Capstone Project 1 Prep 1 Part 2
Diva Khobragade

Online Agriculture Products Store

Mr. Henry, after being successful as a businessman and has become one of the wealthiest persons in the city. Now, Mr. Henry wants to help others to fulfil their dreams. One day, Mr. Henry went to meet his childhood friends Peter, Kevin and Ben. They live in a remote village and do farming. Mr. Henry asked his friends if they are facing any difficulties in their day-to-day work. Peter told Mr. Henry that he is facing difficulties in procuring fertilizers which are very important for farm. Kevin said that he is also facing the same problem in-case of buying seeds for farming certain crops. Ben raised his concern on lack of pesticides which could help in greatly reducing pests in crops.
After listening to all his friends' problems, Mr. Henry thought that this is a crucial problem faced not only by his friends but also by so many other farmers. So, Mr. Henry decided to make an online agriculture product store to facilitate remote area farmers to buy agriculture products. Through this Online Web / mobile Application, Farmers and Companies (Fertilizers, seeds and pesticides manufacturing Companies) can communicate directly with each other. The main purpose to build this online store is to facilitate farmers to buy seeds, pesticides, and fertilizers from anywhere through internet connectivity. Since new users are involved, Application should be user friendly.

This new application should be able to accept the product (fertilizers, seeds, pesticides) details from the manufacturers and should be able to display them to the Farmers. Farmers will browse through these products and select the products what they need and request to buy them and deliver them to farmers location.
Mr. Henry has given this project through his Company SOONY. In SOONY Company, Mr Pandu is Financial Head and Mr Dooku is Project Coordinator. Mr. Henry , Mr Pandu , and Mr Dooku formed one Committee and gave this project to APT IT SOLUTIONS company for Budget 2 Crores INR and 18 months Duration under CSR initiative. Peter, Kevin and Ben are helping the Committee and can be considered as Stakeholders share requirements for the Project. Mr Karthik is the Delivery Head in APT IT SOLUTIONS company and he reached out to Mr Henry through his connects and Bagged this project. APT IT SOLUTIONS company have Talent pool Available for this Project. Mr Vandanam is project Manager, Ms. Juhi is Senior Java Developer, Mr Teyson, Ms Lucie, Mr Tucker, Mr Bravo are Java Developers. Network Admin is Mr Mike and DB Admin is John. Mr Jason and Ms Alekya are the Tester. And you joined this team as a BA.

Question 1 – Audits - 5 Marks

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 ?

Question 2 – BA Approach Strategy - 6 Marks

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 and 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
Technical Team have assembled to discuss on the Project approach and have finalised to follow 3-tier architecture for this project.

Question 3 – 3-Tier Architecture - 5 Marks
Explain and illustrate 3-tier architecture?

Question 4 – BA Approach Strategy for Framing Questions – 10 Marks
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)

Question 5 – Elicitation Techniques - 6 Marks
As a Business Analyst, What Elicitation Techniques you are aware of?
(BDRFOWJIPQU)

Question 6 – This project Elicitation Techniques - 5 Marks
Which Elicitation Techniques can be used in this Project and Justify your selection of Elicitation Techniques?
Prototyping
Use case Specs
Document Analysis
Brainstorming

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

Question 7 – 10 Business Requirements- 10 Marks
Make suitable Assumptions and identify at least 10 Business Requirements.

Question 8 –Assumptions- 5 Marks
List your assumptions

Question 9 – This project Requirements Priority - 8 Marks
Give Priority 1 to 10 numbers (1 being low priority – 10 being high priority) to these Requirements after discussions with the stakeholders

Req ID	Req Name	Req Description	Priority
BR001	Farmer Search for Products	Farmers should be able to search for available products in fertilisers, seeds, pesticides	8
BR002	Manufacturers upload their products	Manufacturers should be able to upload and display their products in the application	8

Once the requirements are finalized, as a business analyst, one of the major roles is to act as a liaison between the client and the project team. To gather the requirements correctly from the client side and then to deliver those requirements to the project team in a way they understand.

To make the project team understand the requirements, you need to convert those requirements into UML diagrams and screen mock-ups.

Question 10 – Use Case Diagram - 10 Marks
Draw use case diagram

Question 11 – (minimum 5) Use Case Specs - 15 Marks
Prepare use case specs for all use cases

Question 12 – (minimum 5) Activity Diagrams - 15 Marks

Activity diagrams

Question 1 – Audits - 5 Marks
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 ?

I. Audit Q1 (Requirements Gathering) - 10 weeksCheck List planned for this phase - BRD Template, Elicitation Result Report, Duplicate Requirements Report, Grouping of functionalities/Client Sign-Off, Email Communications to anyone involved.

II. Audit Q2 (Requirements Analysis)- 7 weeks Check List planned for this phase - UML Diagrams, Business to functional requirements mapping, Client Sign-Off Documents, RTM document version control, Email Communications to anyone involved.

III. Audit Q3 (Design & Development) - 7 weeks and 20 weeksCheck List planned for this phase - Utilisation of Tools, Documented evidence on client communication, Stakeholder Minutes of Meeting, JAD (Joint Application Development) Session Report, End User Manual preparation document, BA & Developer Minutes of Meeting, Email Communications to anyone involved.

IV. Audit Q4 (Testing) - 20 weeks Check List planned for this phase - Test Case Summary, Training report to end users, Lessons learnt, Email Communications to anyone involved.

Question 2 – BA Approach Strategy - 6 Marks
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 and 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)

I. Elicitation Techniques
In the Requirements Gathering Phase, we use many elicitation techniques. Some of them are - Brainstorming, Document Analysis, Reverse Engineering, Focus Groups, Observation, etc.

- **Interviews:** Conduct one-on-one interviews with key stakeholders (Peter, Kevin, Ben, Mr. Henry, Mr. Pandu, Mr. Dooku, Mr. Karthik, Mr. Vandanam) to understand their expectations, pain points, and business goals.
- **Surveys/Questionnaires:** Distribute surveys to a broader group of farmers and company users to collect feedback on usability, product needs, and feature preferences.
- **Observation:** Observe current procurement processes in remote villages to identify gaps and opportunities for improvement.
- **Document Analysis:** Review existing documentation, such as procurement policies, product catalogs, and previous project reports.
- **Prototyping** - We can show the sample of the working models, to visualise user interface, and collect feedback on the usability and user-friendliness factors.

II. Stakeholder Analysis/ RACI

Stakeholder analysis can be done by using the RACI Matrix and it involves identifying stakeholders and defining their roles and responsibilities within a project.

Parameter	Henry (sponsor)	Pandu (Finance Head)	Dooku (Project Coordinator)	Kartik (Delivery Head)	Vandanam (Project Manager)	BA	Juhi, Tyson, Lucie (Developers)	Jason (tester)	Admin (John)	Mike (Network Admin)	Farmers
Business Case approval	A	C	C	R	I	C	I	I	I	I	I
Requirements Gathering	I	I	I	I	C	R	C	I	I	I	C
Prioritisation	A	C	C	R	C	C	I	I	I	I	I
System Design	I	I	I	A	R	C	C	I	C	C	I
Development	I	I	I	I	A	I	R	I	I	I	I
Testing	I	I	I	I	A	C	C	R	I	I	I
Deployment	I	I	I	A	R	C	C	R	C	C	I
Budget Approvals	A	R	C	I	I	I	I	I	I	I	I

Based off the above, we can see that the key decision makers are - the sponsor, finance head, delivery head and the project managers. And the influencers are the coordinators, analysts, farmers and manufactures.

Additionally, ILS- it stands for Identify, List and Summary. The IT Company (Apt IT Solutions), would be receiving a SOW (Statement of Work) from the Client. With that we can Identify. - Find all the stakeholders involved in or affected by the project. List - Organise stakeholders in a table with key info. Summary - Summarising key insights who have high interests.

III. Documentations to write - BRD, FRS, Use Case Documentation, Test Case Documents, etc.

- **Business Requirements Document (BRD):** Outline high-level business needs and objectives, project scope
- **Functional Requirements Specification (FRS):** Detail system functionalities and user interactions.
- **Use Case Diagrams:** Visualise user interactions with the system.
- **User Stories:** Capture requirements from the perspective of end-users (farmers, companies).
- **Process Flow Diagrams:** Illustrate procurement and delivery workflows, product listing workflow, order tracking workflow
- **Traceability Matrix:** Link requirements to design, development, and testing activities.

IV. What process to follow to sign off on the docs

SignOff to be taken on SRS (Software Requirements Specification) as this is the primary document.

We can share the draft BRD with the Stakeholders. Post this, there will be review sessions where we can discuss and validate requirements documents. We can make changes, if needed and then circulate the updated BRD. We will then require a formal SignOff (via email) from key stakeholders (Mr Henry, Mr Pandu, Mr Dooku and Mr Karthik). This Signed-off SRS will become the baseline for future developments.

V. What communication channels to establish and implement

Regular meetings - weekly status meeting, bi-weekly sprint reviews, and monthly stakeholder updates.

- **Regular Meetings:** Schedule weekly status meetings with the project team and monthly review meetings with the Committee.
- **Email Updates:** Send periodic email updates to all stakeholders on project progress, risks, and issues.
- **Project Portal:** Use a project management tool to share documents, track tasks, and facilitate collaboration.

- **Feedback Forums:** Create online forums or feedback channels for farmers and company users to share suggestions and report issues.

VI. How to handle change requests

Change request form, do impact analysis, approval process, documentation. A change management process is necessary at times to handle scope creep, etc.

- **Change Request Form:** Develop a standardized form for submitting and tracking change requests.
- **Impact Analysis:** The BA and Project Manager (Mr Vandanam) will assess the impact of each change request on scope, timeline, and budget.
- **Approval Process:** Route change requests to Mr Henry, Mr Pandu and Mr Dooku for review and approval before implementation.
- **Documentation:** Update all relevant documents and communicate changes to the project team and stakeholders.

VII. How to update the progress of the project to the stakeholders

Weekly status report, monthly review meetings are the best way to update the progress of the project to the stakeholders. We can prepare and distribute status reports that will highlight the progress of the project, showcase any milestones achieved, and upcoming tasks.

VIII. How to take signoff on the UAT

UAT Prep, conduct UAT, Fix issues, Acceptance form, Final review meeting, obtain sign off

User Acceptance Testing (UAT) will be conducted by preparing a detailed UAT plan with defined test scenarios, timelines, and responsibilities, created jointly by the BA and Testers. Once functional testing is completed, major defects are resolved, and the UAT environment is ready, UAT will be executed by end-user representatives—farmers Peter, Kevin, and Ben—while the BA supports testing, logs issues, and coordinates fixes with the development team. All defects identified during UAT will be recorded in the UAT Issue Log and validated after resolution. After all UAT test cases pass successfully and no critical defects remain, the BA will compile a UAT Summary Report and prepare the Client Project Acceptance Form. This form will confirm that the system meets all documented requirements and is ready for deployment. Final sign-off will be provided by the Committee, including key members such as Mr. Henry, Mr. Pandu, and Mr. Dooku, marking client acceptance and approval for deployment.

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
Technical Team have assembled to discuss on the Project approach and have finalised to follow 3-tier architecture for this project.

Question 3 – 3-Tier Architecture - 5 Marks
Explain and illustrate 3-tier architecture?

3-Tier Architecture is an approach where an application is divided into 3 layers - Application Layer (Presentation Layer), Business Logic Layer (Middle Layer) and Data Layer. Each layer has its own responsibility and interacts with other layers in a defined manner.

Screens, Pages, Validations on Page, Company Specific Logic, Functionality (CLIENT)

Application Layer (Presentation Layer)

All reusable components, Frequently changing components, Governing Body rules & Regulations, Compliances (SERVER)

Business Logic Layer

Database components connecting to Databases (DATABASE)

Data Layer

I. Application Layer

This is the front-end interface through which users interact with the system. It is the top-most layer in which the end user (Farmer or manufacturer) interact directly. It handles the User interface (UI) and user experience (UX). In this project, it will be the online web/mobile interface where farmers can browse seeds, fertilisers, and pesticides, select agricultural items, etc.

II. Business Logic Layer (Middle Tier)

This layer processes all business rules and application workflows. This is the middle tier that acts as an intermediary between the presentation layer and the Data layer. It processes commands, makes logical decisions, it enforces business rules, handles processing and controls the flow of application. In this project, we will be processing product purchase requests, validating stock availability, calculating delivery dates, handles order history - acts as a server basically.

III. Data Layer (Database Layer)

This layer manages the application's data. It handles the database queries, ensuring data integrity and security. In our case, it will have a database containing information of the product details, inventory information, Farmer information, manufacturer information, order and delivery information. Database Admin, Mr John will be taking care of these aspects.

Layer	Core Functions	Aspect in this Project
Application Layer	User interaction, input handling	Farmer will browse products on the web/ mobile app and place an order
Business Logic Layer	Processes business logic, rules	Validating Farmer Orders, checking product availability
Data Layer	Storage and retrieval of data	Storing product information, user accounts, order history

Question 4 – BA Approach Strategy for Framing Questions – 10 Marks 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)

I. 5W1H - Who What When Where Why and How

WHO

- Who are the primary stakeholders? (Farmers — Peter, Kevin, Ben; Manufacturers; SOONY committee: Mr. Henry / Mr. Pandu / Mr. Dooku; APT Delivery Head Karthik; PM Vandanam; Dev/Test/Admin).
- Who will register and maintain product info? (Manufacturers / Company rep?)
- Who approves orders, refunds or disputes? (Committee / APT support?)

WHAT

- What products must be captured? (fertiliser type, composition, pack size, price, stock, shelf-life, safety instructions).
- What payment options will be available? (COD, UPI, net banking, wallets).
- What delivery options / logistic constraints for remote villages?
- What challengers must the farmers be facing while procurement of agricultural items?

WHEN

- When is the project deadline and major milestones? (Budget: 2 Crores INR; Duration: 18 months).
- When must vendors update stock / product changes become live? (real-time, daily?).
- When will farmers expect delivery after order?
- When should payment be received from the farmers? At the order placement or after delivery?
- When are the critical deadlines related to this project?

WHERE

- Where will data be saved? — to discuss with IT (Mr. Mike, DB Admin John).
- Where will the app be available (which states / in what languages)?
- Where will the error logs be stores and accessed?

WHY

- Why is a particular feature needed? (e.g., product ratings to help farmers choose credible suppliers).
- Why should farmers trust the platform?

HOW

- How will farmers discover products? (search, categories, recommendation).
- How will orders be fulfilled to remote locations? (third-party logistics, local aggregators).
- How will authentication and onboarding work for low-literacy users? (phone OTP, voice, regional languages).

II. SMART - Specific, Measurable, Achievable, Relevant, Time Specific

Example SMART objectives (ask stakeholders to confirm or refine):

- Specific: Enabling manufacturers to upload product listings with fields: name, SKU, category, composition, images, price, stock, batch no., expiry. What is the maximum acceptable page load time for the product catalog? Which types of fertilizers are hard to procure, and from which suppliers? Specific Questions as these.
- Measurable: Answers that can be quantified or clearly assessed. E.g., How many farmers will use the application monthly?" Or Supporting X product

SKUs and Y number of users, in Z time period? How many orders per day should the system be able to handle during peak season?"

- Achievable: Ensuring requirements discussed are realistic within project constraints (budget, time). Feature offline order placement (store & forward) for areas with intermittent connectivity?
- Relevant: Relate questions to core project goals, avoiding scope creep.
- Time-bound: We must relate questions to project deadlines or operational cycles. For Eg- Search, cart, ordering, manufacturer upload & basic admin — within 6 months; By when do we need the product catalog feature fully functional for the pilot launch?

III. RACI Matrix

RACI Matrix mentioned in Question 2. We must frame questions to confirm responsibility and sign-offs. For eg- to the Responsible or Accountable members should be asked who might be accountable for defining policies, or for the Consulted, we can ask the stakeholders questions like what existing difficulties regarding say, payment collection method in remote rural areas should we consult on before designing payment scene? Or for the Informed, we can ask what reports need to be generated to keep respective departments informed?, etc.

IV. 3-Tier Architecture

Presentation Layer (Application layer)

- Which platforms: Mobile (Android/iOS) and/or Web? Native or responsive web app?
- Which languages and UI accessibility: regional languages, voice, large fonts?
- Basically, how should the user interface be designed for ease of use by farmers that might be unfamiliar with technology?

Business Logic Layer (Middle tier / Services / APIs)

- Real-time vs batch sync with manufacturers?
- Validation rules (min order qty, age verification for chemical procurement)?
- Basically, what rules should be governing product approvals, order validations, etc?

Data Layer (DB)

- Data retention, backup and recovery

- Security: role based access.
- Integration needs with third-party logistics or payment providers.

V. UML / Use Cases / Use Case Specs / Activity Diagrams / Models / Page designs

We need to ask questions to help model use cases, activity diagrams, workflows, etc- Questions like whether the activity diagram represents the steps a manufacturer takes to upload a new item? What are the primary use cases for farmers and manufacturers? (Browsing items, placing orders, updating product catalogs), What steps do farmers follow from registration to order delivery? What are the essential elements needed on key pages?

VI. Other Questions

- To Mr. Henry / Committee: "What are the top 3 success metrics for this CSR project (adoption by X farmers, RMV of Y in 12 months, satisfaction >Z%)?"
- To Farmers (Peter/Kevin/Ben): "How do you prefer to search for seeds — by crop name, seed variety or supplier?"
- To Manufacturers: "What fields and attachments (SDS, certifications) do you need to upload per product?"
- To PM/Dev: "Do we have to support offline ordering and which delivery partners are approved?"
- To DB / Network Admins: "Which hosting (cloud/on-prem), RPO/RTO targets and encryption standards must we meet?"

Question 5 – Elicitation Techniques - 6 Marks
As a Business Analyst, What Elicitation Techniques you are aware of? (BDRFOWJIPQU)

- Brainstorming - Ideas are collected, reviewed and analysed and where relevant points are included within the system requirements
- Document Analysis - It is done through reading a document and understanding the product, process and projects. Suitable for most projects.
- Reverse Engineering - It is back engineering - the processes of extracting knowledge or design information from anything ma-made and re-producing it. It involves disassembling something and analysing its component and workings in detail. Eg- migration projects.
- Focus Group - It is means to elicit ideas and attitudes about a specific product, service or opportunity in an interactive group environment. Groups can be homogenous and heterogeneous.

- Observation - Observing, shadowing users or doing a part of their job, can provide information of existing processes, inputs and outputs. It can be passive or active.
- Workshops - It is a structured approach to capture requirements, it is used to scope, discover, define, prioritise, and reach closure on requirements for the target system. It is practical in nature.
- JAD - It defines the purpose, scope and objectives of the JAD Session, selecting the JAD Team, invite and obtain commitment to attend sessions from the appropriate stakeholders, and schedule the session.
- Interview - It is asking questions through appointments with stakeholders. Some requirements may contradict other requirements. There can be structured or unstructured approach. The questions can be open ended or close ended.
- Prototyping - It is showing the sample of working model through Activity Diagrams, Flowcharts.
- Questionnaire - It can be useful for obtaining limited system requirements details from users/ stakeholders, who have a minor input or are geographically remote. Useful if the number of stakeholders are huge since we can have multiple questions asked.
- Use Case Specs - It is a detailed document covering all Flows and information to develop that functionality.

Question 6 – This project Elicitation Techniques - 5 Marks
Which Elicitation Techniques can be used in this Project and Justify your selection of Elicitation Techniques?

Elicitation Technique	Justification for Selection
Interviews	It is essential for gathering detailed, specific needs from key stakeholders. Interviewing Mr Peter, Kevin and Ben will provide us with deep insight into the difficulties faced by the farmers in the procurement process.
Workshops	This is especially useful for achieving consensus on scope definition amongst core team members. It is helpful for collaborative discussions, defining user flow and conflict resolution
Observation	Since the farmers are usually located in remote villages and new to digital platforms, observing their current practises will be particularly useful in deciding what not to do.
Prototyping	Since our major focus is the user-friendliness of the app, prototyping in early phases will help stakeholders in visualising the systems. It reduced misunderstandings, and improves the app/ website usability.

Elicitation Technique	Justification for Selection
Questionnaire	This will help us in scaling requirements from broader farmer groups and associations beyond Mr. Peter, Kevin and Ben. Questionnaires are particularly helpful in capturing feedback from a big group. We can find out about their expectations, preference in languages, mobile usage patterns, etc.

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

Question 7 – 10 Business Requirements- 10 Marks
Make suitable Assumptions and identify at least 10 Business Requirements.

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

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

3. BR003 - Users need to create login ID and Password

4. BR004- If the user is new, then he/she should create the Login ID and Password first

5. BR005 - Farmers should be able to browse through the complete catalog ; the app should be seamless, user friendly

6. BR006- Farmers should be able to add their selected items to their Wishlist/Cart.

7. BR007- The system should facilitate an easy to use payment gateway like COD, Credit/Debit Cards, UPI options, NetBanking, etc.

8. BR008- The system should send an email to the Farmer about their Order Status, Confirmation, Shipment Updates, etc.

9. BR009- Farmers should be ale to track delivery status through delivery tracking feature

10. BR010- Manufacturers should be able to manage their products, which is add, edit, update the product details as per the inventory and stock levels through their accounts

Bonus Business Requirements
11. BR011- System should generate reports for admin team about sales, order, user activity bonus

12. BR012- Customer support feature should be integrated to handle queries from farmers and manufacturers

Question 8 –Assumptions- 5 Marks
List your assumptions

1. The application will support both website and mobile access.

2. “Users” will have the customer and seller accounts - Farmers and Manufacturers

3. Security practises to protect data will be followed.

4. The SOONY Admin will be able access the user information, system settings, etc.

5. It will be assumed that reliable third-party service providers for payment gateways can be integrated with the project’s budget and timeline.

6. Basic Customer Support mechanism will be required to assist new users.

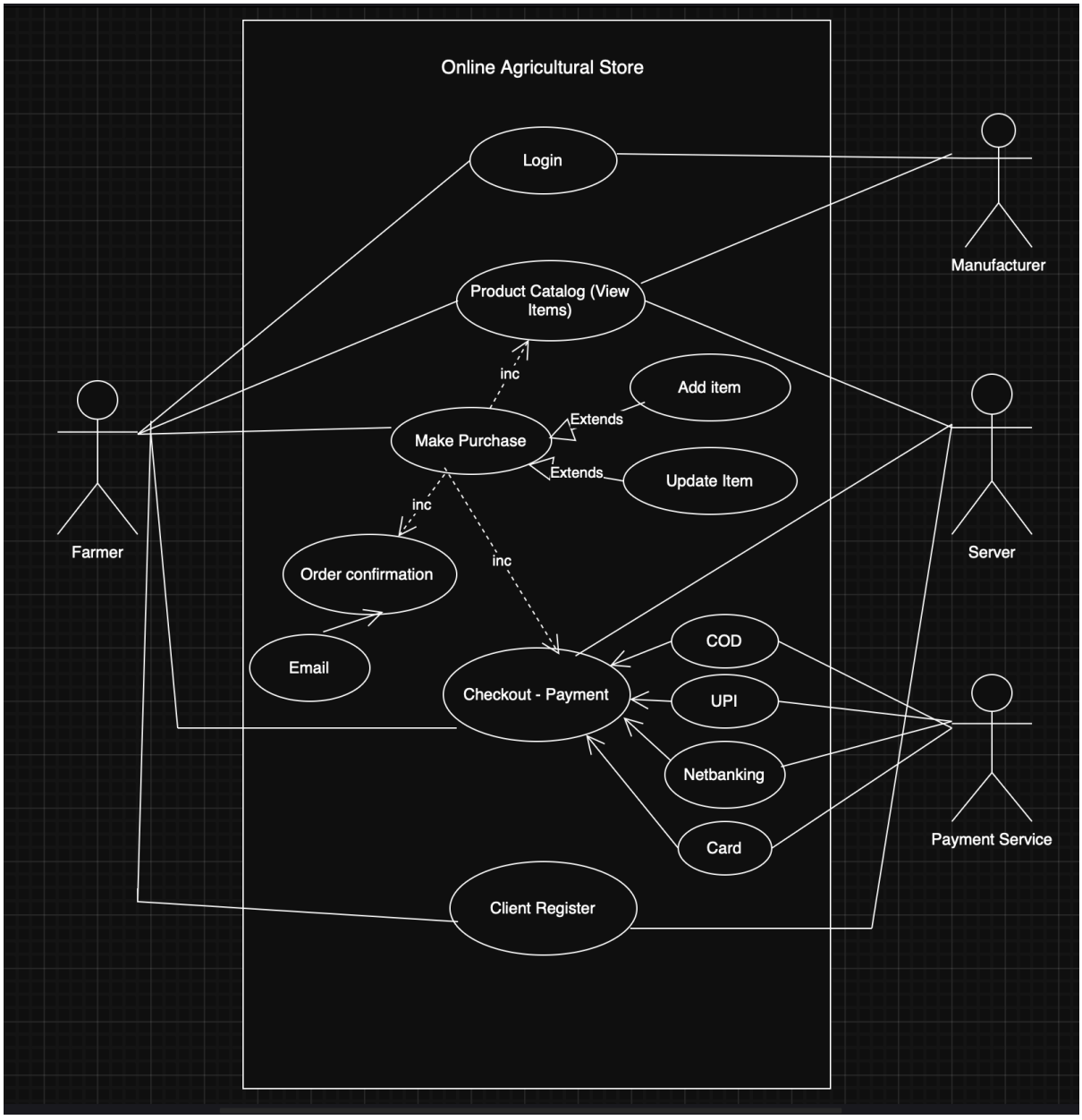
Question 9 – This project Requirements Priority - 8 Marks
Give Priority 1 to 10 numbers (1 being low priority – 10 being high priority) to these Requirements after discussions with the stakeholders.

1 is the lowest priority and 10 being the highest priority.

Req ID	Req Name	Req Description	Priority
BR004	New User Creating Login & Password	If the user is new, then he/she should create the Login ID and Password first	1
BR003	Account Creation	Users need to create login ID and Password	2
BR005	Browsing through the catalog	Farmers should be able to browse through the complete catalog ; the app should be seamless, user friendly	3
BR001	Farmer Search for Products	Farmers should be able to search for available products in fertilisers, seeds, pesticides	4
BR008	Info about the Order	The system should send an email to the Farmer about their Order Status, Confirmation, Shipment Updates, etc.	5
BR007	Payment Gateway	The system should facilitate an easy to use payment gateway like COD, Credit/ Debit Cards, UPI options, NetBanking, etc.	6
BR006	Add to Cart	Farmers should be able to add their selected items to their Wishlist/Cart.	7
BR002	Manufacturers upload their products	Manufacturers should be able to upload and display their products in the application	8
BR009	Delivery Tracking	Farmers should be ale to track delivery status through delivery tracking feature	9

Req ID	Req Name	Req Description	Priority
BR010	Product Information	Manufacturers should be able to manage their products, which is add, edit, update the product details as per the inventory and stock levels through their accounts	10

Question 10 – Use Case Diagram - 10 Marks
Draw use case diagram



Question 11 – (minimum 5) Use Case Specs - 15 Marks
Prepare use case specs for all use cases

I. Login

Field	Description
Use Case ID	UC - 001
Use Case Name	Login
Primary Actor	Farmer, Manufacturer, Admin (Implied)
Preconditions	User is registered with the system
Postconditions	User is authenticated, and has access to application
Normal Flow	User requests to login, system displays the login interface, user enters their credentials, system validates the credentials, if valid, user is granted access
Alternate Flow	If credential is incorrect, system shows error message. User needs to retry.
Special Requirements	“Forgot Password” and “Reset Password”

II. Product Catalog

Field	Description
Use Case ID	UC - 002
Use Case Name	Product Catalog
Primary Actor	Farmer, Manufacturer, Server has access
Preconditions	Products exist in database
Postconditions	User can browse the available items such as fertilisers, seeds, pesticides
Normal Flow	User selects the Catalog Option, the system shows the list of available items with details like name, price, description, the user can then select a product to view additional items
Alternate Flow	The User searches for an item that isn’t listed, system displays “No Products Found”
Special Requirements	User-friendly interface for easy use for farmers with limited digital literacy

III. Make Purchase

Field	Description
Use Case ID	UC -005
Use Case Name	Make Purchase

Field	Description
Primary Actor	Farmer
Preconditions	Farmer has decided on the product he/she wants to purchase from the catalog.
Postconditions	Order is placed, payment is complete, order confirmation sent
Normal Flow	Farmer adds selected items to cart, proceeds to checkout, system asks for delivery details, farmer selects payment method, system processes payment, order confirmation generated
Alternate Flow	Item is OOS, system notifies the user that the item is unavailable and removes it from the cart
Special Requirements	Reliable connectivity for payment processing

IV. Order Confirmation

Field	Description
Use Case ID	UC - 006
Use Case Name	Order Confirmation
Primary Actor	Included in Making Purchase
Preconditions	Order has been successfully completed and verified
Postconditions	Detailed order confirmation is generated and sent via mail
Normal Flow	The purchase process triggers this use case upon successful payment, the system compiles all order details like products purchases, total cost, payment method, delivery address, etc. The system then formats all this info and send it to the user.
Alternate Flow	None
Special Requirements	Must accurately reflect transaction details

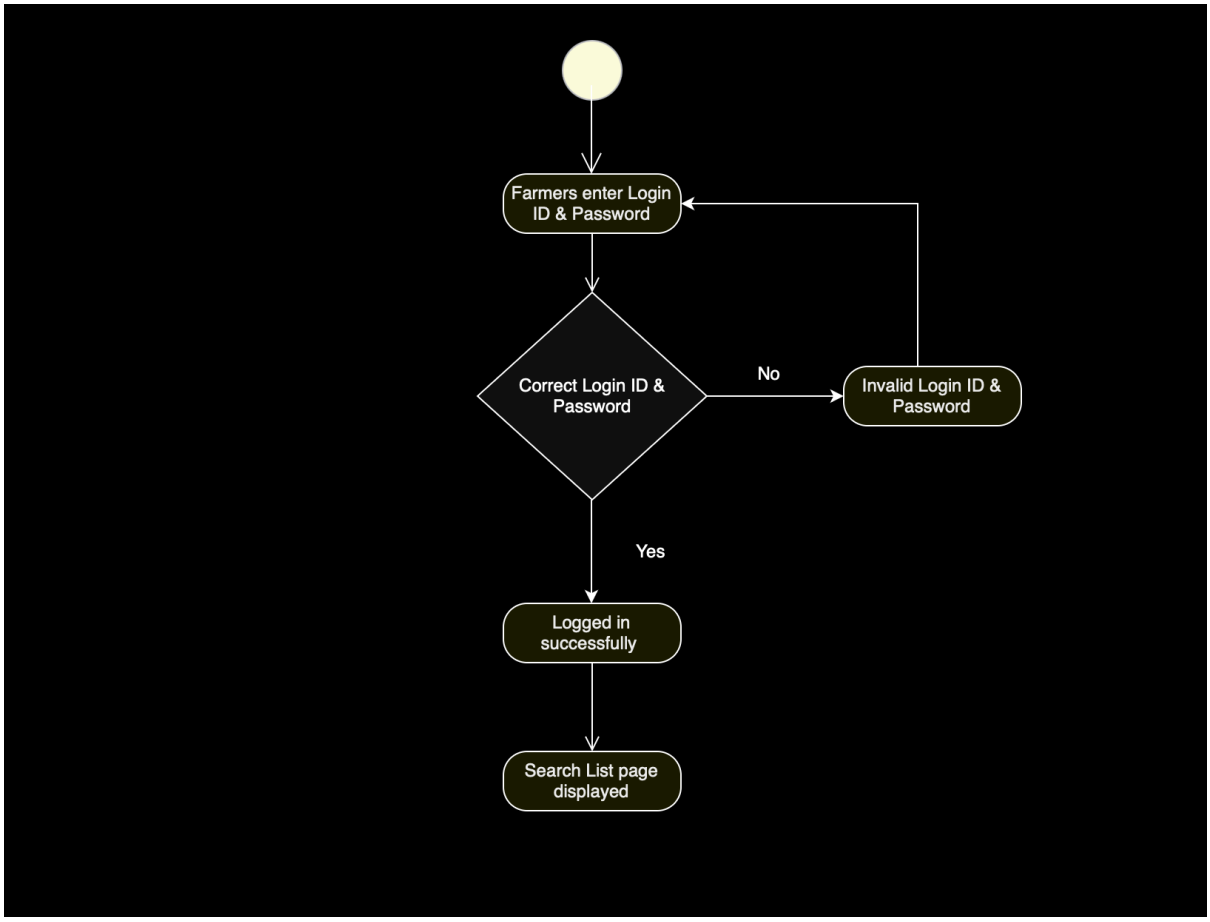
V. Payment

Field	Description
Use Case ID	UC - 008
Use Case Name	Process Payment during Checkout
Primary Actor	Farmer, Payment Service
Preconditions	Farmer selects a payment method
Postconditions	Payment is successfully completed/rejected

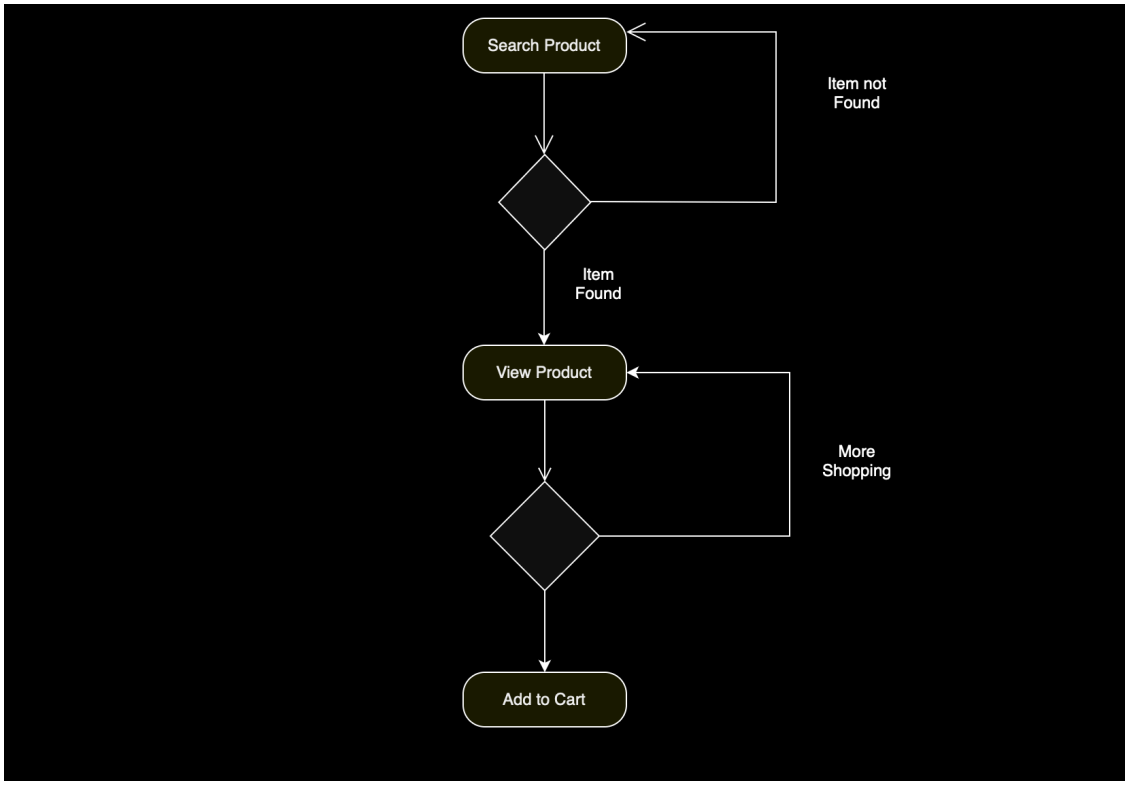
Field	Description
Normal Flow	Farmer selects a payment method from the options available like COD, UPI, NetBanking, Card. The farmer interacts with the relevant payment interface. The payment service verifies/processes the transaction. The payment service sends a confirmation.
Alternate Flow	Payment Failure - the system informs the user and allows them to retry with a different method
Special Requirements	Secure handling of payment credentials

Question 12 – (minimum 5) Activity Diagrams - 15 Marks

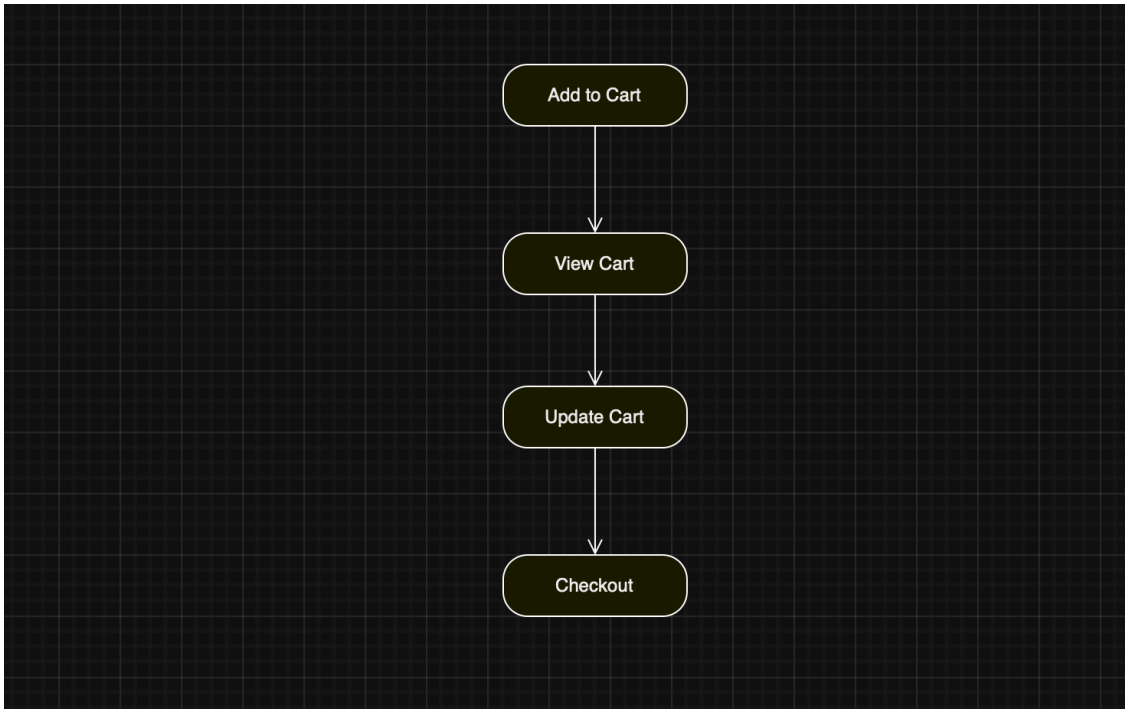
1. Log In



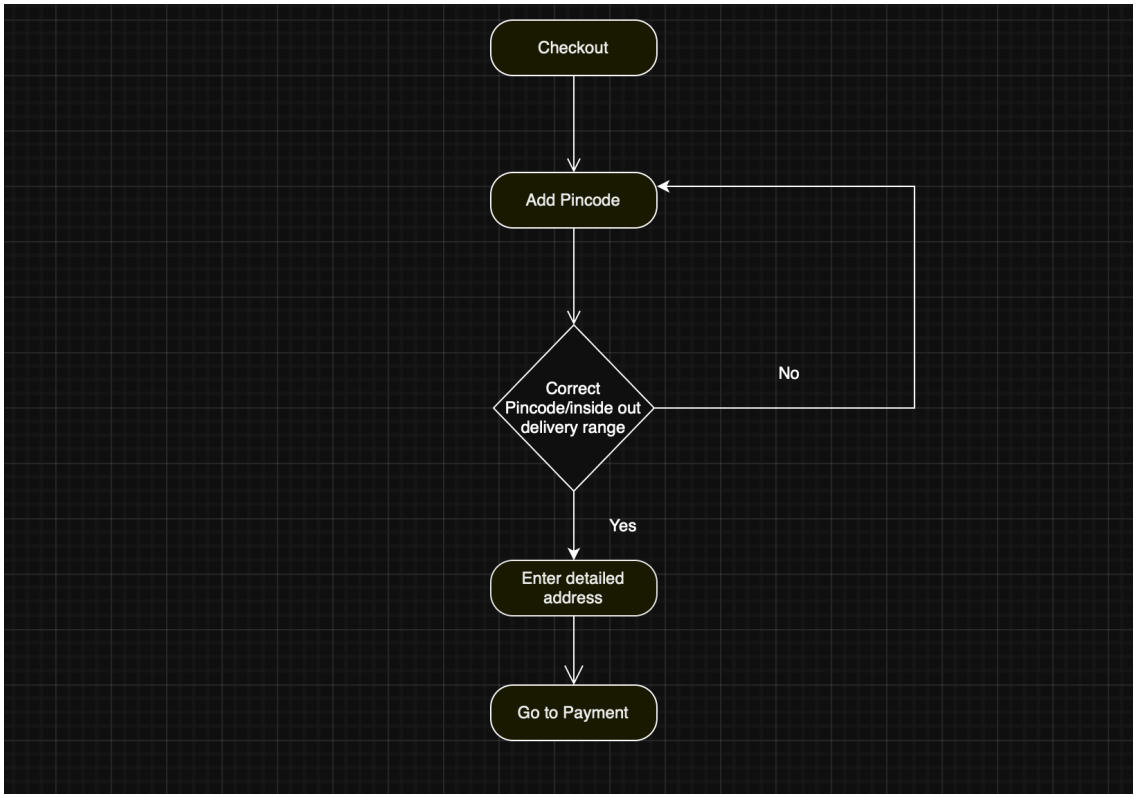
2. Search Products


Search Product
Item not Found
Item Found
View Product
More Shopping
Add to Cart

3. Add to Cart


Add to Cart
View Cart
Update Cart
Checkout

4. Delivery Address



5. Payment