Capstone Project - Waterfall Model:
Online agriculture Product Store

- Aniket Randive

Q1. Identify Business Process Model for Online Agriculture Store – (Goal, Inputs, Resources, Outputs, Activities, Value created to the end Customer)

> Goals: The goal of this project is to facilitate the commerce(buying and selling) of farming related products to aid the farmers located in remote areas.

>Inputs:

- Seller's Data(Name of the product to be sold, Product stock in weight, Product selling price, Product warehouse address, Contact Number and Address).
- Resources for administration work, before and after sales service.

>Outputs:

- All time availability of products to the farmers.
- Hassle free buying experience for the farmers.

>Resources: Servers, Database Servers, Printer, Internet Connectivity, Storage Warehouse, Shipping Service, Manufacturer.

>Activities:

- Development of Web application.
- Onboarding manufacturing companies on the site.
- Populating the database with the available products.
- Downloading the application by farmers.
- Signing up farmers.
- Procuring farmer data: (Product to be bought, Quantity to be bought, Delivery Address, Mode of Payment).
- Delivery of products by farmers.

>Value created to the end consumer:

- All the important necessities related to farming are made available to farmers irrespective of their geographical location.
- Will save Time and Money for the farmers.
- Will give best value for farmers' money to them.

Q2.Mr Karthik is doing SWOT analysis before he accepts this project. What aspects he should consider as Strengths, as Weaknesses, as Opportunity and as Threats.

>Strengths:

- Availability of the entire talent pool required for the project.
- The suggested application will bypass the entire middle-men distribution chain thus cutting down on prices at which the products will be made available to the user.
- The suggested application will allow for comparison between various products for farmers to choose from, leading to better prices and products for them.
- The end-users are acting as SME's in farming to aid the development of the application.

>Weaknesses:

- Shipping the product punctually to farmers, especially in remote areas will be a major concern.
- Impossible to ascertain the quality of the product by the farmers before buying it.
- Huge shipping charges due to remote locations.

>Opportunities:

- E-commerce in farming is a booming sector, and is very poorly penetrated, hence, a large opportunity for growth.
- The target market is a 'needs' market and not an 'accessory' market, which ensures the demand.

>Threats:

- Internet being the major requirement for a web-based application, a huge chunk of market will be left untapped as they may not have internet connectivity.
- Farmers are a relatively non tech-savvy crowd, adoption of technology will be difficult.
- The demand may fluctuate heavily according to the weather patterns and expected yields of the season.

Q3.Mr Karthik is trying to do feasibility study on doing this project in Technology (Java), Please help him with points (HW SW Trained Resources Budget Time frame) to consider in feasibility Study.

>Since this is a project to develop a software application, the only hardware resources requirement will be the Network Administrator and the Database Administrator, which ATI IT solutions have.

> On the software side:

- The Client is Technology agnostic and the proposed product can be built using Java.
- Java is good technology platform for backend logic programming, it enforces a class based architecture which is good for robust development, is device agnostic(object codes are shared instead of completely compiled code files) which helps in deployment.

>Financial Resources:

- 2 crore rupees for 1.5 years provide a budget of approximately 13 Lakh rupees per month.
- With 7 Development Individuals, 2 Administrators, 1 Project Manager and 1 Business Analysts, we have 11 people working on the project.
- Hence, 13 Lakhs per month seems enough to cover server costs (Considering the highest end servers possible), resource costs and other miscellaneous costs (eg., Meeting costs, Equipment Costs, Office costs, etc.).

>Timeframe:

- APT IT Solutions has a Sr. Java Developer who can handle designing of the application, they also have 4 Java Developers and 2 Testers who can feasibly deliver the given application in 18 months as the application to be developed is a straightforward e-commerce application and the MVP should only have Signup/Login, Product Search Facility, Shopping cart to add products to and a Payment gateway integration.(Further a SME should be consulted to determine the exact timelines, in this case the Sr. Java developer can help as an SME).

Q4. Mr Karthik must submit Gap Analysis to Mr Henry to convince to initiate this project. What points (compare AS-IS existing process with TO-BE future Process) to showcase in the GAP Analysis

> AS-IS: The Farmer finds time in their day-to-day work to travel to the nearest Agriculture Products Store via their favoured form of travel and buys the choice of brand for the product if the choices are available.
Thus, Farmers face issues in terms of time, money and effort just to procure the basic farming equipment.

>TO-BE: The farmer will log-in to the website/mobile application and browse his requirements from the entire catalogue of products made by multiple manufacturers and brands at once, the farmer can simply order by adding the product to the cart and providing delivery details like address and contact number and get the products delivered to them.

Thus, farmers will be able to use the saved time, money and energy in their main task of farming and gaining optimum output from their farms.

Q5.List down different risk factors that may be involved (BA Risks And process/Project Risks)

>BA Risks:

- Improper project planning.
- Improper requirements gathering.
- Frequent changes in requirements from client side.
- Client is not interested or is not able to fully devote to the development of the application.

>Process/Project Risks:

- The project doesn’t align with the stakeholder expectations.
- Key team members leaving the project or the organisation itself.
- The competitor may beat the client to the market.
- Scope Creep.

Q6.Perform stakeholder analysis (RACI Matrix) to find out the key stakeholders who can take Decisions and who are the influencers

>Project Sponsor : Mr. Henry
>Financial Head : Mr. Pandu
>Project Coordinator : Mr. Dooku
>Key Stakeholders : - Mr. Peter
- Mr. Kevin
- Mr. Ben
>Delivery Head : Mr. Karthik
>Project Manager : Mr. Vandanam
>Sr. Java Developer : Ms. Juhi
>Java Developer : - Mr.Tyson
- Ms. Lucie
- Mr. Tucker
- Mr. Bravo
>Network Administrator : Mr. Mike
>Database Administrator : Mr. John
>Testers : - Mr. Jason
- Ms. Alkeya
>Business Analyst :- Aniket Randive

Tasks \ Roles	Project Sponsor	Financial Head	Project Coordinator	Key Stakeholders	Delivery Head	Project Manager	Sr. Java Developer	Java Developer	Network Administrator	Database Administrator	Testers	Business Analyst
Project Initiation	R	C	A		A	R						
Documentation						A	C		C	C		R
Stakeholder Analysis	I					A						R
Prioritizing Requirements	I					A	C					R
Design				C	C	A	C		A	C	C	R
Implementation					I	A	R	R		C	I	I
Testing					I	A	I		C		R	I
UAT	A			C	A	A			R	R	R	R

Q7. Help Mr Karthik to prepare a business case document.

Project Manager	Mr. Vandanam		
Date of Approval:	28th-Feb	Last Revision: Date	
Project Summary	Presently the farmers must procure the required material locally which consumes more time and energy. Also, there is a monopoly of local shopkeeper or distributor fire seeking the material. Once the online platform is made available to the farmers, they can order required material online, it will save their time and energy. They will also get competitive rates from the manufacturers due to close competition. Thus, the farers will be benefitted in several ways due to existence of online agricultural product store.		
Problem Statement	Farmers having problem in purchasing seeds / fertilizers / pesticides save time and energy due to formation of online platforms, they will be able to order directly from the manufacturer, resulting in competitive pricing being made available to them, thus procurement of various farming related products can be made easy.		
Solution	The Online Agriculture Requirements store will be able to accept the product details from manufacturers and display the same to farmers. Farmers will get product delivered at their doorstep.		
Cost	2 Crore INR		
Timescale	18 Months from the date of approval tentatively.		
ROI	It may take upto 30 to 40 months		
Risk	Being the first mover in the market, there can arise unexpected challenges during implementation as well as deployment.		

Q8. The Committee of Mr. Henry , Mr Pandu , and Mr Dooku and Mr Karthik are having a discussion on Project Development Approach. Mr Karthik explained to Mr. Henry about SDLC. And four methodologies like Sequential Iterative Evolutionary and Agile. Please share your thoughts and clarity on Methodologies.

>Sequential methodology –

It is the most common and classic life cycle it is very simple to understand and use, in sequential methodologies each phase must be completed in its entirety before the next phase can begin. In this methodology end of the first phase is the beginning of the second phase. At the end of every phase, a review takes place to determine whether the project is going right path or whether it continues or discard. In this methodology, we follow the below-mentioned steps :

- Requirement Gathering: Information gathered from the client and as per the requirement of the client's Business Requirement has been created.
- Requirement analysis: Once business requirements and stakeholder requirements are gathered analysis is taken place by using MoSCoW and FURPS frameworks and FS/FRS SSD SRS RTM documents are created.
- Design: In the design phase DB designer & architecture design the software boundary and create HDD and CDD and a combination of both solution documents has been created.
- Development and Coding: Once the designer design the software then the developer does the coding of the software and developed the software and create LDD & CDD document.
- Testing: After finishing the coding tester comes into the picture, they perform various testing tasks of the developed program with less error and create the test document.
- UAT: The last phase of this SDLC method is (the user acceptance test). After finished all the phases final product run is done on the user server or UAT server. Deployment and Implementation Release the product to a client.

>Iterative -

The iterative methodology is based on a set of building blocks, it describes for production what necessary skills are required and the step-to-step explanation describes how a specific development goal is to be achieved.

Concepts to be followed in iterative Method:

- Role: Role defines a set of related skill competencies and responsibilities.
- Work Items: It represents something meaningful resulting from the task & including all the documents and models produce while working through the process.

- Task: This describes a unit of work assigned to the role and provides a meaningful result.

>Evolutionary-

This method is used for Risk analysis. It has four phases viz. Planning, Risk Analysis, Engineering, and Evaluation. The software Project is repeatedly passed through each phase in iteration, Planning is the baseline of the spiral.

Phases:

- Planning Phase: - Information Gathered.
- Risk Analysis Phase: - To identify the risk and alternate solution of risk and prototype produced.
- Engineering Phase: - Software is produced and Testing done.
- Evaluation Phase: - In this phase allow the customer to evaluate the output of the project to date before the project continues to the next spiral.

>Agile -

Agile Methodologies can be implemented where faster delivery is required, in this method no documentation is required coding is itself formed as documentation, Agile is the faster method to achieve the goal. It satisfies the customer through early and continuous delivery of the valuable software, Changes can easily be accepted and implemented in any phase of SDLC.

- Software is continuously delivered to the customer from a couple of weeks to a month.
- Working software is the primary measure of the life cycle.
- To build the product with motivated individuals.
- Using face-to-face conversation promotes sustainable development.
- The best architecture requirement and Design emerge from the self-organizing team.
- Business and development people should work together throughout the lifecycle of the project.
- To accept no matter how late in the product development lifecycle.
- To tune the team from time to time for better efficiency.

Q9. They discussed models in SDLC like waterfall RUP Spiral and Scrum . You put forth your understanding on these models When the APT IT SOLUTIONS company got the project to make this online agriculture product store, there is a difference of opinion between a couple of SMEs and the project team regarding which methodology would be more suitable for this project. SMEs are stressing on using the V model and the project team is leaning more onto the side of waterfall model. As a business analyst, which methodology do you think would be better for this project?

> Waterfall: A waterfall model is a traditional model in IT companies, the waterfall model is a classical model used in the system development life cycle to create a system with a linear and sequential approach. the output of one phase is used as an input for the next phase, every phase must be completed before the next phase starts and there is no overlapping of the phases. It is a progressive implementation of the project which is divided into different phases of SDLC. As waterfall models have few limitations, still it was used earlier on a wide range of projects.

> RUP Model: - Stands for Rational Unified Model This is a software development process from rational, a division of IBM, it divides the development process into four distinct phases that each involve business modeling, Analysis, and design, implementation, testing, and deployment.

In RUP there are four project life cycles
A) Inception
B) Elaboration
C) Construction
D) Transaction

>Spiral: - This phase starts with a gathering of business requirements in the subsequent spirals as the product matures identification of system requirement are done in this phase. This also includes understanding system requirements through continual communication between the customer and the analyst; at the end of the spiral, the product is deployed

1) Design: The design phase starts with the design in the baseline spiral and involves the architectural, logical design of modules, physical product design, and final design in successive spirals.
2) Construct: Construct phase refers to the development of the final software product at every spiral. In the spiral when the product is just thought and the design is being

developed, a Proof of Concept (POC) is developed in this phase to get the users' feedback. Then in the successive spirals with higher clarity on requirements and design, a working model of the software called to build is developed with a version number. These versions are sent to the users for feedback.
3) Evaluation and Risk Analysis: Risk analysis includes identifying, estimating, and observing technical feasibility such as schedule slippage and cost overrun. After testing the build, at the end of the first iteration, the user evaluates the software and provides feedback. Based on the customer assessment, the development process enters into the next iteration and afterward follows the linear approach to implement the feedback provided by the user. The process of iterations along the spiral carries on throughout the life of the software.

>D) Scrum -
Scrum is not a process technique or definitive method, rather it is a framework within which you can employ various processes and techniques. It has three roles, and every role has clear accountability. The product owner is responsible for maximizing the value of the product resulting from the development teamwork.
The Scrum model suggests that projects progress via a series of sprints. In keeping with an agile methodology, sprints are time-boxed to no more than a month-long, most commonly two weeks.
Scrum is a lightweight agile process framework used primarily for managing software development. Scrum is often contrasted with the so-called "Waterfall" approach, which emphasizes up-front planning and scheduling of activities, followed by execution.
The scrum models have 5 steps also called phases in a scrum.
Step 1: Product Backlog Creation.
Step 2: Sprint planning and creating a backlog
Step 3: Working on sprint.
Step 4: Retrospective and the next sprint planning

The use of the V Model methodology is supposed to be better for this project as all the requirements are well understood and the project simple and relatively small. It is also known as Verification and Validation Model.
V-model is a sequential process in which the next phase begins only after the completion of the present phase.

Q10. Write down the differences between waterfall model and V model.

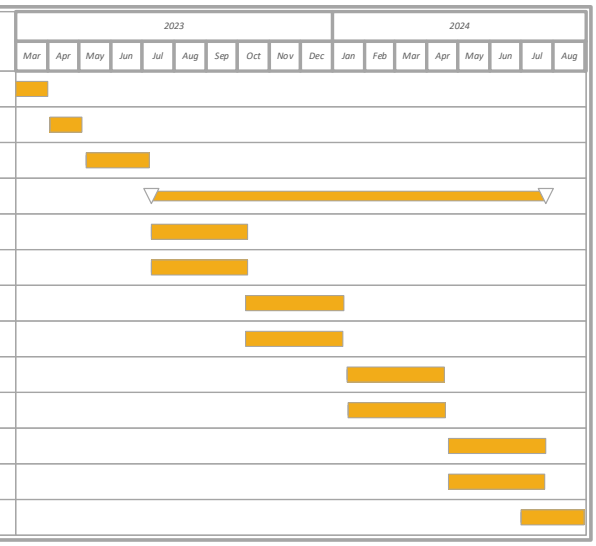
Waterfall Model	V-Model
In Waterfall model required budget is low.	V Model is expensive compared to Waterfall model.
Simplicity of the water model is simple.	Simplicity of the V Model is intermediate.
Flexibility of Waterfall model is rigid.	Flexibility of V model is little flexible.
Waterfall model steps progress in a linear way.	V Model's steps don't progress in a linear way.
In Waterfall model testing activities start after the development activities are over.	In V model testing activities start with the first stage.
Guarantee of success through waterfall model is low.	Guarantee of success through V model is high.
Waterfall model is a continuous process.	V Model is simultaneous process.
Software made using waterfall model the number of defects is less in comparison of V Model.	Software made using V model the number of defects is greater in comparison of software made using waterfall model.
Waterfall model is less used now a days in software engineering.	V model is widely used in software engineering.
Requirements are clear from the start.	High amount of uncertainty.
One of the very old methods and commonly used.	Not so commonly used.
Simple to use method steps can be completed alternatively.	Each step should be completed before moving to another step.
Defects found at the end	Defects found at the start of the project

Q11. As a BA, state your reason for choosing one model for this project.
> V Model is based on verification and validation wherein some change requests can be accommodated in the middle of the project development life cycle. Also, programming and testing are performed simultaneously hence defects of the error are less so higher chance of success in this model.
SMEs are stressed about using the V model. And Committee of Mr. Henry, Mr. Pandu, and Mr. Dooku discussed with Mr. Karthik and finalized the V Model approach;

Also, the requirements of the project are very well known and the possibility of change requests is low due to the nature of the project, and the project at the same time is extremely simple; hence, V model is the best choice.

Q12.The Committee of Mr. Henry, Mr Pandu, and Mr Dooku discussed with Mr Karthik and finalised on the V Model approach (RG, RA, Design, D1, T1, D2, T2, D3, T3, D4, T4 and UAT) Mr Vandanam is mapped as a PM to this project. He studies this Project and Prepares a Gantt chart with V Model (RG, RA, Design, D1, T1, D2, T2, D3, T3, D4, T4 and UAT) as development process and the Resources are PM, BA, Java Developers, testers, DB Admin, NW Admin.

ID	Task Name	Start	Finish	Duration
1	Requirements Gatheirng	3/1/2023	3/31/2023	23d
2	Requirements Analysis	4/3/2023	5/3/2023	23d
3	Design	5/8/2023	7/7/2023	45d
4	**Development and Testing**	**7/10/2023**	**7/24/2024**	**273d**
5	Development 1	7/10/2023	10/10/2023	67d
6	Testing 1	7/10/2023	10/10/2023	67d
7	Development 2	10/9/2023	1/11/2024	69d
8	Testing 2	10/9/2023	1/10/2024	68d
9	Development 3	1/15/2024	4/17/2024	68d
10	Testing 3	1/16/2024	4/18/2024	68d
11	Development 4	4/22/2024	7/24/2024	68d
12	Testing 4	4/22/2024	7/23/2024	67d
13	UAT	7/1/2024	8/30/2024	45d



Q13. The Committee of Mr. Henry, Mr Pandu, and Mr Dooku is now discussing about the funds and how to release the funds for development. They were studying Fixed Bid model and Billing Model. Share your knowledge on Fixed Bid model and Billing Model.
>
Fixed bid -
A fixed bid project must have a start and end date and it is billed on a specific amount regardless of the hours worked this fixed bid can be allocated within a month a week or after the completion of the project. This is based on milestones.

Billing model -
The billing model is used for the project based on time and material. It is a simple method where the prices per person per skill per technology are decided and charged based on it, vendor issues monthly insight of work completed this model is agile-oriented, this is based on the time material work hour model.

Q14. Please share Sample Timesheets of a BA in various SDLC Stages RG, RA, Design, D1, T1, D2,T2, D3, T3, D4, T4 and UAT, Deployment n Implementation.

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Requirement Gathering Timesheet for BA

COMPANY NAME APT IT Solutions

MANAGER NAME Mr. Vandanam

WEEK BEGINNING 03/01/2023

TASK	MONDAY 03/01/2023	TUESDAY 03/02/2023	WEDNESDAY 03/03/2023	THURSDAY 03/04/2023	FRIDAY 03/05/2023	SATURDAY 03/06/2023	TOTAL BILLABLE HOURS
Meet with Stakeholders	3.00	3.00	3.00	3.00	3.00	3.00	**18.00**
Gather and Document	1.00	1.00	1.00	1.00	1.00	1.00	**6.00**
Lunch	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
List Assumptions and Requirements	1.00	1.00	1.00	1.00	1.00	1.00	**6.00**
Get Signoffs	2.00	2.00	2.00	2.00	2.00	2.00	**12.00**
Track Progress	1.00	1.00	1.00	1.00	1.00	1.00	**6.00**
TOTAL HOURS	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**48.00**

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Requirement Analysis Timesheet for BA

COMPANY NAME APT IT Solutions

MANAGER NAME Mr. Vandanam

WEEK BEGINNING 04/01/2023

TASK	MONDAY 04/01/2023	TUESDAY 04/02/2023	WEDNESDAY 04/03/2023	THURSDAY 04/04/2023	FRIDAY 04/05/2023	SATURDAY 04/06/2023	TOTAL BILLABLE HOURS
Identify Key Stakeholders and End-Users	3.00	3.00	3.00	3.00	3.00	3.00	**18.00**
Capture Requirements	1.00	1.00	1.00	1.00	1.00	1.00	**6.00**
Lunch	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
Categories Requirements	1.00	1.00	1.00	1.00	1.00	1.00	**6.00**
Interpret and Record Requirements	3.00	3.00	3.00	3.00	3.00	3.00	**18.00**
TOTAL HOURS	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**48.00**

Design Timesheet for BA

COMPANY NAME APT IT Solutions

MANAGER NAME Mr. Vandanam

WEEK BEGINNING 05/01/2023

TASK	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	TOTAL BILLABLE HOURS
	05/01/2023	05/02/2023	05/03/2023	05/04/2023	05/05/2023	05/06/2023	
Preparation of ADD and HDD	3.00	3.00	3.00	3.00	3.00	3.00	**18.00**
Lunch	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
Preparation of ADD and HDD	1.00	1.00	1.00	1.00	1.00	1.00	**6.00**
Finalize the soluyion	3.00	3.00	3.00	3.00	3.00	3.00	**18.00**
TOTAL HOURS	**7.00**	**7.00**	**7.00**	**7.00**	**7.00**	**7.00**	**42.00**

Development1 Timesheet for BA

COMPANY NAME APT IT Solutions

MANAGER NAME Mr. Vandanam

WEEK BEGINNING 07/01/2023

TASK	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	TOTAL BILLABLE HOURS
	07/01/2023	07/02/2023	07/03/2023	07/04/2023	07/05/2023	07/06/2023	
Use case Diagram, Use case specs	1.00	1.00	1.00	1.00	1.00	1.00	**6.00**
Lunch	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
Preparation of ADD and HDD	1.00	1.00	1.00	1.00	1.00	1.00	**6.00**
Discussion and framing LDD and CDD application	3.00	3.00	3.00	3.00	3.00	3.00	**18.00**
TOTAL HOURS	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**30.00**

Testing Timesheet for BA

COMPANY NAME APT IT Solutions

MANAGER NAME Mr. Vandanam

WEEK BEGINNING 07/01/2023

TASK	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	TOTAL BILLABLE HOURS
	07/01/2023	07/02/2023	07/03/2023	07/04/2023	07/05/2023	07/06/2023	
Review of system test cases.	1.00	1.00	1.00	1.00	1.00	1.00	**6.00**
Lunch	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
Review of system test cases.	1.00	1.00	1.00	1.00	1.00	1.00	**6.00**
Providing feedback wherever required.	3.00	3.00	3.00	3.00	3.00	3.00	**18.00**
TOTAL HOURS	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**30.00**

Deployement and Implementation Timesheet for BA

COMPANY NAME APT IT Solutions MANAGER NAME Mr. Vandanam

WEEK BEGINNING 07/01/2024

TASK	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	TOTAL BILLABLE HOURS
	07/01/2024	07/02/2024	07/03/2024	07/04/2024	07/05/2024	07/06/2024	
Runnimg application on clients server.	4.00	4.00	4.00	4.00	4.00	4.00	24.00
Lunch	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Doubt clearing sessions.	2.00	2.00	2.00	2.00	2.00	2.00	12.00
Project closure documentation.	2.00	2.00	2.00	2.00	2.00	2.00	12.00
TOTAL HOURS	8.00	8.00	8.00	8.00	8.00	8.00	48.00

Q21. 5 Quarterly Audits are planned Q1, Q2, Q3, Q4, Q5 for this Project What is your knowledge on how these Audits will happen for a BA?

>An audit is carried out in projects to check the overall working of the project, it helps to minimize the loopholes in the project if any.
Internal and External Audits are the two types of audits companies carry out in a year, Company itself carried out the intern audits and clients may ask for external audits to perform, the checklist & parameters of the audit may vary and be dependent on the current stage of the project. As per my understanding auditor may tend to ask the below queries during the audit.

1) Auditor may ask for the BRD document which we have created at the time of information gathering.
2) Mail communication happened with a client regarding confirmation of various requirements.
3) During the information gathering stage we have created the timesheet auditor may ask the same.
4) Invitation sends to various stakeholders for workshop and their confirmation.
5) Answers received from the attendees in a survey conducted for elicitation technique.
6) SRS (Software Requirement Specification) document signed by the client auditor may ask to check that all requirements are attended to by BA.
7) RTM prepared by the respective team member may ask for inspection purpose.
8) Various user case tests are followed in the project during the testing phase.
9) Completion of the document while deploying the project to a client.

Q22. 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).

>1) what are the steps that you would need to follow to complete a project?
Step 1: Identify and meet with stakeholders.
Step 2: Set and prioritize goals.
Step 3: Define deliverables.
Step 4: Create the project schedule.
Step 5: Identify issues and complete a risk assessment.
Step 6: Present the project plan to stakeholders.

2) What Elicitation Techniques to apply?
According to me brainstorming is the best suitable elicitation technique, in this case, presently there is no set process/application for purchasing fertilizers, Seeds, and Pesticides important stakeholders are less in number hence brainstorming can help gathering all the possible ways to approach the problem statement and hence will form a variety of solutions.

3) How to do Stakeholder Analysis RACI/ILS?
Identify the individuals or groups that are likely to affect or be affected by a proposed action, and sort them according to their impact on the action and the impact the action will have on them. RACI categorization will be used for clarifying what stakeholders' roles and responsibilities are in a context of a specific task or process. Responsibility charting in a RACI matrix is straightforward:
1 -Identify all the activities involved and list them on the left-hand side of the matrix
2 -Identify all the roles involved and list them along the top of the matrix
3 -Complete the cells of the matrix: identify who has the R, A, C, and I responsibility for each activity.

4) What process to follow to Sign off on the Documents?
1-Organize the project documents.
2-Prepare the final report.
3-Distribute the sign-off sheet.
4-Review your lessons learned.

5) 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, and How to take signoff on the UAT- Client
Project Acceptance Form.
Finalize the requirement from stakeholder through stakeholder, communicate the requirement to the technical team through UCD and activity diagram, the graphical design will be done by the architecture, and then testing will be done once the coding is finished, & UAT will be done at client server.

Q23. Explain and illustrate 3-tier architecture?
>3 Tier Architecture is basically a software application working process, 3 tier architecture is divided into 3 layers:
A) Application Layer: -Application Layer means the end user interface or communication with the application or system throw screen and pages, the main purpose of the application layer is to display the information and collect the information from the end user.
B) Business Logic Layer: - All the reusable components, governing body rules, changing components, Compliance, rules and regulation are included in the Business logic layer.
C) Data Layer: -In database layer information processed by the application is stored and managed. The database component connecting to the database will be the data layer.

Q24. Business Analyst should keep what points in his/her mind before he frames a Question to ask to the Stakeholder.
>BA should keep in mind to use the below techniques:

SMART
Specific: explaining to the team exactly what outcome is expected [a properly working application user friendly
• Measurable: the requirement can be measured /tested to determine whether it's been met
• Attainable: checking if the requirement is achievable
• Realistic if the requirement is relevant and realistic
• Traceable/ time-bound: having a clearly defined time frame

5W1H: why, what, who, where, when, and how

RACI: responsible, accountable, consulted, informed which is used to clarify and define roles and responsibilities.

>What should be the timeline to complete the project?
What payment options should be available?
Why there is a need for an online application store?
Where Application should be available for use on Android or desktop?
How will the application help farmers and manufacturers?
How much is the budget?
How many users can use the application at a time?

An activity diagram is drawn to model how the system should function to
Achieve business logic, business functionality, and business objectives.

3 Tier architecture:
It's a software application that organizes applications in 3 logical and physical tiers:
1) Presentation tier: it’s the user interface
2) Application tier: data is being processed in this phase
3) Data tier: data associated with the application is stored and managed
Use case: use case diagrams are designed to explain how
As an external user is interacting with the system it is helpful to identify the requirement

Use case specification: use case name, use case description, actors, primary actors, secondary actors , basic flow , alternate flow ,exceptional flows , pre- conditions ,post-conditions , assumptions ,constraints , dependencies ,inputs and outputs ,business rules ,miscellaneous information.

Models: data model, data flow diagram, ER diagram.

Page design: interface design.

Q25. As a Business Analyst, What Elicitation Techniques you are aware of? (BDRFOWJIPQU).
>As a Business Analyst below is the best elicitation technique

1) Brainstorming: -Brainstorming can be done individually or in a group, in this technique we collect the user ideas, and those ideas are reviewed and analyzed and checked whether given ideas are relevant to include within the system requirement, and user or stakeholders come up with innovative ideas to define their requirement. Brainstorming is effective with a group of 8 to 12 people it helps to get a good number of an idea from users and stakeholders also use to find all possible solution to the problem and understand the new opportunities.

2) Document Analysis: - Document Analysis technique is used where the current system is in place and documents of older systems are used to transfer into new system creation, inputs are taken from an old system to develop a new system, it includes interface details, user manual, and software vendor manuals. Document analysis evaluates the document to know the AS-IS process and performs the GAP analysis to migrate the system.

3) Reverse Engineering: - in the situation where existing software is old and outdated and to know how the system work, usually reverse engineering is used to examine software or software component to figure out how they are processing business rules and how do they take a decision? How does the software support to the business?

4) Focus Group: -A focus group is a group of persons of 6-12 attendees and from this attendee elicit ideas and attitude about a specific product, the participant shares their ideas, preferences, and need about the software. Open-ended questions are asked to the group or participant to encourage responding and interacting freely with other group members.

5) Observation: -User of the system can provide information about the existing process input and outputs of a system. It helps to improve a process or remove unnecessary activity from the new system. There are two approaches are used in this technique passive and active.

6) Workshop: -Workshop technique is used to identify the requirement of a user or stakeholder, in this method 6-10 or more users or stakeholders attend the session for a defined duration, it is a structured way to capture the requirement, it is used to scope, discover, define, prioritize, and reach closure on the requirement.

7) JAD Workshop: - A software development approach that engages the end user or stakeholder to design and develop the system, this technique provides a large amount of high-quality information in a short period to develop the system

8) Interview: -An interview is the systematic approach to elicit information from a person or group of persons with formal or informal communication, interviewer ask the attendees relevant question and document the responses, in this technique less planning is required.

9) Prototyping: -Prototyping means Mockup. Generally, mean a representation of a computer screen and examples of how the user will interact with the application to accomplish a task to solve business problems, it is a process of creating a working model to test various aspects of a design, and it helps to reduce the project risk and cost. Prototyping has also been proposed as a technique for obtaining the software requirement from the stakeholders.

10) Questionnaire/Survey: -Questionnaire is used to elicit information about customer products, work practices, and attitudes from a group of people in a structured way and a relatively short period, a questioner is used to present a set of the questioner to the stakeholder whose response collected and analyzed to understand the subject matter. There are two types of questionnaires used in the technique Open Ended and Close Ended.

Q26. Which Elicitation Techniques can be used in this Project and Justify your selection of Elicitation Techniques?
>As their isn’t any preset supply chain or process to buy agricultural products online, we need to explore each and every possible solution there can be, and hence brainstorming is a good requirement elicitation technique to be used in this project.

Q27. Make suitable Assumptions and identify at least 10 Business Requirements.
>1) All users (manufacturers and Farmers) should be able to log in to the application using their phone numbers using OTP as.
2) Users should be able to browse through the products catalog once they visit the website.
3) Farmers should be able to add products to the buy-later list.
4) Users need to have an easy-to-use payment gateway that should include cash-on-delivery (COD), Credit/Debit card, and UPI options so that the user's experience should be better.
5) A user should get an email confirmation regarding their order status.
6) Users should get a delivery tracker to track the whereabouts of their orders.
7) User should be able to reset the password if forgot or wrongly inputted it more than 3 times.
8) Help Section.
9) A new user should be able to create a new account using email and password.
10) Manufacturers should be able to list their products easily.
11) There should be a system to add reviews and ratings for the products.
12) Application should also be available in local languages.

Q28. List your assumptions.
>
1) All users/Farmers have a valid email ID.
2) Users have android/apple mobile if they are not using a computer or laptop.
3) Availability of internet connection while using the application
4) Availability of Printing and stationery material with the manufacturer.
5) Transportation system available for delivery of products.
6) Sufficient manpower availability.

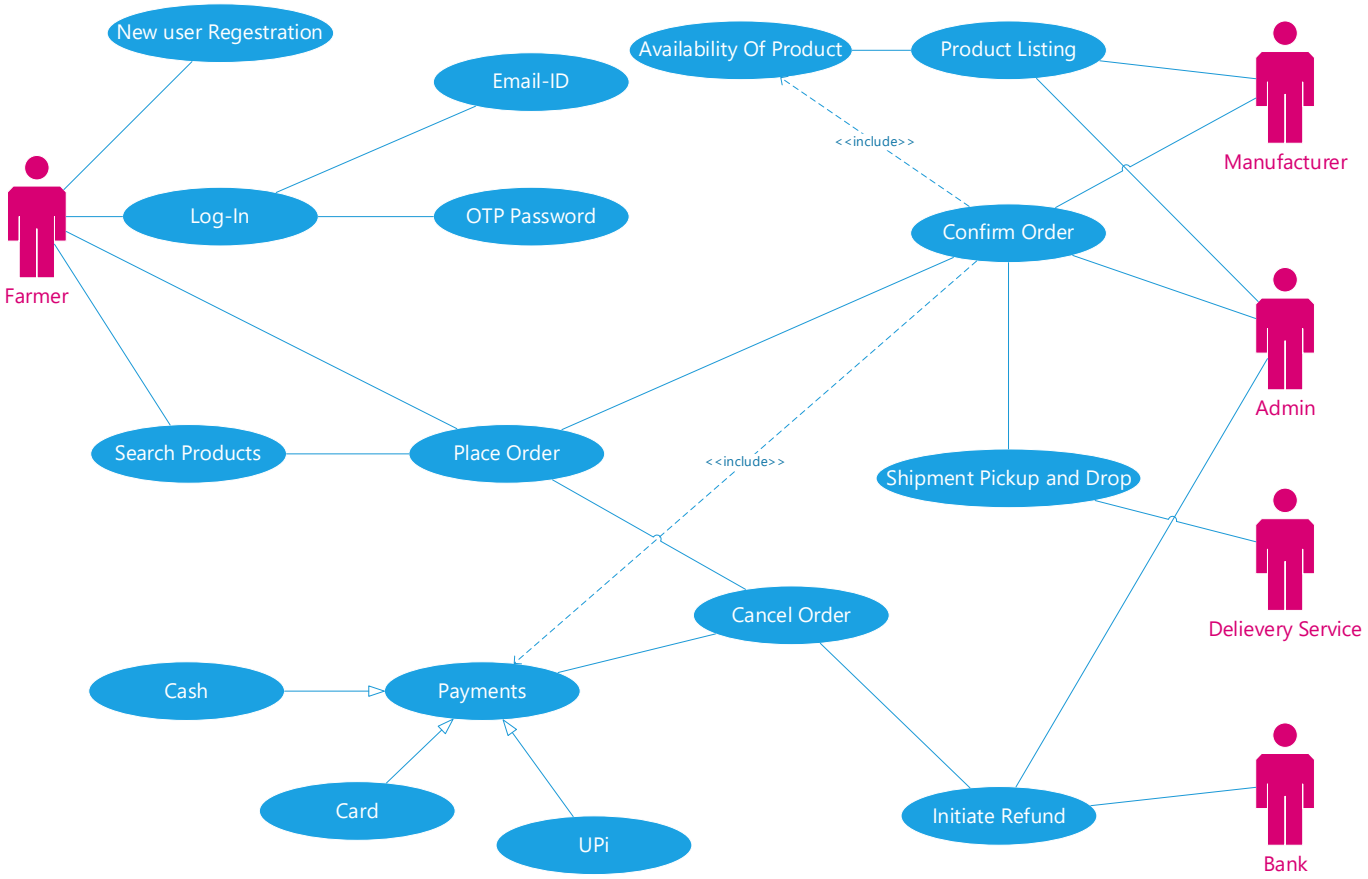
Q29. Give Priority 1 to 10 numbers (1 being low priority – 10 being high priority) to these Requirements after discussions with the stakeholders).

>

Req. ID	Req. Name	Req. Description	Priority.
BR001	Login credentials	All users (manufacturers and Farmers) should be able to log in to the application using their Email id and password.	10
BR002	Browse application	Farmer should be able to browse through the products catalog once they visit the website.	6
BR003	Wishlist	Farmers should be able to add products to the buy-later list.	7
BR004	Payment gateway	Farmers need to have an easy-to-use payment gateway that should include cash-on-delivery (COD), Credit/Debit card, and UPI options so that the user's experience should be better.	9
BR005	Order confirmation	A user should get an email confirmation regarding their order status.	5
BR006	Delivery Tracking	Farmers should get a delivery tracker to track the whereabouts of their orders.	4
BR007	Login credentials reset	User should be able to reset the password if forgot or wrongly inputted it more than 3 times.	9
BR008	Search option	Users should have a search option to search for different products.	5
BR009	New account	A new user should be able to create a new account using email and password.	6
BR010	Product listing	Manufacturers should be able to list their products easily.	7
BR011	User Interface	User Interface should be easy to user friendly and easy to use.	5
BR012	Language	Application should also be available in local languages.	8

Q30. Draw use case diagram.

>



Q31. Prepare use case specs for all use cases

>

USE CASE NAME	New user registration
USE CASE DESCRIPTION	1) New user will be able to register to the application using there register Email and Password or register mobile number and OTP. 2) New user will fill up the required information in the application. 3) New user should be receiving the OTP on Email and register mobile number
ACTORS	Farmer
PRE CONDITION	1) Active network available.

	2) New user have valid Email id availability of android mobile is the application must be used on mobile. 3) New user should know the registration option in the application.
POST CONDITION	Successful registration done
BASIC FLOW	1) New user lodging to the application and click on registration tab in application. 2) By inputting valid Email id / Register Mobile no and Password/OTP, user register himself in application. 3) New user will be go to the next page filled up the required information which asked in application. 4) New user should be input the OTP once registration done and pop up will appear. 5) New user should set the password in given format. 6) New user will successfully get register
ALTERNATE FLOW	1) New user should register himself with valid email id. 2) New user should receive the otp on register email id or mobile number. 3) New user should have information which need to filled while registering on application.

USE CASE NAME	Login
USE CASE DESCRIPTION	1. Users will be able to log in to the application using their registered email and password or registered mobile number and OTP. 2. User will be able to reset the user id/password using forgot user id/password option.
ACTORS	Farmer
PRE CONDITION	1) Active network available. 2. Users have valid account.
POST CONDITION	The user logged in successfully

BASIC FLOW	1. Farmer trying to login into the application by inputting valid email id / registered mobile number and password / OTP. 2. Farmer will be able to go to the next page if entered user id and password or mobile number and OTP matches with the database. 3. Farmer can reset the user id/password using forgot option for user id/password.
ALTERNATE FLOW	If the User id is correct and password is incorrect / user id is incorrect and password is correct/ both user id and password are incorrect the system will pop up the error message 'Invalid User Id / Password .

USE CASE NAME	Place Order
USE CASE DESCRIPTION	1. Farmer will be able to select the product from available product catalogue. 2. The selected product will get added to cart. 3. Farmers will be able to place order.
ACTORS	Farmer
PRE CONDITION	1. Farmers have sufficient balance available for purchasing the product. 2. Stock availability with the manufacturer. 3.Farmers are ready to wait for the delivery of the product as per TAT.
POST CONDITION	Farmers placing order successfully.
BASIC FLOW	1. Farmer will choose the product from available product catalogue. 2. The chosen product will get added to the cart and farmer place order.
ALTERNATE FLOW	1. Same product will not get selected in cart if already selected by the farmer. Instead a pop up to select the number of said items will appear.

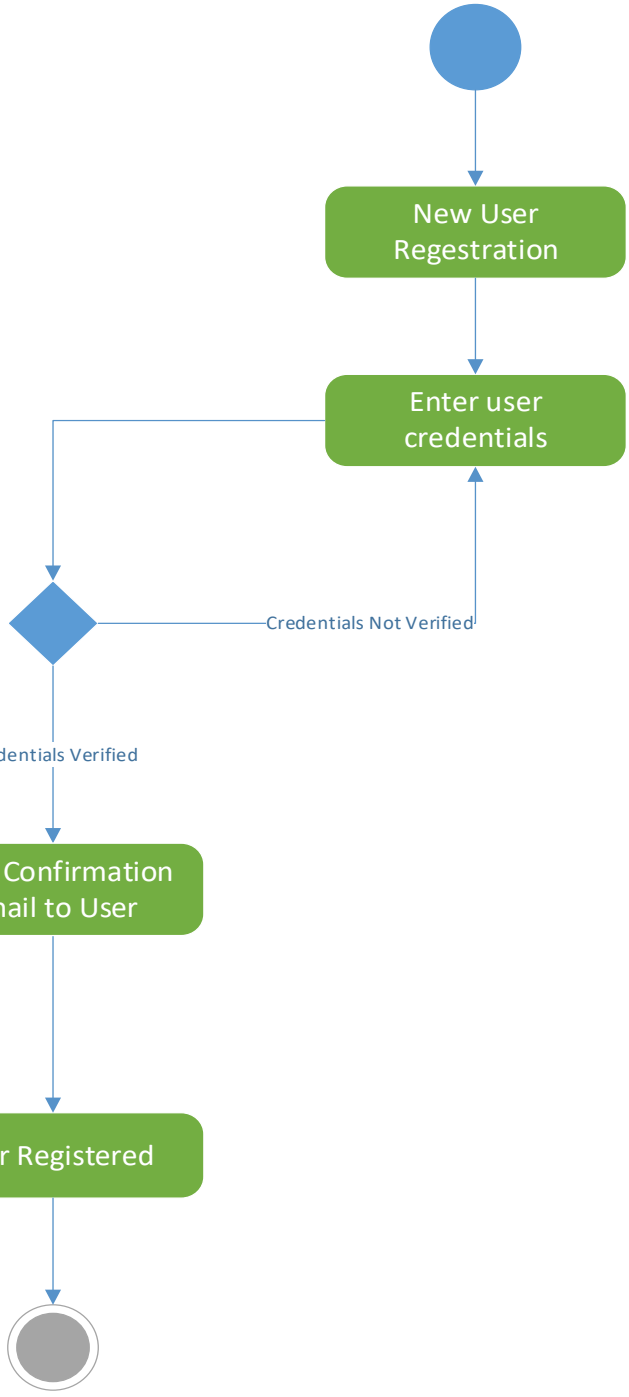
USE CASE NAME	Make Payment
USE CASE DESCRIPTION	1) Farmer will be able to view the payment option once buy now option is selected from the cart list. 2) Farmer should be select payment type from various payment option 3) Farmer should be able to make the payment from various available options
ACTORS	Farmer
PRE CONDITION	1) Farmers should have the facility to make a payment from the various payment options. 2)Farmers should have knowledge that how to pay the payment though various options
POST CONDITION	Farmers placing order successfully.
BASIC FLOW	1) Farmers will choose the product from available product catalogue. 2) Farmer will view the payment option in payment option. 3) Farmers choose the payment options as per there convince. 4) Farmer make the payment. 5) Farmers will receive the confirmation of the payment done.
ALTERNATE FLOW	1) Farmer should be able to view the payment option. 2) No response from bank server. 3) Fund should be available in farmer account.

USE CASE NAME	Cancel the order
USE CASE DESCRIPTION	1) Farmer will be able to cancel the order once booked and if they are not required. 2) Farmer should be able cancel the order under return policy. 3) Farmer should cancel the product within TAT.

	4) Once order is cancelled farmer should receive the refund amount in provided bank account.
ACTORS	Farmer
PRE CONDITION	1) Order should be cancel within TAT. 2) Farmer should not open the product if want to return and not required. 3) Farmer should have the bank account for received the refund amount in their account.
POST CONDITION	Farmers cancel the product successfully
BASIC FLOW	1) Farmers should visit the application and view the order cancelation option. 2) Farmer should be able to select the product which they want to cancel. 3) Farmer should select the product and cancel the product. 4) Farmer should receive pop up before submitting the cancelation request. 5) Product cancel and repayment should be processed to the farmers account. 6) Farmers should receive the fund in their account.
ALTERNATE FLOW	1) Farmer will not be able to cancel the order if TAT is over. 2) Cancelation option is disabled. 3) Could not be able to process the repayment option. 4) Farmer does not receive the fund in their account.

Q33. Activity diagrams

>1) Registration



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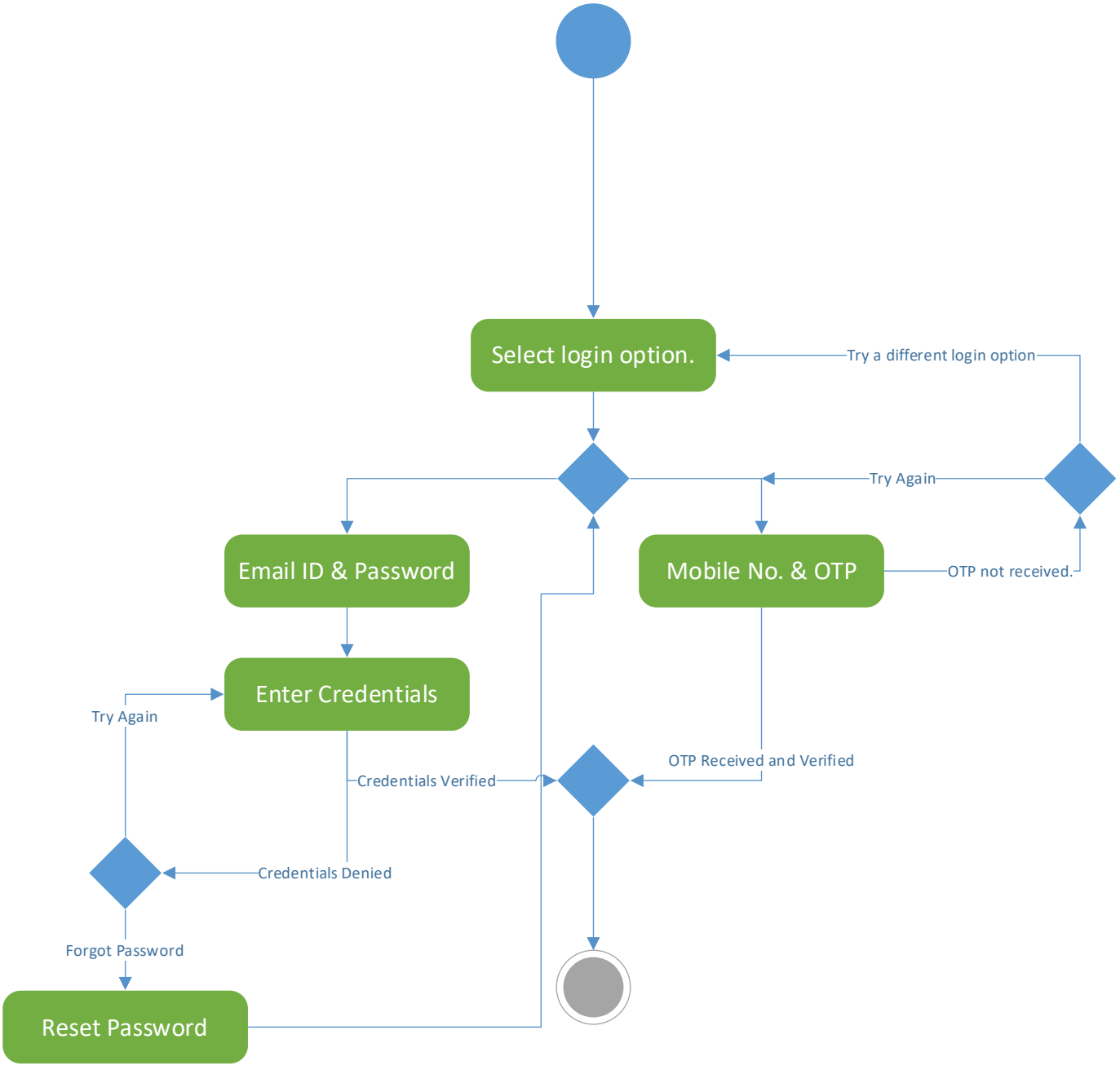
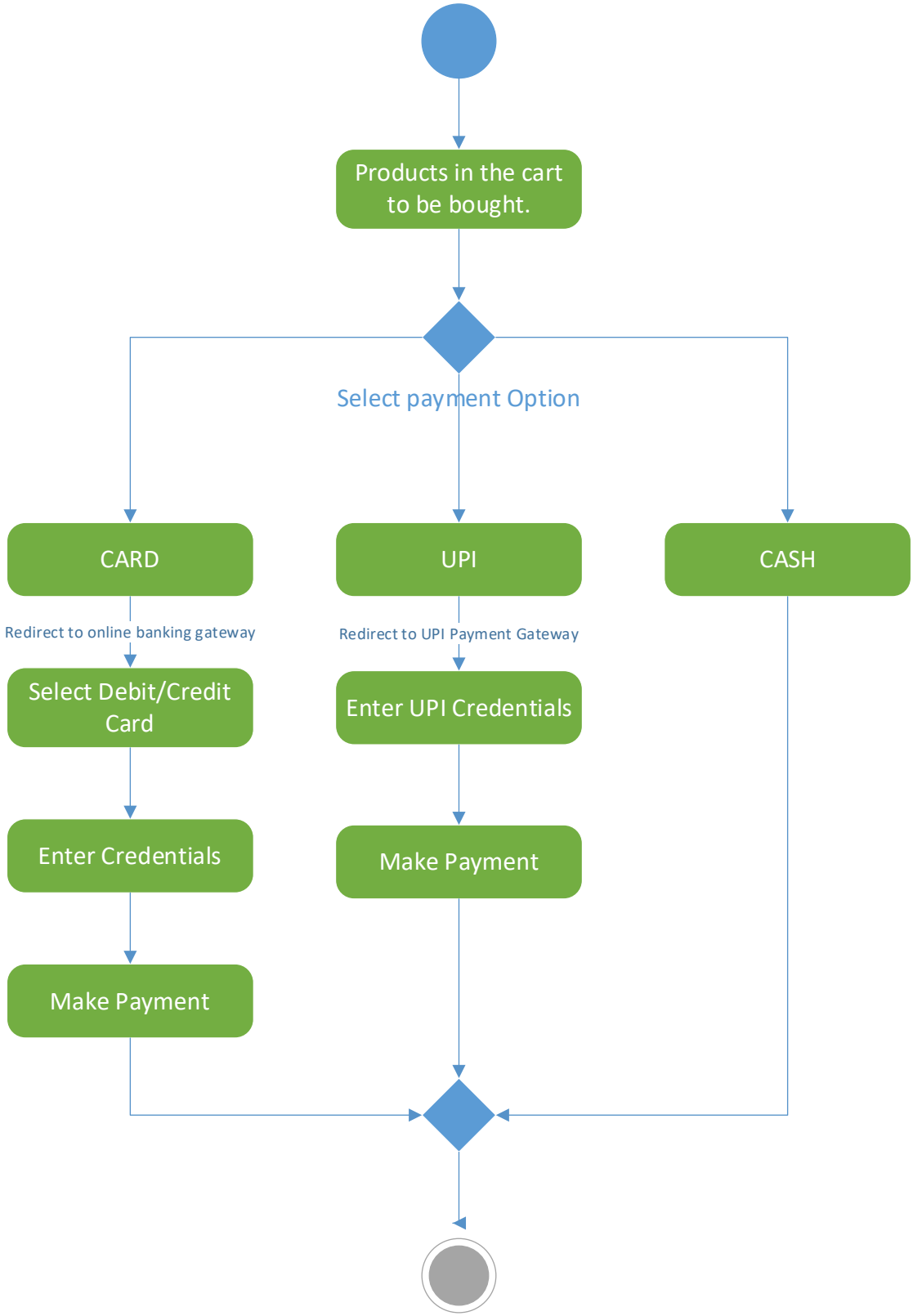
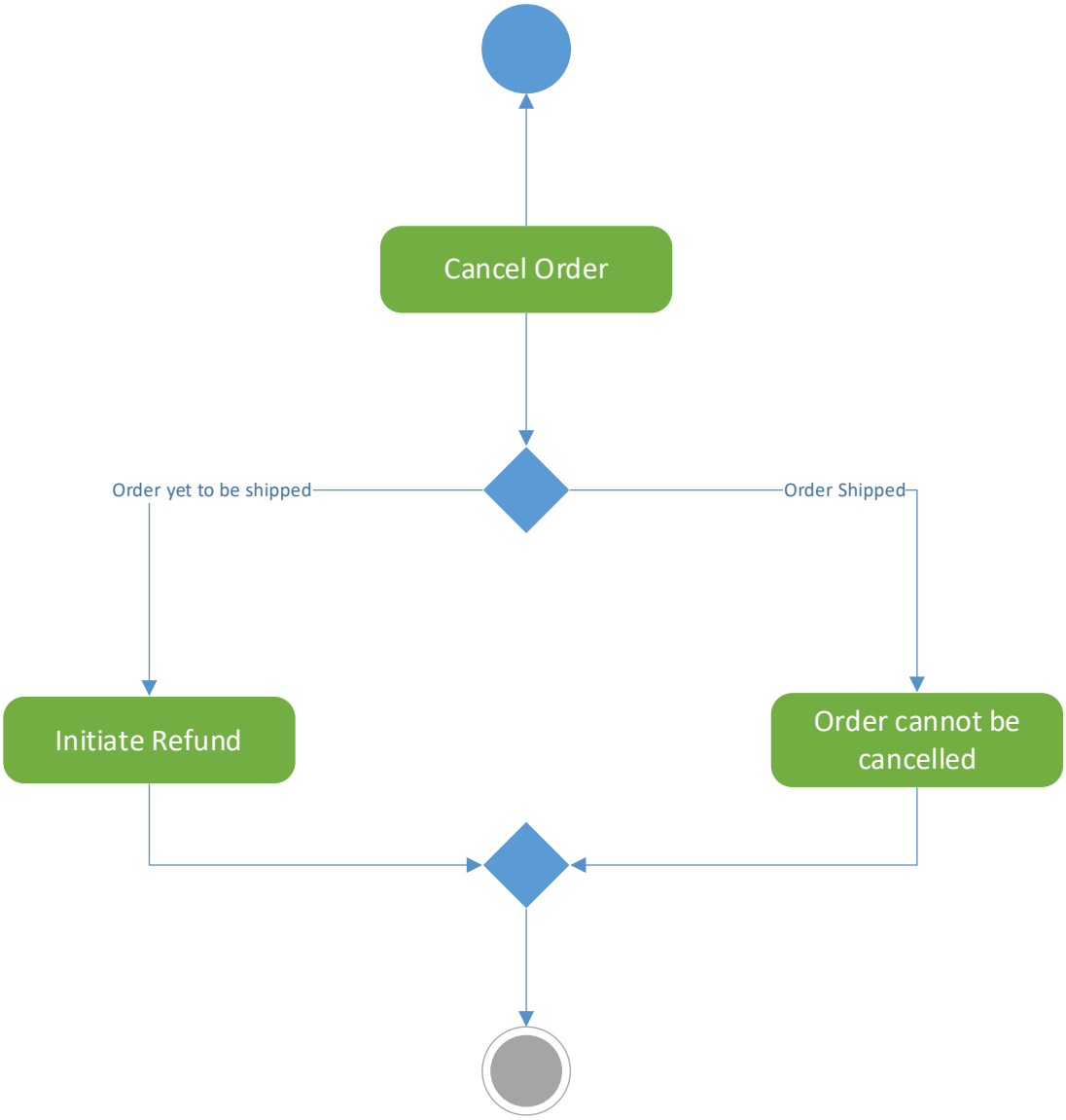
2) Login


Select login option.
Try a different login option
Try Again
Email ID & Password
Mobile No. & OTP
OTP not received.
Enter Credentials
Try Again
Credentials Verified
OTP Received and Verified
Credentials Denied
Forgot Password
Reset Password

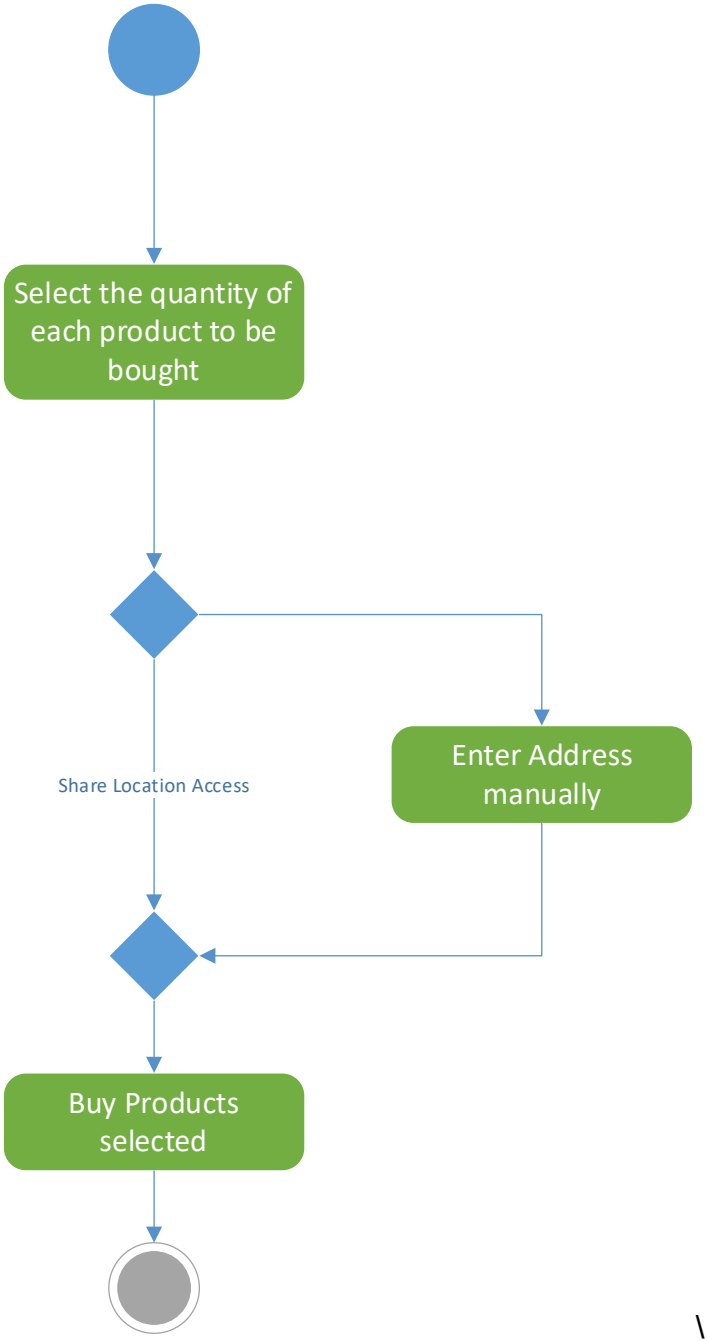
3) Payments:


Products in the cart to be bought.
Select payment Option
CARD
UPI
CASH
Redirect to online banking gateway
Redirect to UPI Payment Gateway
Select Debit/Credit Card
Enter UPI Credentials
Enter Credentials
Make Payment
Make Payment

4) Cancel Order



5) Buying Cart Finalization



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Q33. Identify minimum 20 functional requirements.
>

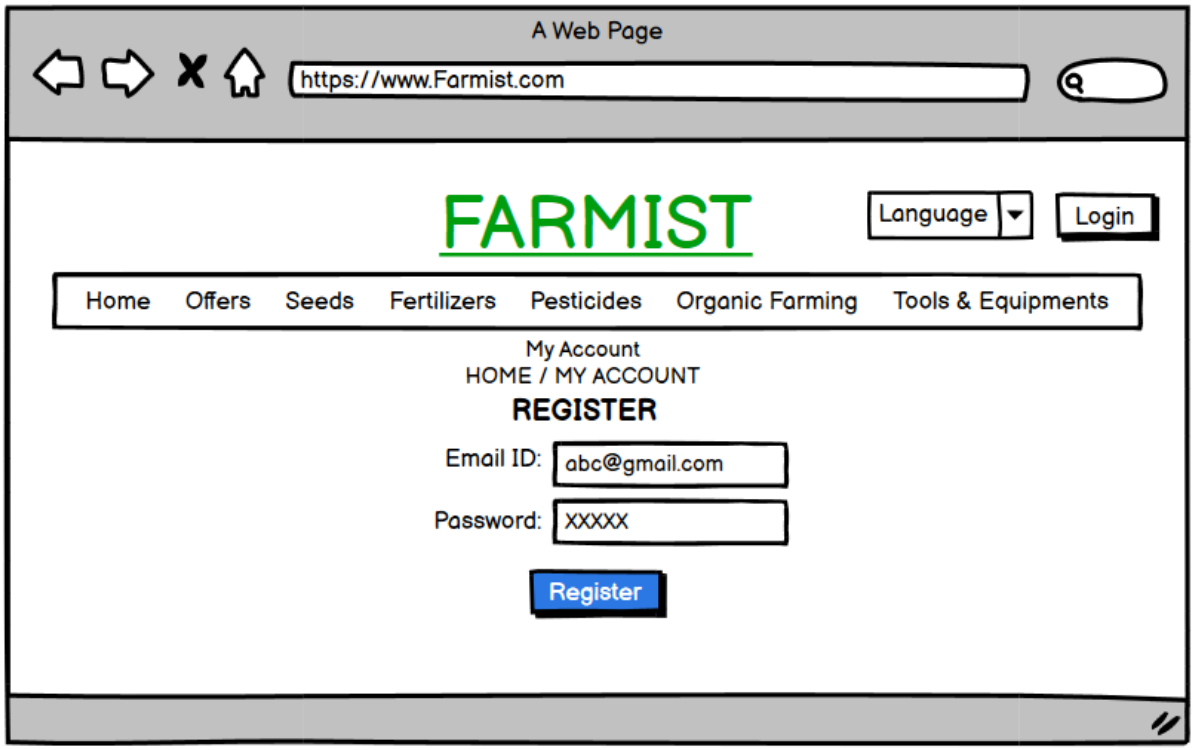
ID	Req. Name	Req. Description	Priority
FR001	Farmer Registration	Farmer should be able to register with the application	10
FR002	Search option	Farmer should be able to search for the available products in fertilizers, Seeds, Pesticides	8
FR003	Product comparison	Farmer should be able to view various product on same screen for comparison purpose the product with other manufactures	5
FR004	Place order	Farmer should be able to place the order from his cart list	8
FR005	Payment option	System should pop up the available payment option like Cash, card UPI etc.	8
FR006	Summary	Summary of the purchase order should be display on screen	7
FR007	Order received	Upon receipt of order system will pop up message alerts to the manufacturer.	7
FR008	Delivery tracking system	Execution of the dispatch tracking system will get activated for further alerts	7
FR009	Payment system	Once farmer received the goods farmers can do the payment and manufacturer will receive the payment confirmation.	6
FR010	Login error	Error message will appear if incorrect credential is used	9
FR011	Duplicate alert	Availability of pop-up message in case of duplicate selection of same product by the user if any	8
FR012	Notification of new Product	Farmers should be able to receive the notification for newly launched or arrived product from the manufacturer	6
FR013	Return Policy	Availability of product return option /Cancelation of product in the application	6
FR014	No duplicate Registration	If the mail id is already registered with system, it should pop up the message	6
FR015	Taxes	Product price should be inclusive of government taxes	5
FR016	Review column	Review and feedback column should be available for each product	5
FR017	Queries	If any queries, then should be able to interact with the BOT	7
FR018	Address update	Update Address and save options for delivery	5
FR019	Order cancel	Cancel order option and money return	8

FR020	Language	Farmer should be able to browse in their local language	8
NFR001	Time limit for OTP	Max 120 sec time allowed for inputting OTP while registration or login process	3
NFR002	Responsive Web Application	Application can be used on any android mobile.	5

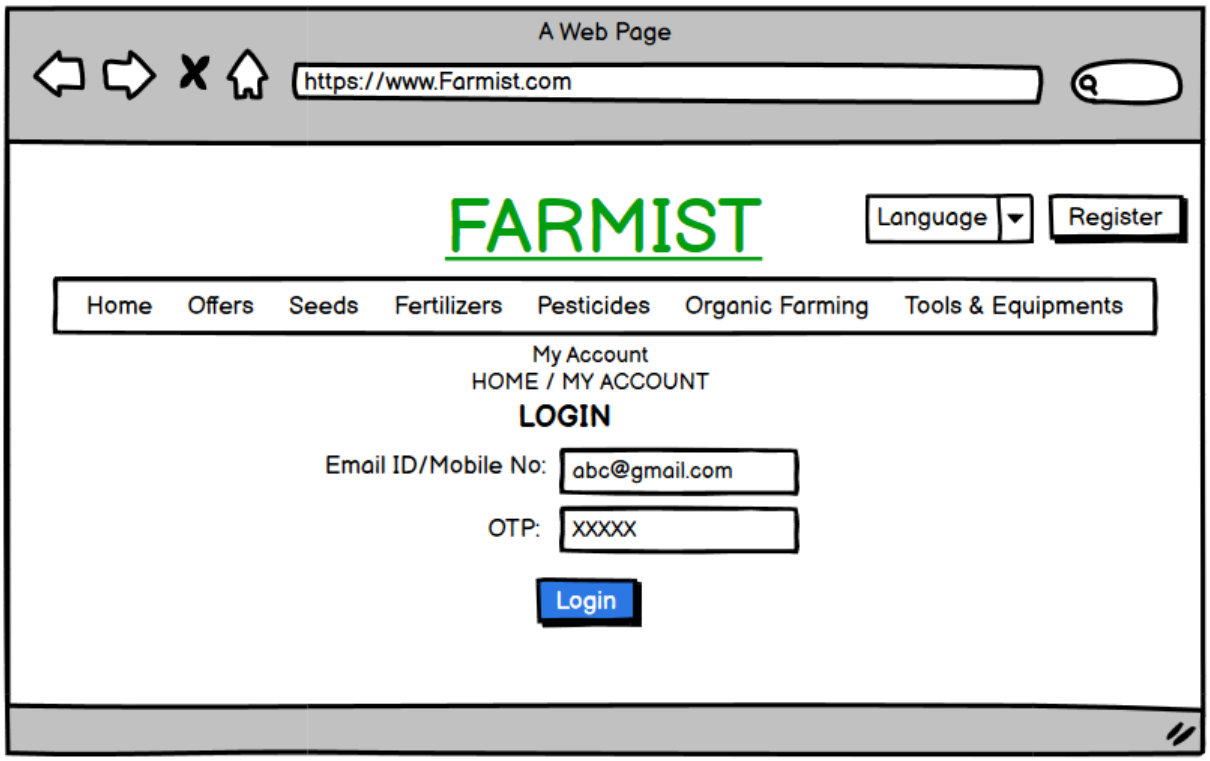
Q34. Make wireframe and prototypes.

>

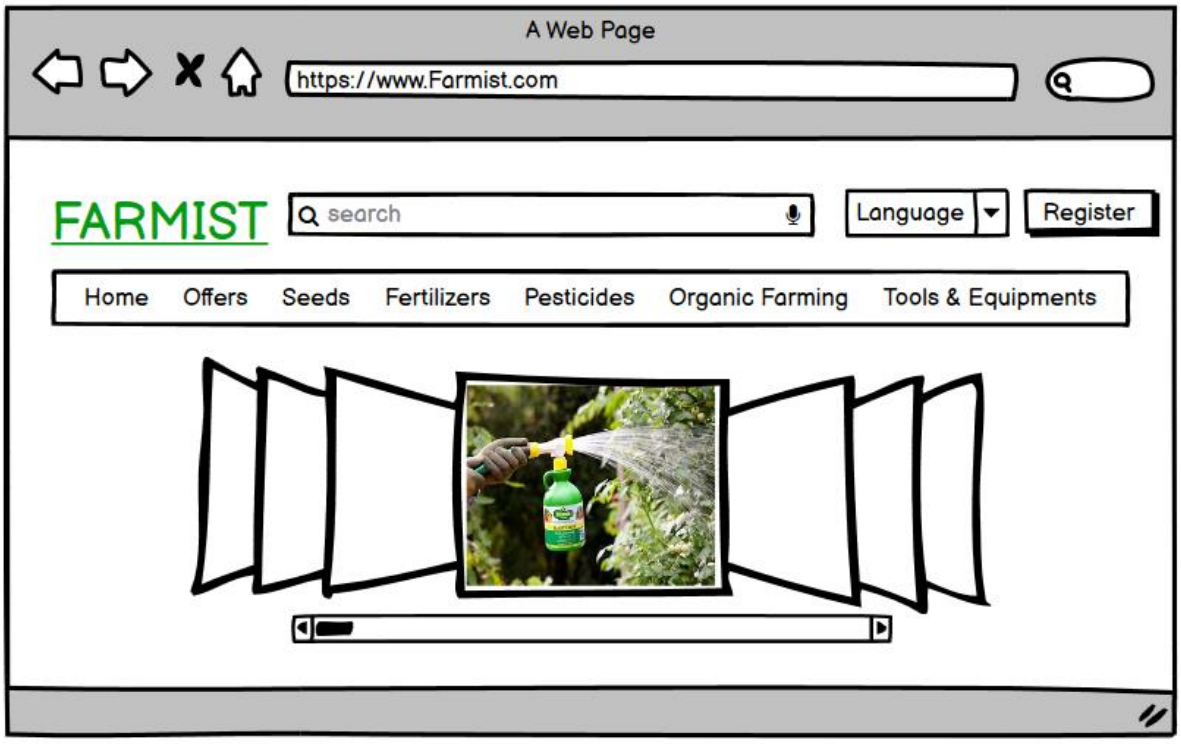
1) Register



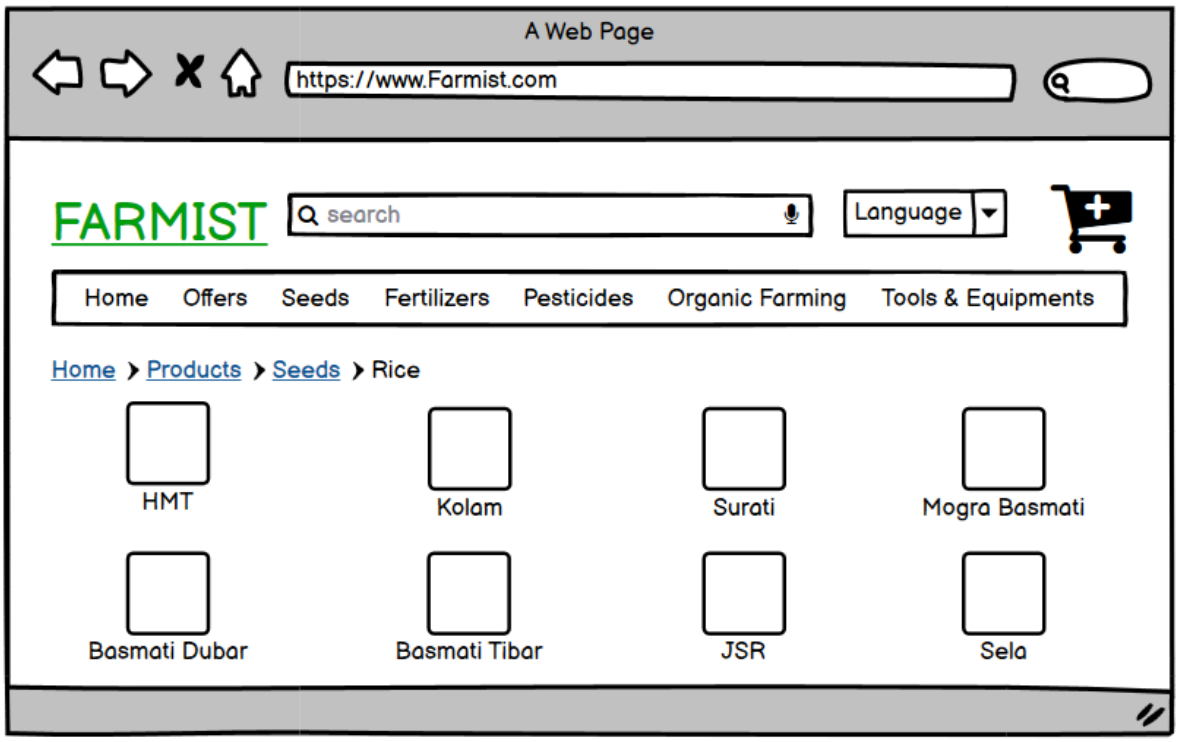
2)Login



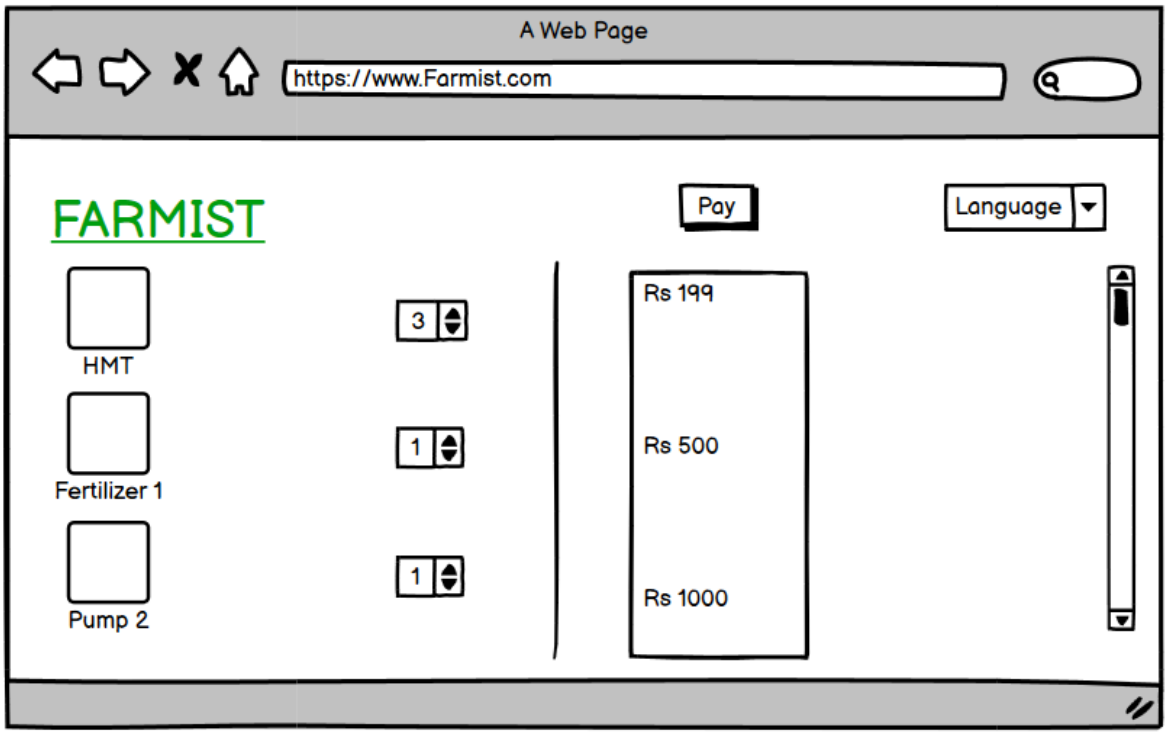
3)Home Page



4) Browsing



5) Cart



Q36) A business analyst's key responsibilities are to keep track of the requirements and make sure that no requirement is missed. Mr. Henry and peter have approached you regarding the current status of the project. How will you tackle this situation?

>

ID	Req Name	Req Description	Design	D1	T1	D2	T2	D3	T3	D4	T4	UAT
FR001	Farmer Registration	Farmer should be able to register with the application.	✓	✓	✓	✓	✓	✓	✓	✓		
FR002	Search Option	Farmer should be able to search for the available products in fertilizers, seeds, pesticides.	✓	✓	✓	✓	✓	✓	✓	✓		
FR003	Product Comparison	Farmer should be able to view various product on same screen for comparison purpose the product with other manufacturers.				✓	✓	✓	✓	✓		
FR004	Place Order	Farmer should be able to place the order from his cart list.				✓	✓	✓	✓	✓		
FR005	Payment Option	System should pop up the available payment option like Cash, Card, UPI etc.				✓	✓	✓	✓	✓		
FR006	Summary	Summary of the purchase order should be displayed on screen.				✓	✓	✓	✓	✓		
FR007	Order Received	Upon receipt of order system will pop up message alerts to the manufacturer.				✓	✓	✓	✓	✓		
FR008	Delivery Tracking System	Execution of the dispatch tracking system will get activated for further alerts.	✓	✓	✓	✓	✓	✓	✓	✓		
FR009	Payment System	Once farmer received the goods farmers can do the payment and manufacturer will receive the payment confirmation.	✓	✓	✓	✓	✓	✓	✓	✓		

FR010	Login Error	Error message will appear if incorrect credential is used.	✓	✓	✓	✓	✓	✓	✓	✓		
FR011	Duplicate Alert	Availability of pop-up message in case of duplicate selection of same product by the user if any	✓	✓	✓	✓	✓	✓	✓	✓		
FR012	Notification Of New Product	Farmers should be able to receive the notification for newly launched or arrived product from the manufacturer			✓	✓	✓	✓	✓	✓	✓	
FR013	Return Policy	Availability of product return option/cancelation of product in the application.			✓	✓	✓	✓	✓	✓	✓	✓
FR014	No Duplicate Register	If the mail id is already registered with system, it should pop up the message.			✓	✓	✓	✓	✓	✓	✓	✓
FR015	Taxes	Product price should be inclusive of government taxes.			✓	✓	✓	✓	✓	✓	✓	
FR016	Review Column	Review and feedback column should be available for each product.			✓	✓	✓	✓	✓	✓	✓	
FR017	Queries	If any queries, then should be able to interact with the BOT.	✓	✓	✓	✓						
FR018	Address Update	Update address and save options for delivery.	✓	✓	✓	✓						
FR019	Order Cancel	Cancel order option and money return.	✓	✓	✓	✓						
FR020	Language	Farmer should be able to browse in their local language.	✓	✓	✓	✓						
FR021	Support Helpline	Farmer should have option on website to call support helpline for any help.	✓	✓	✓	✓						
NFR001	Page	Each page should load	✓	✓	✓	✓						

	Loading Timing	within 2 second time.										
NFR002	All product Catalog	Catalog on the web page preview maximum 5 products are display of manufacturing companies' catalog.	✓	✓	✓	✓						
NFR003	Technical Supported System	Application can be used on any android mobile.	✓	✓	✓	✓						
NFR004	Time Limit For OTP	Max 120 sec time allowed for inputting OTP while registration or login process	✓	✓	✓	✓						
NFR005	Stock Available	Availability of stock with the manufacturer and should get updated on real time basis.		✓	✓	✓	✓	✓	✓	✓		
NFR006	Payment Receipt	Generation of payment details on white paper receipt of 4" 6		✓	✓	✓	✓	✓	✓	✓		
NFR007	Theme	Website should have greenery based theme.		✓	✓	✓	✓	✓	✓	✓		
NFR008	Disable Policy	User id should be disable if not login for 90 days.		✓	✓	✓	✓	✓	✓	✓		
NFR009	Taxation	15% government taxes should be added to the product finale price.	✓	✓	✓	✓	✓	✓	✓			

Q37. Prepare 10 Test Case Documents.

>

Test Case ID:	AEC786TS003	Test Case Name:	
Project ID:	PQ786	Project Name:	Online Agriculture E-commerce system.
PM ID:	4869	PM Name:	Mr. Vandanam.
Test Strategy ID:	AEC786TS001	Tester ID:	
Test Plan ID:	AEC786TS001	Tester Name:	
Test Schedule ID:	AEC786TS001	Date of Test:	

Test Scenario 1)	Verify on entering valid user id and password, the customer can login			
Step No.	Step Details	Expected Results	Actual Results	Pass / Fail / Not executed / Suspended
1.	Go to OAEC site	Site should open	Site opened	Pass
2.	Enter wrong user id & wrong password	Credentials can be entered.	Login Failed.	Fail
3.	Enter valid user id & valid password	Customer is logged in.	Login Successful	Pass

Test Scenario 2)	Maximum 5 product should be displayed on page			
Step No.	Step Details	Expected Results	Actual Results	Pass / Fail / Not executed / Suspended
1.	Open product list	List should open	List opened	Pass
2.	5 products browsed	Maximum 5 product should be displayed on the page	5 products displayed	Pass
3.	6 products browsed	Maximum 5 product should be displayed on the page.	5 products displayed	Pass

Test Scenario 3)	After selecting the product, it must show in Cart.			
Step No.	Step Details	Expected Results	Actual Results	Pass / Fail / Not executed / Suspended
1.	Open Product List	List should open	List opened	Pass
2.	2 Products is selected from	Products displayed	Product are not	Fail

	browsed products.	in the cart list.	displayed in cart list.	
3.	6 Products is selected from the browsed products.	Products displayed in the cart list.	Product are displayed in the cart list.	Pass

Test Scenario 4)	Manufacturer stock should be reduced once product order is confirmed by the buyer.			
Step No.	Step Details	Expected Results	Actual Results	Pass / Fail / Not executed / Suspended
1.	Farmer navigates to site.	Site should open	Site opened	Pass
2.	Farmer buys the product online with COD option.	Stock should be reduced from manufacturer stock	Stock is not reduced from manufacturer stock	Fail
3.	Farmer buys the product online.	Stock should reduce from manufacturer stock	Stock is reduced from manufacturer stock	Pass

Test Scenario 5)	Various payment option will provide the user after finalize the product to buy COD, Card 16 number card not expired debit card credit card, UPI.			
Step No.	Step Details	Expected Results	Actual Results	Pass / Fail / Not executed / Suspended
1.	Farmer navigates to	Site should open	Site opened	Pass
2.	Farmer selects the card payment option	Payment should be done through Card	Payment option redirected to Card gateway.	Pass
3.	Farmer selects the UPI payment option	Payment should be done through UPI	Payment done through UPI	Pass

Test Scenario 6)	If the user is not active for 10 min log out the user automatically			
Step No.	Step Details	Expected Results	Actual Results	Pass / Fail / Not executed / Suspended
1.	Farmer navigates to site	Site should open	Site opened	Pass
2.	Farmer Login using password	After 10 mins of inactivity user should log out	User logging out failed after 10 min	Fail
3.	Farmer Login using OTP	After 10 mins of inactivity user should log out	User logged out after 10 min	Pass

Test Scenario 7)	OTP should be received on customer's email and sms within 10 seconds for OTP registration.			
Step No.	Step Details	Expected Results	Actual Results	Pass / Fail / Not executed / Suspended
1.	Farmer navigates to the site	Site should open	Site opened	Pass
2.	Farmer clicks on register button	SMS & Email sent to farmer.	Email as well as Mobile Number not received	Fail
3.	SMS & Email with OTP sent to farmer	OTP received	OTP received on email as well as Mobile number	Pass

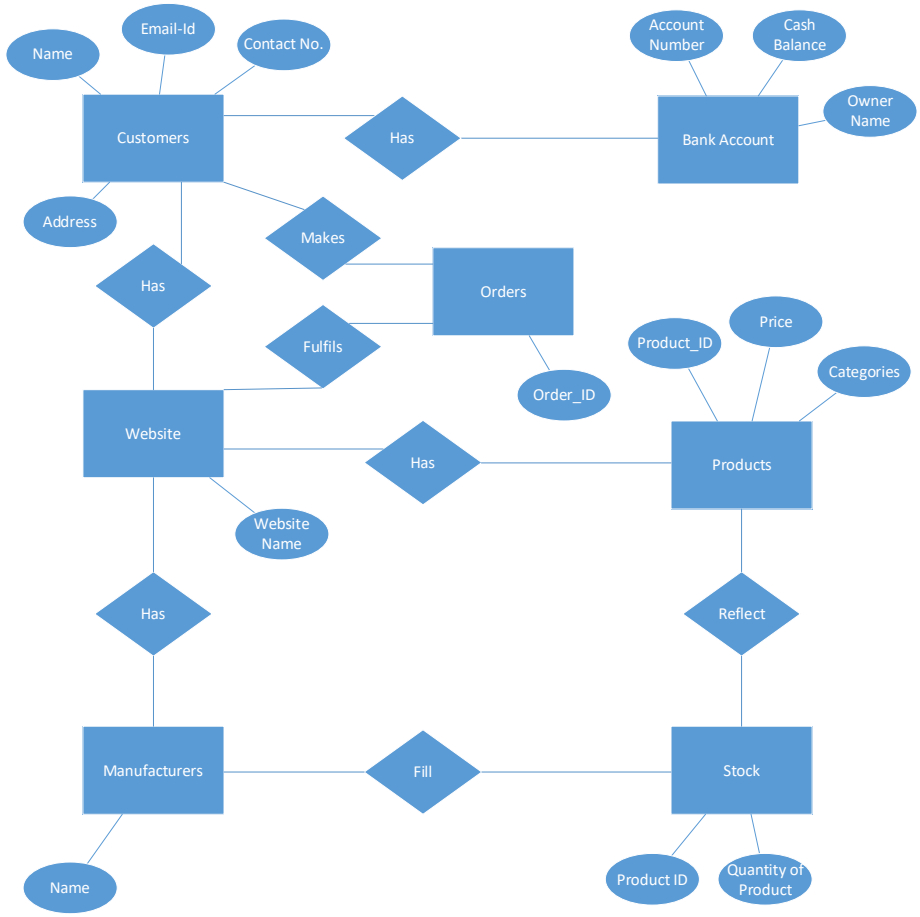
Test Scenario 8)	Validity of the OTP is maximum 60 seconds			
Step No.	Step Details	Expected Results	Actual Results	Pass / Fail / Not executed / Suspended

1.	Farmer navigates to the site	Site should open	Site opened	Pass
2.	Otp Send on farmers Email id and Mobile number	Max 60 second otp should active	user not logout after 10 min	Fail
3.	SMS & Email send to farmer	Max 60 second otp should active	Otp valid till 60 sec	Pass

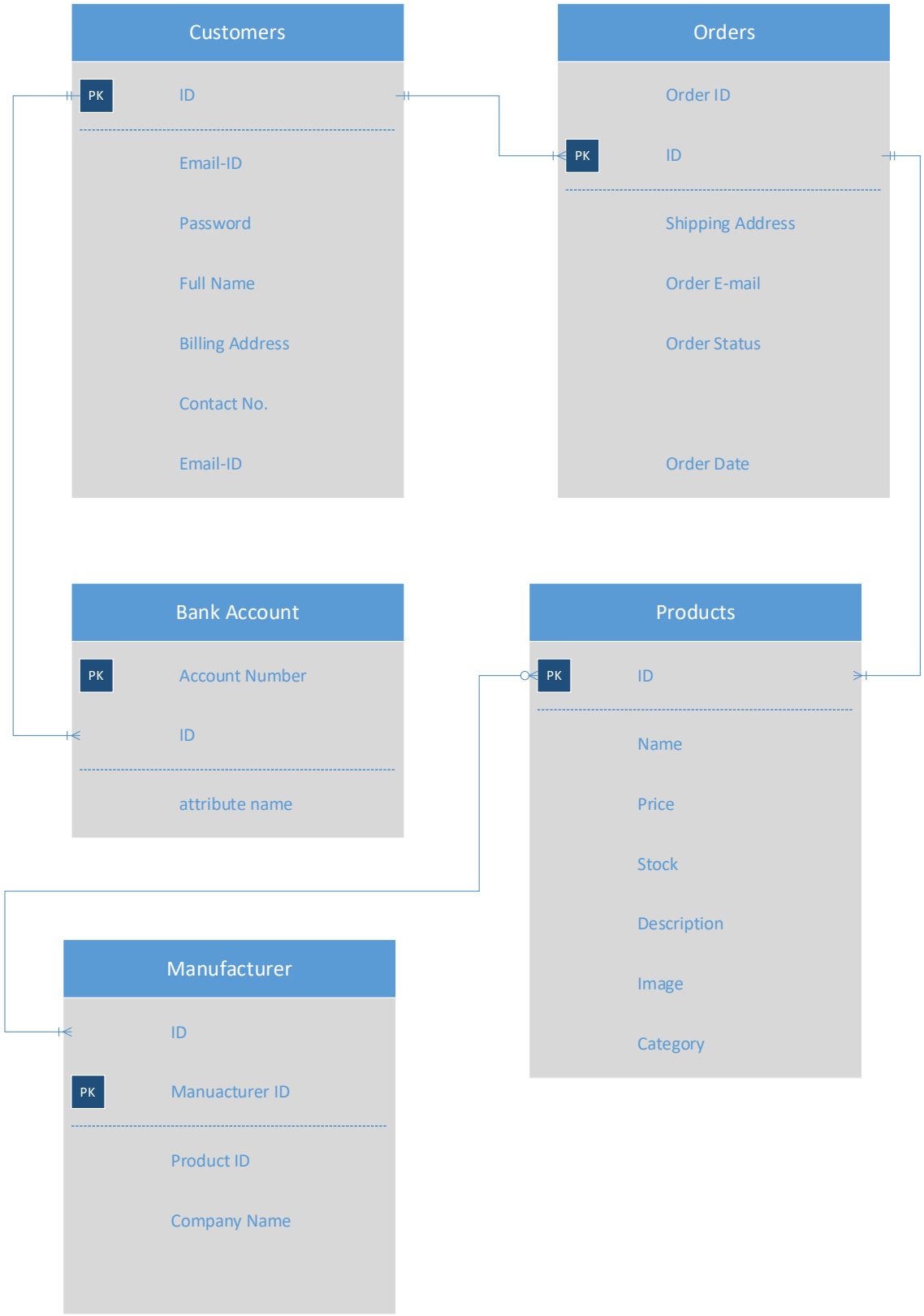
Test Scenario 9)	Addition of government tax price of the product.			
Step No.	Step Details	Expected Results	Actual Results	Pass / Fail / Not executed / Suspended
1.	Farmer navigates to the site	Site should open	Site opened	Pass
2.	Addition of Gov tax price of product 15 %	Gov tax should add 15%	Gove Tax added 30 %	Fail
3.	SMS & Email send to farmer	SMS & Email send to farmer	Sent	Pass

Test Scenario 10)	Unique email id for registration			
Step No.	Step Details	Expected Results	Actual Results	Pass / Fail / Not executed / Suspended
1.	Farmer navigates to the site	Site should open	Site opened	Pass
2.	Existing id entering	Redirecting to enter unique email address	Email accepted	Fail
3.	Unique id Entering.	Register successfully.	Email accepted.	Pass.

Q38. After the requirements are thoroughly explained to the entire project team by business analyst, the Database architects have decided to do the database design and also to represent the in-flow and out-flow of data. Draw database schema and diagram.
> ER- Diagram



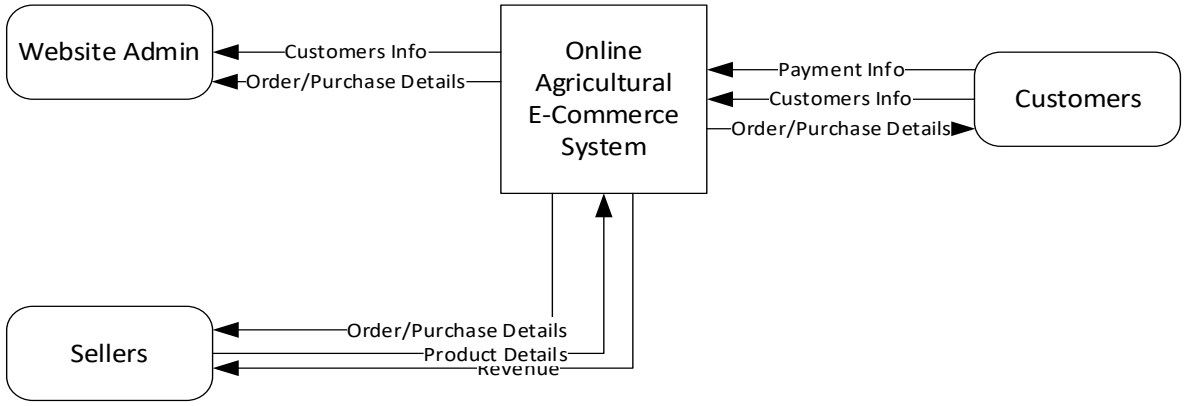
DB – Schema


Customers
PK
ID
Email-ID
Password
Full Name
Billing Address
Contact No.
Email-ID
Orders
Order ID
PK
ID
Shipping Address
Order E-mail
Order Status
Order Date
Bank Account
PK
Account Number
ID
attribute name
Products
PK
ID
Name
Price
Stock
Description
Image
Category
Manufacturer
ID
PK
Manuacturer ID
Product ID
Company Name

Q39. Data Flow Diagram

What is a data flow diagram? Draw a data flow diagram to represent the in-flow and out-flow of data when a Farmer is placing an order for the product

> Dataflow Diagram is a graphical representation of data. It is method of representing a flow of data through a process or system. It helps in providing information about the output and input of each entity. It's a symbolic visualization of the data flow from one stage to another.



Q40. Change Request

Due to a change in the Government Taxation structure we should change the Tax structure. How do you handle change requests in a project?

> A change request can be initiated by customers intentionally or forcefully. Change request needs to be handled carefully depending on the stage of the project. The change request should be approved by the concerned authorities like the project manager. Once approved, change request needs to be documented and signed by the customer. Budgeting/ time is one of the crucial parameters in case of a change request. An additional budget may be required, and approval should be taken before implementing any changes.

Steps in change request we can take -

1) We will convey the clients change request to the concerned team,
2) After receiving the change request discuss with PM & SME
3) Extension of period or budget can be asked for approval from the client if required
4) Necessary documentation for change request will be prepared and a sign should be obtained from the customer
5) Once the extension or budget is approved by the client the change request is shared with the technical team for making necessary changes in the application.
6) Modify the RTM done as per the change request.

Q41. 41 – Change Request Vs an Enhancement
As the project is in process, Ben and Kevin have contacted you. The reason is to inform you that they want the farmers to sell their crop yields through this application i.e., Farmers should be able to add their crop yields or products and display them to the public and should be able to sell them. They also want to introduce an Auction system for their crop yields. As a BA, what will be your response? Is this a change request or an enhancement?
>
We as BA will treat this request as a change request, not enhancement because the display of farmer products or availability of farmer sell of crop yields was not given by the client initially it's a totally new requirement.

Enhancement: - Whenever there is a modification in the initial requirement given by the customer it is known as an enhancement request. In short, whenever an initial requirement gets modified it will be treated as an enhancement.
Example: -Changes in % of GST while calculating the price of the product. In this case formula of calculation, the price of a product already exists in the original requirement. The only modification to be done is in the % of GST

Change Request: - In case of change requires the total new requirement given by the customer which initially doesn't exist, whenever a customer gives a fresh requirement that was not given by him initially will be treated as a change request for implementing such type of request major changes need to be done.
Example: - Farmers should be able to add their crop yields or products and display them to the public and should be able to sell them.

Q42. Estimations
Come up with estimations – How many Man hours required.
>
This is a totally new requirement no provision has been made initially no such requirement provision was made for farmer products earlier for utilizing this change in application.
We need to revisit all the app parameters once again it is as like adding one more application to existing one hence the estimated cost and men hours will be almost equivalent to the present one.
Consider 8 hours a day for 5 days for a week for a total 18-month project.

11 x 8x 5 (4 weeks in a month) x 18 months = 31680-man hours

Q43.UAT
The project has finally completed all the stages i.e., design, development, testing, etc. Now, it is the role of a business analyst to contact the client for testing the final product and to successfully complete it. How are you going to handle this situation? And once it is done, what will be the process to close the project?
Explain the UAT Acceptance process
>
The user Acceptance process UAT is the final stage of any software development or changes request lifecycle before going live. Actual users test the software to determine if it does what it was designed to do in real-world situations, validating changes made and assessing adherence to their organization's business requirements.

UAT Process

Step 1) Analysis of Business Requirements - One of the most important activities in the UAT is to identify and develop test scenarios. These test scenarios are derived from the following documents:

· Project Charter
· Business Use Cases
· Process Flow Diagrams
· Business Requirements Document (BRD)
· System Requirements Specification (SRS)

Step 2) Creation of UAT Plan: - The UAT test plan outlines the strategy that will be used to verify and ensure an application meets its business requirements. It documents entry and exit criteria for UAT, Test scenarios and test cases approach, and timelines of testing.
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Step 3) Identify Test Scenarios and Test Cases:
Identify the test scenarios with respect to high-level business processes and create test cases with clear test steps. Test cases should sufficiently cover most of the UAT scenarios. Business Use cases are input for creating the test cases.

Step 4) Preparation of Test Data:
It is best advised to use live data for UAT. Data should be scrambled for privacy and security reasons. A tester should be familiar with the database flow.

Step 5) Run and record the results:
Execute test cases and report bugs if any. Re-test bugs once fixed. Test Management tools can be used for execution.

Step 6) Confirm Business Objectives met:
Business Analysts or UAT Testers need to send a sign-off mail after the UAT testing. After sign-off, the product is good to go for production. Deliverables for UAT testing are Test Plan, UAT Scenarios and Test Cases, Test Results, and Defect Log.

As a project has completed all the stages of SDLC, first as a BA will do a dry run of the project, wherein all the systems with each option will be tested and once satisfied, will consult the project manager.

After doing the testing analysis the project manager will send an official email to the client for UAT and will fix up a meeting date and time with the client, stakeholders, and all our team members.
BA will showcase the project with live go screens and will welcome suggestions from clients or stakeholders if any and will take the sign-off from the client to close the project.
After this, we will start the process of handing over the application to the client and we will give all documentation to the client for future help.

Q44.Project Closure Document
Explain the Project closure document
>
The purpose of the Project Closure document is to formally close a project and authorize the handoff from project to operations. It would include final information about the project deliverables, scope, milestones, and budget, as well as lessons learned.
Steps to Closing a Project
The close of the project is the final phase of your job, it’s the last turn of the project life cycle, and like any other aspect of a project, it requires a process. The following are five steps you should take to make sure you’ve dotted all the I’s and crossed all the T’s, as well as taken full advantage of the experience.

1. Arrange a Postmortem
Managing a project isn’t only about tasks and resources, budget, and deadlines, it’s an experience you can constantly learn from. While you should have been learning throughout the project, now is a great time to look back without the pressure and distractions that might have dulled your focus.

2. Complete Paperwork

As noted, projects generate reams of documents. These documents are going to have to get sign-off and approval from stakeholders. Everything needs attention and must be signed for, which is the legal proof that in fact, these documents have concluded. That includes closing all contracts you might have made with internal partners or vendors or any other resources you contracted with

3. Release Resources

You assemble a team for the project, and now you must cut them loose. It's a formal process, and a crucial one, which frees them for the next project. Each team is brought together for the mix of skills and experience they bring to a project.

The project determines the team members you'll want to work with, and each project is going to be a little bit different, which will be reflected in the team hired to execute it.

4. Archive Documents

There are lessons to be learned from old projects, which is why you meet with your team regularly during the project and look back on the process afterward. However, if you don't have an archive in which to pull the old records, then whatever knowledge you gain is lost because of poor organization and management. You worked hard to have great project documentation, don't lose it.

5. Celebrate Success

It creates closure, which is what this part of the project is all about, but it also plants a seed that will bloom in later projects when you work with members of the old team.