

BD Smart Agricultural Solution

The BD Smart Agricultural Solution is an online platform which is designed to provide agricultural solutions and services under the supervision of the Ministry of Food. It provides services to the Farmers, Agriculturists, Agricultural field officers as well as Agricultural Traders. Firstly, every user needs to login to see different index pages based on their designated role. For example, agricultural representatives of every sub-district can store production information from the registered farmers. However, an agricultural trader can only view the production information, bid on items and confirm their purchase. In this scenario, registered farmers are those who are verified based on their good production and service record. Moreover, the Farmers and Agriculture Representatives can search goods, production or soil related issues in the blogging page. If they find a proper solution, they can upvote the solution and they can also create posts related to their issues in the page and expert agriculturists can comment solutions. These solutions are visible for every user.

Moreover, the registered farmers can auction their harvested goods. They need to include pictures of their commodity, size, fertilizers used, amount of commodity they hold in KG and so on while creating a post. A representative from the ministry of food will determine the initial and max prices for each commodity by conducting an analysis of the overall production. Besides, agricultural traders will be able to bid their prices up to that certain max amount. They can place their bid to secure the product for themselves. This auction will happen on the bidding page around the corner of a month for two days straight. After completing this event, the traders can receive their order by confirming their payment procedures. The delivery men will pick up the product and the trader will be able to track their products' current state. They will pay the price of the product after receiving it.

Furthermore, delivery personnel will have the capability to access available assignments, each of which will feature specific pickup and delivery locations. They will have the option to choose assignments, and additional instructions will be provided accordingly. Additionally, they will be responsible for updating the status of the delivery as progress is made. Lastly, the administrator of the platform can monitor the

production rate, generate a statistical report and submit it to the Ministry of Food. Based on that report, they can formulate a result about which area should be used to produce which products and how they can maximize the food production of the country in a monitored way.

MODULES:

MODULE 1:

1.1) Login Page → Login Form

There will be a login button at the right corner of the index page. By pressing that button, users will be directed to the login page. From the login page different users as such: admin, agricultural field officers, agriculturists, registered farmers, agricultural traders and deliverymen will be able to login to their landing page using entering their Designated Post, Username and Password and then by pressing confirm button.

1.2) Login setup for different views → admin, agricultural field officers, agriculturists, registered farmers, agricultural traders and deliverymen

Each designation will have their separate view. By logging into their account, they will get navigated to their separate pages.

1.3) Signup page → Signup form

In the login page, there will be a Sign Up button under the login confirmation button. By clicking on that button, the users will be directed to the Sign Up page. On that page, they have to select their designation post to confirm their specific role in the website and they also have to provide their personal information such as: Full Name, User Name, Address, NID No, DOB, Password, Profile Picture etc to create their user ID. Once their ID is registered, they can login to their ID using those informations.

1.4) User Profile Page → User Profile form

After logging in, every user will be able to see their profile picture at the top right corner of the navigation bar. By clicking the button, users will be directed to the user profile page. In that page, users will be able to edit their information they have provided while completing their Sign Up.

1.5) Admin Page→ Confirm registration, Reject registration

The information of every registered user will be stored in a database and the admin will have the access to see them. Also, the registration of every new member will pop in to admin's page and admin will have the authority to confirm or reject the registration of incoming requests of new members. If the admin confirms a request, then the members information will be added to the database.

MODULE 2:

Blog Page: The Blog Page will be visible at the navigation bar's top right corner side, its icon will be on the left side of the profile picture. The agricultural field officers and agriculturists will have editor access and farmers and others will have view access in the blog page.

2.1) Blog Page → Create a text/photo attached post

The field officers will have the access to create posts related to the goods, production or soil problems that the farmers are facing. For creating a post, first they have to write a caption which will be considered as a headline of the post, then they have to describe the problem in the body and they can also attach pictures in the post. Once their writing will be complete, there will be a post button at the left corner of the post. Once they click on the post button, the post will be visible to every user.

2.2) Blog Page → Edit a existing post

The field officers will have the access to edit their own post. Once they click the update button, they will be directed to the edit post page where they can update the headline, description of the body paragraph or

delete the picture from the post. In that page, there will be two buttons at the bottom right corner. One will be cancel, another will be update. If the officer clicks the cancel update, the information of the edit page will not be stored and their previous post will remain the same as it is. On the other hand, if the officer clicks the update button, the post will store and replace the post's information with the new information. Once an officer updates a post, they can not retrieve their action.

2.3) Blog Page → Comment of a solution on the post

The expert agriculturists will be able to post a solution as a comment in the comment section. When they select to type a comment, they will be given a text box and they can write their solution in that box. Once they are done with their writing, they have to press the post button. They can also edit their own comment by clicking on the edit button.

2.4) Blog Page → Upvoting most useful comments

The farmers and other agriculturists can upvote a comment. There will be a button beside every comment, if an agriculturist finds a comment most useful, they can press the upvote button. Once a user clicks the upvote button, the count will be increased as +1. Users can also retrieve their action by undoing their upvote. Once this action will be performed, the count will be decreased as -1.

2.5) LogOut page → logout action

The logout button will be at the top right corner of the navigation bar. All the users will be able to access this button. Once a user clicks this button, it will redirect them to the Index Page. Once a user log out of their account, they have to login again to access their role.

MODULE 3:

Auction Page: This page will be at the left side of the Blog page on the navigation bar.

3.1) Auction Page → Post a product with Unique ID, Picture, Size and used fertilizer

The users who will have ‘farmer’ as their designated role will be able to create an auction on this page.

Every post will be assigned with an unique ID. For creating a post, the users have to add a headline, add a picture of the product, describe the size and used fertilizer of the product. However, they will not be able to add the price of the product in the post.

3.2) Auction Page → a Minimum price for every auction product

The users who will have the ‘agricultural field officers’ role will be able to assign the minimum price of every auction post. This price will be determined from the ministry of food’s analysis report. They will also add a maximum range. However, the maximum price range will not be visible in the post.

3.3) Auction Page → Selecting a product and increasing the price of the product

The users who will have the ‘Agricultural Traders’ role will participate in the auction. They will have the access to select an item, increase the minimum price range of that item up to the maximum range of that product which is assigned by the agricultural field officers.

3.4) Auction Page → Increasing the price through bidding

Multiple users will be able to select a product at the same time and when one user updates the price of a product, others will be able to see how much the price has increased and if their selected price is less than that price, they can update their price. The items will be locked to a trader after the bidding finishes.

3.5) Bidding Page → Sorting posts based on requirements (product, size, price range)

The traders will be able to search their desired product based on sorting. For searching they need to write the product’s name and for sorting, they need to select the size, amount and price range of their desired product. Once they select all these, they have to click the Search button to perform their action.

MODULE 4:

4.1) Payment → payment form

After the auction is completed, the users with the 'agricultural traders' who have locked items in the bidding will see a payment option on their page. They need to click on the button to perform their payment action. Once they click on the button, they will be directed to the payment form. In that form, they will be able to see a transaction ID and their total amount. There will be a confirm button at the right bottom and by clicking the button, they will confirm their order.

4.2) Payment → Confirm delivery, Payment on pending status, notify delivery man about a shipment

After confirming the order, delivery men will be notified about the order. However, the farmer will not be able to retrieve the money right away, they will be able to do it after the confirmation of the delivery.

4.3) Delivery → Deliveryman can accept a delivery based on location

Here, Farmers give the location of his and from the data delivery man can choose according to the suitable location of him. Also he can see the price is offering for the delivery.

4.4) Delivery → The Deliveryman will update the state of the delivery.

When a delivery man confirms the delivery. On the date of delivery he can give the delivery status for example a car is coming for delivery, crops are collected from the farmers, crops are delivered to the dealers. At each point the delivery man will update his status.

4.5) Buyer → will be able to check the status of delivery state

In the panel the buyer can see where his crops are now. Sometimes they delay the delivery, for the feature buyer can ensure that his crops are deliberating to him.

