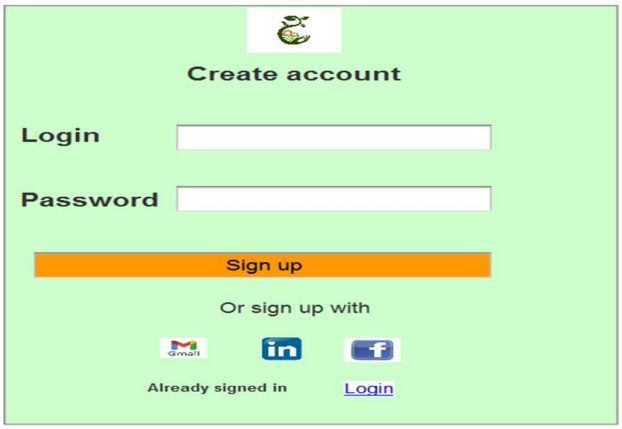
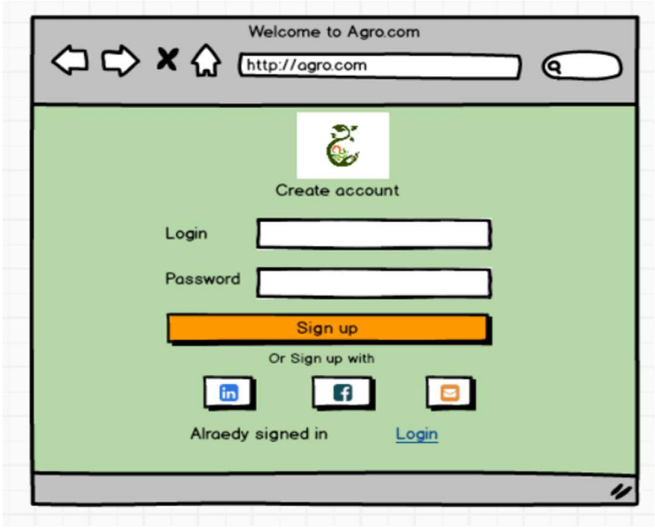
Answer 1: Functional requirement is a detailed specification of a system's functionalities that are necessary to meet the needs of the business. These requirements describe how the system should behave and what it should do, focusing on the user's interactions with the system.

Req ID	Requirement Category	Description	Priority
FR001	Search	The system must enable farmers to search for products available in the categories of fertilizers, seeds, and pesticides.	3
FR002	Upload and Display	The system should provide manufacturers with the capability to upload and showcase their products within the application.	2
FR003	Login	The system needs to offer a login feature where users can access their accounts using their email ID and password.	1
FR004	Account Creation	The system must facilitate the creation of new user accounts by allowing users to submit their email ID and create a password.	2
FR005	Browse	The system should permit farmers to view the product catalog without requiring them to log in.	2
FR006	Registration	The system needs to support a registration process for new users to sign up by providing their email ID and setting a secure password.	3
FR007	Payment Gateways	The system must integrate multiple payment gateway options including COD, UPI, and Credit/Debit cards for product purchases.	1
FR008	Add to Cart	The system should enable farmers to add desired products to their cart before proceeding to purchase.	2
FR009	Page Loading Time	Each page should load within 2 seconds time.	1
FR010	WCAG 2.1 Compliance	The system must meet Web Content Accessibility Guidelines WCAG 2.1.	1
FR011	Order Confirmation	The system must send email confirmations to users regarding their order status after an order is placed.	2
FR012	Delivery Tracking	The system should incorporate a feature to track the delivery status and location of orders.	2
FR013	Product Reviews	The system should allow users to leave reviews and ratings for products they have purchased.	3
FR014	Wishlist	The system should enable users to add products to a wishlist for future reference.	2
FR015	Notifications	The system should send notifications to users about new products, offers, and updates.	2

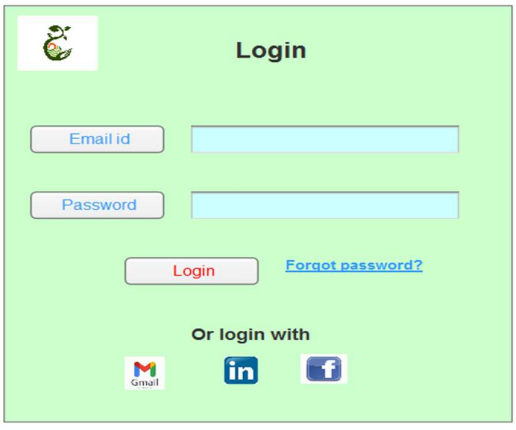
Answer 2:

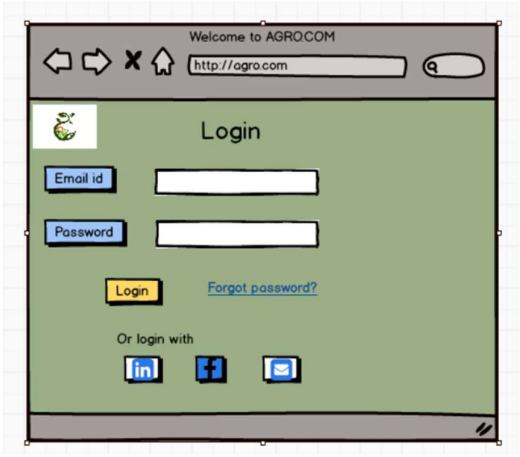
Registration Page



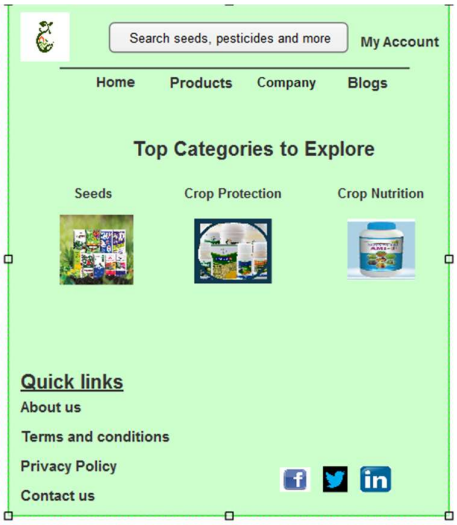


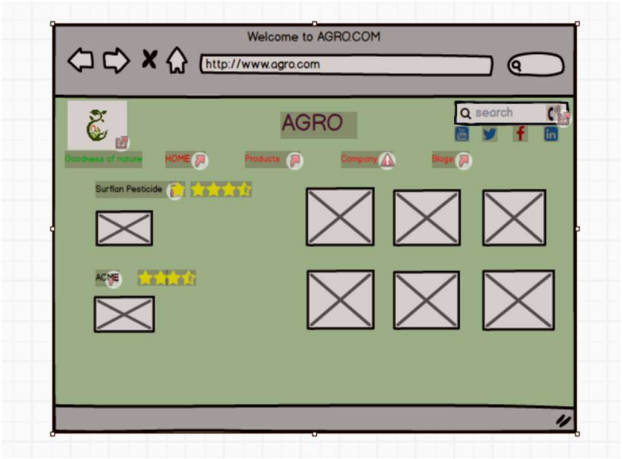
Login Page



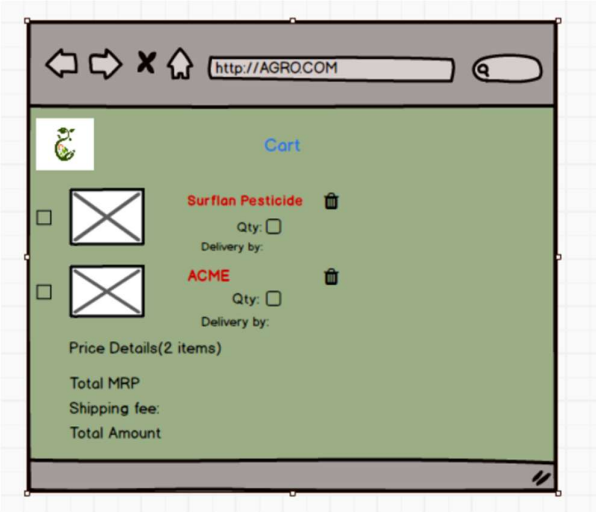

Welcome to AGRO.COM
http://agro.com
Login
Email id
Password
Login
Forgot password?
Or login with

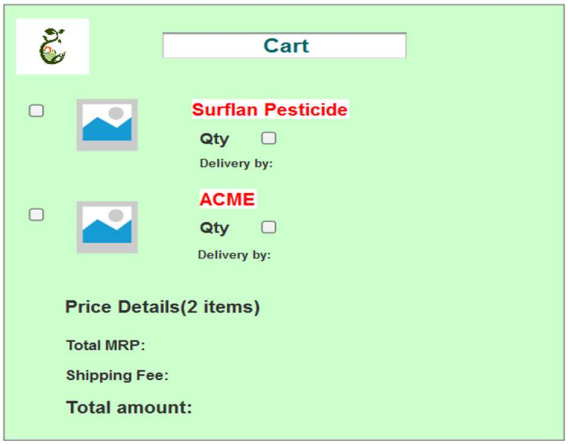
Home Page


Search seeds, pesticides and more
My Account
Home
Products
Company
Blogs
Top Categories to Explore
Seeds
Crop Protection
Crop Nutrition
Quick links
About us
Terms and conditions
Privacy Policy
Contact us

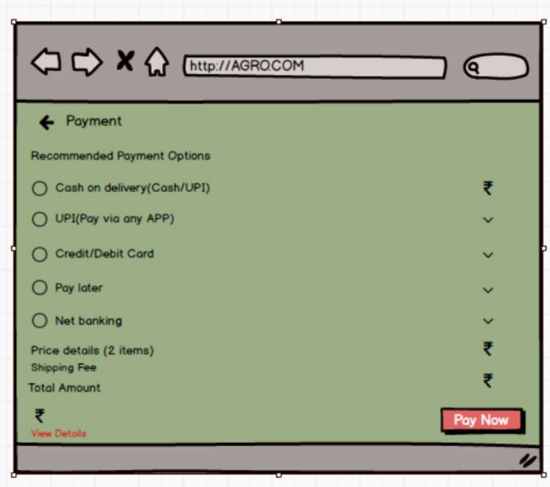

Welcome to AGRO.COM
http://www.agro.com
AGRO
search
Goodness of nature
HOME
Products
Company
Blogs
Surfion Pesticide

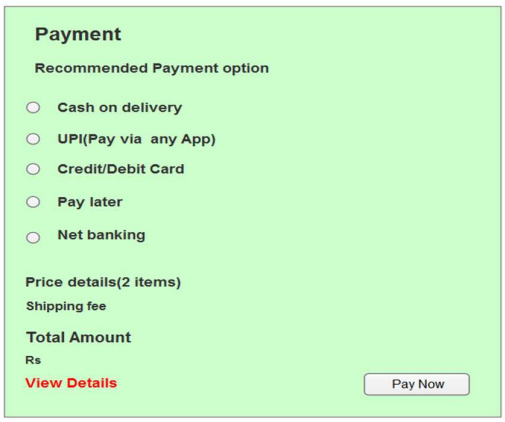
Add to cart





Payment





Answer 3:

Microsoft Visio: Microsoft Visio is a diagramming and vector graphics application used to create a variety of diagrams such as flowcharts, org charts, floor plans, and network diagrams. It's particularly useful for visualizing data, processes, and organizational structures, making it easier to communicate complex information clearly.

Axure RP: Axure RP is a more advanced and powerful prototyping tool used for creating interactive prototypes and specifications. It allows UX professionals to build realistic, functional prototypes with unlimited combinations of event triggers, conditions, and actions. This helps in exploring digital experiences and gathering high-quality user feedback.

Balsamiq is a wireframing tool designed for creating low-fidelity, high-impact mockups quickly. t's ideal for brainstorming, testing concepts, and communicating ideas clearly before any code is written. Balsamiq helps teams focus on structure and flow without getting bogged down by design details.

Answer 4:

RTM:

Req ID	Requirement Name	Requirement Description	Category	Subcategory	Design	Code	Unit Testing	Component Testing	System Testing	System Integration Testing	UAT
FR001	Product Search	The system must enable farmers to search for products available in the categories of fertilizers,	Search	Search Functionality	DOC001	CODE001	TEST individual search functionality	TEST search component	TEST search system	TEST search integration	UAT001
FR002	Product Upload	The system should provide manufacturers with the capability to upload and showcase their products within the application.	Upload and Display	Product Management	DOC002	CODE002	TEST upload and display functionality	TEST upload component	TEST upload system	TEST upload integration	UAT002
FR003	User Registration	The system needs to support a registration process for new users to sign up by providing their email ID and setting a secure password.	Registration	User Registration	DOC003	CODE003	TEST registration functionality	TEST registration component	TEST registration system	TEST registration integration	UAT003
FR004	User Login	The system needs to offer a login feature where users can access their accounts using their email ID and password.	Login	Authentication	DOC004	CODE004	TEST login functionality	TEST login component	TEST login system	TEST login integration	UAT004
FR005	Product Browsing	The system should permit farmers to view the product catalog without requiring them to log in.	Browse	Catalog Viewing	DOC005	CODE005	TEST browsing functionality	TEST browsing component	TEST browsing system	TEST browsing integration	UAT005
FR006	Product Reviews	The system should allow users to leave reviews and ratings for products they	Reviews	Customer Feedback	DOC006	CODE006	TEST review functionality	TEST review component	TEST review system	TEST review integration	UAT006
FR007	Add to Cart	The system should enable farmers to add desired products to their cart before proceeding to	Add to Cart	Cart Management	DOC007	CODE007	TEST add to cart functionality	TEST cart component	TEST cart system	TEST cart integration	UAT007
FR008	Wishlist	The system should enable users to add products to a wishlist for future	Wishlist	Save for Later	DOC008	CODE008	TEST wishlist functionality	TEST wishlist component	TEST wishlist system	TEST wishlist integration	UAT008
FR009	Payment Gateway	The system must integrate multiple payment gateway options including COD, UPI, and Credit/Debit cards for product purchases.	Payment Gateways	Transaction Handling	DOC0009	CODE009	TEST payment gateway functionality	TEST payment gateway component	TEST payment gateway system	TEST payment gateway integration	UAT009
FR010	Order Confirmation	The system must send email confirmations to users regarding their order status after an order is	Order Management	Confirmation Emails	DOC010	CODE010	TEST order confirmation functionality	TEST order component	TEST order system	TEST order integration	UAT010
FR011	Delivery Tracking	The system should incorporate a feature to track the delivery status	Delivery Tracking	Order Tracking	DOC011	CODE011	TEST delivery tracking functionality	TEST delivery component	TEST delivery system	TEST delivery integration	UAT011
FR012	Notifications	The system should send notifications to users about new products, offers, and	Notifications	User Alerts	DOC012	CODE012	TEST notifications functionality	TEST notifications component	TEST notifications system	TEST notifications integration	UAT012

Answer 5: **Test case document: A test document is a detailed outline used by testers to ensure that a software application or system is working as expected.**

Test Case ID	TC001	Test case Name	Verify Product Search
Project ID	PROJ001	Project name	AgriApp
PM ID	PM001	PM Name	Mr Vandanam
Test strategy ID	STRAT001	Tester ID	TST001
Test plan ID	PLAN001	Tester Name	Mr Jason
Test scheduled ID	SCHED001	Date of Test	23-03-2025
Scenario	Farmers should be able to search for products in fertilizers, seeds, and pesticides.		
Link to that page:	/search		
Input Data	Fertilizers, Seeds, Pesticides		
Expected behaviour	The system displays relevant products in the search results.		
Actual behaviour			
Comments			
Result(Pass/Fail)			

Test Case ID	TC002	Test case Name	Verify Product Upload
Project ID	PROJ001	Project name	AgriApp
PM ID	PM001	PM Name	Mr Vandanam
Test strategy ID	STRAT001	Tester ID	TST002
Test plan ID	PLAN001	Tester Name	Ms Alekya
Test scheduled ID	SCHED001	Date of Test	28-03-2025
Scenario	Manufacturers should be able to upload and display their products.		
Link to that page:	/upload		
Input Data	Product Name, Description, Price, Image		
Expected behaviour	The system allows the product to be uploaded and displays it in the product catalogue.		
Actual behaviour			
Comments			
Result(Pass/Fail)			

Test Case ID	TST003	Test case Name	Verify User Login
Project ID	PROJ001	Project name	AgriApp
PM ID	PM001	PM Name	Mr Vandanam
Test strategy ID	STRAT001	Tester ID	TST003
Test plan ID	PLAN001	Tester Name	Mr Jason
Test scheduled ID	SCHED001	Date of Test	05-04-2025

Scenario	Users should be able to log in using their email ID and password.		
Link to that page:	/login		
Input Data	Email ID, Password		
Expected behaviour	The system allows the user to log in and access their account.		
Actual behaviour			
Comments			
Result(Pass/Fail)			

Test Case ID	TC004	Test case Name	Verify Account Creation
Project ID	PROJ001	Project name	AgriApp
PM ID	PM001	PM Name	Mr Vandanam
Test strategy ID	STRAT001	Tester ID	TST004
Test plan ID	PLAN001	Tester Name	Ms Alekya
Test scheduled ID	SCHED001	Date of Test	15-04-2025
Scenario	New users should be able to create an account by submitting their email ID and password.		
Link to that page:	/create_account		
Input Data	Email ID, Password		
Expected behaviour	The system creates a new user account and sends a confirmation email.		
Actual behaviour			
Comments			
Result(Pass/Fail)			

Test Case ID	TC005	Test case Name	Verify Product Browsing
Project ID	PROJ001	Project name	AgriApp
PM ID	PM001	PM Name	Mr Vandanam
Test strategy ID	STRAT001	Tester ID	TST005
Test plan ID	PLAN001	Tester Name	Mr Jason
Test scheduled ID	SCHED001	Date of Test	15-04-2025
Scenario	Farmers should be able to browse the product catalog without logging in.		
Link to that page:	/create_account		
Input Data	Email ID, Password		
Expected behaviour	The system creates a new user account and sends a confirmation email.		

Actual behaviour			
Comments			
Result(Pass/Fail)			

Test Case ID	TC006	Test case Name	Verify User Registration
Project ID	PROJ001	Project name	AgriApp
PM ID	PM001	PM Name	Mr Vandanam
Test strategy ID	STRAT001	Tester ID	TST006
Test plan ID	PLAN001	Tester Name	Mr Jason
Test scheduled ID	SCHED001	Date of Test	15-04-2025
Scenario	New users should be able to register by providing their email ID and secure password.		
Link to that page:	/register		
Input Data	Email ID, Password		
Expected behaviour	The system registers the new user and sends a confirmation email.		
Actual behaviour			
Comments			
Result(Pass/Fail)			

Test Case ID	TC007	Test case Name	Verify Payment Gateway
Project ID	PROJ001	Project name	AgriApp
PM ID	PM001	PM Name	Mr Vandanam
Test strategy ID	STRAT001	Tester ID	TST007
Test plan ID	PLAN001	Tester Name	Mr Jason
Test scheduled ID	SCHED001	Date of Test	25-04-2025
Scenario	Farmers should be able to buy products using COD, UPI, and Credit/Debit card options.		
Link to that page:	/checkout		
Input Data	Payment Details		
Expected behaviour	The system processes the payment and confirms the order.		
Actual behaviour			
Comments			
Result(Pass/Fail)			

Test Case ID	TC008	Test case Name	Verify Add to Cart
Project ID	PROJ001	Project name	AgriApp
PM ID	PM001	PM Name	Mr Vandanam
Test strategy ID	STRAT001	Tester ID	TST008
Test plan ID	PLAN001	Tester Name	Mr Jason
Test scheduled ID	SCHED001	Date of Test	05-05-2025
Scenario	Farmers should be able to add products to their cart before purchasing.		
Link to that page:	/cart		
Input Data	Product Selection		
Expected behaviour	The system adds the selected products to the user's cart.		
Actual behaviour			
Comments			
Result(Pass/Fail)			

Test Case ID	TC009	Test case Name	Verify Order Confirmation
Project ID	PROJ001	Project name	AgriApp
PM ID	PM001	PM Name	Mr Vandanam
Test strategy ID	STRAT001	Tester ID	TST009
Test plan ID	PLAN001	Tester Name	Mr Jason
Test scheduled ID	SCHED001	Date of Test	15-05-2025
Scenario	Users should receive an email confirmation regarding their order status after placing an order.		
Link to that page:	/order_confirmation		
Input Data	Order Details		
Expected behaviour	The system sends an email confirmation with the order details.		
Actual behaviour			
Comments			
Result(Pass/Fail)			

Test Case ID	TC010	Test case Name	Verify Delivery Tracking
Project ID	PROJ001	Project name	AgriApp
PM ID	PM001	PM Name	Mr Vandanam
Test strategy ID	STRAT001	Tester ID	TST010
Test plan ID	PLAN001	Tester Name	Mr Jason
Test scheduled ID	SCHED001	Date of Test	25-05-2025
Scenario	The system should have a delivery tracker to track the whereabouts of orders.		
Link to that page:	/delivery_tracking		
Input Data	Order ID, Delivery Status		

Expected behaviour	The system displays the delivery status and location of the order.		
Actual behaviour			
Comments			
Result(Pass/Fail)			

Answer 6: **DB Schema: A database schema is the formal definition of how data is organized within a database. It outlines the structure of the database, including the tables, fields, relationships, constraints, and indexes. Essentially, it is the blueprint that guides how data is stored and managed.**

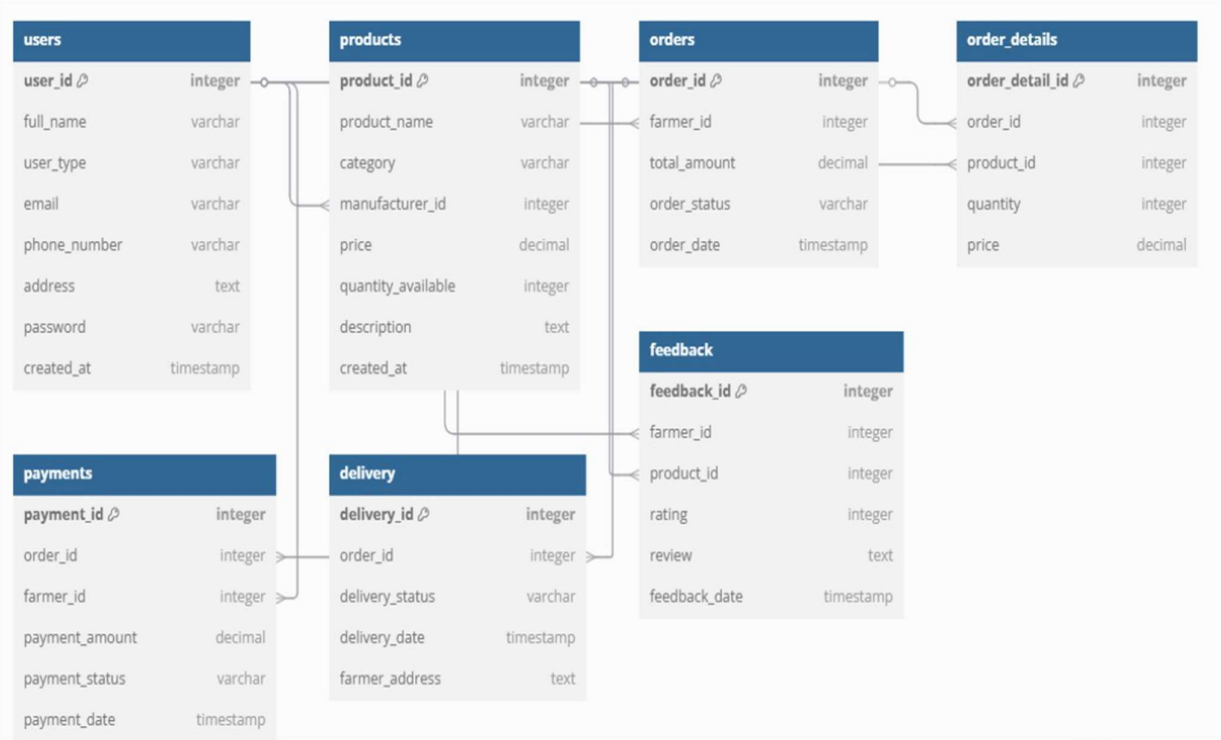
Key Components of a Database Schema:

1. **Tables**: Represent entities and hold data.
2. **Fields/Columns**: Attributes of the tables.
3. **Primary Keys**: Unique identifiers for records in a table.
4. **Foreign Keys**: References to primary keys in other tables to establish relationships.
5. **Indexes**: Improve the speed of data retrieval.
6. **Constraints**: Rules to maintain data integrity (e.g., NOT NULL, UNIQUE).
7. **Views**: Virtual tables created by querying data from one or more tables.

An Entity Relationship Diagram(ERD) is a visual representation of the relationships between entities in a database. It illustrates how different entities (tables) in the database are related to each other. ER diagrams use specific symbols to represent entities, attributes, and relationships.

Key Components of an ER Diagram:

1. **Entities**: Represent tables in the database (depicted as rectangles).
2. **Attributes**: Represent fields or columns of the entities (depicted as ovals).
3. **Primary Keys**: Unique identifiers for entities (underlined attributes).
4. **Foreign Keys**: Attributes that establish relationships between entities.
5. **Relationships**: Depict how entities are related to each other (represented by diamonds and lines).



Primary Key

A *Primary Key* is a unique identifier for each row in a table. No two rows can have the same primary key value, and it cannot be *NULL*.

Example from the ER Diagram:

- users table → user_id (PK)

- products table→ product_id (PK)

- orders table→ order_id (PK)

Foreign Key

A Foreign Key is a column that links one table to another. It references the *Primary Key (PK)* of another table to establish relationships.

Example from the ER Diagram:

products table → manufacturer_id is a *Foreign Key* referencing user_id in *users* (A product belongs to a manufacturer).

orders table → farmer_id is a *Foreign Key* referencing user_id in *users* (A farmer places an order).

order_details table→ order_id and product_id are *Foreign Keys* referencing orders and products.

Secondary Key

A *Secondary Key* (or *Alternate Key) is a column that is not the primary key but is still unique and used for searching data efficiently.

Example from the ER Diagram:

- users table→ email is unique and can be a *Secondary Key*

- products table→ product_name can be a *Secondary Key*

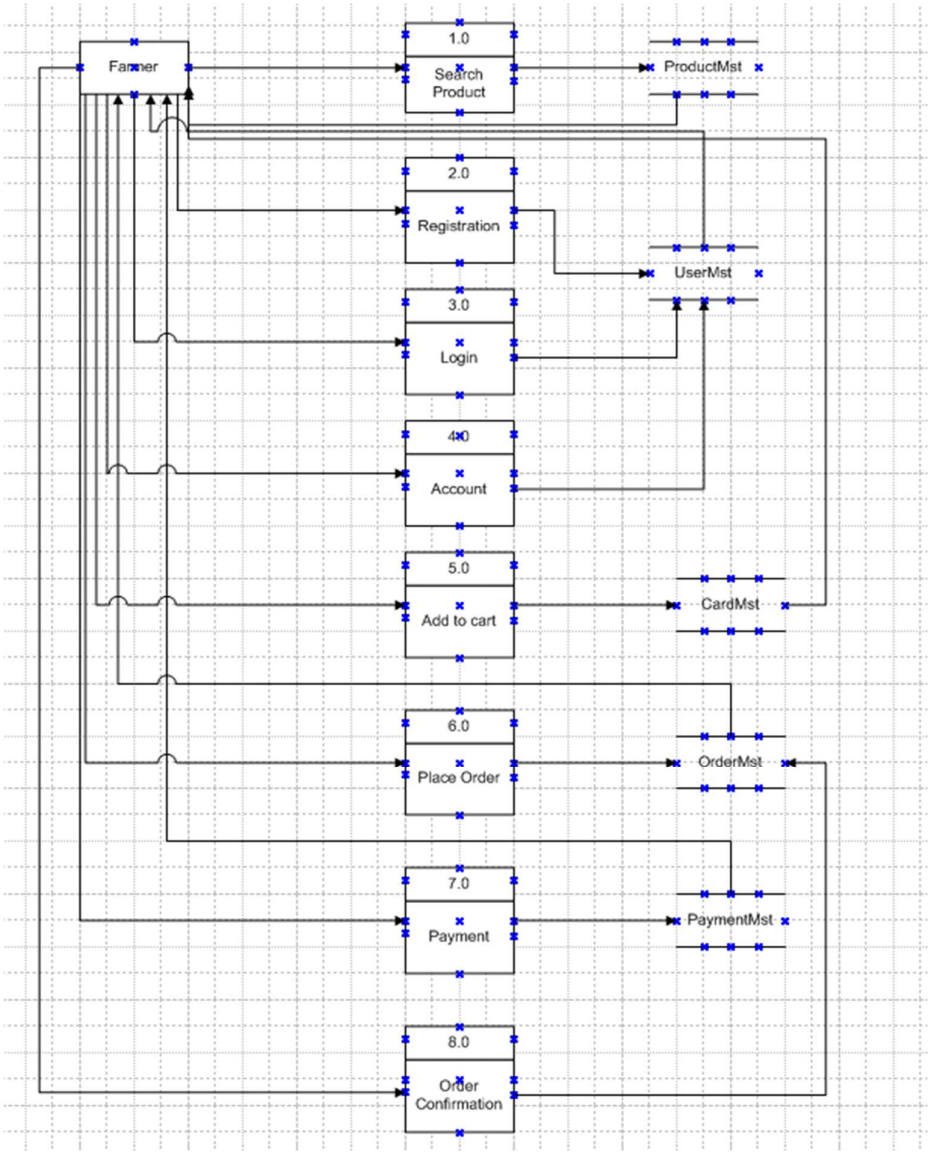
- orders table→ order_status is often used in searches (though not unique)

Example from the ER Diagram:

- In the **Users** table, email can be considered a secondary key, as it is often unique for users but not the primary key of the table.

Answer 7:

- Data flow diagram- Data Flow Diagram is a graphical representation of the flow of data within a system. It shows visually how data moves from one process to another, how its stored and where it ends up.
- It helps analyst and designers to understand the flow data within a system, identify potential bottlenecks or inefficiencies and communicate system requirements to stakeholders.



Answer 8: Change Request is a formal proposal to alter a system, product or a project.

- **Document the Request**: Record details of the change request.
- **Do Impact analysis:** Assess how the change will affect the current system.
- **Evaluate Costs and Benefits**: Estimate the costs and benefits of the change.
- **Conduct Risk Analysis**: Identify and mitigate potential risks.
- **Seek Approvals**: Get the necessary approvals from stakeholders.
- **Plan the Implementation**: Create a detailed plan for implementing the change.
- **Execute the Change**: Implement the change as planned.
- **Test the Changes**: Ensure the change works correctly through thorough testing.
- **Review and Document**: Review the success of the change and update relevant documentation.
- **Communicate with Stakeholders**: Inform stakeholders about the change and its benefits.

Answer 9: As a Business Analyst, I would handle the request from Ben and Kevin as follows:

- **Understand Requirements**: Get clear details on how farmers will sell their crops and how the auction system will work.
- **Document Request**: Write down the request with all necessary details.
- **Analyze Impact**: Check how this will affect the current system and identify any changes needed.
- **Evaluate Costs and Benefits**: Assess the effort, resources, and benefits of the changes.
- **Conduct Risk Assessment**: Identify potential risks and plan how to address them.
- **Get Approvals**: Present the findings to stakeholders and get their approval.
- **Plan Implementation**: Create a detailed plan for adding these new features.
- **Execute Change**: Implement the changes as planned.
- **Test Changes**: Thoroughly test the new features to ensure they work correctly.
- **Review and Document**: Review the success of the changes and update any relevant documentation.

This is a **change request** because it significantly changes the scope of the original project.

Answer 10: **In project management, manhours are used to estimate the total labour required to complete a project. They help in planning, scheduling, and resource allocation by providing a way to quantify the effort needed for different tasks. Manhours are the required effort of the resources to complete a project. These are the 3 types of projects:**

- Small- Upto 500 hours
- Medium-Upto 1000 hours
- Large-Upto 1500 hours

Analysis:

- As per the case study, the duration of the project is 18months and the current team size is around 15. This will come under medium project.

Duration	Value
Project Duration	18 months (=78 weeks)
Team Size	15 members
Weekly Work Hours per Member	40 hours
Total Available Manhours	**46,800 manhours**

Task Description	Days Allocated	Total Manhours
Requirements Gathering and Analysis	30	3,600
System Design	40	4,800
Development	180	21,600
Testing	60	7,200

Training and Documentation	40	4,800
Deployment and Go-Live Support	40	4,800
Total Days Taken	**390**	**46,800**

Answer 11:

1. Planning: 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.

2. Designing: Here, the test cases are created and designed to hide all the possibilities in a real world environment.

3. UAT Testers: A testing team consists of a end users that meet the criteria for implementing testing. The end user must have expertise in subject matter , the ability to report the problems.

4. Bug Fixing: Whatever bugs/ issues are found in the UAT Testing, the development team should work on them and make it software error free.

5. 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.

A **Project Closure Document** is a formal record that signifies the completion of a project. It includes all necessary information and final deliverables to ensure that the project is properly concluded.

Answer 12: Key Components of a Project Closure Document

1. **Project Overview**
    - **Project Name**: The title of the project.
    - **Project Manager**: Name of the person managing the project.
    - **Project Sponsor**: Name of the person or organization sponsoring the project.
    - **Project Start and End Dates**: The timeline of the project.
2. **Objectives and Scope**
    - **Project Objectives**: A summary of what the project aimed to achieve.
    - **Project Scope**: A detailed outline of the project's scope, including any changes that occurred during the project.
3. **Deliverables**
    - **Final Deliverables**: List of all final deliverables that were completed and handed over to the client or stakeholders.
    - **Acceptance Criteria**: Criteria that were used to evaluate the deliverables and ensure they meet the required standards.
4. **Project Performance**
    - **Success Criteria**: Metrics and benchmarks used to measure the success of the project.
    - **Performance Analysis**: An analysis of how the project performed against the initial plan, including any variances in schedule, budget, and scope.

5. **Lessons Learned**
    - **Challenges and Issues**: Summary of any challenges or issues faced during the project and how they were addressed.
    - **Best Practices**: Identification of best practices and strategies that contributed to the project's success.
6. **Final Project Report**
    - **Summary of Activities**: A brief summary of all the activities and phases of the project.
    - **Client Feedback**: Feedback from the client or stakeholders on the final deliverables and overall project performance.
7. **Financial Summary**
    - **Budget Overview**: Summary of the project's budget, including initial estimates and actual expenditures.
    - **Cost Variances**: Analysis of any cost variances and reasons for the differences.
8. **Closure Activities**
    - **Handover Process**: Details on how the final deliverables were handed over to the client or stakeholders.
    - **Documentation**: List of all documentation provided to the client, including user manuals, technical guides, and training materials.
    - **Resource Release**: Information on the release of project resources, such as team members and equipment.
9. **Approval and Sign-off**
    - **Sign-off Sheet**: A formal sign-off from the project sponsor or client indicating that the project has been completed to their satisfaction.
    - **Approval Signatures**: Signatures from key stakeholders, including the project manager and sponsor.

Sl. N	Points to include	Details	Reference link
1	Did the client signed off on the UAT Testing		Business Scope document.docx
	Date of the sign off	20-Dec-25	
	Name of the resources		
2	Objectives of the project		
	User friendliness	Achieved	
	Customer Satisfaction	ROI in 6months	
	More Categories	Achieved	
3	Functionalities worked on		
	Secure payment processing	Achieved	
	Categories	Achieved	
4	Infrastructure		
	Software installed	Achieved	
	Laptops Purchased	Achieved	
5	Funding		Finance.breakdown.docx
	Amount Approved	Rs. 1 crore	
	Amount Used	Rs. 95 lakh	
6	Overall Project Information		
	Escalations	50	
	Customer Satisfaction	High	
7	Value to the company	Positive-90%-Company has gained an edge over the competencies-Increased clients-Trained employee	