Capstone Project Prep 1 Part 2

**Q1: Audits**

**Q1 Audit: Requirements gathering and Analysis**

* Understanding the business goal and needs
* Stakeholders are identified
* Gather the requirements and analyse.
* Apply the elicitation techniques and document.
* Document sign off

**Q2 Audit: Design phase and development**

* Ensure the design is as per the requirements
* Validate the implementation of stakeholder feedback on the design
* Change requests and development are being tracked
* Is support being given to the technical team for development

**Q3 Audit: Testing phase**

* Document and correction of errors and bugs during testing
* Requirement traceability matrix being updated
* Ensure the test cases are in alignment with requirements

**Q4 Audit: Deployment and implementation**

* Delivery of end-user manual and training session
* Delivery and user testing of the final product to the client
* Sign-off on the business closure document

**Q2: BA Approach strategy**

1. To understand the objective of the project
2. Identify the Stakeholders and gather the requirements
3. What are the elicitation techniques to be applied and the tools to be used
4. Document the requirements and get confirmation from clients
5. Assisting the technical team with the design and testing of the software and implementing
6. Implementing the change request initiated by the clients
7. Delivering the final product after UAT
8. Sign off on the business documents and the training sessions

**Q3: 3-Tier Architecture**

3-Tier architecture is a software design model that splits an application into 3 different layers, each having a separate role.

1. **Presentation Layer:**

It is the topmost layer where the user sees and interacts. It displays data to the user and captures the user’s inputs. Based on the inputs, it interacts with the application layer.

Ex: Webpages, Mobile screens

1. **Application layer:**

This middle layer is also known as the Logic layer. It is responsible for processing user inputs, making decisions by applying business rules and logic. It interacts with the User Interface and database.

Ex: Authentication, Processing logic

1. **Database layer:**

It is the backend layer. Its purpose is to store and manage data. It stores, retrieves, updates, and deletes data depending on the user's inputs or requests.

Ex: Oracle, MySQL

**Q4: BA approach strategy for framing Questions**

1. **5W1H:** Apply 5W1H framework, i.e., Who, what, Where, When, why, how to structure the questions. It helps in gathering the required information from the stakeholders.
2. **SMART**: Keep the question Specific, Measurable, Achievable, Relevant, and time-bound. This will help to clarify requirements and specific information which ensures goals are well defined.
3. **RACI:** To know the stakeholder positions before asking the questions. Who are Responsible for the process, Accountable for decisions, Consulted for feedback, and Informed on the summary or updates.
4. **3-Tier Architecture:** To understand the layers of 3-tier architecture to ask questions regarding different layers. Who is involved in which layer, how the data flows, and how the layers communicate with each other.
5. **UML Diagrams**: It is a graphical representation that shows step by step process. Identifies what are the actions to be performed, any alternate flows, use cases, task flow, and relations.

**Q5: Elicitation Techniques**

1. **Brainstorming:**

It is a group activity that is an open ideas discussion. It is best to explore different ideas, opinions, features and provide solutions. It helps in providing a wide range of possibilities in a short time.

1. **Document Analysis:**

It is reviewing the existing documents, such as manuals, logs, and reports, to understand the existing processes. This is used to identify gaps or any further development on the process.

1. **Reverse Engineering:**

It is analysing the finished product or system to understand how it works when a document is missing or incomplete, or outdated.

1. **Focus Groups:**

It is a discussion with a group of similar users or stakeholders on the needs or issues. It is best to explore user attitudes, expectations, or concerns.

1. **Interviews:**

It is a one-on-one discussion with stakeholders used to gather in-depth information when you need clarity or text on a role or feature.

1. **Workshops:**

It is a group session with multiple stakeholders. It is used for collaborating, rapid requirement gathering, and resolving conflicting views. This technique provides alignment, and everyone’s perspective is considered.

1. **Observations:**

It is watching users performing the tasks in real time. It helps in understanding their challenges in their workaround and making notes.

1. **JAD:**

It is an elicitation technique where BA, Developers, stakeholders, and users are involved in a workshop to gather and finalise requirements. It speeds up requirement gathering and avoids misunderstanding between business and tech teams.

1. **Prototyping:**

It is building an early mock-up or screen design to gather feedback. It helps in early validation of the requirements and provides a solution. It also helps in identifying the workflow.

1. **Questionnaire/Surveys:**

It is a predefined/structured set of questions sent to stakeholders/users to gather feedback or insights in a short period.

1. **Use Cases:**

It shows the interaction between the system and the users to achieve the specific goal.

**Q6: This project elicitation techniques**

1. **Prototyping:**

A visual representation of the requirements is called prototyping. As farmers are not technical users, a visual representation will be easy to understand. It is easy to gather feedback compared to abstract discussions.

1. **Use case specifications:**

Use case provides the information on how the user interacts with the system, on how to register, login, browse the products, make a purchase, and track products. It shows the structural flow, i.e., basic, alternate, or exceptional flows.

1. **Brainstorming:**

Brainstorming is a collaborative and idea-generation session where participants suggest as many ideas as possible without any interruption or criticism. It is used to gather innovative ideas and ideas for the platform.

1. **Document Analysis:**

Document analysis is to review the current system or the process documentation. It is an effective method to identify the current process. It helps in identifying the gaps or inefficiencies in the existing process.

I prefer Prototyping as it will gives us the exact feedback on what they are expecting, what changes they want from the feedback.

**Q7: Business Requirements**

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| --- | --- |
| BR001 | Users must be able to register using a mobile number, email, or social login. |
| BR002 | Vendors must be able to provide a catalogue for products under multiple categories from manufacturers. |
| BR003 | Users must be able to browse products by category and filter them on their requirements. |
| BR004 | Users must be able to wish list products, add products to the cart, and proceed to check out. |
| BR005 | The system must support multiple payment options: UPI, COD, and card payment. |
| BR-006 | The system must notify users of order and delivery status via SMS/email. |
| BR007 | The platform must support return and refund requests. |
| BR008 | The delivery system should calculate charges and provide tracking. |
| BR009 | The system should support multiple languages for easy access for users. |
| BR010 | The platform must include customer support for any queries related to product information, tracking the product, and payment issues. |
| BR011 | Delivery confirmation should be sent via email/SMS. |

**Q8: Assumptions**

1. Farmers and vendors have access to smartphones and the internet.
2. Users being familiar with e-commerce or digital platforms.
3. Vendors will manage the product and inventory information.
4. Delivery to rural areas is possible.
5. The payment gateway will be successful and secure.
6. The Software will provide multilingual services.
7. Users will provide the accurate location and personal information.
8. Product and user data will be stored securely in compliance with
9. Users will receive the information through SMS/Email
10. The user can cancel the order or exchange the product at any time.

**Q9: This project requirement priority**

|  |  |  |
| --- | --- | --- |
| **BR ID** | **Requirement Description** | **Priority** |
| BR001 | Users must be able to register using a mobile number, email, or social login. | 10 |
| BR002 | Vendors must be able to provide a catalogue for products under multiple categories from manufacturers. | 9 |
| BR003 | Users must be able to browse products by category and filter them according to their requirements. | 9 |
| BR004 | Users must be able to add products to their wish list, add products to the cart, and proceed to checkout. | 10 |
| BR005 | The system must support multiple payment options: UPI, COD, and card payment. | 10 |
| BR006 | The system must notify users of order and delivery status via SMS/email. | 9 |
| BR007 | The platform must support return and refund requests. | 8 |
| BR008 | Delivery system should calculate charges and provide tracking. | 9 |
| BR009 | System should support multiple languages for easy access for users. | 7 |
| BR010 | The platform must include customer support for any queries relating to product information, tracking the product, and payment issues. | 8 |
| BR011 | Delivery confirmation should be sent via email/SMS. | 9 |

**Q10: Use case diagram**



**Q11: Use case specifications**

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| Use case ID | UC001 |
| Use case Name | Registration and Login |
| Actor | Customer and Admin |
| Description | New users can register, and existing users can login. |
| Pre-condition | The user is not registered or is not logged in. |
| Post-condition | The customer successfully logged in to the platform and navigated to the dashboard. |
| Basic flow | User opens the website/app, select register or login, enters the credentials, the system validates the input, and directs to the homepage. |
| Assumptions | Email/mobile number is used for login |

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| --- | --- |
| Use case ID | UC002 |
| Use Case Name | Browse Products |
| Actor | User/Farmer |
| Description | Users should browse and view the product categories |
| Pre-condition | The user should have registered /have access to the site. |
| Post-condition | Product categories should be displayed on the platform. |
| Basic flow | User searches or selects a category, then related products will be displayed, the customer can scroll and navigate through the products. |
| Assumptions | All the product categories are predefined |

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| --- | --- |
| Use case ID | UC003 |
| Use case Name | View Product details |
| Actor | User/Farmer |
| Description | Product information such as price, manufacturer, and stock availability is being displayed. |
| Pre-condition | Product info should be stored in the database. |
| Post-condition | Product details should be displayed on the page. |
| Basic flow | The user selects a product from a category, and the system loads the information onto the page, including specifications, images, and prices. |
| Assumptions | Product details is updated regularly |

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| --- | --- |
| Use case ID | UC004 |
| Use case Name | Purchase product |
| Actor | User/Farmer |
| Description | The customer can continue to order after selecting the product |
| Pre-condition | Products is available in stock |
| Post-condition | Product purchase details and delivery details are displayed on the page |
| Basic flow | User selects the product and adds it to the cart or wishlist and proceeds to the payment gateway. |
| Assumptions | The user can manage their wishlist from their profile |

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| --- | --- |
| Use case ID | UC005 |
| Use case Name | Make Payment |
| Actor | User/Farmer |
| Description | Customer completes the purchase by making payment |
| Pre-condition | Customer logs in and adds the product to the cart |
| Post-condition | Payment is successful, and the order is placed |
| Basic flow | User reviews the product from the cart, updates the address to deliver, selects the payment method, confirms the payment, and receives the confirmation receipt. |
| Assumptions | Valid address is updated, and payment is successful |

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| --- | --- |
| Use case ID | UC006 |
| Use case Name | Tracking order |
| Actor | User/Delivery agent |
| Description | Customers viewing the delivery status of their products |
| Pre-condition | Order received confirmation |
| Post-condition | Order being delivered |
| Basic flow | The customer opens my orders, selects my orders, and the system will display the estimated delivery date. |
| Assumptions | Application software is in sync with the logistics system |

**Q12: Activity diagrams**

1. **Registration**



1. **Login**



1. **Browse and order the product**



1. **Make payment**



1. **Track order**

