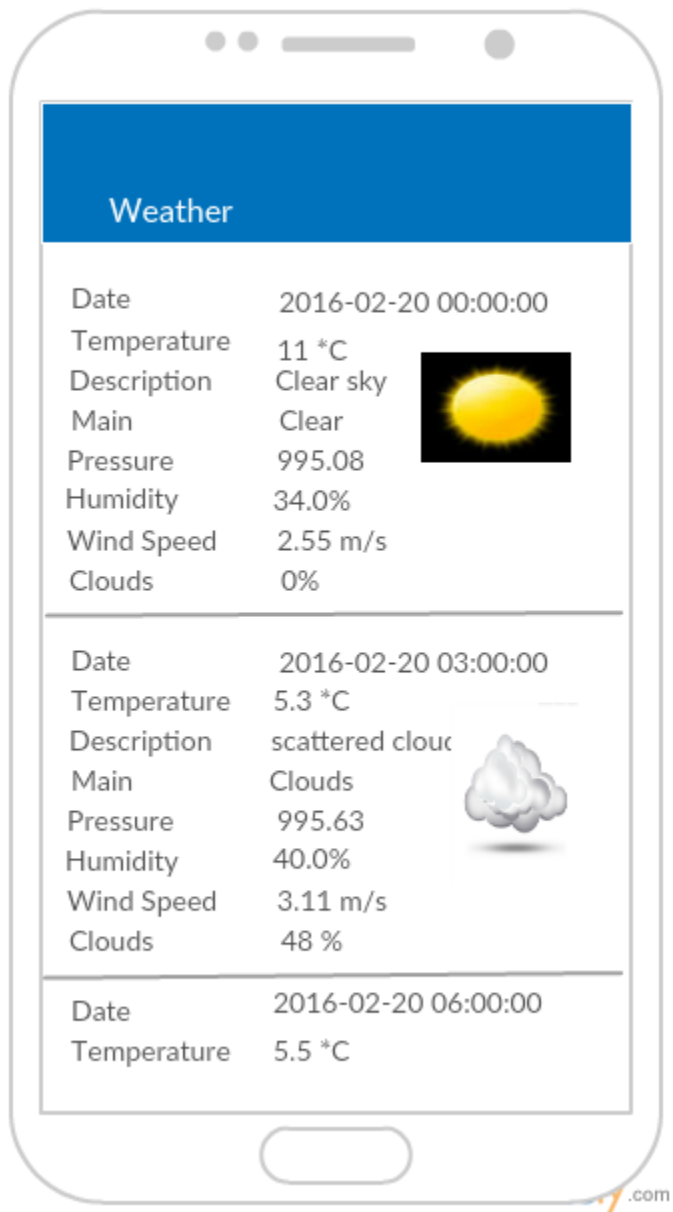
Address

Email

Login SIGN UP

7.com

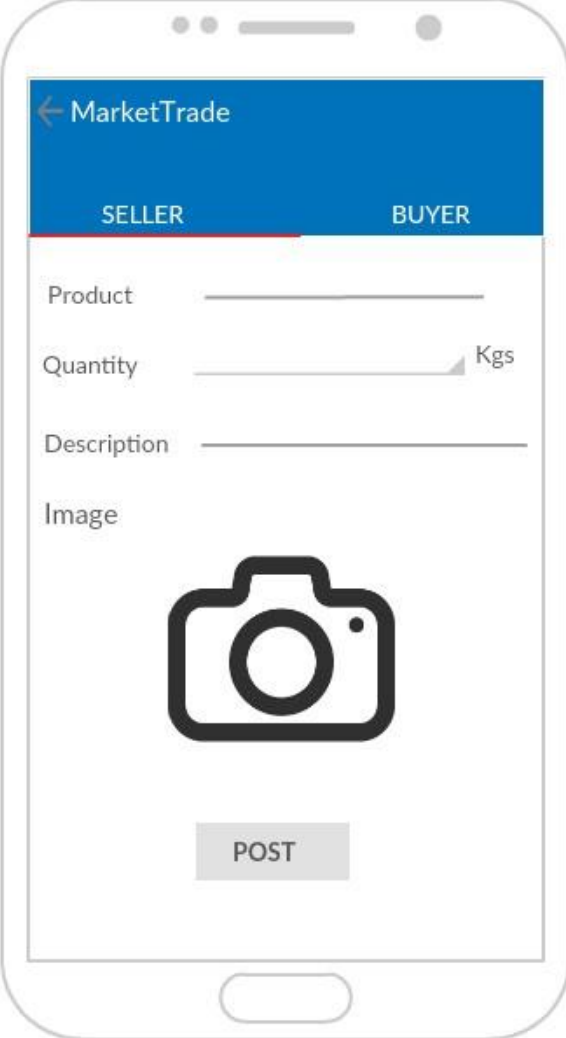
Weather Page



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 back arrow and the text "MarketTrade". Below the header, a white bar has 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 labeled "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

Buyer Page

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

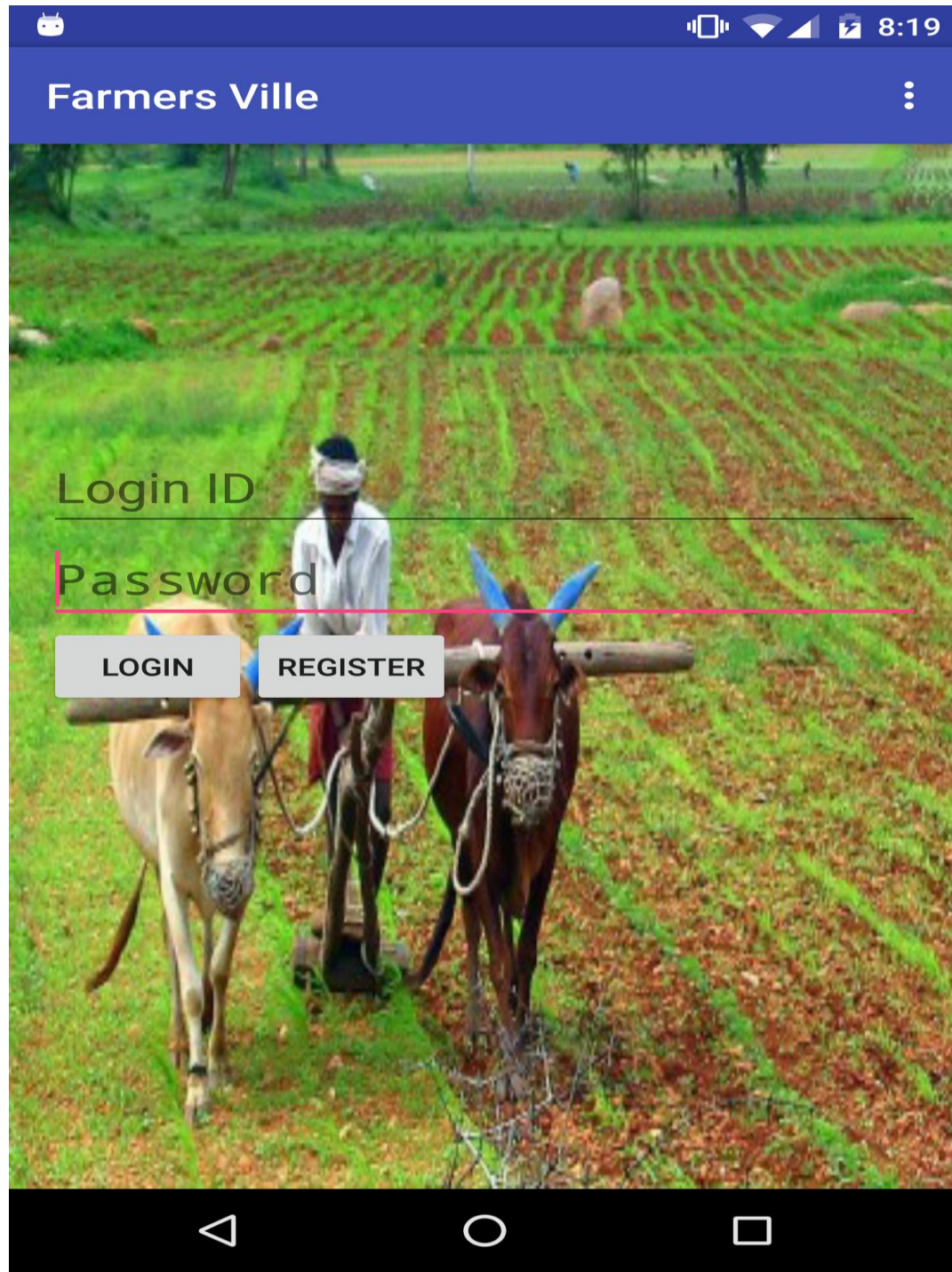
As a	I want to	So that
User	sell and buy crop	I can do marketing without any mediator and gain more profit
	check near market locations	I can directly go and sell the product
	check current market prices	I can set the crop price at affordable levels
	read the present agricultural news	I can get awareness 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
	weather forecast	I will plan the harvestation effectively

Test Cases

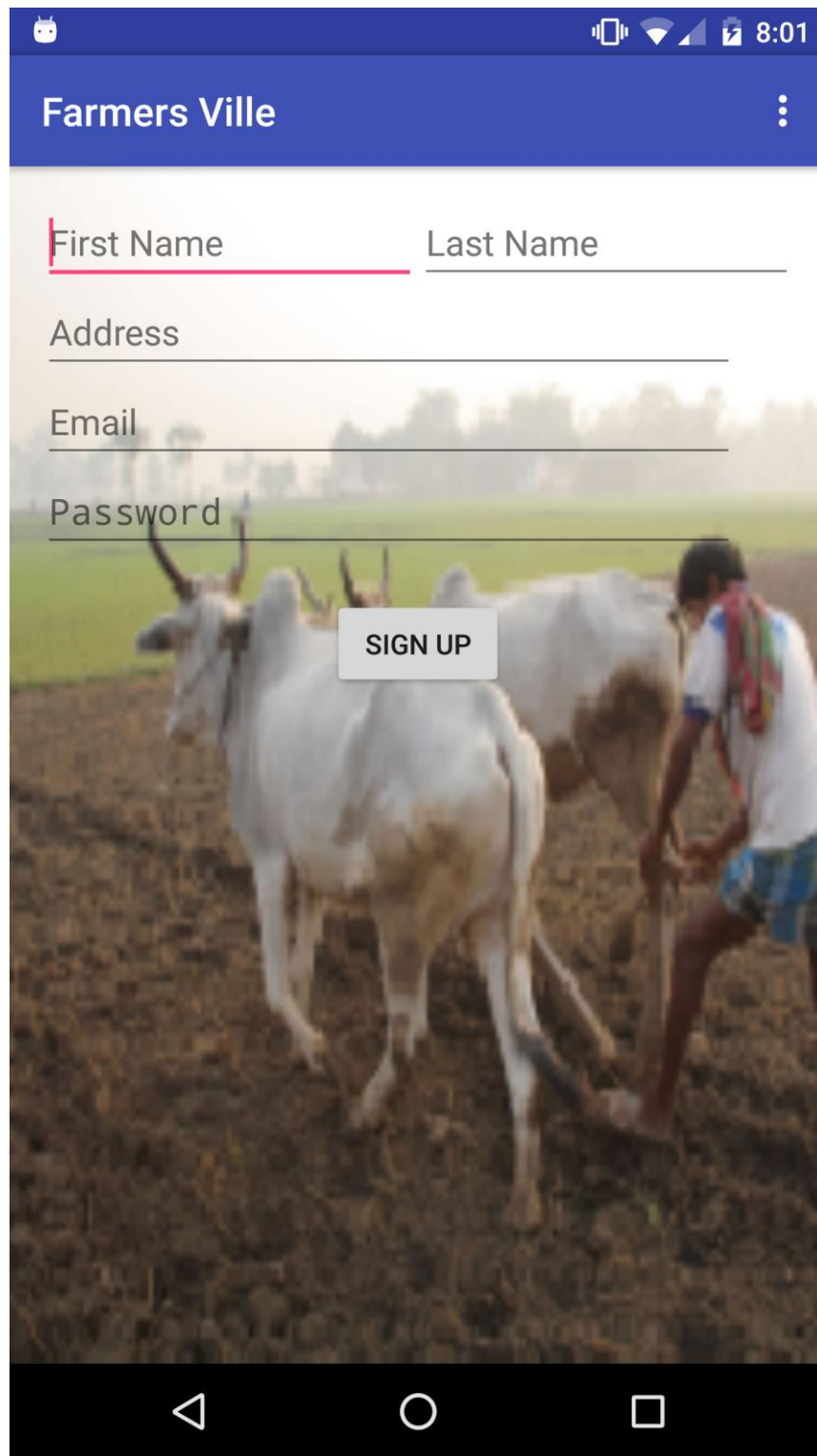
Testcase Name	Test Description	Expected Result	Pass/Fail
Login	Enter invalid userid and valid password	invalid login error message should be displayed	Pass
	Enter valid userid and invalid password	invalid login error message should be displayed	Pass
	Enter valid userid and valid password	Application should be redirected to home page	Pass
Sign Up	Enter emailid with * symbol	invalid emaid should be displayed	Pass
	Enter password with only numbers	please check password instructions should be displayed	Pass
	Enter firstname 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
MarketLocations	click on the locations button	near by 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

Final Screen Shots

Loginpage



Signup Page

The image shows a mobile application interface for 'Farmers Ville'. The background is a photograph of a farmer in a white shirt and blue shorts, guiding two white oxen through a dark, muddy field. The sky is hazy, suggesting dawn or dusk. The app's header is a solid blue bar with the text 'Farmers Ville' in white on the left and a three-dot menu icon on the right. Below the header, there are four input fields: 'First Name' (with a red underline), 'Last Name', 'Address', and 'Email'. Below these is a 'Password' field. A light gray 'SIGN UP' button is positioned over the lower part of the background image. At the very bottom, there is a black navigation bar with three white icons: a triangle pointing left, a circle, and a square.

8:01

Farmers Ville

First Name Last Name

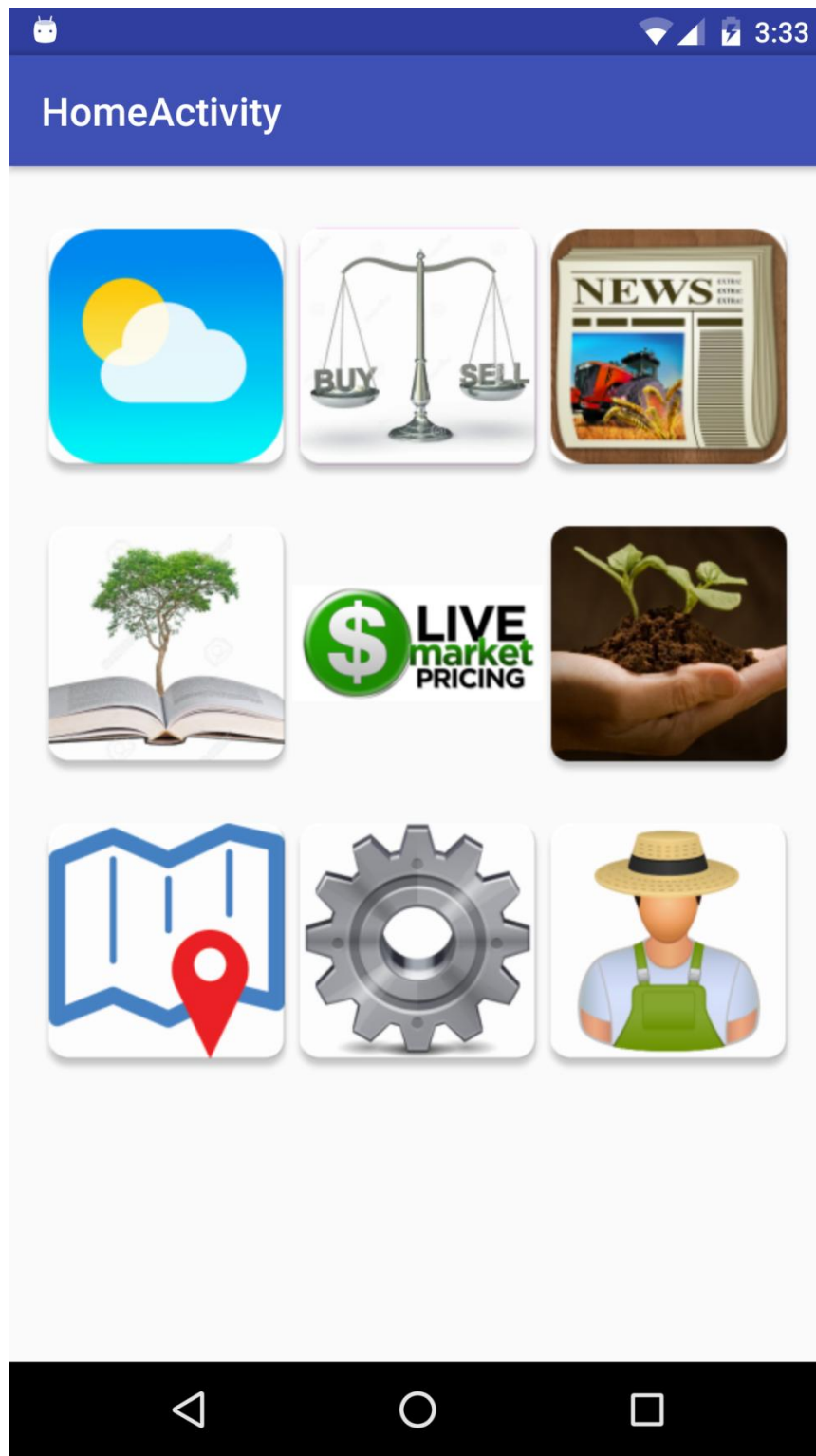
Address

Email

Password


SIGN UP

Home Screen




Weather Page

6:00



Weather



Date 2016-02-20 00:00:00
Temperature 11 °C
Description clear sky
Main Clear
Pressure 995.08
Humidity 34.0 %
Wind Speed 2.55 m/s
Clouds 0 %







Date 2016-02-20 03:00:00
Temperature 5.3 °C
Description scattered clouds
Main Clouds
Pressure 995.63
Humidity 40.0 %
Wind Speed 3.11 m/s
Clouds 48 %




Date 2016-02-20 06:00:00
Temperature 5.5 °C
Description broken clouds
Main Clouds



Market Page

3:33

 MarketTrade

SELLER

BUYER


Product

Quantity

Kgs

Description

Image




POST


Market Places Page









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 States
Distance	16.71 miles
Name:	black bob farmer's market
Address	14570 W 151st Ter,Olathe, KS 66062,United States
Distance	15.39 miles
Name:	Spring hill farmers market
Address	Johnson County, KS,United States
Distance	24.35 miles

Data stored in Mongo DB




All Documents

Display mode: ☒ list ☐ table ([edit table view](#)) 

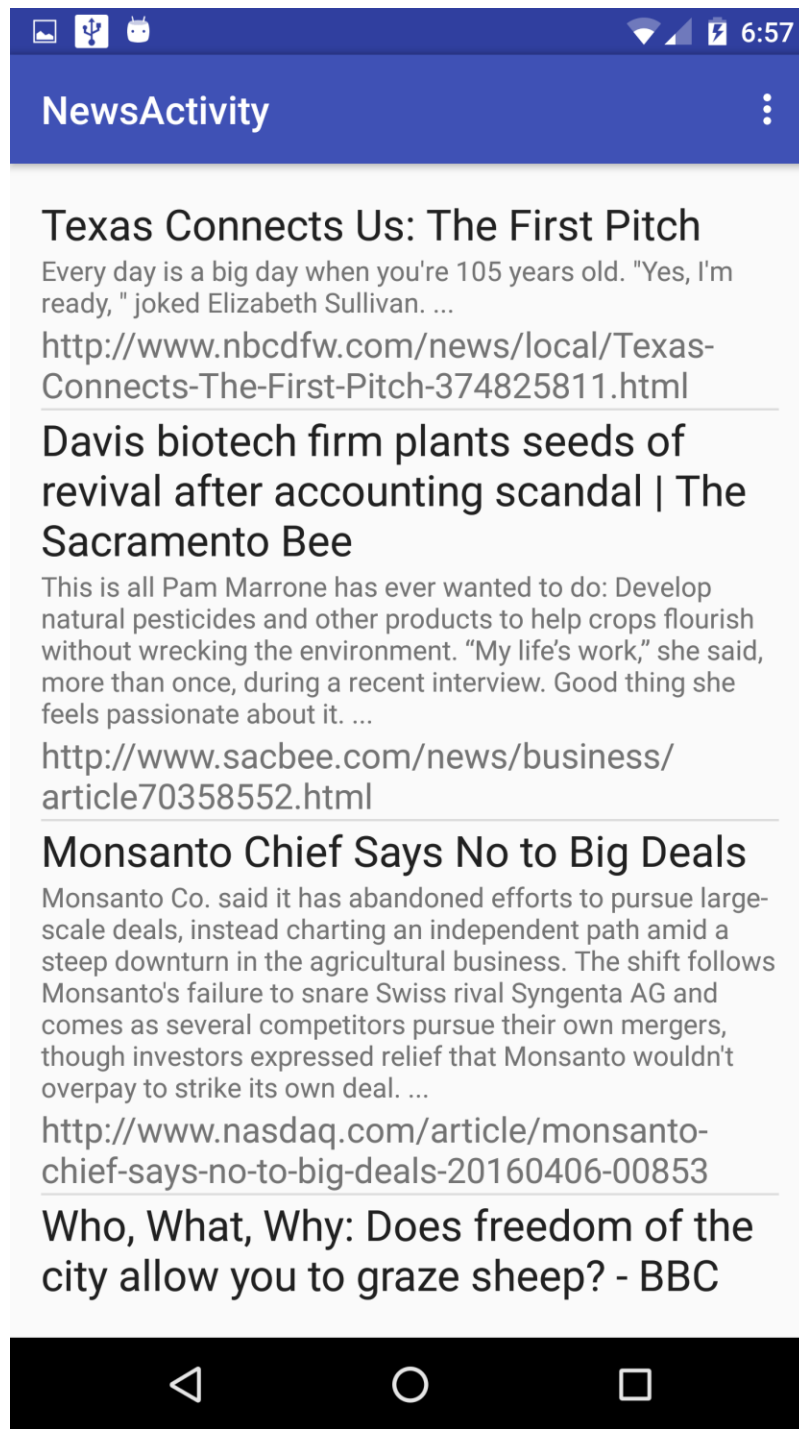
records / page 10  [1 - 8 of 8]

<pre>{ "_id": { "\$oid": "56e348aee4b0ced84db301fa" }, "Product": "corn", "Quantity": "3 kg", "Description": "super" }</pre>	 
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<pre>{ "_id": { "\$oid": "56e366f2e4b06f19d4b9c0d5" }, "Product": "Maize", "Quantity": "2 kgs", "Description": "2nd grade" }</pre>	 
<pre>{ "_id": { "\$oid": "56e3672ee4b06f19d4b9c2dc" }, "Product": "Apple", "Quantity": "15 dozens", </pre>	 

Retrieving data from mongo DB

MarketTrade		
	SELLER	BUYER
Quantity	nd	
Description	hd	
Date	sandeep	
Quantity	sandy	
Description	sandy	
Date	Naga: This is just for sample testing.....checking length	
Quantity	Naga: This is just for sample testing.....checking length	
Description	Naga: This is just for sample testing.....checking length	
Date	corn	
Quantity	2 kg	
Description	good	

News Module



Suggestion Module

