1. **Business Requirements**

|  |  |  |  |
| --- | --- | --- | --- |
| **Req ID** | **Req Name** | **Req Description** | **Priority** |
| FR0001 | Farmer Registration | Farmers should be able to register with the application. | 8 |
| FR0002 | Manufacturer Registration | Manufacturers should be able to register with the application. | 8 |
| FR0003 | User Login | Farmers and Manufacturers should be able to log in securely using email and password. | 10 |
| FR0004 | Password Reset | Users should be able to reset their password using their registered email. | 8 |
| FR0005 | Product Catalog | Farmers should be able to browse through available products under categorized sections. | 9 |
| FR0006 | Product Search | Farmers should be able to search for available products using filters (price, category, brand). | 9 |
| FR0007 | Product Details Page | Clicking on a product should display details, images, and seller information. | 9 |
| FR0008 | Product Upload | Manufacturers should be able to upload products with details, images, and pricing. | 9 |
| FR0009 | Add to Cart | Farmers should be able to add products to their cart before purchasing. | 10 |
| FR0010 | Wishlist | Farmers should be able to add products to a Wishlist for future purchase. | 8 |
| FR0011 | Order Placement | Farmers should be able to place an order from the cart. | 10 |
| FR0012 | Payment Processing | Users should be able to pay via COD, UPI, Credit/Debit Cards, or Net Banking. | 10 |
| FR0013 | Order Confirmation Notification | Users should receive an email/SMS confirmation upon successful order placement. | 9 |
| FR0014 | Order Tracking | Farmers should be able to track their order in real time with status updates. | 9 |
| FR0015 | Order History | Farmers should be able to view past orders with details. | 8 |
| FR0016 | Review and Ratings | Farmers should be able to rate and review products after purchase. | 8 |
| FR0017 | Customer Support | Farmers should be able to raise complaints or queries through the application. | 8 |
| FR0018 | Delivery Tracking | The system should display estimated delivery dates and current delivery status. | 9 |
| FR0019 | Return & Refund | Farmers should be able to request product returns and refunds based on policies. | 8 |
| FR0020 | Multi-Language Support | The application should support multiple regional languages for accessibility. | 7 |

**2: Wireframe and Prototypes**

1. **App Login Screen**

****

1. **Home Page**

****

1. **Add to Cart**

****

1. **Cart**

****

1. **Payment Screens**

****

1. Payment by COD b) Payment by Card c) Payment by UPI

 **6. Order Confirmation**

****

**3. Note on MS Visio and Balsamiq**

**MS Visio:**

* Used for Process and Flow Diagrams
	+ Create Flowcharts to illustrate order processing, product selection, checkout, and payment workflows.
	+ Design Entity-Relationship Diagrams (ERD) to map out database relationships (e.g., users, orders, products).
	+ Generate Use Case Diagrams to define system interactions between users (Farmers, Manufacturers, Admins).

**Balsamiq:**

* **Used for UI/UX Mock-ups**
	+ Create **Low-Fidelity Wireframes** for the app interface, including the Home Page, Search, Product Listing, Cart, Checkout, and Order Tracking.
	+ Quickly visualize the user journey and placement of UI elements (buttons, search bars, filters).
	+ Enable interactive navigation between screens to simulate user experience.

**4. RTM**

As a Business Analyst, the best approach is to use the Requirements Traceability Matrix (RTM) to track the project status and ensure that no requirements are missed. The RTM will map Business Requirements (BRs) to Functional Requirements (FRs) and Non-Functional Requirements (NFRs) followed by responsible stakeholders and completion status of each phase.

Steps to Address Mr. Henry & Peter's Concerns:

* Show the RTM: Present the RTM to demonstrate progress on each requirement.
* Provide Status Updates: If some requirements are incomplete, highlight the pending items.
* Align with Stakeholders: Ensure that their priorities are being met in the correct order.
* Map to Business Goals: Show how each requirement contributes to the overall goal of the online agriculture platform.
* Identify Bottlenecks: If there are delays, explain the reasons (e.g., technical challenges, dependencies).
* Ensure No Requirements Are Missed: Verify that all FRs and NFRs are covered in the RTM.
* Easy reference: Correct stakeholders, documents, page numbers, stakeholder ID and completion date are referenced in each phase.



1. **Test Case Documents**

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case ID | AG130TS001 | Test Case Name | Farmer Registration |
| Project ID | AG130 | Project Name | Online Agri Portal |
| PM ID | 1322 | PM Name | Vandanam Senior |
| Test Strategy ID | AG130TS001 | Tester ID | 1001 |
| Test Plan ID | AG130TS001 | Tester Name | Jason |
| Test Schedule ID | AG130TS001 | Date of Test |   |
| Scenario | Farmers should be able to register using name, phone number and e-mail ID. |
| Link to that page |   |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | **Set 1** | **Set 2** | **Set 3** | **Set 4** | **Set 5** |
| **Input Data** | Name: Ra\_m | Name: Shyam | Name: R@meshwar | Name: Radha | Name: Gopi |
| Phone: 9876543210 | Phone: 8765432109 | Phone: 7654321098 | Phone: 6543210987 | Phone: 5432109876 |
| Email: ram@gmail.com | Email: shyam@yahoo.com | Email: alex@outlook.com | Email: john@live.com | Email: riya@rediff.com |
| **Expected Behavior** | Farmer should be registered successfully and redirected to Login page. |   |   |   |   |
| **Actual Behavior** | Registration form does not accept special characters in names. |   |   |   |   |
| **Comments** | Needs validation on input fields.  |   |   |   |   |
| **Result (Pass/Fail)** | Fail | Pass | Fail | Pass | Pass |

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case ID | AG130TS002 | Test Case Name | Farmer Login |
| Project ID | AG130 | Project Name | Online Agri Portal |
| PM ID | 1322 | PM Name | Vandanam Senior |
| Test Strategy ID | AG130TS001 | Tester ID | 1001 |
| Test Plan ID | AG130TS001 | Tester Name | Jason |
| Test Schedule ID | AG130TS001 | Date of Test |   |
| Scenario | Farmer should be able to log in with a valid username and password. |
| Link to that page |   |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | **Set 1** | **Set 2** | **Set 3** | **Set 4** | **Set 5** |
| **Input Data** | Username: farmer123 | Username: grower001 | Username: organic\_farmer | Username: agri\_expert | Username: testuser |
| Password: Farm@2024 | Password: Grow@1234 | Password: Organic!567 Pas | Password: Expert#456 | Username: testuser |
| **Expected Behaviour** | User should be registered successfully and redirected to Login page. |   |   |   |   |
| **Actual Behaviour** | Registration form does not accept special characters in names. |   |   |   |   |
| **Comments** | Needs validation on input fields.  |   |   |   |   |
| **Result (Pass/Fail)** | Fail | Pass | Fail | Pass | Pass |

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case ID | AG130TS003 | Test Case Name | Product Search |
| Project ID | AG130 | Project Name | Online Agri Portal |
| PM ID | 1322 | PM Name | Vandanam Senior |
| Test Strategy ID | AG130TS001 | Tester ID | 1001 |
| Test Plan ID | AG130TS001 | Tester Name | Jason |
| Test Schedule ID | AG130TS001 | Date of Test |   |
| Scenario | Farmers should be able to search for agricultural products using keywords. |
| Link to that page |   |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | **Set 1** | **Set 2** | **Set 3** | **Set 4** | **Set 5** |
| **Input Data** | Keyword: Fertilizer | Keyword: Seeds | Keyword: Pesticide | Keyword: Orange | Keyword: Fruit |
| **Expected Behaviour** | Relevant products should be displayed. |   |   |   |   |
| **Actual Behaviour** | Displays all fertilizer products | Displays all Seeds products | Displays all Pesticide products | Displays all Orange products | Displays all Fruits products |
| **Comments** |   |   |   |   |   |
| **Result (Pass/Fail)** | Pass | Pass | Pass | Pass | Pass |

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case ID | AG130TS004 | Test Case Name | Add to Cart |
| Project ID | AG130 | Project Name | Online Agri Portal |
| PM ID | 1322 | PM Name | Vandanam Senior |
| Test Strategy ID | AG130TS001 | Tester ID | 1001 |
| Test Plan ID | AG130TS001 | Tester Name | Jason |
| Test Schedule ID | AG130TS001 | Date of Test |   |
| Scenario | Farmer should be able to add selected products to the cart in selected quantity. |
| Link to that page |   |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | **Set 1** | **Set 2** | **Set 3** | **Set 4** | **Set 5** |
| **Input Data** | Product: Fertilizer | Product: Fruit Seeds | Product: Pesticide A | Product: Flower Seeds | Product: Pesticide B |
| Quantity: 2 | Quantity: 5 | Quantity: 1 | Quantity: 1 | Quantity: 3 |
| **Expected Behaviour** | Product should be successfully added to the cart |   |   |   |   |
| **Actual Behaviour** | Adding multiple items results in duplicate entries |   |   |   |   |
| **Comments** | Fix cart duplication issue. |   |   |   |   |
| **Result (Pass/Fail)** | Fail | Fail | Fail | Fail | Fail |

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case ID | AG130TS005 | Test Case Name | Manufacturer Registration |
| Project ID | AG130 | Project Name | Online Agri Portal |
| PM ID | 1322 | PM Name | Vandanam Senior |
| Test Strategy ID | AG130TS001 | Tester ID | 1001 |
| Test Plan ID | AG130TS001 | Tester Name | Jason |
| Test Schedule ID | AG130TS001 | Date of Test |   |
| Scenario | Manufacturer should be able to register using name, phone number and e-mail ID. |
| Link to that page |   |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | **Set 1** | **Set 2** | **Set 3** | **Set 4** | **Set 5** |
| **Input Data** | Name: Hanuman | Name: Radheshyam | Name: Hari | Name: Jagannath | Name: Kishor |
| Phone: 9876543210 | Phone: 8765432109 | Phone: 7654321098 | Phone: 6543210987 | Phone: 5432109876 |
| Email: hanuman@sumitomo.com | Email: radheshyam@upl.com  | Email: hari@dhanukaagri.com  | Email: jaggu@bayer.com | Email: kishor@monstanto.com |
| **Expected Behavior** | Manufacturer should be registered successfully and redirected to Login page. |   |   |   |   |
| **Actual Behavior** | Manufacturer registered and redirected to Login page |   |   |   |   |
| **Comments** |  |   |   |   |   |
| **Result (Pass/Fail)** | Pass | Pass | Pass | Pass | Pass |

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case ID | AG130TS006 | Test Case Name | Farmer Profile Update |
| Project ID | AG130 | Project Name | Online Agri Portal |
| PM ID | 1322 | PM Name | Vandanam Senior |
| Test Strategy ID | AG130TS001 | Tester ID | 1001 |
| Test Plan ID | AG130TS001 | Tester Name | Jason |
| Test Schedule ID | AG130TS001 | Date of Test |   |
| Scenario | Farmers should be able to update their profile and address |
| Link to that page |   |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | **Set 1** | **Set 2** | **Set 3** | **Set 4** | **Set 5** |
| **Input Data** | Name Change: Yes | Phone Change: Yes | Address Change: Yes | Email Change: Yes | Password Change: Yes |
| **Expected Behaviour** | Profile should be updated successfully |   |   |   |   |
| **Actual Behaviour** | Profile is updated successfully |   |   |   |   |
| **Comments** |  |   |   |   |   |
| **Result (Pass/Fail)** | Pass | Pass | Pass | Pass | Pass |

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case ID | AG130TS007 | Test Case Name | Forgot Password Functionality |
| Project ID | AG130 | Project Name | Online Agri Portal |
| PM ID | 1322 | PM Name | Vandanam Senior |
| Test Strategy ID | AG130TS001 | Tester ID | 1001 |
| Test Plan ID | AG130TS001 | Tester Name | Jason |
| Test Schedule ID | AG130TS001 | Date of Test |   |
| Scenario | Farmers should be able to reset password using a registered email or phone number. |
| Link to that page |   |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | **Set 1** | **Set 2** | **Set 3** | **Set 4** | **Set 5** |
| **Input Data** | Name: Ram | Name: Shyam | Name: Rameshwar | Name: Radha | Name: Gopi |
| Phone: 9876543210 | Phone: 8765432109 | Phone: 7654321098 | Phone: 6543210987 | Phone: 5432109876 |
| Email: ram@gmail.com | Email: shyam@yahoo.com | Email: alex@outlook.com | Email: john@live.com | Email: riya@rediff.com |
| **Expected Behavior** | Farmer is redirected to password regeneration page |   |   |   |   |
| **Actual Behavior** | Farmer is able to reset password |   |   |   |   |
| **Comments** |  |   |   |   |   |
| **Result (Pass/Fail)** | Pass | Pass | Pass | Pass | Pass |

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case ID | AG130TS008 | Test Case Name | Place Order |
| Project ID | AG130 | Project Name | Online Agri Portal |
| PM ID | 1322 | PM Name | Vandanam Senior |
| Test Strategy ID | AG130TS001 | Tester ID | 1001 |
| Test Plan ID | AG130TS001 | Tester Name | Jason |
| Test Schedule ID | AG130TS001 | Date of Test |   |
| Scenario | Farmer should be able to place an order from the cart. |
| Link to that page |   |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | **Set 1** | **Set 2** | **Set 3** | **Set 4** | **Set 5** |
| **Input Data** | Quantity: 2 | Quantity: 5 | Quantity: 1 | Quantity: 1 | Quantity: 3 |
| Payment: Card | Payment: UPI | Payment: COD | Payment: UPI | Payment: Card |
| **Expected Behaviour** | Order should be placed successfully  |   |   |   |   |
| **Actual Behaviour** | Order placed successfully |   |   |   |   |
| **Comments** |  |   |   |   |   |
| **Result (Pass/Fail)** | Pass | Pass | Pass | Pass | Pass |

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case ID | AG130TS009 | Test Case Name | Payment Processing |
| Project ID | AG130 | Project Name | Online Agri Portal |
| PM ID | 1322 | PM Name | Vandanam Senior |
| Test Strategy ID | AG130TS001 | Tester ID | 1001 |
| Test Plan ID | AG130TS001 | Tester Name | Jason |
| Test Schedule ID | AG130TS001 | Date of Test |   |
| Scenario | Farmer should be able to make payments securely. |
| Link to that page |   |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | **Set 1** | **Set 2** | **Set 3** | **Set 4** | **Set 5** |
| **Input Data** | Payment: Card | Payment: UPI | Payment: COD | Payment: UPI | Payment: Card |
| Amount: INR 550 | Amount: INR 550 | Amount: INR 550 | Amount: INR 550 | Amount: INR 550 |
| **Expected Behaviour** | Payment should be processed without errors  |   |   |   |   |
| **Actual Behaviour** | Payment processed successfully and redirected to Order Confirmation page. |   |   |   |   |
| **Comments** |  |   |   |   |   |
| **Result (Pass/Fail)** | Pass | Pass | Pass | Pass | Pass |

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case ID | AG130TS010 | Test Case Name | Order Tracking |
| Project ID | AG130 | Project Name | Online Agri Portal |
| PM ID | 1322 | PM Name | Vandanam Senior |
| Test Strategy ID | AG130TS001 | Tester ID | 1001 |
| Test Plan ID | AG130TS001 | Tester Name | Jason |
| Test Schedule ID | AG130TS001 | Date of Test |   |
| Scenario | Farmer should be able to track their orders. |
| Link to that page |   |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | **Set 1** | **Set 2** | **Set 3** | **Set 4** | **Set 5** |
| **Input Data** | Order ID: 101 | Order ID: 102 | Order ID: 103 | Order ID: 104 | Order ID: 105 |
| **Expected Behaviour** | Order ID and tracking link generated successfully |   |   |   |   |
| **Actual Behaviour** | Order ID and tracking link displayed on Order Confirmation page  |   |   |   |   |
| **Comments** |  |   |   |   |   |
| **Result (Pass/Fail)** | Pass | Pass | Pass | Pass | Pass |

1. **ERD**



1. **Data Flow**

A Data Flow Diagram (DFD) is a graphical representation used to visualize how data flows within a system, along with the processes that manipulate the data. It helps in understanding how information moves through the system, the inputs and outputs, and where the data is stored.



1. **Handling Change Requests**

1. Understand the Change Request:

Document the Change: Clearly define the new tax structure requirements. This might involve fixed tax rates, tax brackets, or exemptions for certain products.

Impact Assessment: Analyse how the change affects the system. Will it require modifying product prices, adding a new tax calculation layer, or integrating with a tax calculation service?

2. Evaluate the Change Request:

Benefit vs. Cost: Weigh the benefits of implementing the new tax structure against the cost in terms of time, resources, and potential delays.

Impact on Scope: Determine if the change falls within the original project scope or introduces a new functionality. If it's outside the scope, a revised budget and timeline might be necessary.

3. Communication and Approval:

Stakeholder Communication: Discuss the change request with Mr. Henry, the committee (including Peter, Kevin, and Ben), and APT IT Solutions (Mr. Karthik). Explain the impact and get buy-in from all parties.

Approval Process: Follow the established change request approval process within SOONY or APT IT Solutions. This might involve a formal document and approval from relevant authorities.

4. Implementation and Testing:

Plan the Implementation: If approved, create a plan for implementing the new tax structure. This might involve modifying the application code, database schema, and testing procedures.

Development and Testing: The development team (Ms. Juhi, Mr. Teyson, Ms. Lucie, Mr. Tucker, Mr. Bravo) will make the necessary changes. Ms. Alekya and Mr. Jason will thoroughly test the functionality to ensure accurate tax calculations.

5. Deployment and Monitoring:

Deployment: Once testing is complete, deploy the updated application to a staging environment for final validation.

Monitoring: After deployment to production, monitor the system for any issues related to the new tax structure.

1. **Change vs. Enhancements**

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.

This is an “Enhancement Request.”

Core Functionality vs. Additional Feature: The original project scope focused on farmers buying agricultural products. Adding the ability to sell crops and participate in auctions is a new feature that builds upon the existing functionality but wasn't part of the initial plan.

Improves Functionality, Not a Bug Fix: This request doesn't aim to fix a defect or error in the current system. Instead, it proposes adding a valuable capability for farmers to sell their produce.

Response to Ben and Kevin:

Acknowledge their request: I would thank them for their suggestion and show appreciation for their input.

Explain the process: I would briefly explain that their request is considered an enhancement, and there's a specific process for handling such requests.

Gather details: I shall discuss with them the details of their proposal. How do they envision the farmers listing their crops? What functionalities do they expect for the auction system?

Impact Assessment: I would then explain to them that implementing this enhancement will require further analysis of its impact on the project timeline, budget, and resource allocation.

Next Steps: I would lastly inform them that I shall discuss this request with APT IT Solutions to assess its feasibility. You'll keep them updated on the decision.

As a BA, the process to follow would be:

* Understand the scope of change
* Determine whether the change is inside or outside the scope
* Do the analysis
* Approve or reject the change request
* Communicate and implement the approved change request
1. **Estimations of Man-Hours required**

• PM -$130/Hr,

PM work every Month 60 Hr

For Entire Project He work 1080 Hr

Total work Cost $64800

• Sol Architect – $55/Hr,

Sol Architect work every Month 80 Hr For Entire Project He work 1440 Hr

Total Work cost $115200

• Programmers – $50/Hr

Programmers work every Month 90 Hr For Entire Project He work 1620 Hr

Total work cost $145800

• Sr. Programmers – $80/Hr

Sr. Programmers work every Month 85 Hr For Entire Project he works 1530 Hr

Total Work cost $122400

• Network Engineer – $80/Hr

NE work every Month 65 Hr For Entire Project He work 1170 Hr

Total Work cost $93600

• DBA - $80/Hr

DBA work every Month 70Hr For Entire Project He work 1260 Hr

Total Work Cost $88200

• BA- $60/Hr

BA work every Month 90 Hr For Entire Project He work 1620 Hr

Total Work Cost $145800

Total man-hours Required for project = 9720 Hr

Total Cost for the Project = $775,800

1. **UAT Acceptance Process**

**1. Planning and Preparation:**

Define Scope and Objectives: Clearly outline what will be tested during UAT and what the success criteria are. This helps determine if the system meets business requirements.

Identify Participants: Select a representative group of end-users (like Peter, Kevin, and Ben in this case) to participate in UAT. They should be familiar with the current system (if applicable) and understand the new functionalities.

Develop Test Cases: Create detailed test scenarios and cases that cover various user interactions and functionalities of the application. This ensures thorough testing.

Prepare Training Materials: Provide UAT testers with training on the new system or features. This can include user guides, video tutorials, or hands-on sessions.

UAT Environment: Set up a separate testing environment that mirrors the production environment as closely as possible. This allows testers to experience the system realistically.

1. **UAT Design and Testing:**

Test Design:The test cases are designed to hide all possibilities of software packages in a real environment

Test Execution: UAT testers execute the pre-defined test cases. They use the system as they would in real-world situations, documenting any bugs, issues, or usability problems they encounter.

Defect Reporting: Testers report any issues found during testing using a bug tracking system. This allows developers to track, investigate, and fix the problems.

Bug Fixing/Iterative Refinement: Based on tester feedback, developers may need to fix bugs, refine functionalities, or make adjustments to the system.

**3. UAT Sign-off and Deployment:**

Defect Resolution: The development team addresses all critical bugs and usability issues reported during UAT.

UAT Re-testing: After fixes are implemented, a subset of test cases may be re-run by testers to ensure the issues are resolved.

UAT Sign-off: Once all critical defects are fixed and the system functions as expected, the UAT testers formally sign-off, indicating their approval for deployment.

Deployment: The approved system is then deployed to the production environment, making it accessible to all users.

1. **Project Closure Document**

A Project Closure Document is a formal record that signifies the completion of a project. It serves as a comprehensive summary of the project’s outcomes, lessons learned, and any remaining tasks or recommendations. It also provides a way to officially hand over the project deliverables and close out the project in an organized manner.

Project Manager Comments. It was wonderful experience to work with such a good team be it internal team or client side. Looking forward for more such projects. Project Closure Document

|  |  |
| --- | --- |
| **Name** | Online Agriculture Store |
| **Project Code** | V0002 |
| **Project Manager** | Mr Vandanam |
| **Project Cost** | INR 2 Cr |
| **Brief about Project** | Online E-commerce platform where manufacturers can sell their products directly to farmers through website. |
| **Project Accomplishment** | Successfully made the website according to client requirement within stipulated time |
| **Duration** | 18 months |
| **Lesson Learnt** | Many Smaller Team works better as compared to few Large teams |
| **Final position** | Complete |
| **Transfer of Operation** | From BA to Sponsor |
| **Risk** | Moderate Risk  |
| **Documentation** | BRD and FRD, Test case |
| **Tools** | Balsmiq for wireframe, Axure for Prototype and Visio for Use case and Activity Diagram |
| **Project Manager Comments** | It was wonderful experience to work with such a good team be it internal team or client side. Looking forward for more such projects. |