Online Agriculture Products Store

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

Mr. Henry has given this project through his Company SOONY. In SOONY Company, Mr Pandu is Financial Head and Mr Dooku is Project Coordinator. Mr. Henry, Mr Pandu, and Mr Dooku formed one Committee and gave this project to APT IT SOLUTIONS company for Budget 2 Crores INR and 18 months Duration under CSR initiative. Peter, Kevin and Ben are helping the Committee and can be considered as Stakeholders share requirements for the Project. Mr Karthik is the Delivery Head in APT IT SOLUTIONS company and he reached out to Mr Henry through his connects and Bagged this project. APT IT SOLUTIONS company have Talent pool Available for this Project. Mr Vandanam is project Manager, Ms. Juhi is Senior Java Developer, Mr Teyson, Ms Lucie, Mr Tucker, Mr Bravo are Java Developers. Network Admin is Mr Mike and DB Admin is John. Mr Jason and Ms Alekya are the Tester. And you joined this team as a BA.

Questions:

1. 4 Quarterly Audits are planned Q1, Q2, Q3, Q4 for this Project What is your knowledge on how these Audits will happen for a BA?

Answer-

|  |  |
| --- | --- |
| Stage | Quarter 1 Audit Report (Requirement gathering Phase) |
| Completed | 10 Week (week 1 to week 10) |
| Check list | BRD |
|  | Duplicate requirement report |
|  | Elicitation result |
|  | Grouping of functionalities/features- client sign off |
|  | Email Communication – To,CC,BCC |

|  |  |
| --- | --- |
| Stage | Quarter 2 Audit Report (Requirement Analysis Phase) |
| Completed | 7 Week (week 16 to week 23) |
| Check list | UML Diagram |
|  | Business to functional requirement mapping |
|  | Client Signoff- Documents |
|  | FS/FRS, SSD, SRS RTM document version control |
|  | Email Communication – To,CC,BCC |

|  |  |
| --- | --- |
| Stage | Quarter 3 Audit Report (Design Phase) |
| Completed | 7 Week (week 30 to week 37) |
| Check list | Tools Utilization |
|  | Documented evidence on client communication |
|  | Stakeholder MOM |
|  | Email Communication – To,CC,BCC |

|  |  |
| --- | --- |
| Stage | Quarter 4 Audit Report (Development/Testing Phase) |
| Completed | 40 Week (week 40 to week 78) |
| Check list | JAD Session Report |
|  | End user manual preparation document |
|  | BA and Developer MOM |
|  | Test Case Summary |
|  | Training report to end users |
|  | Lesson learnt document |
|  | Email Communication – To,CC,BCC |

1. Question 2 – BA Approach Strategy

Before the Project is going to Kick Start, The Committee asked Mr Karthik to submit BA Approach Strategy.

Write BA Approach strategy (As a business analyst, what are the steps that you would need to follow to complete a project – What Elicitation Techniques to apply, how to do Stakeholder Analysis RACI/ILS, What Documents to Write, What process to follow to Sign off on the Documents, How to take Approvals from the Client, What Communication Channels to establish n implement, How to Handle Change Requests, How to update the progress of the project to the Stakeholders, How to take signoff on the UAT- Client Project Acceptance Form )

Your Team- Project Manager - Mr Vandanam

Senior Java Developer - Ms. Juhi

Java Developers - Mr Teyson, Ms Lucie, Mr Tucker, Mr Bravo

Network Admin - Mr Mike

DB Admin - Mr John. Testers - Mr Jason and Ms Alekya

BA – You. Technical Team have assembled to discuss on the Project approach and have finalised to follow3-tier architecture for this project.

Answer-

1. What Elicitation Techniques to apply?

We have many elicitation techniques which is used to requirement gathering.

Like Document analysis, Brainstorming, Focus Grouping observations, Reverse engineering etc.

1. how to do Stakeholder Analysis RACI/ILS?

Mainly Stakeholder analysis done by RACI matrix which involve identify stakeholder and define their roles, responsibilities within project. Create the RACI by identify Stakeholders, define their roles and Responsibilities and assign RACI Roles. Stakeholder analysis also done by ILS. In this identify, list and write summary on stakeholders.

1. What Documents to Write?

FRD, BRD, Use Case Documentation, Test Case Documents and etc.

1. What process to follow to Sign off on the Documents?

Sign off to be taken on SRS as this is the primary and important documents. Sign off can be taken by using E-mail confirmation from client.

1. How to take Approvals from the Client?

Establish a formal meeting with the clients to keep them informed and get continuous feedback from them.

1. What Communication Channels to establish n implement?

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

1. How to Handle Change Requests?

Change request form, Do Impact Analysis, Approval process, Documentation.

1. How to update the progress of the project to the Stakeholders?

Weekly status report, Monthly review meetings.

1. How to take signoff on the UAT- Client Project Acceptance Form?

UAT preparation, conduct UAT, fix issues, Acceptance Form, Final review meetings, Obtain Sign-off

1. Explain and illustrate 3-tier architecture?

**3-tier Architecture**

Client Computers

Client Tier

Answer – This 3 tier Architecture divides the application into 3 logical layers-

1. Application Layer- topmost layer of the architecture. It also known as “Presentation layer” It handles user interface (UI) component such as screens, pages.
2. Business Logic Layer- middle layer of the architecture. It acts as intermediary between the presentation layer and the data Storage layer. This layer contains the core logic of the application. For Ex. Printers, Payment gateway.
3. Data Layer- Bottom most layer of the architecture. It responsible for storing and retrieving data.

For Ex. MySQL, Oracle database.

Application Server

Database Server

Database Tier

Business Logic Tier

1. BA Approach Strategy for Framing Questions?

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

(5W 1H – SMART – RACI – 3 Tier Architecture – Use Cases, Use case Specs, Activity Diagrams, Models, Page designs)

Answer-

1. 5W 1H- The 5W1H framework is a useful tool for gathering information and understand the situation by answering questions about Who, What, When, Where, Why, How.
2. SMART- The SMART technique can be helpful in creating questions-

Specific, Measurable, Attainable, Relevant and Time Bound.

1. RACI- The RACI charts help to define and clarify roles and responsibilities within the team by outlining who is responsible, accountable, consulted and informed for each task.
2. 3 Tier Architecture - Three-tier architecture is a software development model that separates an application into three layers – Application Layer, Business logic layer and data layer.
3. UML or Unified Modeling Language is standardized way of diagramming and modeling software system to aid in design, development and communication between team members.
4. Elicitation Techniques?

As a Business Analyst, What Elicitation Techniques you are aware of? (BDRFOWJIPQU)

Answer-

1. Brainstorming
2. Document Analysis
3. Reverse engineering
4. Focus Group
5. Observations
6. Workshop
7. JAD
8. Interview
9. Prototype
10. Questionnaire
11. Use case space
12. This project Elicitation Techniques - 5 Mark

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

Prototyping

Use case Specs

Document Analysis

Brainstorming

Fertilizers, seeds, pesticides details from the manufacturers and should be able to display them to the Farmers. To gather the business requirements from the client, you went to SOONY and met Mr. Henry. When Mr. Henry was asked about the project and what are they expecting from the project, Mr. Henry stated that he is expecting to have a login for all its users (fertilizers, seeds, pesticides manufacturers and Farmers), a product catalog of fertilizers, seeds, pesticides, a search option to search for products, payment process, and delivery tracking. After doing the stakeholder analysis, you have found out that Peter, Kevin, Ben are the key stakeholders and

you have scheduled an appointment to meet them. After meeting with them and trying to gather the stakeholder requirements, Kevin said that, a Farmer should be able to browse through the products catalog once they visit the website and need to have a search option so that they can search for any product they need. Peter said that, if a farmer wants to buy any product or add them to buy-later list, they need to login first using their email id and password. If it is a new user, then they can create a new account by submitting their email ID and creating a secure password. Ben added saying that, Farmers needs to have an easy-to-use payment gateway which should include cash-on-delivery (COD), Credit/Debit card and UPI options so that

the user’s experience should be better. Kevin mentioned that, a user gets an email confirmation regarding their order status. A delivery tracker to track the whereabouts of their order.

Answer- Following Elicitation Techniques used in this project

1. Brainstorming- Brainstorming is one of the most important elicitation techniques which I help in generate new ideas about projects. Brainstorming either done in group or individually. In this technique ideas collected can be reviewed, analyzed and relevant ideas included in system requirements. So, in this project we can conduct Brainstorming with Mr. Henry, Mr. Kevin and peter.
2. Document Analysis- Document Analysis is an important gathering technique, Evaluating the documentation of a present system can assist when making AS-IS Process documents and also when driving the gap analysis for scoping of the migration project.
3. Prototyping- this is screen mockup can support the requirements gathering process when introduced at the right time, but if introduced too early they can become problematic. Mockups are nice they help the business representatives or clients visualize the functionality of the system. This can be big advantage to help analysts and stakeholders identify problems early on.
4. Use case Specs – Use cases Specs is also known as use case description Document and each use case have their own use case description. This document describes flow of event of each use case and describe how user interact with system to achieved particular goal. Following point used in Use case Specs like- Use case name, Use case description, actor, basic flow, alternative flow, pre- condition, Post condition, assumption input-output, dependencies, Business rules, Miscellaneous information

This all techniques are helpful in this project. We can generate new ideas, analyzed this idea and further documents and we can make some screen mockups.

1. Question 7 – 10 Business Requirements- 10 Marks

Answer-

1. BR001- User should be able to browse through the product catalog
2. BR002- User should be able search seeds, fertilizers, pesticides and other product
3. BR003- Users need to create login Id and Password
4. BR004- If user is new user then he should create new user ID and Password
5. BR005- Manufacturers should be able to upload and display their products in the application
6. BR006- User can add or delete their product requirement in cart.
7. BR007- User can pay by and select all payment methods as per their convenience
8. BR008- User can review their placed order status
9. BR009- User can add multiple products in cart
10. BR0010- User can see all Information about all products.
11. Question 8 –Assumptions- 5 Mark

List your assumptions

Answer-

1. Assumption 1- The Customer have online accounts for secured payment
2. Assumption 2- Customer has basic knowledge about farming
3. Assumption 3- User can login using Google account or facebook
4. Assumption 4- lack of time and unavailability of product in shop. So farmers can prefer buying product by online mode.
5. Assumption 5- Farmer can see and buy all required product on 1 platform.
6. Assumption 6- It may increase awareness about online platform and shopping in farmers.
7. Question 9 – This project Requirements Priority - 8 Marks

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

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

Once the requirements are finalized, as a business analyst, one of the major roles is to act as a

liaison between the client and the project team. To gather the requirements correctly from the

client side and then to deliver those requirements to the project team in a way they understand. To make the project team understand the requirements, you need to convert those requirements into UML diagrams and screen mock-ups.

Answer-

|  |  |  |  |
| --- | --- | --- | --- |
| Req ID | Req Name | Req Description | Priority |
| BR001 | Farmers create login | Farmers should able to create new login if he is new user | 1 |
| BR002 | Manufacturers upload their Products | Manufacturers should be able to upload and display their products in the application | 8 |
| BR003 | Farmer Search for Products | Farmers should be able to search for available products in fertilizers, seeds, pesticides | 3 |
| BR004 | Farmer Browse through Products | Farmers should be able to browse through the available products | 2 |
| BR005 | Emil Confirmation | User should get Email Confirmation for their order. | 4 |
| BR006 | Payment Gateway | All the payment gateway methods (Credit card/ COD/ Debit card/ UPI) should be available | 5 |
| BR007 | Add to cart Option | Farmers must be able to add product in cart If they want to buy these products. | 7 |
| BR008 | Product Delivery tracking | Farmers must be able to track the delivery of the product | 9 |
| BR009 | Product Information | Farmers should get the details of the particular Product. | 6 |
| BR0010 | Feedback on order | Farmers can give feed on order delivery and its quality. | 10 |

1. Once the requirements are finalized, as a business analyst, one of the major roles is to act as a liaison between the client and the project team. To gather the requirements correctly from the client side and then to deliver those requirements to the project team in a way they understand. To make the project team understand the requirements, you need to convert those requirements into UML diagrams and screen mock-up.

Use Case Diagram - 10 Marks

Answer-



1. Prepare use case specs for all use cases- 15 Marks

Answer-

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID | UC001 | | |
| Use Case Name | Book appointment with Developer | | |
| Created by | Nikita Suryawanshi | Last updated by | January 10th 2025 |
| Date Created | December 10th 2024 | Last revision Date | January 10th 2025 |
| Actor | Customer, Developer | | |
| Description | These use case describe how user can register for online agriculture app or website | | |
| Pre-Condition | User should have valid email address or mobile | | |
| Post condition | Successfully account is successfully created | | |
| Normal flow of events | 1. Farmer visits the website and clicks on "Register 2. The system displays a registration form 3. Farmer enters details (e.g., name, contact, address, and password) and submits the form 4. The system validates the information 5. The system creates a farmer account and sends a confirmation email/SMS | | |
| Alternative flow | 1. If validation fails, the system highlights errors and requests corrections | | |
| Expectations | User can successfully Register himself or herself into app. | | |
| Frequency of Use | High | | |
| Assumptions | The farmer has access to the internet and a valid email address or mobile phone number  The registration form is simple and user-friendly, with mandatory fields clearly marked  The system is accessible via both desktop and mobile device | | |

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID | UC002 | | |
| Use Case Name | Book appointment with Developer | | |
| Created by | Nikita Suryawanshi | Last updated by | January 10th 2025 |
| Date Created | December 10th 2024 | Last revision Date | January 10th 2025 |
| Actor | Customer, Developer | | |
| Description | These use case describe how user can log in app and allow user to login into app. | | |
| Pre-Condition | User should have registered account | | |
| Post condition | Successfully login into app | | |
| Normal flow of events | 1. System describe a login or Registered option  2. User can login into app by using user id and password  3. System validate user Id and password  4. System verified user id and password  5. The system displays the user’s homepage  6. The use case end | | |
| Alternative flow | 1. Missing user id and password 2. Maximum 3 attempt exceeded 3. Invalid user id password | | |
| Expectations | User can login successfully into app. While login into app user should enter valid email id and password | | |
| Frequency of Use | High | | |
| Assumptions | It is assumed that the customer is registered  It I assumed that the customer has basic knowledge about use of or handling of mobile and computers | | |

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID | UC003 | | |
| Use Case Name | Book appointment with Developer | | |
| Created by | Nikita Suryawanshi | Last updated by | January 10th 2025 |
| Date Created | December 10th 2024 | Last revision Date | January 10th 2025 |
| Actor | Customer, Developer | | |
| Description | These use case describe if user forgot password then how to Rest Password | | |
| Pre-Condition | User should have registered account | | |
| Post condition | Password is successfully updated | | |
| Normal flow of events | 1. User navigates to the "Forgot Password" page 2. The system prompts for the registered email or phone number 3. User submits the information (OTP) 4. The system sends a password reset link or code 5. User resets the password using the link or code | | |
| Alternative flow | 1. Invalid Email/Phone Number: The user enters an email address or phone number that is not associated with any account. User can re-enter the correct email/phone number or contact support 2. Expired or Invalid Reset Link: User clicks on the reset link in the email, but it has expired or is invalid. The user can request another password reset | | |
| Expectations | User can login successfully into app after resetting password Successfully | | |
| Frequency of Use | Medium | | |
| Assumptions | It is assumed that the customer is registered  The email or phone number used during the password recovery process must match the one provided during registration | | |

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| --- | --- | --- | --- |
| Use Case ID | UC004 | | |
| Use Case Name | Book appointment with Designer | | |
| Created by | Nikita Suryawanshi | Last updated by | January 10th 2025 |
| Date Created | December 10th 2024 | Last revision Date | January 10th 2025 |
| Actor | Customer, Designer | | |
| Description | These use case describe how user can Browse the product in app | | |
| Pre-Condition | User must be logged in | | |
| Post condition | User is informed about the available products | | |
| Normal flow of events | 1. User selects a product category (e.g., fertilizers, seeds, pesticides). 2. The system displays products in the selected category. 3. User filters and sorts products based on criteria (e.g., price, brand). 4. User views product details. | | |
| Alternative flow | 1. No Products Available in Selected Category 2. View Limited Product Details (Guest User) 3. The Farmer uses the search bar to find a specific product. | | |
| Expectations | User can Browse and view product easily on app | | |
| Frequency of Use | High | | |
| Assumptions | Farmers are familiar with basic browsing and filtering operations.  The system has a robust database to handle product listings and queries efficiently. | | |

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| --- | --- | --- | --- |
| Use Case ID | UC005 | | |
| Use Case Name | Book appointment with Developer, Pay Pal | | |
| Created by | Nikita Suryawanshi | Last updated by | January 10th 2025 |
| Date Created | December 10th 2024 | Last revision Date | January 10th 2025 |
| Actor | Customer, Developer, Paypal | | |
| Description | These use case describe how user can Place Order | | |
| Pre-Condition | User must be logged in and have selected products to purchase | | |
| Post condition | User can Placed order successfully | | |
| Normal flow of events | 1. User adds desired products to the cart 2. User proceeds to checkout 3. The system displays an order summary 4. User selects payment method and provides shipping details 5. The system processes the order and generates a confirmation | | |
| Alternative flow | 1. If payment fails, the system prompts the user to retry or choose another payment method | | |
| Expectations | User can place their order successfully with number of items | | |
| Frequency of Use | High | | |
| Assumptions | The user must be a registered member of the platform to place an order.  User can first browse product properly and then placed order | | |

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| --- | --- | --- | --- |
| Use Case ID | UC006 | | |
| Use Case Name | Book appointment with Developer | | |
| Created by | Nikita Suryawanshi | Last updated by | January 10th 2025 |
| Date Created | December 10th 2024 | Last revision Date | January 10th 2025 |
| Actor | Customer, Developer | | |
| Description | These use case describe how user can Track Order | | |
| Pre-Condition | User must have placed an order | | |
| Post condition | User is informed about the order’s status | | |
| Normal flow of events | 1. User navigates to the order history section 2. User selects an order to view details 3. The system displays the order status and tracking information | | |
| Alternative flow | 1. Order Delivered: The user tracks an order that has already been delivered. Displays the delivery confirmation message: "Your order was delivered on [date and time]." The user can view delivery proof, such as a signature or photo, if available, or report an issue if delivery was not received 2. User Cancels Tracking Request: The user decides to cancel the tracking process midway (e.g., closes the browser or app), No action is taken, and the process terminates without displaying order details, the user can reinitiate the tracking process later if needed. 3. Order Cancelled or Returned: The user tracks an order that has been cancelled or returned, display a message like "This order has been cancelled/returned. No further tracking details are available.” The user can contact support for further clarification or to resolve any concerns. | | |
| Expectations | User can track their order | | |
| Frequency of Use | High | | |
| Assumptions | The user must be placed order and do payment for further order delivery.  User should enter correct delivery address during placing order procedure. | | |

1. Question 12 – (minimum 5) Activity Diagrams

Answer-





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