

Online Agricultural System Management

—Submitted by—
Sadia Afroze Faiza
Anika Tabassum Emu
Montaser Majid Taseen

Student ID: 1505030

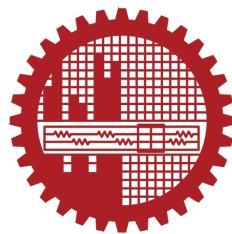
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Department of Computer Science and Engineering
Bangladesh University of Engineering and Technology

(BUET)
Dhaka 1000

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1 Process Documents

1.1 Introduction

Our project is **Online Agricultural System Management**.Here **Farmers can sell their products to buyers around the country**.So at the same time we can say,people around the country **can choose the best products** through this project.To specialize the project we included "**Agro Travel system**".Agents will include "Agro Travel" information.Moreover when customer will choose to buy any product(Add to cart), an idea will be provided for them how much cost will they have to provide including courier or travelling cost.Service provider will also suggest the product or the place so that customer may get the best product in a cheap rate.To give farmers more facilities we kept blog where **farming information** will be provided such that which pesticides have to use in which month , some diseases of plants and how they can be avoided etc.

It is a **business project but it has also social value**.Because through this project **farmers and customers both will be benefited**.At the same time we **may reduce hoarding** through this project.Because customers can directly communicate with farmers.

Farmers and common people who are interested to buy or sell farming product or make agro travel will use this app.

1.2 Overview of the Project

There are three main actors for the project.

1. Seller
2. Buyer
3. Agent

1.2.1 Seller

- Add products providing required Information
- Fix a price for the product
- Get notification if buyer wants to buy his product

1.2.2 Buyer

- View Products according to selected category
- Send request to Farmer to buy products.
- Provide rating the farmer after buying product.

1.2.3 Agent

- Authenticate Sign-up and Sign-in
- Insert Farming Information
- Verify Buy Product request
- Add blogs for agro travel

1.3 System overview

Major sub-systems are Add Product Subsystem, View Product Subsystem, Add to cart Subsystem, Make Suggestion For Customer Subsystem, Buy Product Subsystem, Agro Travel Subsystem.

1.3.1 Sub-systems Details

Add Product Subsystem: **Farmer** is primary actor for this subsystem. They will add the pictures, price and other information of the products they want to sell.

View Product Subsystem: **Customer** is primary actor for this subsystem. They will search for products they want to buy. If interested they can see details information of the product.

Add to cart Subsystem: **Customer** is primary actor for this subsystem. If they want to buy the product they can add the product to cart.

Buy Product Subsystem: **Customer** is primary actor for this subsystem. **Farmer** is secondary actor. If customer want, they can buy product from farmer.

Agro Travel Subsystem: **Service Provider** and **farmer** are primary actor for this subsystem. **Customer** is secondary. Agent add agro travel information. If customer shows interest, then they will suggest customer including the cost.

1.4 Project Modules

1. **Seller module-** The sellers need to add their products in order to keep this system running.
2. **Buyer module-** The Buyers will initiate any transaction in the system.
3. **Agent module-** Agents will work as a bridge between buyers and sellers to facilitate the total exchange.

1.5 Implementation Of Security Mechanism

- Properly authenticated login process
- No login process will happen until and unless username and password are provided.
- Users after login will be able to add Product or Buy Product only.

1.6 Purpose and Opportunities

1.6.1 Purpose

- Direct Communication between farmer and buyer.
- No intermediate brokers.
- Ensuring proper wedges to farmer.
- Ensuring product with no preservatives to people.

1.6.2 Opportunities

- Will give our farmers living in comparatively rural areas a chance to get the fare price of their products
- There will be no intermediate brokers both sides with be satisfied with the deal
- Farmers will be provided with some important information about farming.
- This app will effectively prevent hoarding.
- People can have fresh products with having no preservatives formalin

1.7 SRS

1.7.1 Use Case Diagram

Use case diagram for the whole system

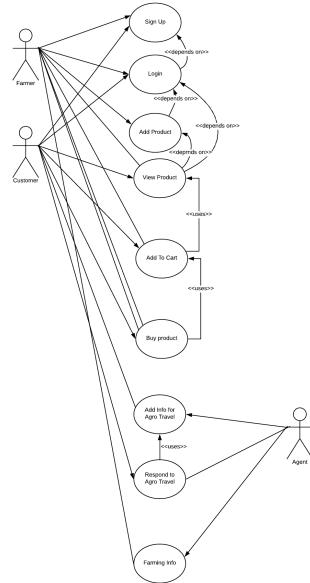


Figure 1: Use case diagram for the whole system

Use case diagram for Advertise Subsystem Farmer will add picture and other information.He will also select area where he wants to sell his product.Service provider will authenticate.

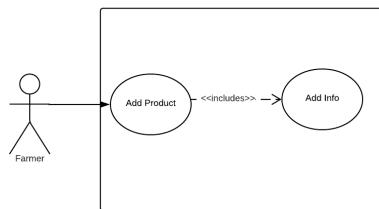


Figure 2: Use case diagram for Advertise Subsystem

Use case diagram for Add to cart Subsystem Customer will search for products.If interested customer may add it to cart.Then customer may use the cart to buy product.

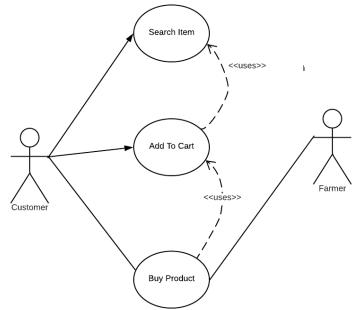


Figure 3: Use case diagram for Buy Product Subsystem

Use case diagram for Buy Product Subsystem Customer will add information to buy a product. From that information total price will be calculated. Agent will collect the product from the seller and deliver it to the buyer. Buyer may use any transaction method to pay the seller.

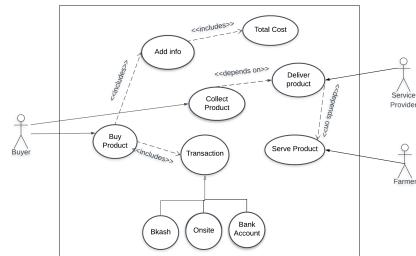


Figure 4: Use case diagram for Buy Product Subsystem

1.8 Iteration Plan

Iteration Plan	
Week	Phase or Iteration of Software
Week 1	Making Plan
Week 2	Design of Diagrams
Week 3	Database form, Basic GUI(login as buyer and seller, registration)
Week 4	Add product module, Categorize based on products type and location
Week 5	View product module, Prototype presentation
Week 6	Seller module completion, Search implementation
Week 7	Add to cart, Notification to seller, Total cost fixing
Week 8	Buy product module, Prototype presentation
Week 9	Agent UI, Agrotravel
Week 10	Rating, Review and Dashboard
Week 11	Software testing
Week 12	Design and Software Documentation

1.9 Project success criteria

We aimed at building a software to bridge between farmers and general people directly having no middle man. Here is our product that has successfully accomplished this criterion.

- Direct involvement of any remote buyer and seller through buyer seller module.
- AgroTravel module to advertise the arrangement of the environment of large gardens exposed to visitors and encourage people to order from there.
- Giving the a shipping price according to the buyer's location which makes the agent shipping the products possible.
- Products available to all people of the country irrespective of location.

1.10 Scopes for development

- Recommendation system for the new user
- Preference based suggestion for the experienced user
- Adding Special Offers
- Adding home delivery system for large agricultural market places

2 Product Documentation:

2.1 ERD

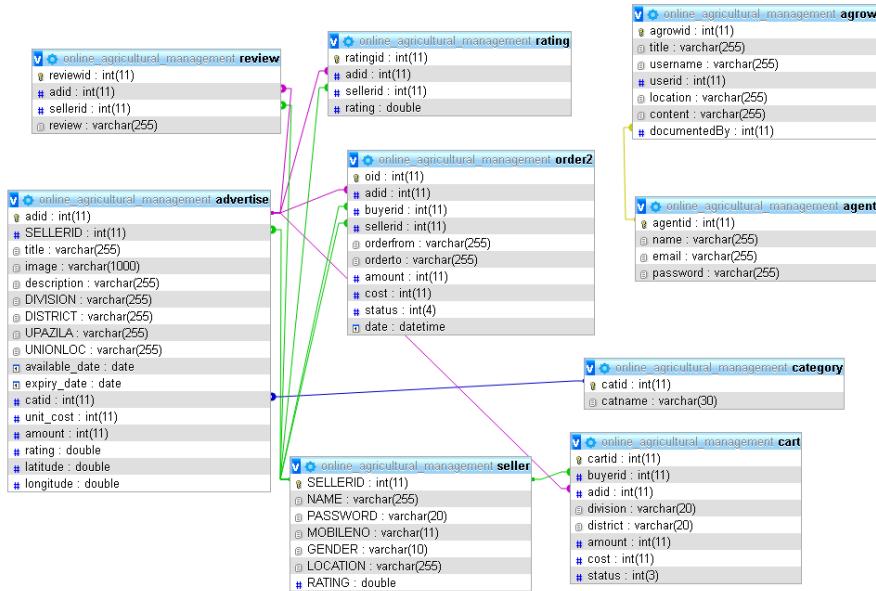


Figure 5: ERD

2.2 Coding Tools

- Android Studio
- PHP
- MySql
- HTML
- CSS
- Bootstrap

2.3 API documentation

1. User Login

```
@POST v1/index.php/seller_login  
@BODY {mobilenumber: String, password: String}
```

Response

```
{Strings: string(query)}
```

2. Login Verify

```
@POST v1/index.php/login_verify
@BODY {name : String, mobileno: String, password:String,
       gender:String, description: String}
```

Response

```
{ id : String,
      name : String,
      mobileno: String
      Code: Number
    }
```

3. Register Information Insertion

```
@POST v1/index.php/info_enter
@BODY {name : String, mobileno: String, password:String,
       gender:String, description: String}
```

Response

```
{ name : String,
      Code : Number
    }
```

4. Advertise insert

```
@POST v1/index.php/add_insert
@BODY {sellerid : String, title: String, description:String,
       division:String, district: String, upzila: String, uniloc:
       String , available_date: String , expiry_date: String , catid:
       String , unitcost: Number , amount: Number , latitude: Number
       , longitude : Number , image : String}
```

Response

```
{ message: String,
      Code: Number
    }
```

5. Add to Cart

```
@POST v1/index.php/add_to_cart
@BODY {buyerid : String, adid: String, division:String, district:
      String, upzila: String, uniloc: String , available_date:
      String , expiry_date: String , amount: Number, cost: Number }
```

Response

```
{ respons: String
}
```

6. Order Place

```
@POST v1/index.php/order_place
@BODY {cartid : String, date: String}
```

Response

```
{ name: String,
  adid: String,
  sellerid:String,
  Frromdivision:String,
  buyerid: String,
  division:String,
  code:Number
}
```

7. Show Advertise

```
@GET v1/index.php/get_product
```

Response

```
{adid: String,
sellerid : String,
title: String,
description:String,
division:String,
district: String,
upzila: String,
uniloc: String ,
available_date: String ,
expiry_date: String ,
```

```
    unitcost: Number ,  
    amount: Number ,  
    latitude: Number ,  
    longitude : Number  
}
```

8. Agent Login Verify

```
@POST v1/index.php/agent_login_verify  
@BODY {name : String, mobileno: String, password:String}
```

Response

```
{ id : String,  
  name : String,  
  Code: Number  
}
```

9. All AgroTravel information show

```
@GET v1/index.php/all_agrotravel
```

Response

```
{ agrowid : String,  
  title: String,  
  location:String  
}
```

10. One AgroTravel information show

```
@POST v1/index.php/one_agrotravel  
@BODY {agrowid : String}
```

Response

```
{ agrowid : String,  
  title: String,  
  username: String,  
  userid:String,  
  location:String,  
  content:String,  
  agentname: String
```

```
}
```

11. AgroTravel info insert

```
@POST v1/index.php/agrow_info_insert
@BODY {title : String , username :String, userid: String,
       location: String , content: String , documentedBy :String}
```

12. Agent having product list to be processed

```
@GET v1/index.php/agent_get_product
```

Response

```
{ adid: String,
    sellerid: String,
    title: String,
    description: String,
    division: String,
    district: String,
    upazila: String,
    unionloc: String,
    available_date: Date,
    expiry_date: Date,
    unit_cost: Number,
    amount: Number,
    Totalcost: Number,
    Status: Number,
    oid:String,
    orderto:String
}
```

13. Get Category list

```
@GET v1/index.php/category_list
```

Response

```
{
  catid: String,
  Catname: String
}
```

14. Advertises show

```
@GET v1/index.php/show_ad
```

Response

```
{ adid: String,  
  sellerid: String,  
  title: String,  
  description: String,  
  division: String,  
  district: String,  
  upazila: String,  
  unionloc: String,  
  available_date: Date,  
  expiry_date: Date,  
  unit_cost: Number,  
  amount: Number  
}
```

15. Searched advertises show

```
@POST v1/index.php/search_ad  
@BODY {key : String}
```

Response

```
{ adid: String,  
  sellerid: String,  
  title: String,  
  description: String,  
  division: String,  
  district: String,  
  upazila: String,  
  unionloc: String,  
  available_date: Date,  
  expiry_date: Date,  
  unit_cost: Number,  
  amount: Number  
}
```

[API documentation](#)

2.4 Class documentation

1. Advertise placement : addproduct

```
addProductDataCollect() : void
addProduct() : void
imageToString(Bitmap bitmap) : String
selectimage() :void
getCatogories() :void
getLocation() : void
```

2. Login : MainActivity
-

```
userLogin() : void
getpassword() : String
getphnnum() : String
openActivity2() :void
openHomeActivity() : void
```

3. User Home page load : Userhome
-

```
opensearchActivity(): void
openNotActivity(): void
openUserActivity():void
opensearchActivity(): void
openCartActivity():void
```

4. Register a user : Signup
-

```
registerUser():void
openActivity2():void
```

5. Search any advertise : search
-

```
getProducts(final String key) : void
```

6. Show product from user window : Userwindow
-

```
getFruitProducts() : void
getVegetableProducts(): void
getCropProducts(): void
```

7. Generic show product : showproduct

```
getProducts() : void
```

8. Final cart execution: finalCart

```
orderfinal(): void
insertItem(int position) : void
removeItem(final int position) : void
dialoguebox(final int position) : void
gettoeachadvertise(final int position) : void
newIntentGo(Product product) : void
createExampleList(): void
getImage(String url) : Bitmap
buildRecyclerView() void
changeItem(int position, String text): void
```

9. Add to cart

```
addtocarttable(): void
calculateCuriercost() : void
calculateDistanceInKilometer(double userLat, double userLng,double
    venueLat, double venueLng): int
getLocation() : void
```

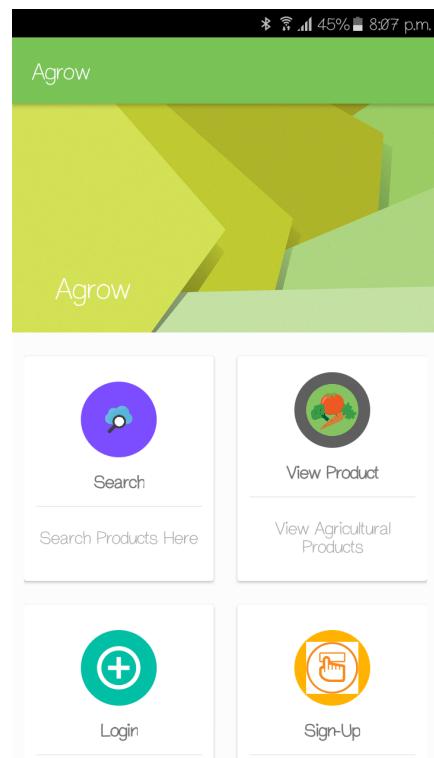
10. Show all AgroTravel

```
getAgrotravel(): void
```

[Class documentation](#)

3 User guide:

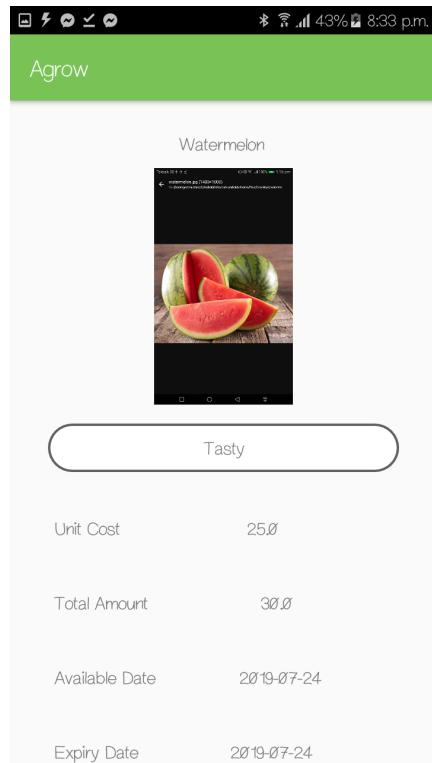
At first after opening our android app user will see the home page.



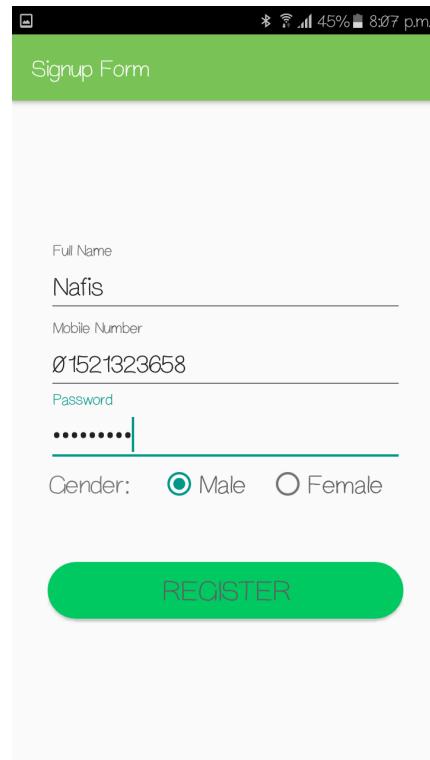
User can view products from this page. But ordering option will not available without logging in.



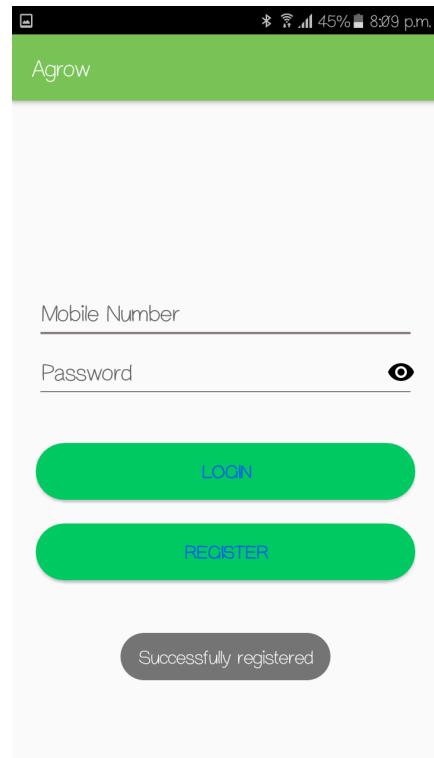
Clicking on any product will show a new page with described information.



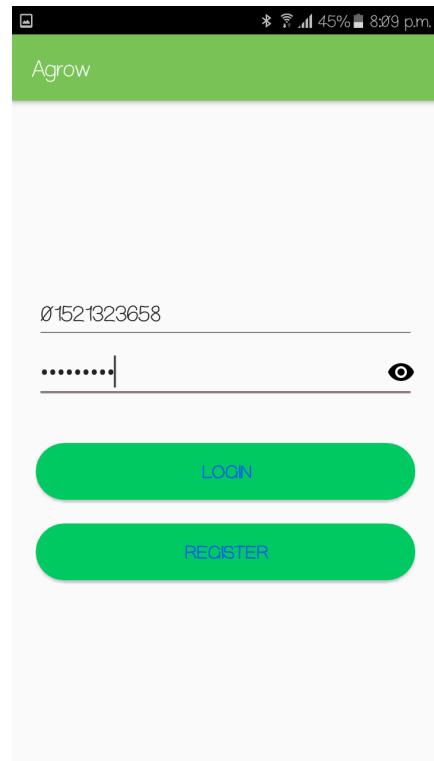
For a new user he/she should go back to home page and click the Sign-up button and give his information.



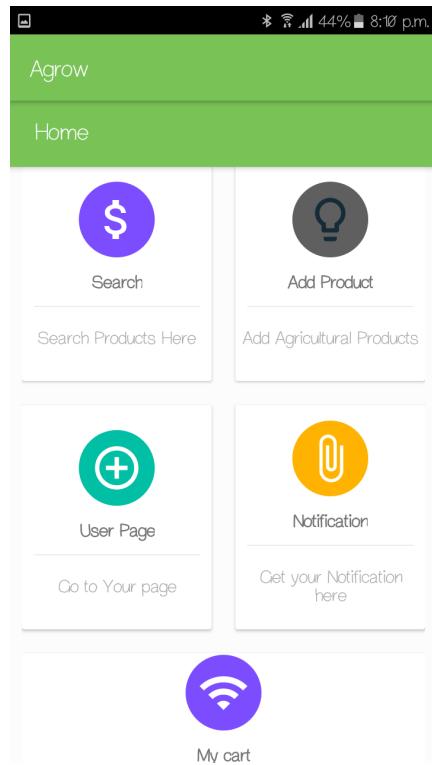
After clicking register he will be redirected to the login page.



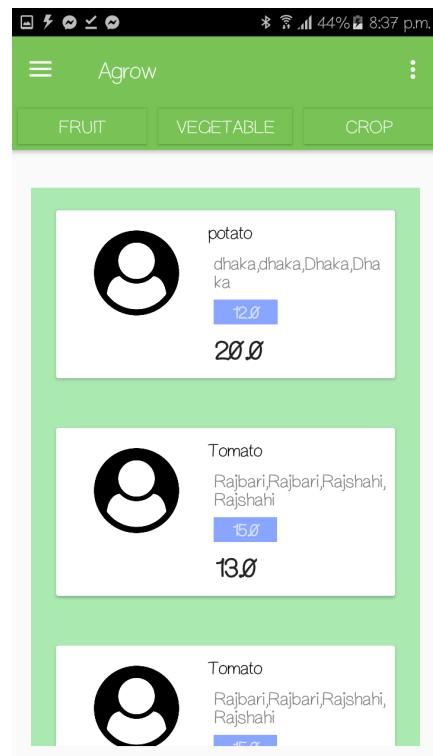
He should enter his registered mobile number and password to login.



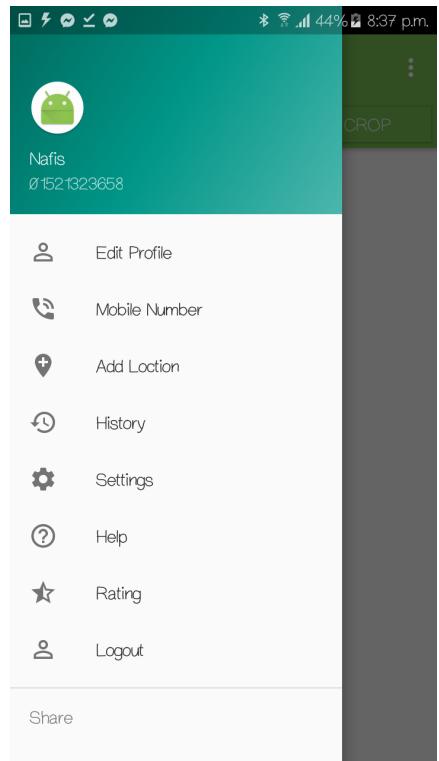
After login he will be viewing the user home page



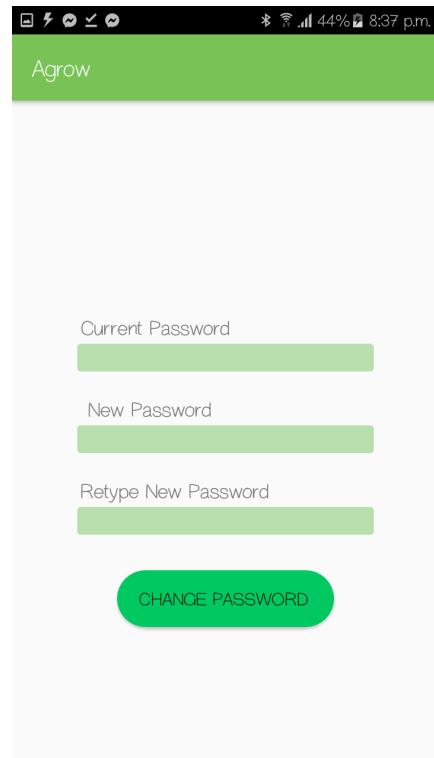
He can go to the user page to view all the available product or to edit his profile.



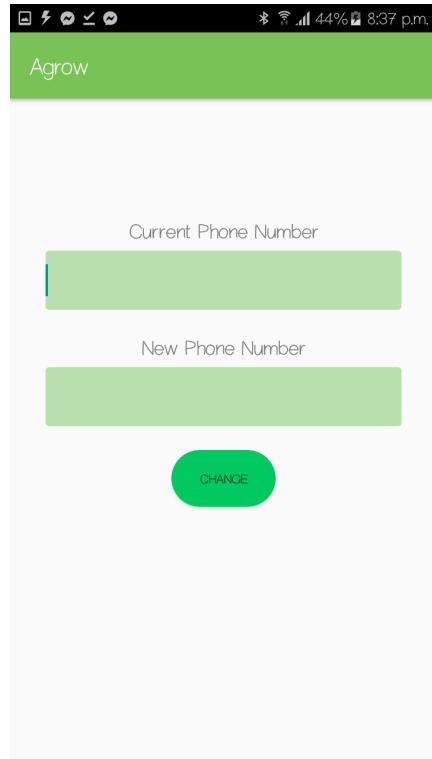
He can slide right to open the drawer.



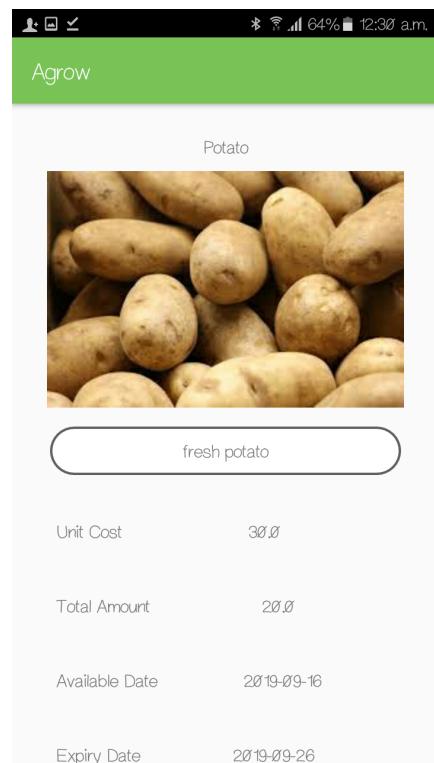
From that drawer he can edit his password according to his wish.



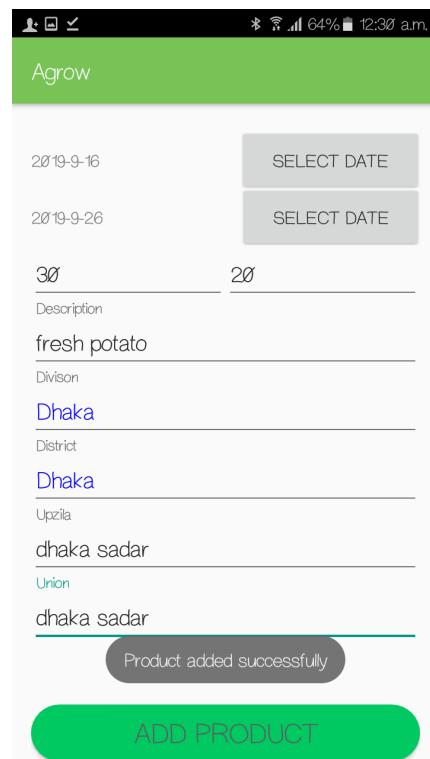
He can even change his registered phone number.



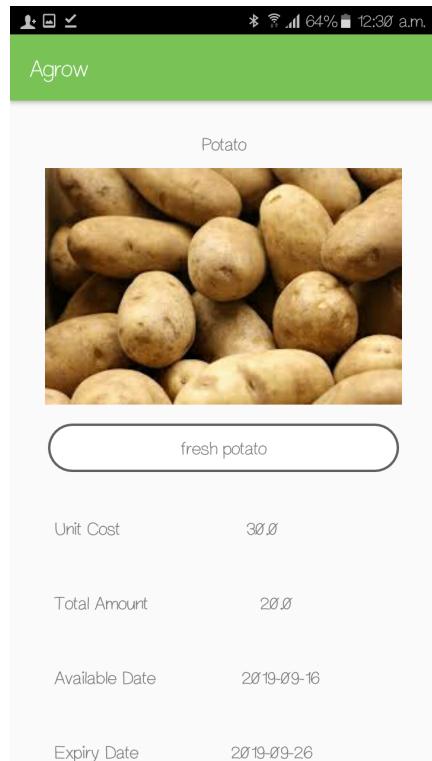
He can go to the add product section from home page to add a product. He will need to fill up information about the product as well as add a picture of the product.



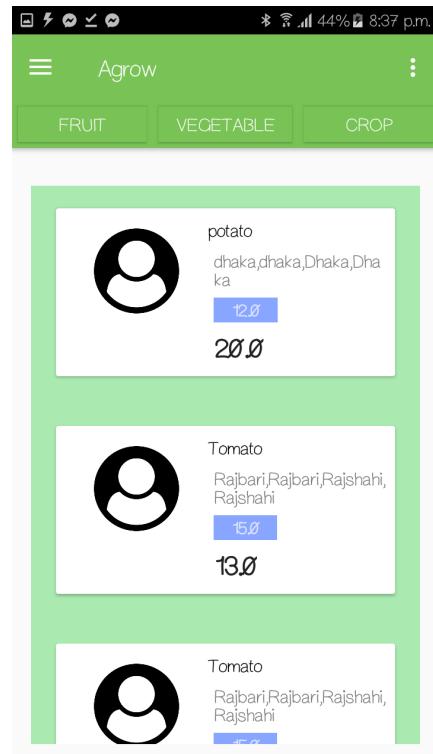
If the information are properly filled up the product will be added in the database of the advertise. The latitude and longitude of the user will be automatically added to the database.



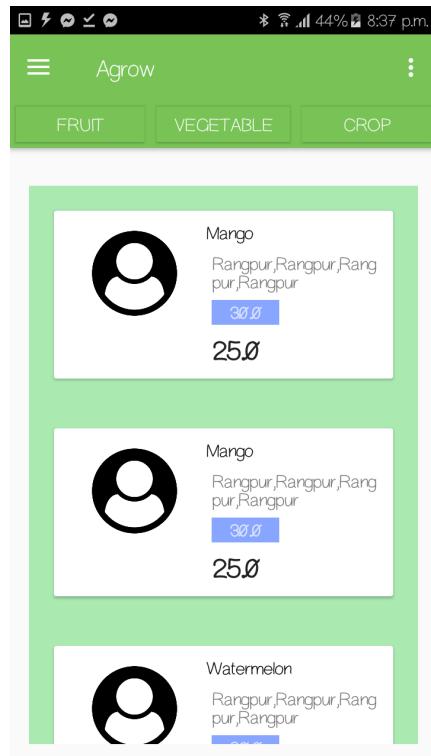
That product is now visible to everyone using the app.



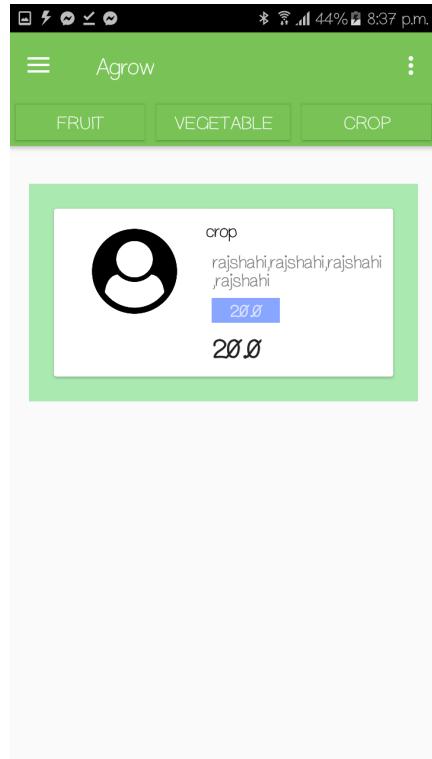
To view products he needs to go back to his user home page. He can use the tab buttons to view products of his chosen category. Clicking the vegetable button vegetable category products will be shown in the screen.



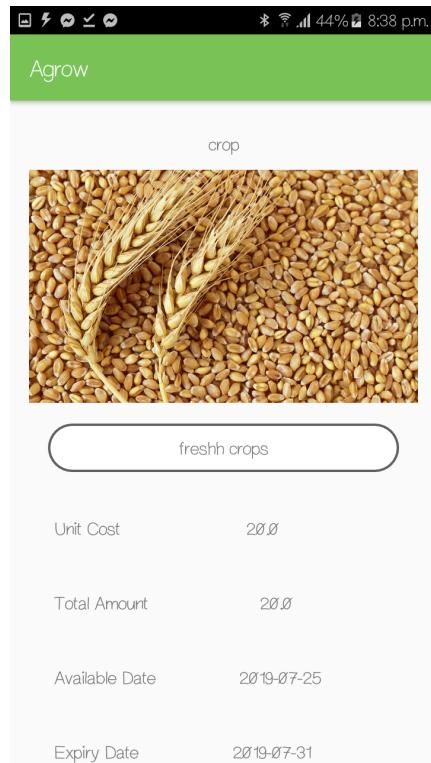
Clicking Fruit button will show him products of fruit category.



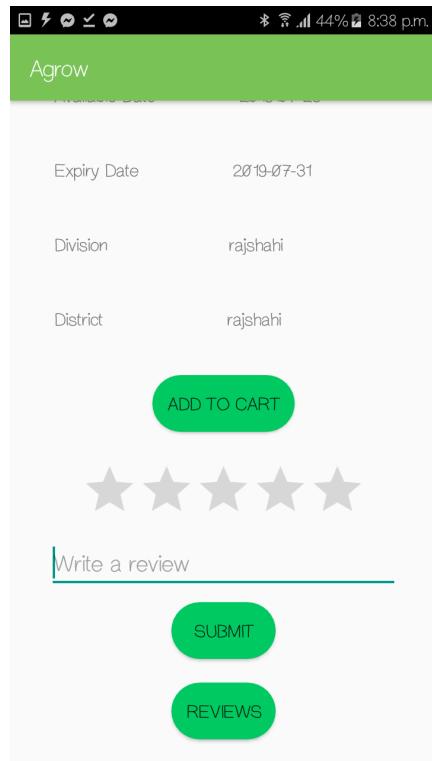
Similarly he can also view the products of crop category.



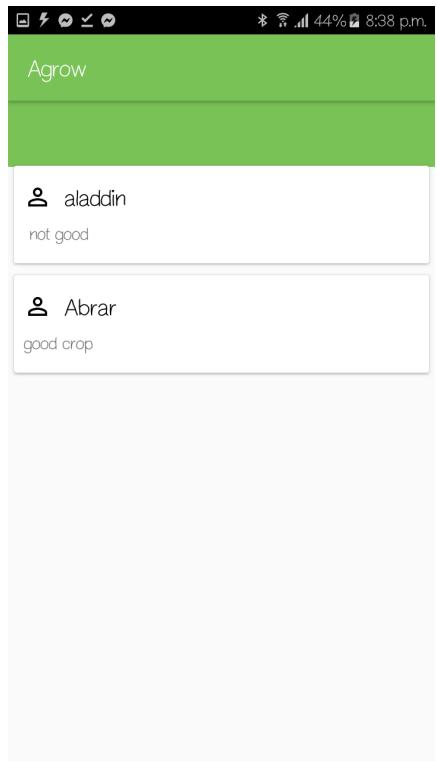
Clicking any product will give a described information about it like before.



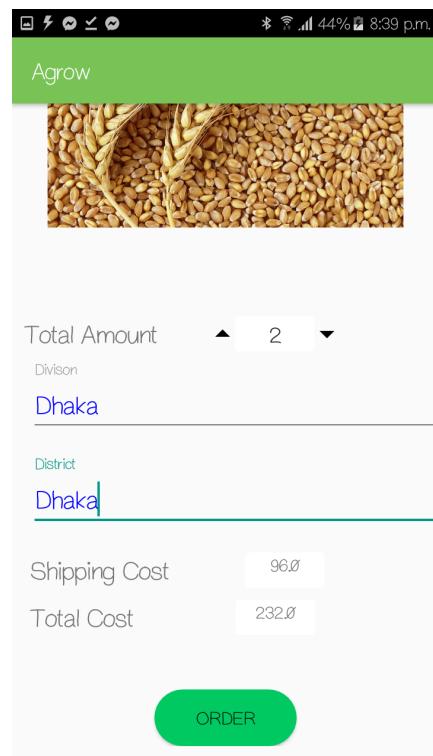
Any prior user of this product can rate and review the product.



Any new user can see all the reviews by clicking Reviews.



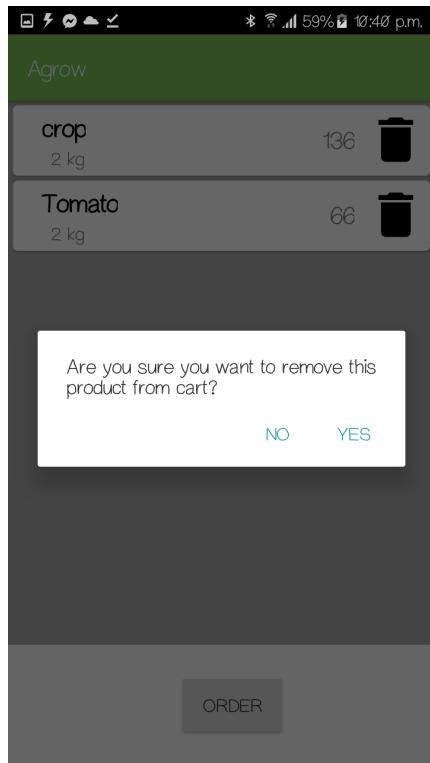
If the products seems good user can add the product to his cart after giving his location and amount of product he needs. Price will be calculated by measuring the distance of the users latitude and longitude from seller's latitude and longitude and will be added as shipping cost.



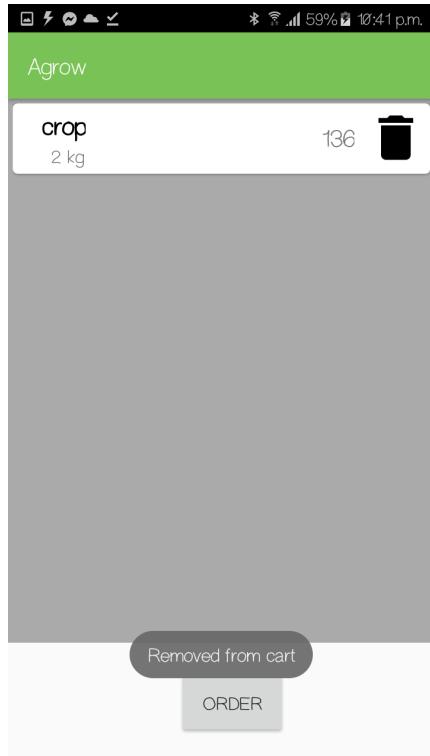
After adding all the products needed user needs to go to My cart section from his home page where all his cart products will be visible.



He can remove any product from cart.

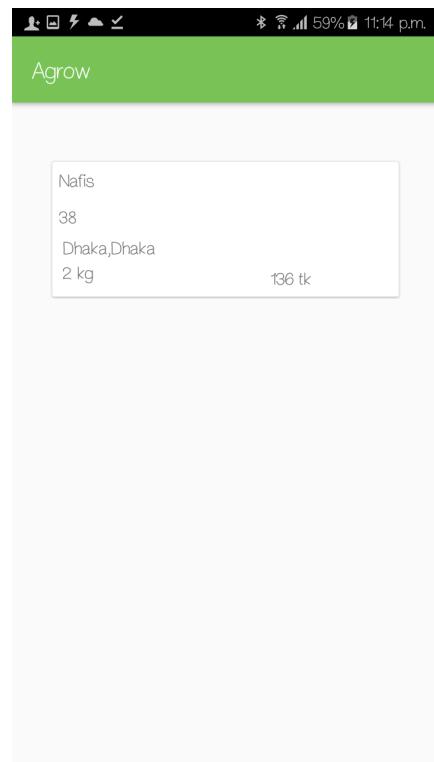


He can also edit the cart by clicking the products in the cart. After checking



his cart he can order the product by clicking Order. The ordered products will be removed from his cart.

Seller of the product will see a notification of this order in notification section when logged in.



Agent can view all the orders done by the buyers from his web page.

The screenshot shows a web browser window titled "Agrow - Orders". The URL in the address bar is "C:\wamp64\www\online_agricultural_management\widgets.html". The page has a dark header with the text "LUMINOADMIN". On the left, there is a sidebar with a user profile picture of "Sadia" and the status "ONLINE". Below the profile are navigation links: "Dashboard", "Orders" (which is selected and highlighted in blue), "Agrow Travel", and "Logout". The main content area is titled "Orders" and contains a table with the following data:

Advertise ID	Products	FROM	TO	Price(BDT)	Quantity	Order State
42	Tomato	ctg	Rajshahi , Rajshahi	20	15	Order Placed
45	Watermelon	ctg	Rangpur , Rangpur	20	30	Order Placed
37	potato	dhaka,Dhaka	Dhaka , Dhaka	20	12	Order Placed
37	potato	dhaka,Dhaka	Dhaka , Dhaka	20	12	Order Placed
37	potato	dhaka,Dhaka	Dhaka , Dhaka	20	12	Order Placed
43	Mango	Rajshahi,Rajshahi	Rangpur , Rangpur	100	30	Order Placed
38	crop	Dhaka,Dhaka	rajshahi , rajshahi	136	20	Order Placed

After picking up the product from the seller he will change the order state from order placed to order picked.

This screenshot is identical to the one above, but the "Order State" column for all rows has been updated to "Product Picked". The table data remains the same as in the previous screenshot.

After delivering the product to the buyer agent will change the state to order delivered.

Advertise ID	Products	FROM	TO	Price(BDT)	Quantity	Order State
42	Tomato	ctg	Rajshahi , Rajshahi	20	15	Product Delivered
45	Watermelon	ctg	Rangpur , Rangpur	20	30	Product Delivered
37	potato	dhaka,Dhaka	Dhaka , Dhaka	20	12	Order Placed
37	potato	dhaka,Dhaka	Dhaka , Dhaka	20	12	Order Placed
37	potato	dhaka,Dhaka	Dhaka , Dhaka	20	12	Order Placed
43	Mango	Rajshahi,Rajshahi	Rangpur , Rangpur	100	30	Order Placed
38	crop	Dhaka,Dhaka	rajshahi , rajshahi	136	20	Order Placed

Agent can also add information about agrotravel locations from his web page.

Agrow Travel Information Upload

Title: Mango garden

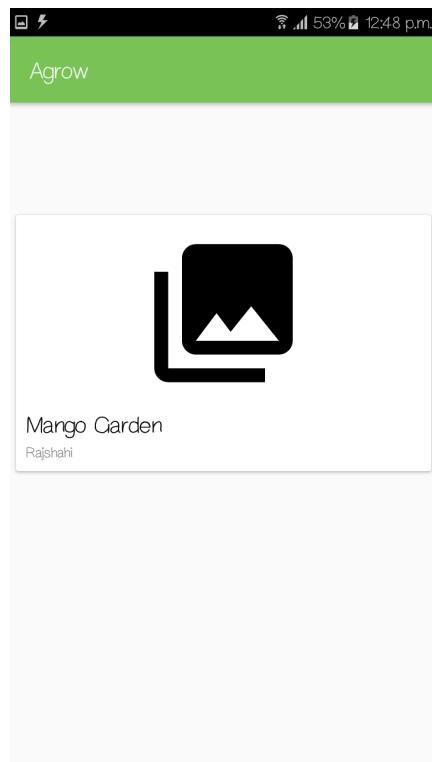
Username: Sadia

User ID: 1

Location: Rajshahi

Content:
A mango garden in the heart of rajshahi

Users can find all the agrotravel locations from his/her homepage clicking agro-travel button.



He can find more informations about each location by clicking them.

