**Question 1: 4 Quarterly Audits are planned Q1 , Q2, Q3, Q4 for this Project What is your knowledge on how these Audits will happen for a BA ? Explain in simple terms.**

Answer: An audit is like a regular check-up to make sure:

* The project is going as planned
* Everyone is doing their job properly
* Documents and processes are being followed correctly

Audits help find problems early and improve quality.

 **4 Quarterly Audits: Q1, Q2, Q3, Q4**

These audits will happen every 3 months during the 18-month project to:

* Review progress
* Ensure timelines, budget, and quality are on track
* Identify any risks or issues early

As a Business Analyst, during audits I might need to:

**Q1 Audit – Planning & Requirement Gathering (Months 1–3)**

* Understanding business goals
* Identifying stakeholders
* Gathering and documenting initial requirements

**What I’ll Present:**

* Stakeholder list (Mr. Henry, Committee, Farmers, etc.)
* RACI Matrix
* Elicitation techniques used (interviews with Peter, Kevin, Ben; workshops with Committee)
* Initial BRD (Business Requirements Document) draft
* Notes from meetings
* Use case diagrams or high-level user stories
* Early wireframes/mockups (if any)

 **Outcome:**

* Show that you clearly understand the problem and business needs
* Show active involvement from end users (farmers) and sponsors

**Q2 Audit – Design & Documentation Finalization (Months 4–6)**

* Finalizing and signing off business and functional requirements
* Defining data and system needs
* Aligning requirements with 3-tier architecture

**What I’ll Present:**

* Final BRD and SRS (Software Requirements Specification)
* Requirement Traceability Matrix (RTM) – initial version
* Review and sign-off emails from Committee
* Functional flows and diagrams
* Updated user stories or use cases
* List of agreed features (e.g. product listing, ordering, communication between farmers & companies)

 **Outcome:**

* Ensure development team (Ms. Juhi, developers) has complete, signed-off requirements
* Reduce misunderstandings or rework later

 **Q3 Audit – Development & Testing Support (Months 7–12)**

* Supporting developers and testers
* Managing requirement changes
* Keeping documentation up-to-date

**What I’ll Present:**

* Updated RTM linking requirements to features being developed
* Any Change Requests raised by the Committee or users
* Communication logs with development and testing team
* Support given to testers (Mr. Jason, Ms. Alekya) for creating test cases
* Updated BRD/SRS if requirements changed
* Status reports sent to Mr. Vandanam & Committee

**Outcome:**

* Show how requirements are being implemented
* Ensure traceability and proper change control

**Q4 Audit – UAT & Project Closure (Months 13–18)**

* Ensuring UAT (User Acceptance Testing) is complete
* Final delivery and client approval
* Lessons learned

**What I’ll Present:**

* UAT test cases/scenarios created with testers
* UAT feedback from users (Peter, Kevin, Ben)
* Final RTM – all requirements tested and verified
* Client Project Acceptance Form (signed by Committee)
* Summary report from BA point of view (lessons learned, challenges, improvements)

**Outcome:**

* Show that business needs have been fully met
* Ensure successful closure with official sign-off

**Summary Table**

| **Quarter** | **Focus Area** | **BA Responsibilities** |
| --- | --- | --- |
| **Q1** | **Planning & Requirement Gathering** | **Stakeholder list, RACI, BRD draft, interviews** |
| **Q2** | **Requirement Finalization** | **BRD, SRS, RTM, approvals from Committee** |
| **Q3** | **Development & Testing** | **Change logs, RTM updates, support testers** |
| **Q4** | **UAT & Closure** | **UAT results, final RTM, client sign-off** |

**Question 2: Before the Project is going to Kick Start, The Committee asked Mr Karthik to submit BA Approach Strategy. Write BA Approach strategy (As a business analyst, what are the steps that you would need to follow to complete a project – What Elicitation Techniques to apply, how to do Stakeholder Analysis RACI/ILS, What Documents to Write, What process to follow to Sign off on the Documents, How to take Approvals from the Client, What Communication Channels to establish n implement, How to Handle Change Requests, How to update the progress of the project to the Stakeholders, How to take signoff on the UAT- Client Project Acceptance Form )**

**Your Team:**

**Project Manager - Mr Vandanam**

**Senior Java Developer - Ms. Juhi**

**Java Developers - Mr Teyson, Ms Lucie, Mr Tucker, Mr Bravo**

**Network Admin - Mr Mike**

**DB Admin - Mr John.**

**Testers - Mr Jason and Ms Alekya**

**BA - You**

Answer: My BA Approach Strategy (Simple & Clear)

**1. Understanding the Project Scope & Goals**

* Meet with the Committee (Mr. Henry, Mr. Pandu, Mr. Dooku) to understand their vision and goals.
* Understand the problems farmers face and what the app must solve (fertilizer, seed, and pesticide access).
* Understand the budget (2 Cr INR) and timeline (18 months).

**2. Stakeholder Analysis & RACI Chart**

* Identify all key stakeholders:
	+ **Committee** – Business sponsors
	+ **Peter, Kevin, Ben** – End users / domain experts
	+ **APT IT Team** – Project delivery team
* Create a RACI Matrix:
	+ **R (Responsible):** Me (BA), Dev team
	+ **A (Accountable):** Mr. Vandanam (PM)
	+ **C (Consulted):** Committee, Farmers
	+ **I (Informed):** Developers, Testers

**3. Elicitation Techniques**

To gather correct requirements:

* **Interviews** – Talk to Peter, Kevin, and Ben
* **Workshops** – Sessions with the committee
* **Surveys/Questionnaires** – If needed, for broader farmer feedback
* **Observation** – Understand how farmers currently buy products
* **Document Analysis** – Review any existing systems or related apps

**4. Key Documents to Prepare**

* **BRD (Business Requirements Document)** – What the business needs
* **SRS (Software Requirements Specification)** – Detailed tech-level requirements
* **Use Case Diagrams / User Stories** – To explain how users interact
* **RTM (Requirement Traceability Matrix)** – To track all requirements through design/testing
* **Change Request Log** – To handle new or changing needs

**5. Document Review & Sign-Off Process**

* Review documents with:
	+ Committee for business needs
	+ Developers & testers for technical understanding
* Get feedback, make changes, and finalize
* Take sign-off from the Committee (client) via email or approval form for BRD/SRS

**6. Communication Plan**

* Weekly status calls (via Zoom/Teams) with Mr. Vandanam and team
* Bi-weekly updates to Committee (progress, risks, etc.)
* Use Email + WhatsApp (if needed) for quick updates
* Maintain documentation in shared drive (Google Drive / SharePoint)

**7. Handling Change Requests**

* Any change raised by client will go to a Change Request Form
* Discuss with team → Estimate impact on time/cost → Send to Committee
* Once approved, update documents (BRD, RTM)
* Inform team of changes

**8. Progress Reporting to Stakeholders**

* Use a simple status report template
	+ Tasks completed
	+ Upcoming work
	+ Issues/Risks
	+ Support needed
* Share reports with Mr. Vandanam (PM) and Committee

**9. UAT & Final Client Sign-Off**

* Create a UAT Plan with testers (Mr. Jason & Ms. Alekya)
* Involve Peter, Kevin, and Ben to test features from the farmer’s point of view
* Log all test results
* Fix any issues found
* Prepare Client Project Acceptance Form

Once UAT is successful, get Committee sign-off (final approval)

 **Architecture**: Team has decided on a **3-Tier Architecture** :

* + **Presentation Layer (UI)** – Frontend (Web/Mobile app for Farmers & Companies)
	+ **Business Logic Layer** – Java backend (by Ms. Juhi & team)
	+ **Data Layer** – Database managed by Mr. John

**Question 3: Explain and illustrate 3-tier architecture?**

Answer: 3-tier architecture is a way to build applications by splitting them into three separate layers, each with its own job. This makes the system easier to manage, secure, and scalable.

**Example: Online Agriculture Products Store**

Imagine a farmer (Peter) using the mobile app to buy seeds or fertilizers. The process goes through three layers:

**1. Presentation Layer (User Interface)**This is what users see and interact with — the Web or Mobile App interface.

 In our project:

* Peter logs into the app
* Browses products (seeds, fertilizers, pesticides)
* Clicks on "Buy Now"

For the BA:This layer focuses on user experience, screen flows, and ensuring the design is simple for rural farmers.

**2. Business Logic Layer (Application Layer)**

This is the brain of the application. It processes user actions, applies rules, and connects the UI to the database.

 In our project:

* Checks if the product is in stock
* Calculates the total price
* Verifies delivery options

 For the BA:
This layer is based on the functional requirements you gather. You work closely with developers (like Ms. Juhi) to explain what should happen when a farmer makes a purchase.

**3. Data Layer (Database)**

This is where all the data is stored safely — products, orders, farmer details, etc.

 In our project:

* Stores product details from companies
* Saves farmer orders
* Manages inventory

For the BA:
We need to gather requirements on what data needs to be stored and how it should be used.

 **Simple Diagram for 3-Tier Architecture**

Farmer (User)

↓

Presentation Layer

(Web/Mobile UI)

↓

Business Logic Layer

(Java Backend – Ms. Juhi & Team)

↓

Data Layer

(Database – Mr. John)

 **3-Tier Architecture is Used in This Project because:**

* Easy to update the app without changing the whole system
* Secure – Sensitive data is handled in the backend
* Scalable – Can add more users and features later
* Organized – Each team (Frontend, Backend, DB) works independently

 **As a BA I have to::**

| **Layer** | **What You Do as BA** |
| --- | --- |
| **Presentation Layer** | **Define UI requirements, gather user input needs** |
| **Business Layer** | **Write functional requirements, use cases, process flows** |
| **Data Layer** | **Specify what data needs to be captured, stored, and retrieved** |

**Question 4: Business Analyst should keep What points in his/her mind before he frames a Question to ask to the Stakeholder ( 5W 1H – SMART – RACI – 3 Tier Architecture – Use Cases, Use case Specs, Activity Diagrams,Models, Page designs)**

Answer: As a Business Analyst (BA) in the Online Agriculture Products Store project, before asking any question to stakeholders like Mr. Henry, the Committee, or the farmers (Peter, Kevin, Ben), I must prepare carefully to ensure the question is clear, purposeful, and aligned with the project’s goals.

Here are the key points I should keep in mind:

**1. 5W1H Technique (What, Why, When, Where, Who, How)**

Before framing a question, I must think through:

* **What** is the purpose of the question? (e.g., to understand how farmers select products?)
* **Why** is it important? (e.g., to design better UI for product listing)
* **When** should this feature be used? (e.g., before placing an order)
* **Where** will the interaction happen? (e.g., in mobile or web app)
* **Who** will be using it? (e.g., farmers, companies)
* **How** should it work? (e.g., through a dropdown or search filter)

Example Question to Stakeholder:
*“How do you currently choose between different types of seeds for different crops?”*

**2. SMART Technique**

All questions I frame must be:

* **S**pecific – Clear and focused (e.g., "Do you need filters for price range?")
* **M**easurable – Should lead to a requirement that can be tested
* **A**chievable – Based on realistic capabilities of the app
* **R**elevant – Connected to project goals (e.g., easy product selection for farmers)
* **T**ime-bound – Related to delivery timelines (e.g., must be ready before UAT)

This helps avoid vague or confusing discussions and leads to actionable requirements.

 **3. RACI (Stakeholder Role Clarity)**

Before asking, I should understand:

* Who is Responsible, Accountable, Consulted, and Informed for each feature.
* Example: Farmers (Peter, Kevin, Ben) are Consulted about product selection needs.
The Committee is Accountable for business decisions.

 I will tailor questions based on the role of the stakeholder to avoid confusion and get the right input.

**4. 3-Tier Architecture Awareness**

Before framing technical or process-related questions, I must understand which layer the question applies to:

* **Presentation Layer** – UI/UX related (e.g., “What information should appear on the product page?”)
* **Business Logic Layer** – Rules and conditions (e.g., “Should farmers be able to cancel an order?”)
* **Data Layer** – Data storage needs (e.g., “What product details do we need to save?”)

This helps me direct the right questions to the right team (UI/Dev/DB) or stakeholder.

**5. Use Cases & Activity Diagrams**

Before asking functional questions, I should:

* Prepare Use Case diagrams to visualize how the stakeholder will interact with the system
* Use Activity diagrams to show process flows (e.g., ordering products)

This helps stakeholders understand the question better, and gives context.

**6. Page Designs / Wireframes**

Sometimes it’s easier to ask a question using a simple screen mockup:

* I will prepare low-fidelity wireframes of product listing, checkout, etc.
* Then ask stakeholders questions like:
*“Do you want to see delivery time or reviews on this screen?”*

Visual aids make it easier for non-technical stakeholders like farmers to give accurate feedback.

**Conclusion**

Before asking a question to any stakeholder, a BA must:

* Be prepared using **5W1H** and **SMART** techniques
* Know the stakeholder's role through **RACI**
* Understand the system’s structure through **3-tier architecture**
* Use diagrams, use cases, and sample screens to guide the conversation

This ensures the questions are clear, relevant, and result in valuable requirements that help the technical team build a successful application for farmers.

**Question 5: As a Business Analyst, What Elicitation Techniques you are aware of? ( BDRFOWJIPQU)**

Answer: As a Business Analyst, elicitation is one of the most important tasks I perform — it means gathering requirements from stakeholders like Mr. Henry, the Committee, Peter, Kevin, Ben (farmers), and the technical team.

To do this effectively, I use the following elicitation techniques represented by BDRFOWJIPQU:

**B – Brainstorming**

* I conduct brainstorming sessions with the Committee and technical team to come up with new ideas, such as how to make the app user-friendly for rural farmers or what extra features (like order tracking) can be included.

**D – Document Analysis**

* I review any existing documents, such as current product catalogs from companies or examples of similar e-commerce apps, to understand what features should be included in our online store.

**R – Reverse Engineering**

* If stakeholders mention an existing system (like local shop sales), I try to understand the current manual process and translate it into digital steps (e.g., how do they currently decide which seed to buy?).

**F – Focus Groups**

* I organize small group discussions with the three farmers (Peter, Kevin, Ben) to collect their collective opinions on what problems they face and what they would want in the app (filters, language support, product details, etc.).

**O – Observation**

* I closely observe or ask them to explain how they currently buy fertilizers/seeds/pesticides in their village, so I can understand pain points (e.g., travel effort, lack of variety) and design the right digital solution.

**W – Workshops**

* I conduct requirement workshops involving the Committee, testers, and developers to clarify requirements, validate ideas, and define high-level features like ordering, delivery, and payment.

**J – Job Shadowing**

* I can shadow or simulate a day in a farmer’s life (or ask them to walk me through) to better understand their daily routine and how they would use a mobile application in real conditions (e.g., limited internet or electricity).

**I – Interface Analysis**

* I work with the developers and testers to understand how the different parts of the system (UI, backend, and database) will interact, especially since we are using 3-tier architecture.
This helps me ask the right questions to both users and tech teams.

 **P – Prototyping**

* I create simple mockups of the app (like product listing, shopping cart) and show them to stakeholders like Peter or Mr. Henry to get their feedback on the design and functionality.

 **Q – Questionnaires**

* If we want to reach out to more farmers from other villages, I can prepare a survey or questionnaire to collect feedback on their needs and preferences (language, delivery time, preferred payment methods).

 **U – Use Cases / Scenarios**

* I write use case scenarios that describe how different users (farmers or companies) will interact with the system — e.g., "A farmer searches for seeds → selects quantity → places an order."

**Conclusion:**

As a Business Analyst in this project, I use a combination of elicitation techniques under **BDRFOWJIPQU** to:

* Understand farmer needs
* Collect detailed requirements from stakeholders
* Translate those needs into clear documents and system flows
* Ensure the app solves the real problems in rural farming procurement

Using multiple techniques ensures accuracy, completeness, and user satisfaction in the final product.

**Question 6: Which Elicitation Techniques can be used in this Project and Justify your selection of Elicitation Techniques?**

**Prototyping**

**Use case Specs**

**Document Analysis**

**Brainstorming**

**Fertilizers, seeds, pesticides details from the manufacturers and should be able to display them to the Farmers.**

**To gather the business requirements from the client, you went to SOONY and met Mr. Henry. When Mr. Henry was asked about the project and what are they expecting from the project, Mr. Henry stated that he is expecting to have a login for all its users (fertilizers, seeds, pesticides manufacturers and Farmers) , a product catalog of fertilizers, seeds, pesticides, a search option to search for products, payment process, and delivery tracking.**

**After doing the stakeholder analysis, you have found out that Peter, Kevin, Ben are the key stakeholders and you have scheduled an appointment to meet them. After meeting with them and trying to gather the stakeholder requirements, Kevin said that, a Farmer should be able to browse through the products catalog once they visit the website and need to have a search option so that they can search for any product they need. Peter said that, if a farmer wants to buy any product or add them to buy-later list, they need to login first using their email id and password. If it is a new user, then they can create a new account by submitting their email ID and creating a secure password. Ben added saying that, Farmers needs to have an easy-to-use payment gateway which should include cash-on-delivery (COD), Credit/Debit card and UPI options so that the user’s experience should be better. Kevin mentioned that, a user gets an email confirmation regarding their order status. A delivery tracker to track the whereabouts of their order.**

**Identify Business Requirements (which includes Stakeholder Requirements)**

**BR001 – Farmers should be able to search for available products in fertilizers, seeds, pesticides**

**BR002 – Manufacturers should be able to upload and display their products in the application**

Answer: To gather accurate and complete business and stakeholder requirements for this project, I have selected the following four elicitation techniques. These techniques best match the project's nature, stakeholder profiles, and system expectations.

 **1. Document Analysis**

 **Justification:**

* Used to review existing documents (if any) related to agriculture product supply, order systems, product catalogs, or CSR projects by SOONY.
* Helps understand any previous models, challenges, or formats that the system should consider.

 **Example:**

* Analyzing product information formats provided by manufacturers (e.g., fertilizers, seeds, pesticides), which helps define how the database and UI should handle this data.

 **2. Prototyping**

 **Justification:**

* Stakeholders like Peter, Kevin, and Ben are farmers and may not clearly articulate technical requirements.
* Creating **low-fidelity prototypes** (screen mockups) helps them **visualize** features like login, product catalog, search, cart, and payment flow.

**Example:**

* Showing a prototype of a **search bar** or **product catalog** screen to Kevin for feedback.
* Displaying a **login/registration** page to Peter to confirm the flow he described.

 **3. Brainstorming**

 **Justification:**

* Conducted brainstorming sessions with Mr. Henry and the SOONY Committee to gather **high-level expectations**.
* Encouraged the team to think creatively and suggest additional features like **delivery tracking** and **payment options**.

**Example:**

* Mr. Henry mentioned login for all users, product catalog, and tracking features — gathered during brainstorming.

 **4. Use Case Specifications**

 **Justification:**

* Helps in writing **detailed functional flows** for each user type — Farmers and Manufacturers.
* Essential for developers and testers to understand system behavior from a **user perspective**.

 **Example:**

* **Use Case 001 – Search Products**
*Actor:* Farmer
*Flow:* Farmer logs in → Visits catalog → Uses search → Views product details
* **Use Case 002 – Upload Product**
*Actor:* Manufacturer
*Flow:* Logs in → Adds product info → Submits → Product appears in catalog

 **Business & Stakeholder Requirements Identified:**

| **Requirement ID** | **Description** |
| --- | --- |
| **BR001** | Farmers should be able to search for available products in fertilizers, seeds, pesticides |
| **BR002** | Manufacturers should be able to upload and display their products in the application |
| **SR001** | Farmers should be able to log in or create an account (Peter) |
| **SR002** | There should be a search option to find products (Kevin) |
| **SR003** | Payment gateway with COD, UPI, card options must be included (Ben) |
| **SR004** | Users must receive email confirmations and order tracking (Kevin) |

 **Conclusion:**

The combination of **Document Analysis, Prototyping, Brainstorming, and Use Case Specification** is ideal for this project because:

* It supports both technical and non-technical stakeholders
* It enables clear communication and feedback
* It helps visualize and validate complex features
* It aligns with the 3-tier architecture (UI, logic, data)

By using these techniques, I can ensure that **requirements are complete, accurate, and user-friendly**, leading to a successful delivery of the Online Agriculture Products Store.

**Question 7: Make suitable Assumptions and identify at least 10 Business Requirements.**

Answer: Business Requirements (BRs)

1. **BR1 – Product Listing by Manufacturers:**

The application shall allow registered manufacturers to add and manage details of agriculture products such as fertilizers, seeds, and pesticides.

1. **BR2 – Farmer Registration and Profile Management:**

The system must provide an easy-to-use registration and profile management interface for farmers, especially considering limited digital literacy in remote areas.

1. **BR3 – Product Search and Filtering:**

Farmers shall be able to search, filter, and browse products based on categories (e.g., fertilizers, seeds, pesticides), crop type, brand, price range, and availability.

1. **BR4 – Product Ordering and Delivery Request:**

The application shall allow farmers to place orders for selected products and provide delivery location information (village address, GPS coordinates, etc.).

1. **BR5 – Communication System:**

The system must include a messaging feature or chat system to enable direct communication between farmers and manufacturers regarding products.

1. **BR6 – Inventory Management:**

Manufacturers must be able to update product inventory, and the system should show real-time stock availability to farmers.

1. **BR7 – Multilingual Support:**

The platform must support regional languages (e.g., Hindi, Telugu, Tamil, etc.) to cater to farmers from different linguistic backgrounds.

1. **BR8 – Mobile Application Availability:**

A mobile application (Android and optionally iOS) must be available with all core features to ensure access for farmers using smartphones.

1. **BR9 – Payment Integration:**

The system shall support multiple payment methods such as UPI, credit/debit cards, cash-on-delivery (COD), and wallet systems to facilitate smooth transactions.

1. **BR10 – Order Tracking and Notifications:**

Farmers shall receive updates and notifications (SMS/Push) about their order status including dispatch, delivery time, and any issues.

**Assumptions Made:**

* Farmers may have limited digital knowledge, so the UI/UX must be simple and intuitive.
* Reliable internet access might not be available at all times, so offline-friendly features or light versions of the app might be explored later.
* The platform is initially aimed at Indian farmers, hence regional language support and local payment systems are crucial.
* There will be logistics partnerships to facilitate delivery to remote areas.

**Question 8: List your assumptions**

Answer: **Assumptions**

1. **Digital Literacy is Limited Among Farmers:**
The majority of the target user base (farmers in remote areas) may have limited experience with digital tools and mobile applications. Hence, the application must have a simple, intuitive user interface.
2. **Internet Access May Be Unstable or Limited:**
Farmers in remote locations may not always have strong or consistent internet connectivity. The application should be lightweight, and future phases might consider limited offline functionality.
3. **Smartphone Penetration is Sufficient:**
A majority of farmers have access to Android smartphones, justifying the development of a mobile app alongside the web version.
4. **Regional Language Support is Critical:**
Since the initial rollout is aimed at Indian rural areas, the platform should support multiple Indian languages for better usability.
5. **Manufacturers are Willing to Register and Participate:**
Fertilizer, seed, and pesticide manufacturers are assumed to be interested in listing their products and managing sales through the platform.
6. **Logistics Will Be Handled via Third Parties:**
The platform will not manage its own delivery fleet. Instead, it will rely on existing courier/logistics services to deliver products to rural addresses.
7. **Farmers Know the Products They Need:**
It is assumed that farmers have a basic understanding of the types of products (e.g., seed variants, fertilizers) suitable for their crops and can select them without needing deep technical guidance.
8. **Government Regulations are Complied With by Manufacturers:**
All manufacturers listing products on the platform are compliant with agricultural and safety regulations and can legally sell their goods online.
9. **Payment Systems Like UPI Are Accessible to Farmers:**
It is assumed that farmers have access to digital payment systems such as UPI or mobile wallets, or can use cash on delivery if needed.
10. **Initial Focus is on B2C (Farmer-to-Manufacturer) Model:**
The platform’s first phase will focus on facilitating purchases by individual farmers from manufacturers, rather than supporting large-scale bulk procurement or B2B functionality.

**Question 9: Give Priority 1 to 10 numbers (1 being low priority – 10 being high priority) to these Requirements after discussions with the stakeholders**

Answer:

| **Req ID** | **Req Name** | **Req Description** | **Priority (1–10)** |
| --- | --- | --- | --- |
| BR001 | Farmer Search for Products | Farmers should be able to search for available products in fertilizers, seeds, pesticides | **8** |
| BR002 | Manufacturers Upload Products | Manufacturers should be able to upload and display their products in the application | **8** |

These two are critical to the core functioning of the platform, and hence both are rated **Priority 8** (high but not maximum, since they depend on other functions like login or registration to be operational first).

**Next Steps for Business Analyst**

As the **Business Analyst**, your responsibilities now include:

**1. Refine Requirements**

Break these business requirements into **Functional Requirements (FRs)** and **User Stories**.

**Example:**

* **BR001 - Farmer Search for Products**
	+ **FR001.1:** System shall allow users to filter products by category (seeds, fertilizers, pesticides).
	+ **FR001.2:** System shall support keyword search for product names or manufacturers.
	+ **User Story:** As a farmer, I want to search for products by name or category so that I can find what I need easily.

**2. Create UML Diagrams**

You’ll translate requirements into UML diagrams to guide the development team. Key diagrams include:

**For BR001 & BR002:**

* **Use Case Diagram:** Show how farmers and manufacturers interact with the system.
* **Activity Diagram:** Illustrate the step-by-step flow of product search or upload.
* **Class Diagram (optional):** Define the relationship between product entities (e.g., Product, Manufacturer, Category).

**3. Design Screen Mockups**

Creating **low-fidelity wireframes** or **mockups** to visualize:

* Product search screen for farmers
* Product upload form for manufacturers
* Filters and product detail view

These mockups help stakeholders validate UI flow, and also provide the design team with visual guidance.

**Use Case Diagram – Farmer Searches for Products**

**Requirement:**

**BR001 – Farmers should be able to search for available products in fertilizers, seeds, and pesticides.**

**Primary Actor:**

Farmer

**Goal:**

To search for agricultural products using filters and keywords.

**Use Case Diagram Components**

**Actors:**

* **Farmer** (Primary actor)

**Use Cases:**

* Login to System
* Search for Products
* Filter by Category (Seeds, Fertilizers, Pesticides)
* Filter by Brand / Price / Crop Type
* View Product Details
* Add to Cart / Proceed to Order *(related use case)*

 **Use Case Diagram**

Here's a **textual representation** of the diagram for now:

+-----------------------------+

| Farmer |

+-------------+---------------+

| |

+--------------------+ +--------------------------+

| Login to System | | Search for Products |

+--------------------+ +--------------------------+

|

+------------------------+----------------------+

| | |

+-------------------+ +---------------------+ +-----------------------+

| Filter by Category| | Filter by Brand | | Filter by Crop Type |

+-------------------+ +---------------------+ +-----------------------+

|

+-------------------+

| View Product Info |

+-------------------+

|

+-------------------+

| Add to Cart |

+-------------------+

 **Use Case Descriptions**

| **Use Case ID** | **Name** | **Description** |
| --- | --- | --- |
| UC001 | Login to System | Enables the farmer to log in using mobile number or credentials |
| UC002 | Search for Products | Allows farmer to search using a keyword |
| UC003 | Filter by Category | Enables filtering of results by product type (e.g., Seeds, Fertilizers) |
| UC004 | Filter by Brand/Crop | Enables more advanced filtering by brand name, suitable crop, or price |
| UC005 | View Product Info | Allows viewing detailed info about a selected product |
| UC006 | Add to Cart | Farmer adds the selected product to cart to proceed with order |

A **mockup layout (wireframe)**:

| * **Req ID**
 | * **Req Name**
 | * **Req Description**
 | * **Priority**
 |
| --- | --- | --- | --- |
| * BR001
 | * Farmer Search for Products
 | * Farmers should be able to search for available products in fertilizers, seeds, and pesticides.
 | * 8
 |
| * BR002
 | * Manufacturers Upload their Products
 | * Manufacturers should be able to upload and display their products in the application.
 | * 8
 |
| * BR003
 | * Farmer Product Purchase
 | * Farmers can select products, place orders, and enter delivery address.
 | * 10
 |
| * BR004
 | * Product Categories
 | * Products should be categorized into fertilizers, seeds, and pesticides.
 | * 9
 |
| * BR005
 | * Product Descriptions & Details
 | * Each product must display name, company, price, quantity, and usage details.
 | * 9
 |
| * BR006
 | * Secure Login for Farmers
 | * Farmers must register and login securely to use the application.
 | * 9
 |
| * BR007
 | * Secure Login for Manufacturers
 | * Manufacturers should have secure login to upload/manage products.
 | * 8
 |
| * BR008
 | * Order Tracking
 | * Farmers should be able to track the status of their orders.
 | * 7
 |
| * BR009
 | * Multilingual Support
 | * App should support local languages (Telugu, Hindi, English, etc.) for rural user convenience.
 | * 6
 |
| * BR010
 | * Feedback and Ratings
 | * Farmers can rate products and manufacturers after delivery.
 | * 5
 |

**Question 11: Prepare use case specs for all use cases**

Answer: A detailed **Use Case Specification** document for all identified use cases from the **Online Agriculture Products Store** project.

Each use case includes:

* Use Case ID & Name
* Actor(s)
* Description
* Pre-Conditions
* Post-Conditions
* Basic Flow (Main Scenario)
* Alternate Flow (if applicable)
* Exceptions

 **Use Case Specifications – Online Agriculture Products Store**

**UC1: Register/Login**

* **Actor**: Farmer, Manufacturer
* **Description**: Allows users to securely register and log in to access the system.
* **Pre-Condition**: The user is not logged in.
* **Post-Condition**: The user is authenticated and redirected to the appropriate dashboard.
* **Basic Flow**:
	1. User opens the app/website.
	2. Clicks on Register/Login.
	3. Enters credentials (username, password).
	4. System authenticates.
	5. User is logged in.
* **Alternate Flow**:
	1. If user forgets password, they can reset via email/OTP.
* **Exceptions**:
	1. Invalid credentials (Error message: "Incorrect username/password").

 **UC2: Search Products**

* **Actor**: Farmer
* **Description**: Allows farmers to search available products by category or keyword.
* **Pre-Condition**: Farmer is logged in.
* **Post-Condition**: Matching products are displayed.
* **Basic Flow**:
	1. Farmer enters keyword or selects category.
	2. System displays matching results.
	3. Farmer browses and selects products.
* **Exceptions**:
	1. No products found (System shows: "No matching products").

**UC3: View Product Details**

* **Actor**: Farmer
* **Description**: Displays product information such as price, description, quantity.
* **Pre-Condition**: Farmer clicks on a product.
* **Post-Condition**: Product detail is shown.
* **Basic Flow**:
	1. Farmer clicks a product.
	2. System fetches and displays product info.

**UC4: Place Order**

* **Actor**: Farmer
* **Description**: Farmers can order products and enter delivery address.
* **Pre-Condition**: Product is selected, and user is logged in.
* **Post-Condition**: Order is placed, and confirmation is shown.
* **Basic Flow**:
	1. Farmer clicks “Buy Now.”
	2. Enters quantity and address.
	3. Chooses payment mode.
	4. System places the order and shows confirmation.

 **UC5: Track Order**

* **Actor**: Farmer
* **Description**: Allows farmer to track the status of their order.
* **Pre-Condition**: Order is placed.
* **Post-Condition**: Current order status is shown.
* **Basic Flow**:
	1. Farmer visits “My Orders.”
	2. Selects order to track.
	3. System shows status: Pending, Shipped, Delivered, etc.

 **UC6: Upload Products**

* **Actor**: Manufacturer
* **Description**: Manufacturer adds new products to the system.
* **Pre-Condition**: Manufacturer is logged in.
* **Post-Condition**: Product is listed and visible to farmers.
* **Basic Flow**:
	1. Manufacturer clicks “Add Product.”
	2. Enters product name, description, price, quantity, etc.
	3. System saves and lists the product.

 **UC7: Manage Products**

* **Actor**: Manufacturer
* **Description**: Allows editing or deleting existing products.
* **Pre-Condition**: Manufacturer is logged in.
* **Post-Condition**: Products are updated or removed.
* **Basic Flow**:
	1. Manufacturer opens “My Products.”
	2. Clicks Edit/Delete on a product.
	3. Changes are saved or product is removed.

 **UC8: Give Feedback**

* **Actor**: Farmer
* **Description**: After delivery, the farmer gives ratings or feedback.
* **Pre-Condition**: Order is delivered.
* **Post-Condition**: Feedback is stored.
* **Basic Flow**:
	1. Farmer opens delivered orders.
	2. Clicks “Rate Product.”
	3. Selects stars and writes feedback.
	4. Submits.

 **UC9: View Orders (Manufacturer)**

* **Actor**: Manufacturer
* **Description**: Manufacturer views all orders placed by farmers.
* **Pre-Condition**: Manufacturer is logged in.
* **Post-Condition**: Orders are displayed.
* **Basic Flow**:
	1. Manufacturer opens “Orders Received.”
	2. System displays list with order details (Farmer name, product, quantity, date).

**Question 12: Activity diagrams**

Answer:

**Activity Diagram 1: Register/Login**

[Start]

|

[Open App/Website]

|

[Click on Register/Login]

|

[Enter Credentials]

|

[System Verifies Details] --> [Invalid?] --Yes--> [Show Error Message] --> [Enter Credentials]

| No

[Login Successful]

|

[Redirect to Dashboard]

|

[End]

**Activity Diagram 2: Search Products (Farmer)**

[Start]

|

[Login to App]

|

[Enter Keyword or Select Category]

|

[System Filters Product List]

|

[Display Matching Results]

|

[Farmer Selects Product to View]

|

[End]

**Activity Diagram 3: Place Order**

[Start]

|

[Login to System]

|

[Search & View Product Details]

|

[Add Product to Cart]

|

[Enter Quantity & Address]

|

[Choose Payment Method]

|

[Place Order]

|

[System Confirms Order]

|

[End]

**Activity Diagram 4: Track Order**

[Start]

|

[Login to System]

|

[Go to "My Orders"]

|

[Select Order to Track]

|

[System Displays Order Status]

|

[End]

**Activity Diagram 5: Upload Products (Manufacturer)**

[Start]

|

[Login to Manufacturer Account]

|

[Click "Upload New Product"]

|

[Enter Product Name, Description, Price, Quantity]

|

[Submit Product]

|

[System Saves Product]

|

[Confirmation Message]

|

[End]

**Activity Diagram 6: Manage Products (Edit/Delete)**

[Start]

|

[Login as Manufacturer]

|

[Go to "My Products"]

|

[Choose Product to Edit/Delete]

| |

[Edit Product] [Delete Product]

| |

[Submit Changes] [Confirm Deletion]

| |

[System Updates DB] [System Removes Product]

|

[Confirmation]

|

[End]

 **\*\*\*\*\*\*\***