

## CAPSTONE PROJECT 1 PART 3 ANSWERS

### Q1 Identify minimum 20 functional requirements

**Ans** Functional requirements define the specific behaviors, functions, or operations of a system. They describe what the system should do, outlining the necessary tasks, actions, or activities it must perform to achieve its objectives.

Req ID	Req Name	Req Description	Priority
FR0001	Farmer Registration	Farmers should be able to register with the application	10
FR0002	Farmer Search for Products	Farmers should be able to search for available products in fertilizers, seeds, pesticides	9
FR0003	Product Catalog	A catalog should display all the available products categorized into fertilizers, seeds, and pesticides for browsing.	8
FR0004	Manufacturer Product Upload	Manufacturers should be able to upload product details such as name, description, price, and availability to the application.	9
FR0005	Add to Buy-Later List	Farmers should be able to add products to a "buy-later" list for future reference.	7
FR0006	Secure Payment Gateway	The system should provide a payment gateway supporting multiple payment options such as COD, Credit/Debit cards, and UPI.	9
FR0007	Order Confirmation Email	Farmers should receive email confirmations about their order status and details once an order is placed.	8
FR0008	Delivery Tracking	Farmers should be able to track the delivery status of their orders through a delivery tracking system integrated into the application.	8
FR0009	User-Friendly Interface	The application should have a user-friendly interface, allowing easy navigation for farmers and manufacturers.	8
FR0010	Access Control for User Roles	The system should ensure role-based access for farmers and manufacturers, limiting access to functionalities based on their roles (e.g., product upload).	7
FR0011	Order Management	Allow farmers to view their orders history and track the status	6
FR0012	Product review and ratings	Allow customers to leave reviews and ratings for products they have purchased to help other customers make informed decisions.	5
FR0013	Wishlist	Allow customers to save products they are interested.	7

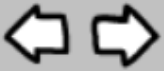
FR0014	Return & refund policy	Outline the return and refund policy for customers to ensure a positive customer experience and minimize customer complaints	5
FR0015	Availability of Product	If the product is out of stock or sold out, it will be mentioned below the product. The inventory updates will, be integrated at the backend.	8
FR0016	New deals and festive offers	Banners of all deals and offers will be showcased on homepage, so that user can view all products under that deal or offer in one click.	7
FR0017	Company logo and name	Users will be able to view the company	8
FR0018	Search	When three words for search are typed in the search bar, the auto suggestions give suggestions to users as they enter their search query into the search box	8
FR0019	Buy now	On clicking on 'buy now', the customer will be redirected to the checkout page: - Payment Gateway	9
FR0020	Product comparison	Farmers can view multiple products and compare them to their liking	7

Non-functional requirements will describe the qualities and attributes of a system, focusing on how the system performs rather than specific behaviors or functions.

Req ID	Req Name	Req Description	Priority
NFR0101	Page loading time	Each page should load within 2 seconds time	9
NFR0102	WACG 2.1	The system must meet web content Accessibility guidelines WACG 2.1	8
NFR0103	Usability	The application should have an intuitive and user- friendly	7
NFR0104	Security	The application must ensure secure user authentication	9
NFR0105	Compatibility	The application should be compatible with major web browser	8
NFR0106	Response time	The application should respond to user inputs within 2 seconds	9

Q2 Make wireframe and prototypes  
Ans





http://Onlineagristore.com



### SIGN UP

Create Your Account if you are a New User !

Create a username

Create a password

Re - enter the password

Enter mobile number

Enter Email ID

Add your address

SIGN UP



OTP has been sent to your mobile No +91\*\*\*\*\*05

Enter OTP here for verification purpose

ENTER OTP







Click to verify

Resend OTP

A Web Page

http://onlineagristore/productlist

search for product

	<a href="#">Pumpkin seeds</a> MRP - 160	2	Buy now	ADD TO CART	
				ADD TO WISHLIST	
	<a href="#">Organic pesticide</a> MRP - 230	1	Buy now	ADD TO CART	
				ADD TO WISHLIST	

PAYMENT

UPI  
 Wallet  
 Credit / Debit card  
 Net Banking  
 Cash on Delivery

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PRICE	*****
Delivery fee	*****

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Amount payable	*****
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PAY NOW

**Q3 Make a note of the Tools, which you are using for above concepts.**

**Ans Microsoft Visio** is a diagramming and vector graphics application used to create diagrams , flowcharts and other visual representation of complex information and that is part of the Microsoft Office suite. It is widely used for creating a variety of visual representations, including flowcharts, organizational charts, network diagrams, floor plans, engineering designs, and more. The tool offers a user-friendly interface that allows users to drag and drop predefined shapes and connect them to build detailed diagrams. It is particularly popular in business, engineering, and IT fields for its ability to represent complex processes and systems visually. Visio supports a wide range of templates and stencils, making it versatile for different use cases. Users can customize diagrams by adding text, annotations, and color coding to improve clarity and communication. It also integrates seamlessly with other Microsoft Office applications, allowing users to embed diagrams in Word, PowerPoint, and Excel documents. With features like data linking, Visio enables users to connect diagrams to external data sources such as Excel or SQL databases, updating visuals automatically when data changes. Advanced versions of Visio also support collaboration, enabling multiple users to work on the same diagram simultaneously. Moreover, it supports exporting diagrams in various formats, including PDF,

image files, and web pages, making it easy to share and distribute content. Visio's intuitive design and robust functionality make it a powerful tool for professionals looking to visualize and communicate ideas effectively.

**Balsamiq** is a rapid wireframing tool used to create mockups and prototypes of user interfaces. Balsamiq is a wireframing tool designed to help designers, developers, and stakeholders quickly create and iterate on user interface (UI) mockups. It provides a simplified, low-fidelity approach to design, enabling users to focus on layout and structure rather than detailed aesthetics. Balsamiq simulates the experience of sketching on a whiteboard, making it accessible to professionals and non-designers alike. The tool offers a drag-and-drop interface with pre-built components like buttons, text fields, menus, and containers, allowing users to construct mockups with ease. It supports collaboration by enabling teams to share, review, and provide feedback on designs, streamlining the process of gathering input and refining ideas. Balsamiq is often used during the early stages of product development, as it emphasizes functionality and usability over visual polish, helping teams align on the core user experience before investing in high-fidelity design. The tool is available as a desktop application, a web-based service, and as an integration with platforms like Google Drive and Jira, providing flexibility based on workflow needs. With features like version control, reusable templates, and the ability to export designs into various formats, Balsamiq is a practical choice for creating effective prototypes that communicate ideas clearly and efficiently.

**Axure** is a more advanced prototyping tool used to create high – fidelity , interactive wireframes and prototypes for web and mobile application . Axure is a comprehensive software tool designed for creating wireframes, prototypes, and documentation for web and mobile applications. It is widely used by UX designers, product managers, and developers to visualize and communicate design ideas effectively. Axure allows users to create highly interactive prototypes with dynamic content, conditional logic, and user interactions, making it possible to simulate real-world application behavior. It supports responsive design, enabling prototypes to adapt to different screen sizes and devices. The tool provides a drag-and-drop interface for creating designs, along with the ability to add annotations and notes for collaboration and documentation purposes. Axure also offers features like version control and team collaboration, which are particularly useful for projects involving multiple stakeholders. The prototypes created in Axure can be shared via links or exported as HTML files, making them accessible to clients and team members without requiring additional software. Its ability to integrate with other tools and systems, such as Jira or Slack, enhances its utility in design and development workflows. Axure supports complex interactions, making it suitable for both low-fidelity wireframes and high-fidelity, detailed prototypes that closely mimic the final product. This versatility makes it a powerful tool for bridging the gap between design and development.

**Q 4 A business analyst's key responsibilities are to keep track of the requirements and make sure that no requirement is missed.**

**Ans** It is a document to track the requirements throughout the project lifecycle , ensuring that they are met and that no requirement are overlooked .

Req ID	Req Name	Req Description	Design	Code	UT	CT	ST	SIT	UAT
FR0001	Farmer Registration	Farmers should be able to register with the application	Complete	Complete	Complete	Complete	Complete	Complete	Incomplete
FR0002	Farmer Search for Product	Farmers should be able to search for available products in fertilizers, seeds, pesticides	Complete	Complete	Complete	Complete	Incomplete	Incomplete	Incomplete
FR0003	Product Catalog	A catalog should display all the available products categorized into fertilizers, seeds, and pesticides for browsing.	Complete	Complete	Complete	Complete	Complete	Complete	Complete
FR0004	Manufacturer Product Upload	Manufacturers should be able to upload product details such as name, description, price, and availability to the application.	Complete	Complete	Complete	Complete	Incomplete	Complete	Incomplete



FR0005	Add to Buy-Later List	Farmers should be able to add products to a "buy-later" list for future reference.	Complete	In complete	Complete	Complete	Complete	Complete	In complete
FR0006	Secure Payment Gateway	The system should provide a payment gateway supporting multiple payment options such as COD, Credit/Debit cards, and UPI.	Complete	Complete	Complete	Complete	Complete	Complete	Complete
FR0007	Order Confirmation Email	Farmers should receive email confirmations about their order status and details once an order is placed.	Complete	Complete	Complete	In complete	Complete	Complete	In complete
FR0008	Delivery Tracking	Farmers should be able to track the delivery status of their orders through a delivery tracking system integrated	Complete	Complete	In complete	Complete	Complete	Complete	In complete





	and festive offers	offers will be showcased on homepage, so that user can view all products under that deal or offer in one click.							
FR0017	Company logo and name	Users will be able to view the company	Complete	Complete	Complete	Complete	Complete	Complete	Complete
FR0018	Search	When three words for search are typed in the search bar, the auto suggestions give suggestions to users as they enter their search query into the search box	Complete	Complete	Complete	Complete	Complete	Complete	Complete
FR0019	Buy now	On clicking on 'buy now', the customer will be redirected to the checkout page:  Payment Gateway	Complete	Complete	Complete	Complete	In complete	complete	In complete

FR0020	Product comparison	Farmers can view multiple products and compare them to their liking	Complete	Complete	Complete	Complete	In complete	Complete	In complete
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### Q 5 Prepare 10 Test Case Documents

Ans

1.

<b>Test case ID</b>	XYZ0001	<b>Test case Name</b>	SEARCH QUERY
<b>Project ID</b>	XYZ	<b>Project Name</b>	Oline agriculture shop
<b>PM ID</b>	ABC123	<b>PM Name</b>	Deepa
<b>Test strategy ID</b>	XYZ00S1	<b>Tester ID</b>	T12345
<b>Test plan ID</b>	XYZ00P1	<b>Tester Name</b>	Anil
<b>Test schedule ID</b>	XYZ0S1	<b>Date of Test</b>	2/1/2025
<b>Scenario</b>	Search product		
<b>Link to that page:</b>			
<b>Input Data</b>	Pesticide, organic pesticide, 1 quantity, 200 Rs is cost.		
<b>Expected behaviour</b>	90 farmers should visit and order for the above data.		
<b>Actual behaviour</b>	70 farmers visited and orders successfully		
<b>Comments</b>	Tester tested and UAT completed updated comment.		
<b>Result (pass/Fail)</b>	Pass		

2.

<b>Test case ID</b>	XYZ0002	<b>Test case Name</b>	SEARCH QUERY
<b>Project ID</b>	XYZ	<b>Project Name</b>	Oline agriculture shop
<b>PM ID</b>	ABC123	<b>PM Name</b>	Deepa
<b>Test strategy ID</b>	XYZ00S2	<b>Tester ID</b>	T12345
<b>Test plan ID</b>	XYZ00P2	<b>Tester Name</b>	Anil
<b>Test schedule ID</b>	XYZ0S2	<b>Date of Test</b>	2/1/2025
<b>Scenario</b>	Register		
<b>Link to that page:</b>			
<b>Input Data</b>	Mail ID, Mobile number, Password.		
<b>Expected behaviour</b>	Mandatory fields are marked with Against the fields. Password making.		
<b>Actual behaviour</b>	After entering all the mandatory details register button will appear below and then press register yourself.		
<b>Comments</b>	You have been successfully registered.		
<b>Result (pass/Fail)</b>	Pass		

3.

<b>Test case ID</b>	XYZ0003	<b>Test case Name</b>	SEARCH QUERY
<b>Project ID</b>	XYZ	<b>Project Name</b>	Oline agriculture shop
<b>PM ID</b>	ABC123	<b>PM Name</b>	Deepa
<b>Test strategy ID</b>	XYZ00S3	<b>Tester ID</b>	T12345
<b>Test plan ID</b>	XYZ00P3	<b>Tester Name</b>	Anil
<b>Test schedule ID</b>	XYZ0S3	<b>Date of Test</b>	2/1/2025
<b>Scenario</b>	Order placement		
<b>Link to that page:</b>			
<b>Input Data</b>	Image or images of the product, Price of the product, Product specifications.		
<b>Expected behaviour</b>	Select the required product		
<b>Actual behaviour</b>	After selecting the product to buy, the page will take you to the payment page to select the mode of payment		
<b>Comments</b>	Order Placed		
<b>Result (pass/Fail)</b>	Pass		

4.

<b>Test case ID</b>	XYZ0004	<b>Test case Name</b>	SEARCH QUERY
<b>Project ID</b>	XYZ	<b>Project Name</b>	Oline agriculture shop
<b>PM ID</b>	ABC123	<b>PM Name</b>	Deepa
<b>Test strategy ID</b>	XYZ00S4	<b>Tester ID</b>	T12345
<b>Test plan ID</b>	XYZ00P4	<b>Tester Name</b>	Anil
<b>Test schedule ID</b>	XYZ0S4	<b>Date of Test</b>	2/1/2025
<b>Scenario</b>	Payment		
<b>Link to that page:</b>			
<b>Input Data</b>	Check different payment options, Enter card details, Payment details		
<b>Expected behaviour</b>	Text confirmation with the order number generated		
<b>Actual behaviour</b>	While making payment, farmer can select their preferred mode of payment after entering the valid payment details press the pay button.		
<b>Comments</b>	Payment done. Order has successfully placed		
<b>Result (pass/Fail)</b>	Pass		

5.

<b>Test case ID</b>	XYZ0005	<b>Test case Name</b>	SEARCH QUERY
<b>Project ID</b>	XYZ	<b>Project Name</b>	Oline agriculture shop
<b>PM ID</b>	ABC123	<b>PM Name</b>	Deepa
<b>Test strategy ID</b>	XYZ00S5	<b>Tester ID</b>	T12345
<b>Test plan ID</b>	XYZ00P5	<b>Tester Name</b>	Anil
<b>Test schedule ID</b>	XYZ0S5	<b>Date of Test</b>	2/1/2025
<b>Scenario</b>	Shipping		
<b>Link to that page:</b>			

<b>Input Data</b>	Check placed order is reflected in page, Name and delivery address is correct, Item ordered is same as showing in order page
<b>Expected behaviour</b>	Item is shipped and will be deliver on date
<b>Actual behaviour</b>	We have Input that is selection of one order id at a time after selecting Order id press track button.
<b>Comments</b>	Page will display the shipment status
<b>Result (pass/Fail)</b>	Pass

6.

<b>Test case ID</b>	XYZ0006	<b>Test case Name</b>	SEARCH QUERY
<b>Project ID</b>	XYZ	<b>Project Name</b>	Oline agriculture shop
<b>PM ID</b>	ABC123	<b>PM Name</b>	Deepa
<b>Test strategy ID</b>	XYZ00S6	<b>Tester ID</b>	T12345
<b>Test plan ID</b>	XYZ00P6	<b>Tester Name</b>	Anil
<b>Test schedule ID</b>	XYZ0S6	<b>Date of Test</b>	2/1/2025
<b>Scenario</b>	Delivery Status		
<b>Link to that page:</b>			
<b>Input Data</b>	Link provided by delivery partner is correct or not, Link is reachable or not		
<b>Expected behaviour</b>	If the farmer clicks on the tracking links, provided by the delivery partner it should be able to open the tracking page		
<b>Actual behaviour</b>	Page should display the correct tracking details		
<b>Comments</b>	Page will display the delivery status		
<b>Result (pass/Fail)</b>	Pass		

7.

<b>Test case ID</b>	XYZ0007	<b>Test case Name</b>	SEARCH QUERY
<b>Project ID</b>	XYZ	<b>Project Name</b>	Oline agriculture shop
<b>PM ID</b>	ABC123	<b>PM Name</b>	Deepa
<b>Test strategy ID</b>	XYZ00S7	<b>Tester ID</b>	T12345
<b>Test plan ID</b>	XYZ00P7	<b>Tester Name</b>	Anil
<b>Test schedule ID</b>	XYZ0S7	<b>Date of Test</b>	2/1/2025
<b>Scenario</b>	Order confirmation		
<b>Link to that page:</b>			
<b>Input Data</b>	Cancel the order, Return		
<b>Expected behaviour</b>	Testing of relevant option available after the order is placed change the order		
<b>Actual behaviour</b>	option available after the order is placed change the order		
<b>Comments</b>	if any option is selected then next page will display the text confirmation.		
<b>Result (pass/Fail)</b>	Pass		

8.

<b>Test case ID</b>	XYZ0008	<b>Test case Name</b>	SEARCH QUERY
<b>Project ID</b>	XYZ	<b>Project Name</b>	Oline agriculture shop

<b>PM ID</b>	ABC123	<b>PM Name</b>	Deepa
<b>Test strategy ID</b>	XYZ00S8	<b>Tester ID</b>	T12345
<b>Test plan ID</b>	XYZ00P8	<b>Tester Name</b>	Anil
<b>Test schedule ID</b>	XYZ0S8	<b>Date of Test</b>	2/1/2025
<b>Scenario</b>	Questions and Answers		
<b>Link to that page:</b>			
<b>Input Data</b>	Have all the questions and answers covered? Alphanumeric keywords can be entered in the search bar.		
<b>Expected behaviour</b>	Testing of questions and answers available related to product or service can be searched or not		
<b>Actual behaviour</b>	Farmers are searching for a different type of Q & Ans		
<b>Comments</b>	When any Q & Ans is searched then this FAQ page should be able to display the result on the same page.		
<b>Result (pass/Fail)</b>	Pass		

9.

<b>Test case ID</b>	XYZ0009	<b>Test case Name</b>	SEARCH QUERY
<b>Project ID</b>	XYZ	<b>Project Name</b>	Oline agriculture shop
<b>PM ID</b>	ABC123	<b>PM Name</b>	Deepa
<b>Test strategy ID</b>	XYZ00S9	<b>Tester ID</b>	T12345
<b>Test plan ID</b>	XYZ00P9	<b>Tester Name</b>	Anil
<b>Test schedule ID</b>	XYZ0S9	<b>Date of Test</b>	2/1/2025
<b>Scenario</b>	Customer care		
<b>Link to that page:</b>			
<b>Input Data</b>	Email & phone number of customer care team, Escalation team contact details.		
<b>Expected behaviour</b>	Testing of have all the Q & Ans has been covered in the example		
<b>Actual behaviour</b>	Any escalation or any query farmer will contact to the customer care team through this page.		
<b>Comments</b>	This page will display the available option to contact the customer care team.		
<b>Result (pass/Fail)</b>	Pass		

10.

<b>Test case ID</b>	XYZ00010	<b>Test case Name</b>	SEARCH QUERY
<b>Project ID</b>	XYZ	<b>Project Name</b>	Oline agriculture shop
<b>PM ID</b>	ABC123	<b>PM Name</b>	Deepa
<b>Test strategy ID</b>	XYZ00S10	<b>Tester ID</b>	T12345
<b>Test plan ID</b>	XYZ00P10	<b>Tester Name</b>	Anil
<b>Test schedule ID</b>	XYZ0S10	<b>Date of Test</b>	2/1/2025
<b>Scenario</b>	Invoice generation		
<b>Link to that page:</b>			
<b>Input Data</b>	Product name & and other detail, Amount paid, Delivery address of farmers, Seller address & and GST number		



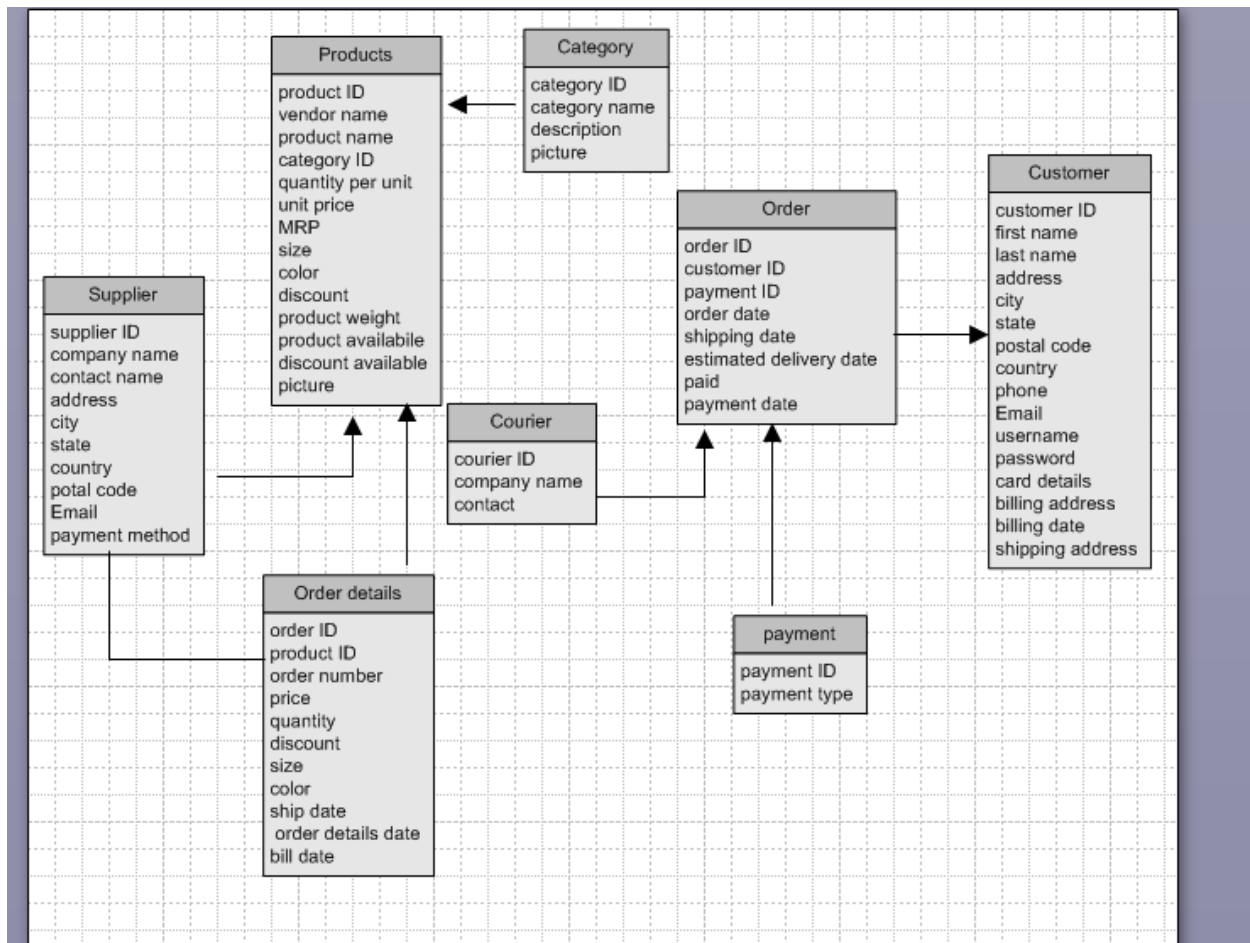
<b>Expected behaviour</b>	Testing of invoice generation process
<b>Actual behaviour</b>	Amount paid by farmer and Invoice generation
<b>Comments</b>	This page will display the Invoice & there is an option to download the invoice
<b>Result (pass/Fail)</b>	Pass

**Q6** 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 ER diagram**

**Ans DB Schema** is a blueprint that outlines the structure of a database, including its tables, fields, relationships, constraints, and other characteristics.

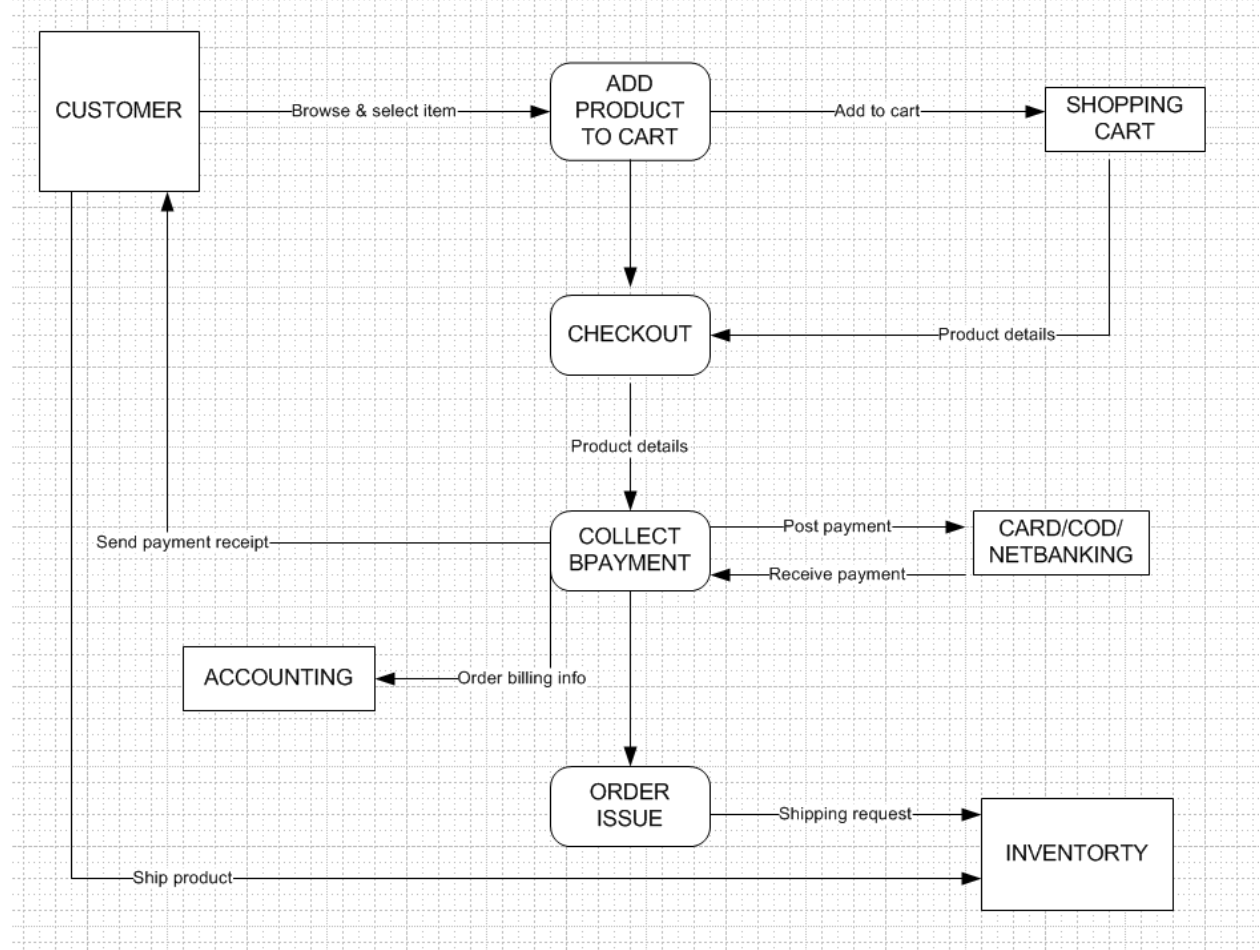
An **Entity-Relationship Diagram (ERD)** is a visual representation of the relationships between entities in a database. It depicts the entities (such as tables), attributes (properties or fields), and relationships between them.



**Q7 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**

**Ans** A Data Flow Diagram (DFD) is a graphical representation of the flow of data within a system. It visually shows how data moves from one process to another, how it's stored, and where it ends up.

It helps analysts and designers to understand the flow of data within a system, identify potential bottlenecks or inefficiencies, and communicate system requirements to stakeholders.



**Q8 Due to change in the Government Taxation structure . we should change the Tax structure How do you handle change requests in a project?**

**Ans** A Change request is a formal proposal to alter a system , product , or project .

Handling a change request, such as a modification to the government taxation structure in this project, requires a systematic approach to ensure minimal disruption and seamless integration of the change.

**Understand the Scope of the Change Request and Document the Change Request**

When the change request arises, the first step is to clearly define its scope. For the taxation structure change, document the specific changes in tax rules, including details like new tax rates, applicable categories, exemptions, and effective dates. Use a formal change request

document to capture the details of the request, its origin, and the rationale behind it. For instance, note how the new structure affects the pricing, payment gateway, and financial reporting features of the application.

### **Conduct an Impact Analysis**

Perform a comprehensive impact analysis to evaluate how the change will affect the project. Assess its implications on the project scope, such as whether new features need to be added or existing ones updated. Examine how the change will affect the schedule, considering additional time required for design, development, testing, and deployment. Analyze its impact on the budget, including costs for extra resources, tools, or testing. Identify risks associated with implementing the change, such as compliance delays or potential user confusion.

### **Prioritize the Change Request**

Determine the urgency and importance of the change request. For instance, if the new taxation structure has an immediate implementation deadline from the government, it will be given high priority. Align the prioritization with stakeholders' business goals and the impact assessment to ensure the project focus remains intact.

### **Seek Approval from the Project Sponsor**

Present the documented change request and impact analysis findings to the project sponsor or the change control board. Provide a clear recommendation based on the analysis, outlining why the change is necessary and how it aligns with the project's objectives. Obtain formal approval before proceeding with the implementation.

### **Communicate the Change Request and Its Potential Impacts**

Share the details of the approved change request with all relevant stakeholders, including the project team, client, and key stakeholders like Mr. Henry and SOONY committee members. Ensure that the project team is briefed on the required modifications and their timelines. Update project plans, schedules, and task assignments accordingly.

**Q9 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 to general public and should be able to sell them. They also want to introduce Auction system for their Crop yields. As a BA, what will be your response?**

**Is this a change request or an enhancement???**

**Ans A change request** is a formal proposal for an alteration to some product or system. In project management, a change request often arises when the client wants an addition or alteration to the agreed-upon deliverables for a project. Such a change may involve an additional feature or customization or an extension of service, among other things.

**An enhancement** project is one in which new capabilities are added to an existing system. Enhancement projects might also involve correcting defects, adding new reports, and modifying functionality to comply with revised business rules or needs .

As a business analyst, I would carefully analyze Ben and Kevin's request to incorporate a feature allowing farmers to sell their crop yields and introduce an auction system. This addition aligns with the application's core purpose of empowering farmers and facilitating better opportunities for them. Since this functionality expands the scope and enhances the value of the existing

system rather than altering any previously defined requirements, it would be considered an enhancement rather than a change request.

To proceed, I would communicate this enhancement to the stakeholders, highlighting its potential benefits, such as increased farmer engagement, additional revenue streams, and the overall appeal of the application to a broader audience. I would gather detailed inputs on how the auction system should function, the steps involved in enabling farmers to upload and manage their crop yields, and how buyers or the general public will interact with this feature. It is important to evaluate the feasibility of this enhancement by consulting the technical team, assessing its impact on the current design, timeline, and budget. Once the analysis is complete, I would document the enhancement requirements and update the project scope with approvals from all stakeholders, ensuring the enhancement integrates smoothly with the current development phase.

### **Q10 Come up with estimations – How many Manhours required**

**Ans** Estimating the required man-hours for the project can be done by breaking down the tasks and evaluating the effort required for each phase of development.

#### **Requirement Gathering and Analysis:**

Conducting stakeholder meetings, requirement elicitation, documentation, and validation: 80 man-hours

#### **Design Phase:**

Creating UML diagrams (use case, activity diagrams, and specifications) and screen mockups: 120 man-hours

#### **Development Phase:**

Backend development for login, catalog management, search functionality, and payment integration: 400 man-hours

Frontend development for user interfaces, navigation, and user experience: 350 man-hours

Database design and implementation for storing product and user data: 150 man-hours

#### **Integration and Testing:**

Unit testing for individual modules, integration testing for combined components, and user acceptance testing: 200 man-hours

#### **Deployment:**

Setting up servers, configuring the network, and deploying the application: 60 man-hours

#### **Project Management and Coordination:**

Regular meetings, updates, progress tracking, and issue resolution: 100 man-hours

#### **Training and Support:**

Training stakeholders and providing post-deployment support for initial use: 40 man-hours

**Total Estimate: 1500 man-hours**

**Q11 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 of the final product and have 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 UAT Acceptance process**

**Ans** In the final stages of the project, after the design, development, and testing phases are completed, the Business Analyst (BA) plays a critical role in ensuring that the final product meets the client's expectations. The next step involves User Acceptance Testing (UAT), which is a vital process for validating the product before it goes live.

**Planning UAT:**

In this step, Blue Prints are made to implement UAT testing for every feature that needs to test and minimum standards for accepting the test.

As a BA, I would begin by setting up a clear UAT plan. This includes defining the scope of UAT, identifying the key features that need testing, setting up timelines, and deciding on the criteria for success. The plan would involve collaboration with the client to ensure they understand the objectives and expectations of the UAT process.

During the planning stage, I would work with the project manager to allocate resources, set a schedule, and arrange necessary support, such as providing UAT testers with access to the system. I would also ensure the availability of the necessary environments for testing (e.g., staging environment).

**Designing UAT Test Cases:**

Here the Test cases are designed to hide all the possibilities of software packages in a real world environment.

The next step is to design test cases based on the business requirements and the final system.

These test cases will be tailored to ensure that all the key functionalities, such as product search, login, payment options, and delivery tracking, are tested thoroughly. Each test case would align with specific features and be linked to the original business requirements.

I would collaborate with the stakeholders to ensure the test cases reflect real-world use scenarios, taking into account edge cases and any potential user errors.

**UAT Testers:**

A Testing team consists of a end users that meet the criteria for implementing testing. They should know the test cases to run and understand the functionalities

The UAT testers are typically selected from the end-users, in this case, the key stakeholders like Peter, Kevin, and Ben, who will act as representatives for the farmers. I will ensure that they are well-informed about the product and the testing process.

I would also coordinate with the development and testing teams to ensure that any issues raised during UAT can be fixed promptly.

**Bug Fixing and Issue Resolution:**

Whatever Bugs are found in the UAT Testing, the development team should work on them and make it software error free.

During UAT, it is expected that some bugs or issues may arise. As the BA, I would facilitate communication between the testers and the development team to ensure that any issues are identified, logged, and addressed. I would keep track of these bugs and ensure timely fixes, prioritizing the issues based on their impact on the functionality.

After the bugs are fixed, the testing cycle may need to be repeated to ensure the fixes work as expected.

**Client Sign-Off:**

After removing all the bugs, the testing team indicates acceptance of the completion of the bugs. In this phase, all the stakeholders come to a conclusion that the software is ready to GO LIVE and sign it off

Once the UAT is successfully completed, the client will review the results and the fixes that have been applied. As the BA, I would prepare a final UAT report summarizing the outcomes of the testing, the issues identified, the fixes made, and the overall quality of the product.

After the client has reviewed and approved the final product, I would facilitate a sign-off meeting. The client's official sign-off on the product indicates that the product has met their expectations and is ready for deployment.

**Q12 Explain Project closure document**

**Ans** A project closure document, also known as a project closure report is a formal document that summarizes the key outcomes, lessons learned, and final details of a completed project. It serves as a comprehensive record of the project's accomplishments, challenges, and overall performance, providing valuable insights for stakeholders and future projects.

**Project Overview**

The Online Agriculture Product Store initiative aimed to create a web and mobile application designed to assist farmers in remote areas to purchase fertilizers, seeds, and pesticides directly from manufacturers. The project followed the V-Model methodology, which includes stages like Requirements Gathering, Requirements Analysis, Design, Development, Testing, and User Acceptance Testing (UAT). The initiative was executed by APT IT Solutions, with a project team that included developers, network administrators, database administrators, testers, and project managers.

The project was funded with a budget of 2 Crores INR and had a duration of 18 months. The goal was to help improve the accessibility of agriculture products for farmers who often struggle with middlemen and supply chain inefficiencies. The project's scope involved designing an easy-to-use interface and ensuring robust back-end systems for inventory management, order processing, and payment systems.

**Achievements**

The project successfully delivered an online platform tailored to the needs of farmers. It achieved the primary objective of enabling farmers to order agricultural products directly from manufacturers. Key achievements included the successful development of both the web and mobile applications, integration with payment gateways, and user-friendly interfaces designed specifically for the target demographic. The application also featured functionalities for order tracking and inventory management, which were crucial for the efficient supply of products. Additionally, the project team worked collaboratively and delivered the project on schedule, which was a major success given the complexity of the project and the integration of multiple technologies. Regular communication and feedback from stakeholders, including Mr. Pandu and Mr. Dooku, ensured that the project met the requirements of farmers and manufacturers alike.

## **Lessons Learned**

The project offered valuable lessons for future initiatives, particularly in terms of stakeholder management and the need for continuous testing throughout the development cycle. One significant lesson learned was the importance of engaging with end-users early in the process to ensure that the product meets their real-world needs. In this project, feedback from remote farmers was invaluable in shaping the application's features.

Another important lesson was the need for flexibility and agility within the V-Model. While the V-Model is structured and methodical, accommodating changes in requirements and priorities during the project's lifecycle is essential. The project team learned that maintaining regular touchpoints with stakeholders helped to quickly identify and address issues.

Moreover, ensuring adequate resource allocation and monitoring was crucial. The project initially experienced delays due to misalignment in resource availability and shifting timelines. Managing these resources effectively allowed the team to overcome bottlenecks and meet deadlines in the latter stages of the project.

## **Quality Assurance**

Quality assurance (QA) was a cornerstone of the project's success. The project team implemented a robust QA process that involved continuous testing from the early stages of development. The development team, consisting of Ms. Juhi, Mr. Teyson, Ms. Lucie, Mr. Tucker, and Mr. Bravo, collaborated closely with the testing team, including Mr. Jason and Ms. Alekya, to ensure that all functional and non-functional requirements were met.

Automated testing tools were used for regression testing, which helped to identify and address issues early in the development cycle. The use of detailed test cases and rigorous quality checks ensured that the application was free from critical defects at launch. Additionally, the project adhered to industry standards and best practices in software development and testing, guaranteeing that the application met the quality benchmarks expected by the stakeholders.

## **Resource Utilization**

Resource utilization was a key factor in the project's successful completion. The project had a large team with various skills and expertise, including Java developers, network administrators, database administrators, and testers. Efficient utilization of these resources was critical in keeping the project on track.

Throughout the project, resource allocation was continuously monitored by Mr. Karthik (the Delivery Head) and Mr. Vandanam (the Project Manager). While there were initial concerns regarding overutilization of key team members, adjustments were made to ensure that workloads were balanced, and no team member was overstretched. Resource optimization was also supported by the project's flexible timelines and the coordination between the technical team and business stakeholders.

## **Risk Management**

Risk management was another important aspect of the project's success. The project team conducted regular risk assessments to identify potential issues early on. Risks such as delays in resource allocation, unexpected changes in technology, and external market factors were identified and mitigated proactively. A risk register was maintained throughout the project, and mitigation strategies were put in place for each identified risk.

One significant risk encountered was related to network connectivity issues in rural areas, which could affect the usability of the application. The team worked with network specialists to

optimize the platform for low-bandwidth environments, which helped reduce this risk. By continuously monitoring risks and applying mitigation measures, the team ensured that the project proceeded smoothly despite external challenges.

### Challenges

The project faced several challenges during its lifecycle. One of the most significant challenges was understanding the unique needs of farmers in remote areas and translating these requirements into a digital product. The diversity of user backgrounds and the lack of internet connectivity in some rural locations required the team to adapt the application to work with limited resources. Overcoming these challenges required flexibility in the design and constant feedback loops with farmers to ensure the product was relevant and accessible.

Another challenge was maintaining effective communication across a large team, particularly in a remote working environment. Time zone differences, especially when collaborating with stakeholders like Mr. Pandu and Mr. Dooku, occasionally caused delays in decision-making and feedback processing. However, with the right project management tools and regular virtual meetings, these challenges were managed.

S.NO	POINTS TO INCLUDE	DETAILS	REFERENCE LINK
1.	<b>Did the client sign off on the UAT testing</b>		ABC Doc
	Date of the sigh off :	15-Oct-24	
	Name of the resource :	Mr. Henry	
2.	<b>Objectives of the project</b>		
	User friendliness	Achieved	
	Customer satisfaction	ROI in 6 months	
	More categories	Achieved	
3.	<b>Functionalities worked on</b>		
	Secure payment processing	Achieved	
	Categories	Achieved	
4.	<b>Infrastructure</b>		
	Softwares installed		
	Laptops purchased		
5.	<b>Funding</b>		XYZ Doc
	Amount approved	2 crores	
	Amount used	2 crores	
6.	<b>Overall project information</b>		
	Escalations	25	
	Customer satisfaction	High	
7.	<b>Value of the company</b>		
	Positive / Negative	Positive 90% company has successfully made an app to help remote farmer to get the products on doorstep' upcoming project & increased users	