**1. Dashboard**

**Functionality**

1. Consumers will have access to their personal dashboard as a user. Where user’s recent orders, product recommendations, and saved items will be displayed.
2. Users can track order progress and view updates. (Ex: payment confirmation, delivery status).
3. The dashboard will provide quick access to the cart, orders, ratings, and support.
4. Consumers will receive notifications on product discounts, promotions, and restocked items.
5. The dashboard design will be simple and structured, ensuring efficient user experience.

**Non-Functionality**

1. The dashboard must be loaded within 5 sec to provide smooth experience.
2. The system should support real-time updates to reflect new orders and notifications.
3. The dashboard should be adapted to different screen sizes.
4. The interface should have a user-friendly design, ensuring all features are easily accessible.

**Project Development Constraints (PDC)**

1. The dashboard should dynamically retrieve user-specific data from the database.
2. Firebase Authentication will be used to ensure personalized access to each user's data.
3. Data caching mechanisms should be implemented to reduce load time.
4. The dashboard must be structured to distinguish between different user roles.

**2. Products**

**Functionality**

1. Consumers can browse a categorized selection of agricultural products which are available for purchase.
2. Each product list shows clear images, descriptions, prices, and availability status.
3. Users can search for products using a keyword-based search and apply filters to refine results.
4. Clicking on a product will open a detailed page with product specifications and seller information.
5. New arrivals and trending products will be highlighted to attract buyers.

**Non-Functionality**

1. The product list must be optimized to load quickly to prevent unnecessary delays.
2. The system should allow smooth navigation between different product categories.
3. Images should be high resolution but compressed for fast loading.
4. The UI should ensure a clear and structured product display for better usability.
5. The product database should be scalable to accommodate increasing items without slowing down performance.

**Project Development Constraints (PDC)**

1. Product details must be retrieved dynamically from the database to ensure up-to-date information.
2. The search and filter system should be linked with real-time queries for accuracy.
3. A caching mechanism should be in place to speed up frequently accessed product pages.
4. The browsing system must be efficient in handling large product inventories and high user traffic.

**3. Cart**

**Functionality**

1. Consumers can add products to their shopping cart and modify quantities before confirm the order.
2. The cart will automatically update total costs, including applicable taxes and discounts.
3. Users can save their cart items for later purchases, even after logging out.
4. The cart will have a direct checkout option to proceed with payment instantly.
5. Items in the cart should reflect real-time stock availability to prevent order failures.

**Non-Functionality**

1. The cart should be updated instantly when users add or remove items, without requiring a page reload.
2. It must retain selected products even if users exit the website and return later.
3. The UI should be simple and visually organized, making it easy to manage purchases.
4. The system should ensure fast processing of cart updates, even under high user load.

**Project Development Constraints (PDC)**

1. The cart should use session-based storage for temporary data and database storage for long-term data.
2. Security measures must be implemented to prevent price manipulation and fraudulent activity.
3. The system should be capable of handling large numbers of simultaneous shopping sessions.
4. The checkout process should be seamlessly integrated with payment processing and order management.

**4. Orders**

**Functionality**

1. Consumers can place orders directly from their cart after selecting payment options.
2. Users can track order status updates in real-time from processing to delivery.
3. The order history section will allow users to view past purchases for reference.
4. Customers can cancel or modify orders before they are shipped.
5. A detailed invoice will be generated automatically for each completed order.

**Non-Functionality**

1. Order confirmation must be instant, with an email or phone message sent to the user.
2. The system should support real-time tracking of delivery status.
3. The order process must be smooth and free of unnecessary delays.
4. Users should be able to reorder previous purchases with a single click.

**Project Development Constraints (PDC)**

1. Orders should be stored securely in the database with proper encryption.
2. Payment verification must be completed before finalizing an order.
3. The system should be integrated with external logistics services for delivery tracking.
4. Order data must be structured to allow easy retrieval for reporting and analytics.
5. The order management system should support refunds and returns efficiently.

**5. Rating**

**Functionality**

1. Consumers can rate products based on their experience. (Ex: star-based rating system)
2. Users will have the option to write detailed reviews about the products they will purchase.
3. Users can edit or delete their reviews if they change their opinions.
4. Ratings will be displayed on product pages to help future buyers make informed decisions.

**Non-Functionality**

1. Ratings and reviews must be loaded asynchronously to avoid affecting page speed.
2. The system should display only verified purchase reviews to ensure authenticity.
3. Consumers should receive a reminder to leave feedback after receiving their order.
4. The rating system must be designed to prevent fake or misleading reviews.

**Project Development Constraints (PDC)**

1. The system must ensure only customers who have purchased a product can leave a review.
2. Spam detection algorithms should be implemented to filter out misleading reviews.
3. Review data should be stored efficiently to enable sorting and filtering.
4. The system must provide an option for product sellers to respond to reviews.