

CapstoneProject1–Part-2

Q1.Quarterly audits are essential for monitoring and evaluating progress and performance of the project including the contribution of individual team member, such as business analyst. Here's how these audits typically happen for BA:

Quarter1:

Stage	Quarter 1 -Audit Report (Requirement gathering phase)
Completed	10 Weeks (1 Week to 10 Week)
Checklist	BRD Template
	Elicitation Result Report
	Duplicate requirement report
	Grouping of functionalities/features -Client sign-off
	Email Communication-Too,cc,bcc

Quarter2:

Stage	Quarter 2 -Audit Report (Requirement Analysis phase)
Completed	7 Weeks (16 Week to 23 Week)
Checklist	UML Diagram
	Business to functional requirement mapping
	Client sign-off Document
	RTM Document version control
	Email Communication-Too,cc,bcc

Quarter3:

Stage	Quarter 3 -Audit Report (Design phase)
Completed	7 Weeks (30 Week to 37 Week)
Checklist	Utilization of tools
	Documentation evidence on client communication
	Stakeholder MOM
	JAD Session report
	Email Communication-Too,cc,bcc

Quarter4:

Stage	Quarter 4 -Audit Report (Development phase)
Completed	20 Weeks (40 Week to 60 Week)
Checklist	Coding standard compliance
	Functional Implementation
	Code Documentation
	Security Considerations
	Email Communication-Too,cc,bcc

Quarter5:

Stage	Quarter 5 -Audit Report (Testing phase)
Completed	18 Weeks (60 Week to 78 Week)
Checklist	Test case summary
	Training report to end user
	Session learnt document
	Email Communication-Too,cc,bcc
	End user manual preparations

Q2.BA Approach strategy

1.Elicitation technique:

- Workshops-It is structured meeting where stakeholders and subject matter experts work together to define and established requirements for a project. We can gather farmers and manufacturers to bridge gap in understanding flow of information.
- Survey/Questionnaires-It is a method to gather information from multiple stakeholders in system development process.we can use this to collect data from a group of farmers and manufacturers about their requirements and preferences.
- Brainstorming-It is a technique used to generate ideas, solutions, and requirements for a project. In this process, all the questions and challenges are introduced and participants are asked to propose as many ideas and solutions as possible.

2.Stakeholder Analysis:

The RACI Matrix can help clarify roles and responsibilities and ensure that stakeholders needs are addressed in the project-Responsible,Accountable,Consulted,Informed.

- Responsible- The individuals performing the task.
- Accountable-The individual ultimately answerable for task.
- Consulted-Who can give opinion,SME.
- Informed-Stakeholders kept up to date on progress.

3.Documents to Write:

- Initiation document-These documents are created during initial phase of the project to define objectives, scope, and stakeholders.
- Business Required Document-A high level document that outlines the business needs and goals of project.It's created at the beginning of the project and serves as the foundation for all other deliverables.
- Functional Required Document-A detailed document that outlines how to fulfil business needs of a project.It's created after BRD and breaks down the business requirements into technical specifications.
- Non-functional Requirements-It is to identify the requirements related to performance, security, and usability.
- Use Case Document-A document that describes how user interacts with system or product.
- Test Case Documentation-A document that includes test strategies, test cases, bugs, and execution reports.It helps to ensure that all requirements are met and to minimize the time and costs of software development.
- Risk Management Plan-This document identifies the potential risk of the project.

4.Process to follow to Sign off on the Documents:

A project Sign off process is formal process the acknowledges the completion of the project and delivery of it's deliverables.Here are the steps to follow sign-off process:

- Preparing sign-off document.
- Organizing sign-off meetings.
- Presenting document.
- Discussing feedback.
- Asking for sign-off via email.
- Documenting approvals.
- Communicating sign-off to all stakeholders.

5.To take approvals from client:

Established a formal meeting with the client to keep them informed and get continuous feedback.Once the feedback is received we can send a formal email to ask for an approval to sign-off the project.After approval received, we can forward it to all stakeholders and document it.

6.Communication channels to establish and implement:

- Face to face meeting.
- Email communication.
- Telephonic communication.
- Online messaging and calling platforms.

7.Steps to Handle change requests:

- Receiving change request in "change request form"
- Acknowledge the change request
- Analysing the change request
- Communicating the change request

- Implementing change request
- Document status of change

7.To update progress of the project to stakeholders:

We can organize weekly or daily meeting and can keep the progress document ready to present it in this meeting. Apart from this, we can also organize monthly review meeting to track the progress of the project and discuss upcoming steps.

8.To take Sign-off on UAT-Client Project Acceptance Form:

- Preparing UAT form.
- Conduct a UAT process.
- Recording all the feedbacks.
- Fixing the issues.
- Preparing acceptance form.
- Review the final form with the client.
- Obtain the formal approval.
- Document the signed form.
- Communicate sign off to all the stakeholders.

3.Three-tier architecture is a client-server software architecture that separates an application into three logical layers (or tiers):

1. Presentation Tier (Client Layer):

Handles the user interface and user experience.

End-users (e.g., Farmers, Manufacturers)

Technologies: Web browsers (HTML/CSS/JavaScript), Mobile apps (React Native, Android/iOS), Angular, React

2. Application Tier (Business Logic Layer / Middle Tier)

Contains the business logic, rules, and workflows.

Server-side processes that receive user input, process it, and interact with the database.

Technologies: Java (Spring Boot), .NET, Python

3. Data Tier (Database Layer / Storage)

Stores and retrieves data.

Database Management System (DBMS)

Technologies: MySQL, Oracle, MongoDB

4.BA Approach Strategy for Framing Questions:Before a Business Analyst (BA) frames a question to a stakeholder, they should approach it strategically-ensuring clarity, relevance, and alignment with the project's scope.

1. 5W 1H Framework:Use the 5W 1H framework(What,Who,When,Where,Why and How) to structure question.
 - What should the user be able to do on this screen?
 - Why do you need this feature?
 - Who will use this functionality?

- When does this process take place in your workflow?
 - Where should this data be stored/viewed?
 - How will this action be triggered or executed?
2. SMART Criteria (Specific, Measurable, Achievable, Relevant, Time-bound):
 Specific: What *specific data* do you want to capture from farmers during *registration*?
 Measurable: Ensure at least 90% of farmers can place order successfully during UAT.
 Achievable: Use existing technology and skilled person within given budget and time.
 Relevant: Align with CSR goal of SOONY company and address farmer's challenges.
 Time-bound: Deliver solution within 18 Months.
 3. RACI Matrix: The RACI Matrix can help clarify roles and responsibilities and ensure that stakeholders needs are addressed in the project-
 Responsible, Accountable, Consulted, Informed.
 1. Responsible- The individuals performing the task.
 2. Accountable- The individual ultimately answerable for task.
 3. Consulted- Who can give opinion, SME.
 4. Informed- Stakeholders kept up to date on progress.
 4. 3Tier Architecture: is a client-server software architecture that separates an application into three logical layers (or tiers):
 1. Presentation Tier (Client Layer)
 2. Application Tier (Business Logic Layer / Middle Tier)
 3. Data Tier (Database Layer / Storage)
 5. Use Case: It refers to description of how a farmer and manufacturer interact with system to achieve specific goal.
 6. Use Case Specification: It provide detailed description of functional behaviour of system from user's perspective.
 7. Activity Diagram: It is type of UML diagram that visually represent workflow of system or process
 8. Page Design: After the requirement gathering and requirement analysis process, we can start page design along with the software designing process.

Q5. Elicitation Technique: Elicitation techniques are structured methods that Business Analysts use to gather information from stakeholders, users, subject matter experts documents, systems, or other sources to understand business needs, problems, or requirements.

- A. Brainstorming: It is Collaborative technique where group of stakeholders come together to generate wide range of ideas, requirements, solution in short amount of time.
- B. Document Analysis: Reviewing existing documents (manuals, reports, legacy system specs).
- C. Reverse Engineering: It is process of analysing and deconstructing system, product, component. the goal of this process is to extract information from existing product without prior access to original design document or source code.
- D. Focus Groups: Focus group are small group of stakeholders, typically end user, gathered together to discuss their needs, expectation and pain points regarding system.
- E. Observation: Watching users perform tasks in their environment.

- F. Workshops: It is involve structured and collaborative session where stakeholder, users and domain experts to define business process, identify problems, generate solution.
- G. JAD(Joint application development): It is highly structured and facilitated session where users, IT staff and stakeholders come together to discuss and define system requirements.
- H. Interviews: Interview are One-on-one or group conversations to collect in-depth requirements.
- I. Prototyping: Creating mockups/wireframes to visualize the system or screens.
- J. Questionnaires or Surveys: Written tools to collect data from many users efficiently or large group of stakeholder.
- K. Use Cases: Describing how users interact with a system to accomplish goals.

Q6.This project Elicitation Techniques:

Based on given project scenario following Elicitation technique can be used:

1. Prototyping: This involves creating working model of the system early in the project. Visual mockups help stakeholders visualize how the app/website will look and function.
2. Use Case Specifications: Use cases describe interactions between users and the system step-by-step. Creating use cases helps to define functional requirements and all alternate flows.
3. Document Analysis: Helps BA understand existing business processes, compliance needs, and standards. Review existing document such as business process maps, policies, report to extract relevant requirement and information.
4. Brainstorming: It is Collaborative technique where group of stakeholders come together to generate wide rang of ideas, requirements, solution in short amount of time.

Q7.Business Requirements:

Req ID	Business Req
BR001	Farmers should be able to search for available products in fertilizers, seeds, and pesticides.
BR002	Manufacturers should be able to upload and display their products in the application.
BR003	Farmers should be able to browse through the product catalog without login.
BR004	Users (both Farmers and Manufacturers) must have login functionality using email and password.
BR005	New users must be able to register by submitting their email ID and creating a secure password.
BR006	Farmers should be able to add products to a “Buy Later” list (wishlist)
BR007	Farmers should have access to an integrated, user-friendly payment gateway.
BR008	The payment gateway must support Cash on Delivery (COD), Credit/Debit Cards, and UPI.

Req ID	Business Req
BR009	Farmers should receive an email confirmation once they place an order.
BR010	A delivery tracker must be available to show the current status of placed orders.

Q8.Assumptions:

1. The stakeholder would have all the ideas around the business requirements before the first stage of the project.
2. The stakeholder would attend all the meeting on time as per the decided schedule.
3. All the necessary data would be available for the technical team to use and prepare designing and development stage.
4. All the users would have the basics knowledge to use the application.
5. The common resource like mobile device and internet connection would be available for the users.
6. The application would be developed within the given timeframe and decided budget.
7. There would be no un-ethical work involved while working on this project.
8. All the third party stakeholders would co-ordinate properly at each stage of project.
9. The logistics and delivery will be done seamlessly in all the locations of the users.
10. The overall users of the application would increase with time.

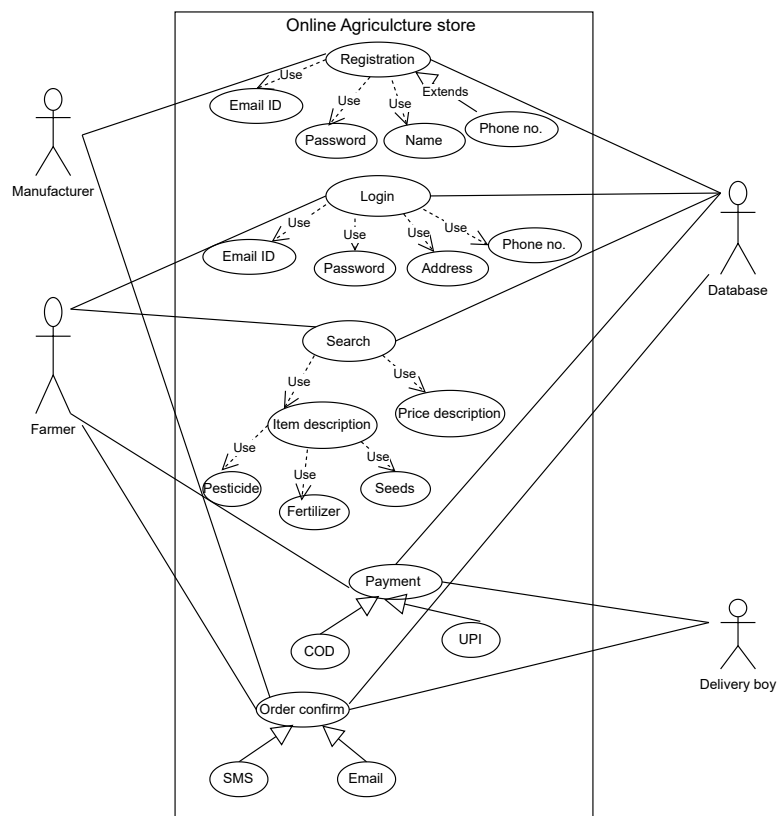
Q9.This project Requirements Priority:

With the help of MoSCow (Must-Have,Should-Have,Could-Have and Won't-Have) technique we can prioritize business requirements.

Req ID	Business Req	Priority
BR001	Farmers should be able to search for available products in fertilizers, seeds, and pesticides.	10
BR002	Manufacturers should be able to upload and display their products in the application.	10
BR003	Farmers should be able to browse through the product catalog without login.	9
BR004	Users (both Farmers and Manufacturers) must have login functionality using email and password.	10
BR005	New users must be able to register by submitting their email ID and creating a secure password.	10
BR006	Farmers should be able to add products to a "Buy Later" list (wishlist)	6

Req ID	Business Req	Priority
BR007	Farmers should have access to an integrated, user-friendly payment gateway.	9
BR008	The payment gateway must support Cash on Delivery (COD), Credit/ Debit Cards, and UPI.	10
BR009	Farmers should receive an email confirmation once they place an order.	8
BR010	A delivery tracker must be available to show the current status of placed orders.	8

Q10.Use Case Diagram:



Q11.Use case specification:

1.Use Case Spec 1:Login

Use Case ID	UC001
Use Case Name	User Login
Actor	Farmer, Manufacturer
Description	This use case describe users to register or log into the platform using an email and password.
Preconditions	User must have a valid email address.
Postconditions	User is authenticated and redirected to their dashboard.
Main Flow	1. User navigates to the login/registration page. 2. Enters email and password. 3. If new, creates an account and sets password. 4. System verifies credentials and logs the user in.
Alternate Flow	• If login fails due to incorrect password, user is prompted to retry or reset. • If email already registered during registration, show error.
Assumptions	• It is assumed that the user as registered on application. • It is assumed that user knows credential correctly.

2.Use Case Spec 2: Search Product

Use Case ID	UC002
Use Case Name	Search Product
Actor	Farmer
Description	Allows farmers to view all available fertilizers, seeds, and pesticides.
Preconditions	None (available to both logged-in and guest users)
Postconditions	Farmer views categorized product listings.
Main Flow	1. Farmer clicks on the catalog section. 2. System displays categorized products. 3. Farmer scrolls or filters by type (fertilizer/seed pesticide).
Alternate Flow	• If no products are available, show “no product found” message.
Assumptions	• It is assumed that the user as registered on application. • It is assumed that user knows credential correctly.

3. Use Case Spec 3: Adding Product in Cart

Use Case ID	UC003
Use Case Name	Adding Product in Cart
Actor	Farmer
Description	This use case describe how farmers would add product in cart.
Preconditions	A. User must be logged in to application. B. The application must have details of product system's inventory.
Postconditions	Farmer has successfully added product in the cart.
Main Flow	1. The user searches for the desired product on the search option. 2. The application shows a list of all the similar/related product. 3. The user selects the product they want to purchase. 4. The system displays complete details complete details and specifications of the product including product name, quantity in option, price, other specification and manufacturer. 5. The user clicks on the "add to cart" button. 6. The product gets added to the cart with the details-product name, price and quantity. 7. The system displays the message that product is added to the cart.
Alternate Flow	• In case user wants to change the product after adding product to cart.

4. Use Case Spec 4: Place Order

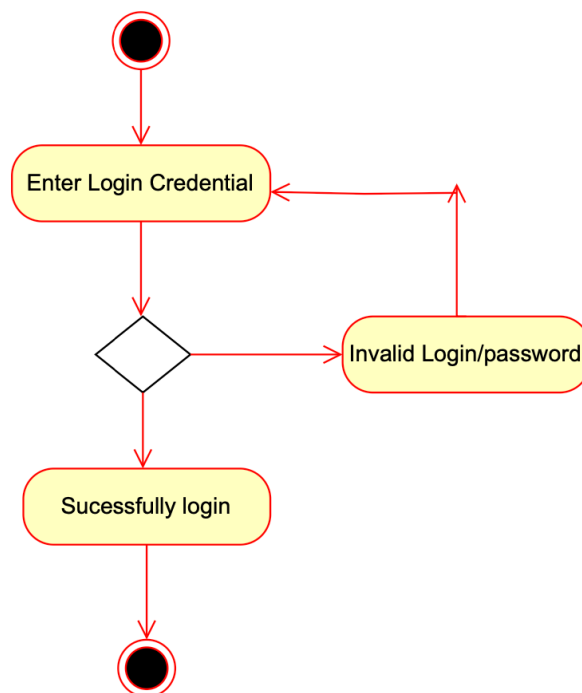
Use Case ID	UC004
Use Case Name	Place Order
Actor	Farmer
Description	Allows the user to place an order for selected products.
Preconditions	User must be logged in and have items in the cart.
Postconditions	Order is successfully created in the system.
Main Flow	1. Farmer selects products and adds them to cart. 2. Proceeds to checkout. 3. Enters delivery address. 4. Confirms the order.
Alternate Flow	• Missing address or product unavailability leads to error message.

5. Use Case Spec 5: Make Payment

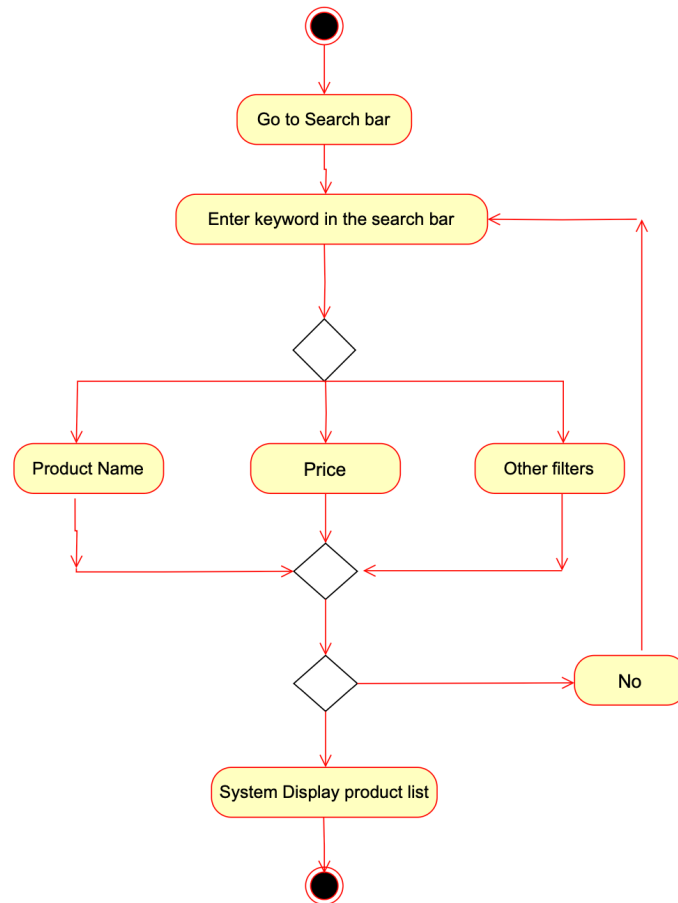
Use Case ID	UC005
Use Case Name	Make Payment
Actor	Farmer
Description	Facilitates payment for the placed order via various options.
Preconditions	An order has been placed and is pending payment.
Postconditions	Payment is completed and order status is updated.
Main Flow	1. User selects payment method (UPI, Credit/Debit, COD). 2. Enters required details (e.g., card info or UPI ID). 3. System verifies and processes payment. 4. User is shown success/failure message.
Alternate Flow	Payment failure: user retries or changes method

Q12. Activity diagram

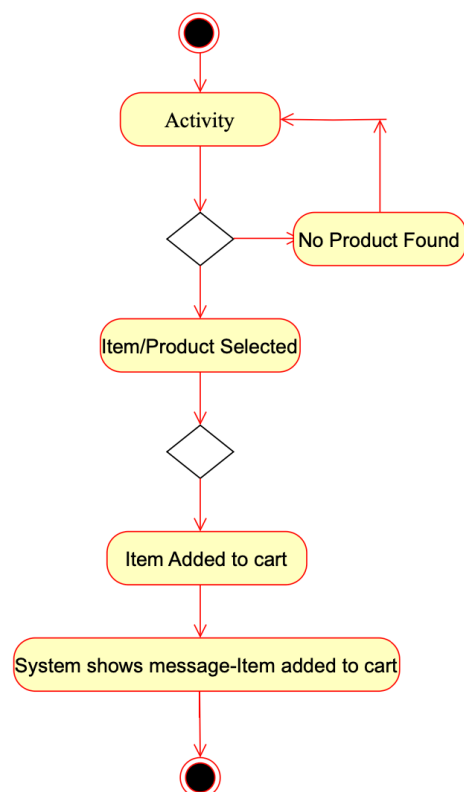
1. User Login



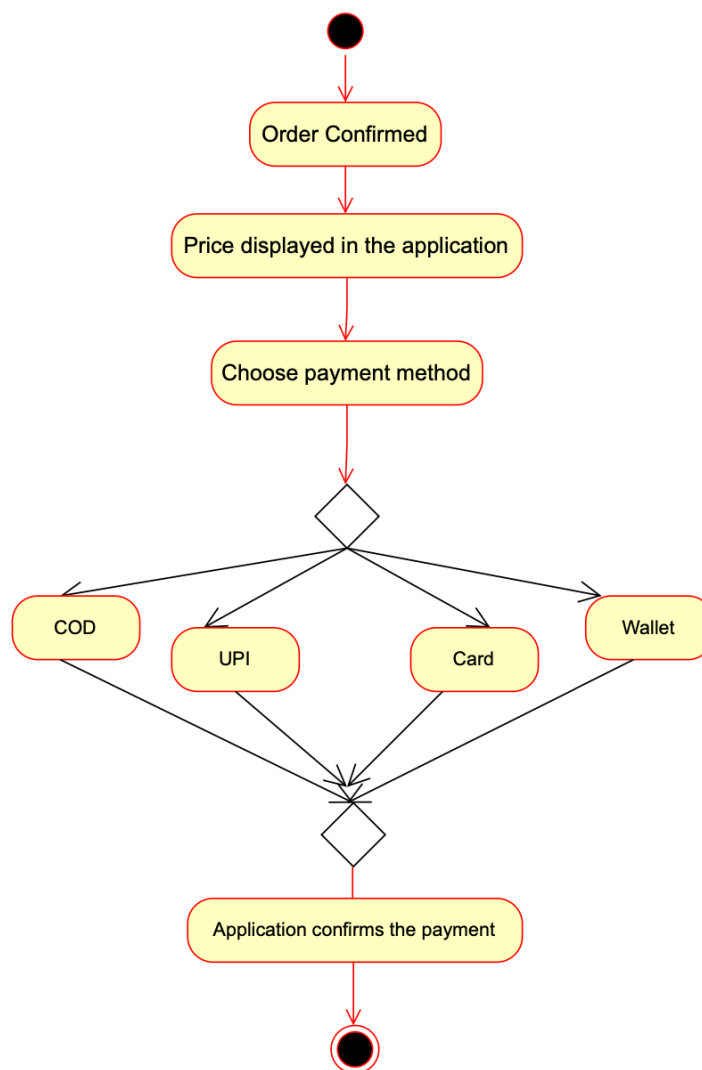
2. Search Product



3. Add Product to cart



4. Make payment for the product added in the cart



5. Delivery partner delivers the order

