Online Agricultural Store – Part -2/3 V2D2

1.Audits

It's a systematic review and evaluation of a project at different stages to ensure process is aligned with the business goals.

Audit in a project ensures that process, documentation, deliverables are aligned with project goals.

In this project, four quarterly audits (Q1, Q2, Q3, Q4) are planned to track progress and ensure alignment with stakeholder expectations. As a Business Analyst (BA), my role in these audits involves verifying documentation, ensuring compliance, and validating that all requirements are met.

1. Q1 Audit—Requirements and Planning Phase Audit

- Verify that stakeholder requirements are properly gathered and documented in the Business Requirements Document (BRD) and Functional Requirement Specification (FRS).
- Ensure that elicitation techniques such as interviews, brainstorming, and document analysis have been properly applied and documented.
- Validate stakeholder approvals on requirements.
- Confirm the creation of a Requirements Traceability Matrix (RTM) to track requirements through development.

2. Q2 Audit – Design and Development Phase Audit

- Ensure that requirements have been converted into Use Case Diagrams, Activity Diagrams, Wireframes, and Prototypes.
- Verify the traceability between business requirements and design documents.
- Ensure that non-functional requirements (such as system performance and security) are clearly defined.
- Check for any changes in requirements and validate that they follow the Change Management Process.

3. Q3 Audit – Testing and UAT Phase Audit

- Ensure that Test Cases and Test Scenarios align with business requirements.
- Validate that User Acceptance Testing (UAT) is conducted with key stakeholders.

- Check if defect tracking and resolution processes are well-documented.
- Ensure approvals for UAT sign-off are in place.

4. Q4 Audit – Deployment and Post-Implementation Audit

- Verify that all business requirements are met in the final deployed product.
- Ensure all necessary documentation, including user manuals and training materials, is complete.
- Conduct a post-implementation review to gather stakeholder feedback.

2: BA Approach Strategy

This includes elicitation techniques, stakeholder analysis, documentation, approvals, communication, and handling change requests.

1. Elicitation Techniques

To gather requirements effectively, I will use:

- Interviews – With key stakeholders like Mr. Henry, Peter, Kevin, and Ben.
- Brainstorming – To generate ideas with stakeholders and the development team.
- Document Analysis – Reviewing existing records to understand business needs.
- Prototyping – Creating wireframes to validate user expectations.

2. Stakeholder Analysis & RACI Matrix

Identifying key stakeholders:

- Primary Stakeholders – Mr. Henry, Peter, Kevin, Ben (Farmers)
- Secondary Stakeholders – APT IT Solutions (Development Team), SOONY (Project Sponsor)
- Tertiary Stakeholders – End users (Farmers, Manufacturers)

A RACI Matrix (Responsible, Accountable, Consulted, Informed) will define roles to avoid confusion

3. Documentation & Sign-Off Process

Key documents to be prepared:

- Business Requirements Document (BRD) – Capturing high-level requirements.

- Functional Specification Document (FSD) – Defining detailed system functionalities.
- Use Case Diagrams & Wireframes – Visualizing system interactions.

Approvals will be taken in stages to prevent rework and ensure clarity.

4. Communication Plan

To maintain transparency, communication will happen through:

- Weekly Status Reports – Sent to stakeholders.
- Review Meetings – With the development team and clients.
- Email Updates & Documentation Repository – For easy access to project details.

5. Change Request Handling

- Establish a Change Control Board (CCB) to review and approve changes.
- Assess the impact of changes on scope, timeline, and budget.
- Maintain a Change Log to track modifications and justifications.

6. Project Progress Tracking & UAT Sign-Off

- Use JIRA/Trello for tracking tasks and dependencies.
- Conduct User Acceptance Testing (UAT) with stakeholders before deployment.
- Obtain formal Client Project Acceptance Sign-Off for closure.

3. 3-Tier Architecture

The 3-Tier Architecture is a software design pattern that divides an application into three layers:

1. Presentation Layer (UI Layer) – User interface where farmers and manufacturers interact with the system.
2. Business Logic Layer (Application Layer) – Processes user requests, applies business rules, and communicates with the database.
3. Data Layer (Database Layer) – Stores and retrieves data such as product details, user information, and transaction records.

4: BA Approach Strategy for Framing Questions

As a Business Analyst (BA), asking the right questions is crucial for gathering clear and complete requirements. Before framing questions for stakeholders, the following key factors should be considered

1. The 5W1H Approach

A structured questioning technique using:

- Who – Who will use the system? (Farmers, Manufacturers, Admins)
- What – What functionalities are expected? (Product search, order placement, payment options)
- Where – Where will the system be accessed? (Mobile, Desktop)
- When – When should notifications and order updates be sent?
- Why – Why is this feature needed? (To improve accessibility for remote farmers)
- How – How will the system process payments and order tracking?

2. SMART Criteria

Each question should help define requirements that are:

- Specific – Clear and focused (e.g., "What payment options should be available?")
- Measurable – Quantifiable (e.g., "How many order statuses should be tracked?")
- Achievable – Realistic within budget and time constraints
- Relevant – Aligned with business needs
- Time-bound – Set deadlines for requirement completion

3. Stakeholder Analysis & RACI Matrix

- Identify key decision-makers (e.g., Mr. Henry, Peter, Kevin, Ben).
- Use a RACI Matrix to define stakeholder roles:

  Responsible (Who collects information?)

  Accountable (Who approves decisions?)

  Consulted (Who provides inputs?)

  Informed (Who receives updates?)

- Use Cases & Use Case Specs – Define system interactions.
- Activity Diagrams & Process Models – Capture workflows.
- Wireframes & Page Designs – Understand UI expectations.

<u>Understand 3-tier architecture</u>:

The business analyst should have a clear understanding of 3-tier architecture and how it applies to the project. Thus, will help the business analyst to frame questions that are relevant and specific to the project's technical requirements.

5: Elicitation Techniques

Elicitation techniques are methods used by a Business Analyst (BA) to gather and clarify requirements from stakeholders. The acronym BDRFOWJIPQU represents various elicitation techniques:

1. B – Brainstorming
    - Used to generate new ideas and solutions.
    - Example: Discussing potential features with farmers and manufacturers.
2. D – Document Analysis
    - Reviewing existing documents to extract useful information.
    - Example: Studying agricultural product catalogues or previous e-commerce solutions.
3. R – Reverse Engineering
    - Analysing an existing system to identify requirements.
    - Example: Examining competitor platforms to understand market expectations.
4. F – Focus Groups
    - Engaging a group of stakeholders for discussions.
    - Example: Gathering input from farmers on user interface preferences.
5. O – Observation
    - Watching users interact with current systems to identify pain points.
    - Example: Observing how farmers purchase products offline to improve the digital experience.
6. W – Workshops
    - Conducting interactive sessions to finalize requirements.
    - Example: Holding a session with the project team to discuss system features.
7. J – Job Shadowing
    - Following a user to understand their workflow.
    - Example: Understanding how manufacturers list their products.

8. I – Interviews

- One-on-one discussions to gather specific requirements.
- Example: Interviewing Mr. Henry about his vision for the platform.

9. P – Prototyping

- Creating mock-ups to visualize the system.
- Example: Designing wireframes for the online agriculture store.

10. Q – Questionnaires & Surveys

- Collecting structured responses from multiple stakeholders.
- Example: Sending a survey to farmers about preferred payment methods.

11. U – Use Cases

- Defining how users interact with the system.
- Example: Mapping how a farmer searches for and purchases products.

6: Elicitation Techniques for This Project

1. Prototyping

- Why? Farmers and manufacturers may find it easier to provide feedback on a visual representation rather than just descriptions.
- Example: Creating a wireframe for the website to show how product browsing, ordering, and payments will work.

2. Use Case Specifications

- Why? Helps define system interactions and ensures clarity on how different users (farmers, manufacturers, admin) will use the platform.
- Example: Defining use cases such as "Farmer searches for products" or "Manufacturer uploads product details."

3. Document Analysis

- Why? Reviewing existing agricultural product catalogs, logistics processes, and e-commerce best practices ensures accuracy in requirements.
- Example: Analyzing product pricing structures and industry regulations.

4. Brainstorming

- Why? Encourages innovative ideas and ensures all stakeholders contribute to feature discussions.
- Example: Conducting a brainstorming session with farmers to understand their key challenges in product procurement.

7: 10 Business Requirements

1. Product Search & Display

BR001: Farmers should be able to search for and view available products (fertilizers, seeds, pesticides).

2. Manufacturer Product Upload

BR002: Manufacturers should be able to upload and manage their product listings.

3. User Registration & Login

BR003: Farmers and manufacturers should be able to create an account and log in securely.

4. Shopping Cart & Wishlist

BR004: Farmers should be able to add products to a cart or a "buy later" wishlist.

5. Order Placement & Payment Integration

BR005: Farmers should be able to place orders and make payments using COD, UPI, credit/debit cards.

6. Order Tracking & Notifications

BR006: Users should receive email/SMS notifications about order status and have a tracking system.

7. Delivery Address Management

BR007: Farmers should be able to save and update delivery addresses for orders.

8. Security

B008: - User data should be produced

9. Multi-Language Support

BR009: The application should support multiple languages for ease of use in rural areas.

10. User Friendly

BR010- The platform should have a user-friendly interfaces and easy navigation for a better user experience.

8: Assumptions

1. Internet Access

- Farmers in remote areas have sufficient internet access to use the online store.

2. Digital Literacy

- Farmers and manufacturers have basic knowledge of using mobile or web applications.

3. Product Availability

- Manufacturers will keep their product inventory updated in real-time.

4. Payment Security

- The platform will integrate secure payment gateways (UPI, Credit/Debit Cards, COD).

5. Logistics Support

- Reliable delivery partners will be available to transport products to remote locations.

6. Regulatory Compliance

- The application will comply with legal requirements related to online transactions and agricultural product sales.

7. User Verification

- Farmers and manufacturers will be required to verify their identity during registration.

8. Multi-Device Compatibility

- The application will function smoothly on both desktop and mobile devices.

9. Language Preferences

- Farmers may require support in multiple regional languages for ease of use.

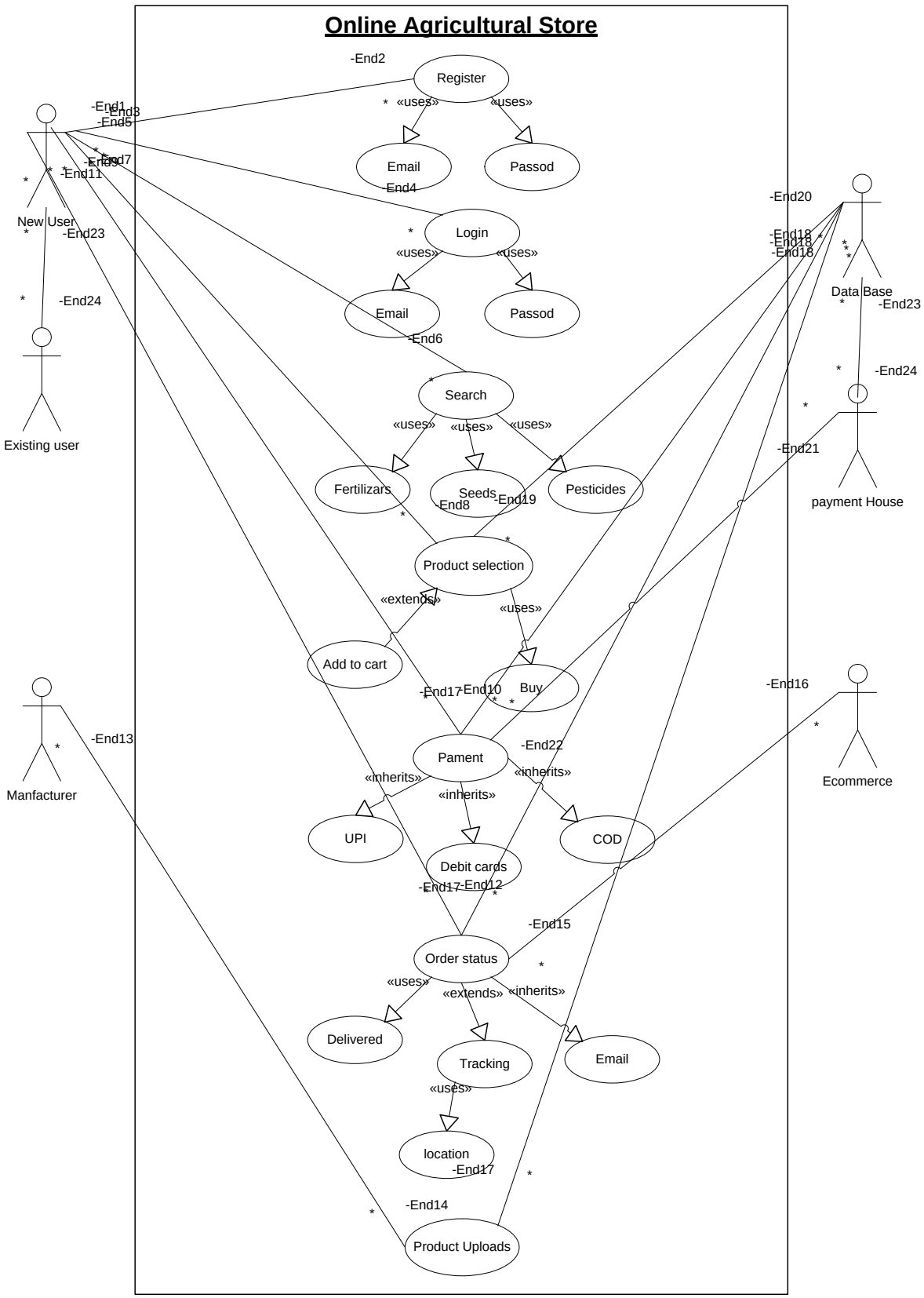
10. Stakeholder Availability

- Key stakeholders (Mr. Henry, Peter, Kevin, Ben) will be available for requirement discussions and approvals.

9: Requirements Priority

Req ID	Requirement Name	Requirement Description	Priority (1-10)
BR001	Farmer Search for Products	Farmers should be able to search for available products (fertilizers, seeds, pesticides).	**8**
BR002	Manufacturer Product Upload	Manufacturers should be able to upload and manage product listings.	**8**
BR003	User Registration & Login	Farmers and manufacturers should be able to create an account and log in securely.	**10**
BR004	Shopping Cart & Wishlist	Farmers should be able to add products to a cart or a "buy later" wishlist.	**7**
BR005	Order Placement & Payment	Farmers should be able to place orders and make payments (COD, UPI, Credit/Debit cards).	**9**
BR006	Order Tracking & Notifications	Users should receive order status updates and have a tracking system.	**9**
BR007	Delivery Address Management	Farmers should be able to save and update delivery addresses.	**6**
BR008	Customer Support & Feedback	A helpdesk/chatbot should be available for queries, and users should provide product feedback.	**5**
BR009	Multi-Language Support	The application should support multiple languages for farmers in rural areas.	**4**
BR010	User Friendly	The platform should have a user-friendly interfaces and easy navigation for a better user experience.	**7**

10. Use case Diagram


Online Agricultural Store
Register
Email
Passod
Login
Email
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Search
Fertilizars
Seeds
Pesticides
Product selection
Add to cart
Buy
Pament
UPI
Debit cards
COD
Order status
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11.**Use Case Specification**

Below is the **Use Case Specification** for the key use cases in the **Online Agricultural Store** based on the provided diagram.

1. Use Case: User Registration

Actors:

- New User
- Database

Description:

Allows new users (farmers/manufacturers) to register on the platform.

Preconditions:

- User must have a valid email and password.

Flow of Events:

1. User selects the "Register" option.
2. User enters an email and password.
3. System validates credentials.
4. System stores data in the database.
5. Registration is successful.

Postconditions:

- The user account is created.

2. Use Case: User Login

Actors:

- Existing User
- Database

Description:

Allows registered users to log in.

Flow of Events:

1. User selects "Login."

2. User enters email and password.
3. System verifies credentials.
4. If valid, access is granted.

Postconditions:

- User is logged in successfully.

3. Use Case: Search for Products

Actors:

- User (Farmer)

Description:

Enables farmers to search for agricultural products.

Flow of Events:

1. User enters a search query (Fertilizers, Seeds, Pesticides).
2. System retrieves and displays matching products.

Postconditions:

- User finds relevant products.

4. Use Case: Product Selection & Add to Cart

Actors:

- User (Farmer)

Description:

Allows users to select products and add them to a cart.

Flow of Events:

1. User selects a product.
2. User adds the product to the cart.

Postconditions:

- Product is added to the cart.

5. Use Case: Buy & Payment Processing

Actors:

- User (Farmer)
- Payment House

Description:

Processes payments for product purchases.

Flow of Events:

1. User clicks "Buy."
2. System prompts for a payment method (UPI, Debit Card, COD).
3. Payment is processed through a secure gateway.

Postconditions:

- Order is placed successfully.

6. Use Case: Order Tracking & Status

Actors:

- User (Farmer)
- Delivery System

Description:

Users can track their order status.

Flow of Events:

1. User selects "Order Status."
2. System displays tracking details.
3. If delivered, the system updates the status.

Postconditions:

- Order is tracked until delivery.

7. Use Case: Product Upload (Manufacturer)

Actors:

- Manufacturer
- Database

Description:

Manufacturers upload and manage product listings.

Flow of Events:

1. Manufacturer logs in.
2. Selects "Upload Product."
3. Enters product details and submits.

Postconditions:

- Product is listed on the store.

12. Activity Diagram