Question 1: Quarterly Audits For this project

Ans:

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| --- | --- |
| Stage | Quarter 1 (Audit report) Requirement Gathering |
| Completed | 10 weeks (Week 1- Week -10) |
| Checklist | BRD template |
|  | Elicitation results report |
|  | Duplicate requirements report |
|  | Grouping of functionalities/features- Client signoff |

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| --- | --- |
| Stage | Quarter 2 (Audit report) Requirement Analysis |
| Completed | 7 weeks (Week 16- Week -23) |
| Checklist | UML Diagrams |
|  | Business to Functional Requirements mapping |
|  | Client Signoff |
|  | RTM Document version control |

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| --- | --- |
| Stage | Quarter 3 (Audit report) Design Phase |
| Completed | 7 weeks (Week 30- Week -37) |
| Checklist | Utilization of Tools |
|  | Documented evidence on client communication. |
|  | Stakeholder MOM |

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| --- | --- |
| Stage | Quarter 4 (Audit report) Development and Testing phase |
| Completed | 28 weeks Week 40- Week -78 |
| Checklist | Creating detailed checklist of requirement and deadlines |
|  | Creating timeline and task with list of deliverables |
|  | Meeting with Project development team. |
|  | Meeting with testers to check on possible outcome |
|  | Training report to end users |
|  | Lessons learnt Document |

Question 2: BA Approach Strategy

Ans:

1. What elicitation techniques to apply?

I would choose **Brainstorming Technique,** In Brainstorming elicitation technique where a problem or topic is presented to the group, and participants are asked to produce as many ideas to solve/address the topic as possible. As ideas are presented, a scribe documents the ideas and ensures the participants can see what is being captured.

1. How to do Stakeholder Analysis RACI/ILS

Stakeholder analysis can be done by using the RACI matrix to clarify roles and responsibilities within a project. It helps identify who is responsible for each task, who needs to be consulted, who must be informed, and who has the authority to make decisions. This clarity helps to ensure that everyone understands their role in the project and improves communication and collaboration across stakeholders.

List of Stakeholders Involved in this project:

**Project Stakeholders**

Business Analyst – Sai Krishna

Delivery Head – Mr. Karthik

Project Manager – Mr. Vandanam

Development Team – Ms. Juhi, Mr. Tyson, Ms. Lucie, Mr. Tucker, Mr. Bravo

Network Admin – Mr. Mike

Database – Mr. John

Tester – Ms. Alekhya, Mr. Jason

**Business Stakeholders**

Business Sponsor – Mr. Henry

Influencers – Mr. Peter, Mr. Kevin, Mr. Ben

Financial Head – Mr. Pandu

Project Coordinator – Mr. Dooku

1. What Documents to Write:
   1. **Business Requirements Document (BRD):** Captures high-level business requirements.
   2. **Functional Requirements Document (FRD):** Details the functional requirements.
   3. **Use Cases/User Stories:** Describes how users will interact with the system.
   4. **Requirements Traceability Matrix (RTM):** Maps requirements to their source and tracks their status.
2. What Process to follow to sign off on the documents

**Process to Follow:**

* 1. Review documents with stakeholders.
  2. Conduct walkthroughs and gather feedback.
  3. Make necessary revisions.
  4. Obtain formal sign-off through signatures or approval emails.

1. How to take approvals from the client

Taking approvals from the client is a critical step to ensure alignment with their needs and expectations. For example, when finalizing a Business Requirements Document (BRD), I’ll organize a review session with the client to walk through the document and explain how it aligns with the business objectives. During the session, feedback is collected, and any necessary revisions are made. Once the client is satisfied, formal approval is requested through email with a clear request for consent.

Example Email:

Dear Henry,

I am sending this request to seek your approval regarding the recent project proposal I mentioned earlier at the meeting.

Attached is the updated BRD. Kindly review and confirm your approval by signing the document or replying to this email with your consent.

1. What Communication Channels to establish and implement

* Face-to-Face Communication/ In person meeting
* Video Conferencing
* Phone Calls
* Emails
* Online Messaging platforms. (Skype, teams)

1. How to handle Change Requests

Handling change requests involves a systematic approach to ensure the project remains aligned with client needs while maintaining control over scope, time, and budget. The process begins by acknowledging the request promptly, confirming receipt, and setting expectations for review. The next step is to assess the change's impact on the project, considering factors like scope, timeline, cost, and resources. This evaluation may involve consultation with stakeholders, the project team, and technical experts. Once the impact is understood, the request is formally documented, outlining the reason for the change and its potential effects. The change is then presented to relevant stakeholders for approval or modification, considering its business value and priority. If the change is approved, the necessary updates are made to project plans, timelines, and documentation, ensuring everything is aligned. After implementation, the team monitors progress to ensure successful integration, and any necessary adjustments are made. Throughout the process, clear communication is maintained with all parties involved to ensure transparency and alignment, mitigating any risks associated with the change.

1. How to update the progress of the project to the Stakeholders, How to take signoff on the UAT- Client Project Acceptance Form )

User Acceptance Testing (UAT) is a type of testing performed by the end user or the client to verify/accept the software system before moving the software application to the production environment. UAT is done in the final phase of testing after functional, integration and system testing are done.

Deliverables for UAT testing are Test Plan, UAT Scenarios and Test Cases, Test Results and Defect Log. Once execution is over, and as many defects as possible are resolved, it is time to sign off on UAT and go live.

The sign-off approval indicates that the change meets business requirements and is ready for deployment. Business Analysts or UAT Testers needs to send a sign off mail after the UAT testing. After signoff, the product is good to go for production.

Question 3: 3-Tier Architecture

Ans:

A **3-tier architecture** is a way to organize an application into three separate layers, each with a specific role. This structure helps make the system more organized, scalable, and easier to manage.

Application Layer (Front end) : The topmost level of the application is the User interface (UI). The main function of the interface is to translate task and result to something that user can understand.

Business Logic Layer : This layer coordinates the application process commands, makes logical decisions and evaluations and perform calculations. It also moves and processes data between to 2 surrounding layers. A dynamic content processing and generation level application server.

Data Layer (Back end) : Here information is stored and retrieved from database or file system. The information is passed back to the logic tier for processing and eventually back to the user.

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| Presentation Layer |

| (User Interface - Web, Mobile, or Desktop) |

| - Displays data to the user |

| - Receives user input and communicates with the |

| Business Logic Layer |

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|

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V

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| Business Logic Layer |

| (Processing and Business Rules) |

| - Handles application logic, validation, rules, |

| and calculations |

| - Communicates with the Data Layer |

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|

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V

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| Data Layer |

| (Data Storage and Management) |

| - Interacts with databases to retrieve and store |

| data |

| - Ensures data persistence and integrity |

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Question 4: BA Approach Strategies for framing questions

Ans:

Business Analyst should keep What points in his/her mind before he frames a Question to ask to the Stakeholder

**5W 1H (Who, What, When, Where, Why, How)**

**Who** - Who refers to the specific people or group relevant to the issue or the situation. It should include the person who discovered the problem, who can possibly solve it, and who will be responsible for implementing the possible solution.

**What** - What element should clearly describe the situation, the specific problem, or basically explain the purpose of the method usage. If possible, it should also state the overall goal for implementing the solution that would be identified.

**When** - When should include all the components of the situation pertaining to anything related to dates. It should state the timeline, deadline, duration, or any other details that could help in the resolution of the problem.

**Where** - Where element should contain the exact location or position of the recognized issue. It can be a place, facility, or even a certain process where the solution is to be implemented.

**Why**: Asking ‘Why’ entails clarifying why the issue, problem or situation at hand occurred. It aims to identify the triggers and rationalizes the occurrence of an issue or a problem. It explains in detail the reason and objectives behind the need for action or why there’s a need to do the 5W1H method in the first place. This last W is also often asked five times to discover the root cause of the situation and to prevent it from recurring

**How** - How, as the last element of the method, specifies the steps on how the identified plan/s should be carried out. It should also include all the resources, tools, methods, means, and even the expenditure needed for the endeavours to be effective.

**SMART - Specific, Measurable, Attainable, Relevant, and Time-Bound**

**Specific** - A Strategy to Set a Specific goal.

**Measurable** - Measuring the process or procedure of attaining a goal at each phase.

**Attainable or Achievable** - Concept of deciding whether a goal is achievable or not.

**Relative** - Relevant to the other same business goals.

**Time-bound** - To set a specific period to achieve the target goal

**A RACI matrix** is a tool used to define roles and responsibilities within a project. RACI stands for Responsible, Accountable, Consulted, and Informed

Responsible (R): The individuals who actually perform the work to complete a task or project deliverable. These are the doers.

Accountable (A): The person ultimately answerable for the correct and thorough completion of the task. This person ensures that everything is done satisfactorily.

Consulted (C): Individuals or groups who provide input and feedback during the process. They are typically subject matter experts or stakeholders whose opinions are valuable.

Informed (I): Those who need to be kept informed of progress or decisions but do not actively contribute to the task. They are typically kept updated through reports or meetings.

Then we will prepare 3tier architecture under which we will be categorizing in 3 different

stages: - Application layer, business logic layer and data layer.

Then we will plan to identify the requirement. The USE case is created to determine how the external system interacts with the system. We will review use case specs as we prepare the use case. i.e., a use case definition that requires us to categorize the needs gathered under the basic and alternate processes.

An activity diagram is created to represent how the system should operate in order to meet business logic, functionality, and objectives. An activity diagram is essentially a flow chart that shows how one activity leads to the next. We will utilize either a use case or an activity to establish the model's needs.

Page Designs: Mock-ups and Wireframes- Develop visual representations of the user interface to gather feedback on design and usability.

Question 5 : Elicitation Techniques

Ans:

Elicitation techniques are vital for collecting accurate information from stakeholders to understand their needs, requirements, and expectations.

1. B - Brainstorming Session: This collaborative technique encourages idea generation in a group setting. Ideas are documented for further analysis. Brainstorming can be done individually or as a group, with the goal of generating numerous ideas and identifying the most suitable solutions after review.

2. D - Document Analysis: This method involves reviewing existing documents, reports, contracts, or any written materials that can shed light on business problems. Consultation with Subject Matter Experts (SMEs) is key to clarifying documentation, and ensuring that the most up-to-date versions are being used.

3.R - Reverse Engineering: Also known as back engineering, this technique involves extracting design or functional information from existing systems and reworking it. By deconstructing a system, its functionality can be understood. Reverse Engineering is divided into two types: White box and Black box engineering.

4. F - Focus Group: A small, diverse group of stakeholders is assembled to discuss specific topics or issues. Typically consisting of 6 to 12 participants, focus groups allow participants to share their impressions, preferences, and needs.

5. O - Observation: This technique involves studying individuals as they perform their routine tasks, also referred to as job shadowing, to better understand their needs and pain points. Observation can be: \* Active Observation: Where questions (e.g., 5W1H – What, Who, Where, When, Why, How) are asked during the process. \* Passive Observation: In which no interruptions occur during the work, with concerns raised only after the observation is completed.

6. W - Workshops: A focused event where several users or stakeholders collaborate to identify requirements. Workshops involve key stakeholders and SMEs working together for a concentrated period.

7. J - JAD (Joint Application Development) Session: Involves stakeholders and system analysts working together to identify requirements and design solutions. The client or end-user actively participates in the development process, leading to faster development, improved quality, and higher customer satisfaction. Teams involved include clients, IT representatives, end-user facilitators, scribes, and observers.

8. I - Interviews: One-on-one discussions between a Business Analyst and a stakeholder to gather specific information regarding needs, preferences, and expectations. Interviews can be: \* Structured Interviews: With predefined questions. \* Unstructured Interviews: More flexible, with questions that may vary based on the interviewee’s responses.

9. P - Prototyping: This technique involves creating a sample working model or prototype system to help stakeholders visualize and interact with the solution before finalizing the requirements. Prototyping often includes activity diagrams, flow charts, and sometimes wireframes or mock-ups.

10. Q - Questionnaires/Surveys: A set of structured questions used to collect quantitative or qualitative data from stakeholders, typically applied when gathering information from a large target audience. Surveys often contain multiple-choice questions to collect feedback.

11. U - Use Case Modelling: This technique defines the functional requirements of a system by describing how users will interact with it. Use case diagrams are created based on client requirements, and the questions generated during this process are known as use case specifications.

Question 6: Which Elicitation Techniques can be used in this Project and Justify your selection of Elicitation Techniques?

Ans:

Brainstorming can be used in this project because this type of project is completely new so understanding the requirement sitting together what possible needs of the farmers and to make it a user-friendly we need the client too. We can have multiple ideas coming from other side would also add helping hand to the project.

Focus groups consist of small groups of targeted users (in this case, farmers) who provide feedback on specific aspects of the application. This technique is valuable for gathering qualitative insights into user behaviours, preferences, and experiences related to agriculture products and purchasing processes. Utilizing focus groups allows for deeper discussions regarding features such as product categorization, search functionality, and payment options. Farmers can express their thoughts on what they find effective or challenging in existing systems, leading to richer, user-centric design considerations.

Identify Business Requirements (which includes Stakeholder Requirements)

By using workshop technique, I’ll invite all stakeholders and will set up agenda, discussion, requirement gathering, client expectation

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

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

BR003 - Farmers need to login first using their email id and password to make any purchase or add to buy list.

BR004- New users need to create a new account by submitting their email ID and creating a secure password.

BR005- Farmers needs to have an easy-to-use payment gateway which should include cash-on-delivery (COD), Card and Net banking options.

BR006- Users must get an email confirmation regarding their order status and a delivery tracker to track the whereabouts of their order

Question 7: 10 Business Requirements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S.No | Requirement ID | Requirement Category | Description | Priority |
| 1 | BR001 | Search | Farmers should be able to search for available products in fertilizers, seeds, pesticides | 3 |
| 2 | BR002 | Upload & Display | Manufacturers should be able to upload and display their products in the application | 4 |
| 3 | BR003 | Browse | A Farmer should be able to browse through the products catalogue once they visit the website | 7 |
| 4 | BR004 | Chat | The website should have a search option so that they can search for any product they need | 1 |
| 5 | BR005 | Login | Everyone should be able to log in to the website as the users | 1 |
| 6 | BR006 | Tracking Delivery | A product catalogue of fertilizers, seeds, pesticides, and a search option to search for products, payment process, and delivery tracking should be there | 9 |
| 7 | BR007 | Add to cart | Any farmer wants to buy any product or add them to buy-later list, they need to do the login first by using their email id and password | 2 |
| 8 | BR008 | Registration | New user can create a new a/c by using email and mobile no verification | 2 |
| 9 | BR009 | Payment processing | Customers should be able to do payment from payment gateway which should include COD, Card, Net banking & UPI options | 2 |
| 10 | BR010 | Order Confirmation | user should get an email confirmation regarding their order status. A delivery tracker to track the whereabouts of their order | 8 |

Question 8: Assumptions

Ans:

Assumption 1: a user can login through Gmail, yahoo account.

Assumption 2: Farmers will have at least minimal technical knowledge to navigate the application

Assumption 3: Application built for the project will deliver the product to farmers in quick time

Assumption 4: Customers should have online accounts for secured payment processing

Assumption 5: Given the high demand for agricultural products, Farmers will prefer online shopping.

Question 9: Project Requirements Priority

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S.No | Requirement ID | Requirement Category | Description | Priority |
| 1 | BR001 | Search | Farmers should be able to search for available products in fertilizers, seeds, pesticides | 8 |
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| 3 | BR003 | Browse | A Farmer should be able to browse through the products catalogue once they visit the website | 7 |
| 4 | BR004 | Chat | The website should have a search option so that they can search for any product they need | 3 |
| 5 | BR005 | Login | Everyone should be able to log in to the website as the users | 5 |
| 6 | BR006 | Tracking Delivery | A product catalogue of fertilizers, seeds, pesticides, and a search option to search for products, payment process, and delivery tracking should be there | 9 |
| 7 | BR007 | Add to cart | Any farmer wants to buy any product or add them to buy-later list, they need to do the login first by using their email id and password | 6 |
| 8 | BR008 | Registration | New user can create a new a/c by using email and mobile no verification | 7 |
| 9 | BR009 | Payment processing | Customers should be able to do payment from payment gateway which should include COD, Card, Net banking & UPI options | 10 |
| 10 | BR010 | Order Confirmation | user should get an email confirmation regarding their order status. A delivery tracker to track the whereabouts of their order | 8 |

Question 10: Use case Diagram



Question 11: Use case specs

* + 1. **Use case spec- Registration**

Description- Name, Mobile no, password

Actors- Farmers, Website,

Preconditions- active internet condition and Browser compatible

* Post condition- home page should be displayed
* Basic flows: username and password is correct.

Post condition- The user account is successfully created and verified.

Basic flows: The user selects the "Sign Up" option and the user fills in the required details and submits the form.

Alternate Flow: If any data is invalid, the system displays an error message, prompting the user to correct it.

Assumptions: users have basic computer knowledge, English

Constraints: username cannot be special character

Dependents: user should exist-registered done

Inputs: Name, Mobile no, password

Output: user account is successfully created

Business rules- username should use valid mail id password should use special character

MIS information- interactive design and browser compatible.

* + 1. **Use case spec- login**
* Description- add to cart, purchase
* Actor- farmer, website
* Preconditions: Active internet connection, browse through different products
* Postcondition: able to add items to cart and directed to payment page.
* Basic flow- items selected are correctly captured while adding to cart.
* Exceptional flow- while adding to cart different pages pops out not directing to payment page.
* Assumptions: users should know how to add product to cart.

Description- User Login

Actor- farmer, website

Preconditions: Active internet connection, browse through different products

Postcondition: The user is logged into the system.

Basic flow- The user selects "Login." The system validates the credentials. If valid, the user is granted access to their account dashboard

Exceptional flow- f the system fails to validate due to server issues; an error message is shown. Assumptions: users have basic computer knowledge, English

Input-username and password.

Output- logged into home page

Business rules- username should use valid mail id password should use special character

MIS info- interactive design and browser compatible.

* + 1. **Search Products**

Descriptions- Farmers search for agricultural products (fertilizers, seeds, pesticides) on the platform.

Actor- farmer and website

Precondition- active internet and have Gmail account

Post condition- The farmer has viewed product options based on their search criteria.

Basic flow- The farmer enters a search term The farmer can filter results by price, ratings, and availability.

Alternate flow- If no products match the search term, the system displays a message and suggests alternative keywords or categories.

Exceptional flow If the system fails to retrieve products due to a network error, the system displays an error message.

Assumption- The farmer initiates a search query for products.

Input- search product

Output- shows results of search products

Business rules-username should use valid mail id password should use special character.

MIS information- interactive design and browser compatible.

* + 1. **Use case spec- payment**

Description- card details, payment option

Actors- farmer, website

Precondition- the item to be in cart.

Postcondition- the farmer to be able to make payment through upi card or cod

Basic flow- able to make payment

Alternate flow- not able to make payment

Exceptional flow- card blocked, upi not registered

Assumption- have basic knowledge about using cards, know how to make upi payments.

Inputs- card details

Output- payment gateway or error page

Business rule- card should be either visa or maestro

MIS information- interactive design and browser compatible

* + 1. **Delivery**

Description: Products purchased by the farmer are delivered to their specified location.

Actors: Farmer, Delivery Service

Preconditions: The farmer must have successfully placed an order and entered a valid delivery address.

Postconditions: The farmer successfully receives the purchased products.

Basic Flow: The system forwards the order and delivery details to the delivery service. The products are delivered to the farmer’s specified location.

Alternate Flow: If the delivery fails (e.g., incorrect address), the system notifies the farmer and requests updated information.

Exceptional flow: If delivery services are unavailable (e.g., due to weather), the farmer is notified of the delay.

Assumptions: The farmer successfully receives the purchased products.

Input: order and delivery detail

Output: farmer successfully receives the purchased products.

Question 12: Activity Diagrams

Search Product

A diagram of a product

AI-generated content may be incorrect.

Login

A diagram of a computer program

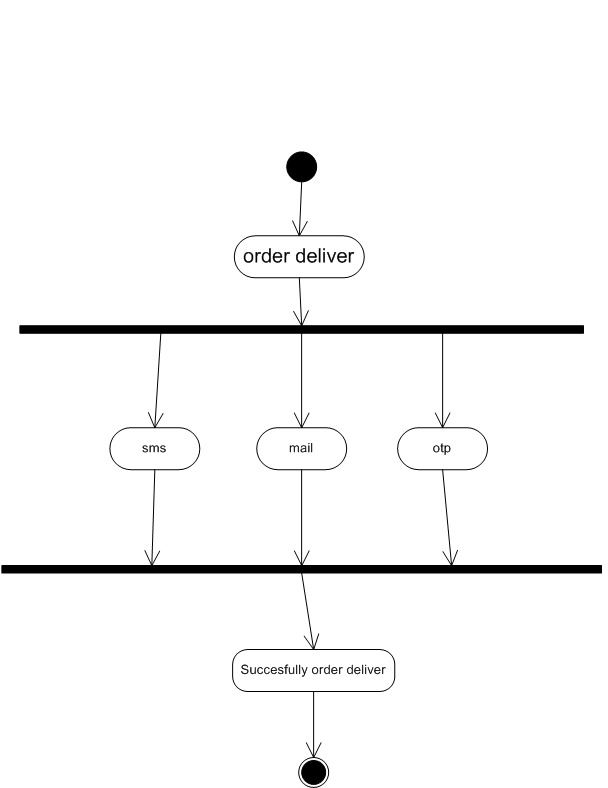
AI-generated content may be incorrect.

Product Return

A diagram of a product

AI-generated content may be incorrect.

Order Deliver



Payment process

A diagram of a payment method

AI-generated content may be incorrect.