Q1.Identify business process model

Business process is a collection of activities designed to produce a specific output for a particular customer or market. It implies a strong emphasis on how the work is done within an organization , in contrast to a product’s focus on what. A process is thus a specific ordering of work activities across time and place

* Goal- To bridge the gap between farmers and the manufacturers.
* Inputs- Farmers product requirements (fertilizers,seeds,pesticides), product details (features,availability), payment methods.
* Resources -Network infrastructure, software, customer details.
* Outputs- A perfect functional online agricultural product store, Delivery system to farmers location.
* Activities - Excellent customer service, Dispatching the products
* Value-User friendly, convenient.

Q2. SWOT Analysis

SWOT analysis is a strategic planning tool used by business analyst to evaluate an organization’s internal strengths and weakness as well as external opportunities and threats. It helps in understanding the current position of a business and planning strategies for the growth , problem solving or decision making.

Strengths Weakness

Direct support from stakeholders (Peter, Kevin and Ben) User Training for farmers

Manufacturers wide variety of products. Dependence on manufacturers

Stock availability issues

Opportunities Threats

Expansion(Including more agri products) Competitor in agri tech market

Collaborating with more manufacturers and suppliers Farmers traditional approach

Q3. Feasibility report

A feasibility report is a document prepared by business analyst to assess the practicality and viability of a proposed project , solution or business idea. It helps stakeholders determine whether the initiative is worth pursuing based on the various factors like costs , benefits , risks and alignment with organizational goals.

Technology: Based on the database servers, payment gateways, security and API’s

Hardware: Based on Storage , backup systems, network infrastructure

Software : Based on the shopping cart software, payment gateway software, content management system

Resources: Project Management team, Business Analysts, Software developers

Budget: Development Cost, software cost, resource costs.

Time frame: Based on resources, based on requirements.

Q4.GAP Analysis

It is the startegic tool used by business analyst to identify the difference between the current state (where an organization or process is now ) and the desired state ( where is wants to be ). The goal of a gap analysis is to determine what steps or changes are necessary to close the gap and achieve the desired outcomes.

Current state

Establish online Agricultural product Store with wide variety of farming products and seamless shopping experience

Manufacturers are ready to sell their fertilizers, seeds and pesticides

Application to accept the product details from the manufacturers

High operating expenses involved in technology.

Desired State

Improved operational efficiency and farmers requirements

User friendly access to the farmers

Wide variety of products to the farmers.

Manufacturers product details to be accepted by online store.

Q5. Risk Analysis?

Its is the process of identifying , assessing and prioritizing risks that could potentially impact the success of the project. In business analysis , it helps stakeholders understand uncertainties , evaluate their potential consequences, and develop strategies to mitigate or manage them effectively.

Internal Risks

* Dependence on external raw material vendors for product supply and inventory management
* High operating expenses due to investments in technology and marketing
* Technical glitches and system downtime may affect customer experience

External Risks

* Changes in govt regulations and policies that may affect the e-platforms for farmers and manufacturers
* Competitors may arise and create a platform again
* Farmers adaptability to the technology may not be quick

BA Risks

* Change in requirements
* Misinterpretation of requirements

Project Based risks

* Scope risks (Budget in the scope or out of the scope)
* Stakeholders risks

Q6.Stakeholders analysis (RACI MATRIX)

Key stakeholders Identified:

1.Decision Makers:

Mr.Henry: Primary decision-maker, accountable for final approvals and overall project vision

Mr.Pandu: Finaincial head responsible for budget related decisions

Mr. Dooku: Project Coordinator, facilitates coordination between the team and stakeholders.

2.Influencers:

Peter, Kevin ,Ben : Provide insight and requirements based on farmers needs influencing application design

Janes: Acts as bridge between stakeholders and the technical team, ensuring requirements are met.

APT IT Delivery Head(Mr. Karthik): Ensures alignment between the client and the technical team

3.Implementers:

Development Team(Juhi, Teyson, Lucie, Tucker, Bravo): Responsible for coding and building the application.

Tester(Jason, Alekya): Ensure quality and functionality before deployment.

Network Admin(Mr.Mike) and DB Admin (John) : Handle backend and infrastructure setup.

4.End Users:

Farmers: The primary users of the platform.

Manufacturers: Provide products to be displayed on the platform

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Activity/ Task | Responsible(R) | Accountable | Consulted | Informed |
| Project initiation and approval | Mr.Pandu, Mr Dooku | Mr.Henry | Peter,Kevin,Ben | APT IT Team,Farmers |
| Requirement Gathering | Miss.Janes | Mr.Vandanam | Peter,Kevin,Ben, Mr.Henry | Development Team |
| Budget Allocation | Mr.Pandu | Mr.Henry | Mr.Dooku | Project Team, Stakeholder |
| System design and Architecture | Senior Developer(Ms.Juhi) | Mr Vandanam | Network Admin(Mr.Mike), DB Admin(John) | Tester,Project Team |
| Development of application | Development Team(Juhi,Teyson,Lucie,Tucker,Bravo) | Mr Vandanam | BA, Project coordinator(Mr.Dooku) | Network and DB Admins |
| Testing and Quality Assurance | Testers( Mr.Jason, Ms. Alekya) | Mr Vandanam | Development team, BA | Stakeholders, Farmers) |
| Network and Data base setup | Network Admin(Mr.Mike ),DB Admin( John) | Mr Vandanam | Development team | Project Coordinator(Mr.Dooku) |
| Product Launch and Deployment | Deployment Team | Mr Vandanam | BA, Testers | Farmers, Manufacturers |
| Training Farmers and onboarding | BA, Project coordinator | Mr.Henry | Peter, Kevin,Ben | Farmers, Manufacturers |
| Post launch support and feedback | BA, Support Team | Mr.Karthik | Farmers, Manufacturers | Development Team |

Q7. Business Case Document

Help Mr Karthik to prepare a business case document.

* Why is this project initiated?

This project is initiated to bridge the gap between farmers and the manufacturers’ to get the required products .

* What are the current problems?

Farmers are facing difficulties in getting products like fertilizers, seeds and pesticides from the manufacturers.

* With this project , how many problems could be solved?

Scarcity of the products can be solved

User friendly access to the farmers

Wide variety of products to the farmers.

* What are the resources required?

12 members

* What is the time frame to recover ROI

18 months

* How to identity Stakeholders?

To prepare a detailed RACI Matrix to identify stakeholders

Q8. SDLC Methodologies

SDLC (Software development life cycle) is the process of planning , creating , testing and deploying an information system. There are methodologies like

Sequential - waterfall

This is a linear and step by step approach where each phase ( Requirement, design , Development, Testing ,Deployment) is completed before moving to the next . This method is suitable for clearly defined **unchanging** requirements. May be requirement changing after one particular step is difficult to incorporate and also users feedback is also attained only at the completion

Iterative - RUP

The project is divided into small cycles , each cycle involves all SDLC phases( planning, design, development, testing .The feedback is gathered and incorporated in subsequent iterations. So here in this model issues can be identified and resolved early and also adjustments can be made on feedback.

Evolutionary - Spiral

An extension of iterative model , this approach develops the system incrementally and delivers a functional protype at each stage . It focus on building an initial version and refining it through multiple cycles. Feedback from users improves system functionality. Stakeholders see progress , reducing uncertainty. It is suitable when project users involvement and feedback are critical.

Agile- Scrum

A highly flexible and collaborative approach, where development occurs in short cycles called sprints (1-4 weeks). Continuous stakeholder involvement ensures the product meets user needs and flexible to change requirements quick. It requires Skilled teams and focuses on functionality over detailed documentation and scope creep may happen.

Q9.SDCL Models

Waterfall

Spiral

Scrum

RUP

Scrum is an Agile framework that emphasizes delivering value incrementally in short , iterative cycles called Sprints (1-4 weeks) . It involves roles like product owner , scrum master, and development team, with ceremonies like sprint planning , daily standups and sprint reviews.

The most appropriate model due to its flexibility , iterative approach, and stakeholder engagement , making it ideal for this projects dynamic environment.

RUP can be secondary option if structured process and risk management are prioritized.

Waterfall and spiral are less suitable due to their rigidity and complexity, respectively.

As a business Analyst, I would analyse both the V- model and the waterfall model for the project requirement, constraints, and key success factors before making a recommendation . Here is the detailed comparison and reasoning

1 . V-Model : It is an extension of the waterfall model but emphasis verification and validation at each stage.

Every development phase has a corresponding testing phase( unit testing, integration testing, etc) ensuring early detection.

Testing and development activities run in parallel.

2. Waterfall Model: A linear and sequential model where one phase must be completed before moving to the next.

It is depended on the detailed documentation and predefined requirements.

Testing occurs only after the development phase is complete which can result in late defect discovery.

**Recommendation**

I recommend the V- model for this project because

1 . It ensures quality and reliability through **verification and validation process** , crucial for building trust among farmers and manufacturers .

2. Early defect detection in parallel with development phases will save time and costs in the long run.

3. It emphasis on continuous testing mitigates the risks of late-stage issues , making it more effective for this specific scenario.

However, if flexibility for evolving requirements becomes a major factor the team might also consider iterative or Agile methods like scrum for incremental delivery and feedback driven development.

Q10. Write down the difference between waterfall and V model.

Waterfall V-Model

Sequential and linear phases Sequential but emphasizes a

corresponding test phases for every

development phase

Testing is performed at the end of the development Testing is integrated with every

Phase development phase .

Changes in requirements are difficult to accommodate Slightly flexible due to early testing but

once a phase is completed. But still rigid in handling changes.

Errors are detected late ,during the testing phase Errors can be detected early, reducing

Overall costs.

Best for projects with clear and welldefined requirements Best for projects where verification and

Validation are critical, such as healthcare

Less customers are involved More customers are involved

Waterfall models is less expensive V-model is more expensive.

Q11. As a BA , state your reason for choosing one model for this project.

I think to avoid later testing and requirement changing once the project is completed may be a problem where in we have to reach out to stakeholders may be for budget may create impact on the project by delaying and scope creep So it is better to go with the V-Model as the testing happens with the development phase and can be sorted after every specific deliverable.

The project has the clear requirements, such as facilitating farmers to buy fertilizers , seeds and pesticides and enabling manufacturers to showcase their products which is the well defined scope and V model works well here.

Q12. Gantt Chart

It is a project management tool that visually represents a project schedule. It uses horizontal bars to show the duration and timing of the tasks across a timeline, making it easier to plan, coordinate, and track the progress of a project.

Description

Requirement gathering(RG): Performed by BA,PM. Duration (10 Weeks)

Requirement Analysis(RA):Performed by BA, PM. Duration (11Weeks)

Design: BA, PM, Java developers, DB Admin, Network Admin(6 weeks)

Development(D1,D2,D3,D4): Java Developers, DB Admin( 31weeks)

D1- Manufacturer product upload

D2-Farmer product browsing

D3- Payment Gateway Integration

D4-Logistics/ Delivery Tracking

Testing(T1,T2,T3,T4) : Tester , Network Admin(18 weeks)

UAT: BA, Tester, Stakeholders, PM (weeks 2)

Q13. Explain the difference between fixed bid and billing project

A fixed bid project is one in which the service provider agrees to deliver a specific scope of work for a fixed price. The scope of work , deliverables ,and timeline are agreed upon upfront and the service provider assumes the risk for any cost overruns or delays.

A billing project is one in which the service provider bills the client for the actual time and materials expended on the project. The client pays for the service providers time and expenses, and the scope of work can be adjusted as needed throughout the project.

Q14. Prepare timesheets of a BA in various stages of SDLC.

Design Timesheets of a BA

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sl.no | Tasks | Actionable items | Start time | End time | Duration |
| 1 | Morning Stand-up Meeting | |  | | --- | | Meeting |  |  | | --- | | Attend daily stand-up meeting with the project team to discuss updates, blockers, and goals for the day. | | 09:00 AM | 09:30AM | 30min |
| 2 | |  |  |  | | --- | --- | --- | | |  | | --- | |  |  |  | | --- | | Stakeholder Requirements Review | |  |  | | --- | |  | | Review the requirements gathered from stakeholders (Peter, Kevin, Ben) and validate with the project team to ensure accuracy and alignment with business needs. | 09:30AM | 10:30AM | 1 Hour |
| 3 | Update BRD (Business Requirements Document) | Revise the BRD based on feedback from the previous day’s discussions. Ensure that the document is clear and comprehensive. | 10:30AM | 11:30AM | 1 Hour |
| 4 | Collaborate with Development Team on Design Feasibility | Meet with the development team (e.g., Ms. Juhi, Mr. Teyson) to ensure the design solutions are feasible and address technical constraints. | 11:30 AM | 12:30PM | 1 Hour |
| 5 | Design Document Review with Project Manager | Review the updated design documents with the Project Manager (Mr. Vandanam) and get feedback on areas that need refinement. | 1:30PM | 2:30PM | 1 Hours |
| 6 | Functional Specification Drafting | Work on drafting the Functional Specification Document (FSD),detailing how the business requirements will be implemented in the system. | 02:30 PM | 3:30PM | 1 Hours |
| 7 | UI/UX Design Feedback Session | Review UI/UX designs with the design team to ensure they align with business requirements and discuss any necessary adjustments. | 3:30PM | 4:30PM | 1 Hour |
| 8 | End-of-Day Wrap-Up and Documentation Update | Summarize the day’s activities, update the project documentation, and prepare a report for stakeholders. | 4:30PM | 05:00PM | 30min |

Development timesheet of a BA

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sl No | Tasks | Actionable Items | Start time | End time | Duration |
| 1 | Daily Standup Meeting with Development Team | |  | | --- | |  |  |  | | --- | | Attend the standup meeting with developers (e.g., Ms. Juhi, Mr. Teyson, Ms. Lucie, Mr. Bravo) to discuss the daily progress, clarify any requirements, and answer questions about business needs. | | 09:00 AM | 10:00AM | 1 hour |
| 2 | Review Development Progress | Review the work done so far by the developers to ensure it aligns with business requirements (e.g., functionality of the product browsing, selection process). | 10:00AM | 11:00AM | 1 hour |
| 3 | Coordinate with Project Manager (Mr. Vandanam) | Meet with the project manager to ensure that the development is on schedule and aligned with stakeholder requirements. Discuss any blockers or roadblocks faced by the team. | 11:00 | 12:00 | 1 Hour |
| 4 | Stakeholder Clarifications and Feedback | Engage with stakeholders (Peter, Kevin, Ben, Mr. Henry, Mr. Pandu) to clarify any new or changing requirements. Ensure the project scope is being met and gather any additional feedback. | 12:00 | 12:30 | 30 min |
| 5 | Document Requirement Changes | Update documentation to reflect any changes or clarifications based on stakeholder feedback. Ensure that the development team is informed of any updated requirements. | 1:30 | 2:30 | 1 Hour |
| 6 | Assist with User Interface (UI) Review | Review the user interface (UI) design with the development team to ensure it’s user-friendly, especially considering the needs of farmers. | 2:30 | 3:30 | 1 Hour |
| 7 | Prepare for Testing Phase | Collaborate with the testing team (Mr. Jason and Ms. Alekya) to prepare test cases for the next phase. Ensure that business requirements are adequately covered in the testing phase. | 3:30 | 4:30 | 1 Hour |
| 8 | Update Stakeholders on Progress | Send out progress updates to stakeholders (Mr. Henry, Mr. Pandu, Mr. Dooku, Peter, Kevin, Ben) regarding the current status of the development and any outstanding issues. | 4:30 | 5:00 | 30 min |

Prepare Testing time sheet of a BA

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sl No | Tasks | Actionable items | Start time | End time | Duration |
| 1 | Requirement Verification | Reviewed the finalized requirements with the testing team to ensure the test cases align with business needs. | 9:00AM | 10:00AM | 1 Hour |
| 2 | UAT Preparation | Assisted the testing team in preparing UAT (User Acceptance Testing) scenarios and validation criteria. | 10:00AM | 11:00AM | 1 Hour |
| 3 | UAT Execution Support | Supported UAT testers by answering queries regarding business processes and system behavior. | 11:00AM | 12:00PM | 1 Hour |
| 4 | Bug/Issue Clarification | Collaborated with the testing team to clarify and reproduce issues found during UAT. | 12:00PM | 12:30PM | 30Min |
| 5 | Review Test Results | Reviewed test results and logs to ensure that all business requirements are correctly implemented. | 01:30 | 2:30 | 1 Hour |
| 6 | Test Case Update | Worked with the testing team to update test cases for new functionality or bug fixes. | 02:30PM | 03:30PM | 1 Hour |
| 7 | UAT signoff | Reviewed the UAT results with stakeholders and got their sign-off for production. | 03:30 | 04:00 | 30Min |
| 8 | Communication with Stakeholders | Sent out test completion report to stakeholders, including any open issues and their status. | 04:00 | 05:00 | 1 Hour |

UAT Timesheet of a BA

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SL No | Tasks | Actionable items | Start time | End time | Duration |
| 1 | Morning Standup & Briefing | Ensured everyone was aligned on the tasks for the day. | 09:00 | 10:00AM | 1 Hour |
| 2 | Review of UAT Test Cases & Scenarios | Clarified some edge cases and test data for certain scenarios. | 10:00AM | 11:00AM | 1 Hour |
| 3 | **Test Case Walkthrough with UAT Participants**: Walked through the test cases with farmers (Peter, Kevin, Ben) to explain expected outcomes. | Answered questions from farmers about navigating the platform. | 11:00AM | 11:30AM | 30Min |
| 4 | **Monitoring UAT Execution**: Observed and assisted farmers as they executed the test cases. Logged any immediate feedback or issues they encountered. | Farmers raised issues with the ordering flow; logged them for review. | 11:30 AM | 12:00AM | 30Min |
| 5 | **Defect Logging & Clarification**: Worked with testers to log defects, clarified the business impact of issues raised during UAT. | Documented defects related to product search and checkout issues. | 12:00PM | 12:30PM | 30Min |
| 6 | **Feedback Session**: Collected feedback from farmers on usability and user experience, including suggestions for improvement. | Discussed navigation issues with the platform, specifically in product categories. | 12:30PM | 01:00PM | 30Min |
| 7 | **Defect Review & Prioritization**: Met with the project manager and developers to review logged defects and prioritize fixes. | Discussed the severity of defects and impact on business operations. | 02:00PM | 03:00PM | 1Hour |
| 8 | **UAT Session Wrap-Up & Next Steps**: Final check-in with the team and farmers to confirm the testing was completed for the day. Prepared a plan for the next session. | Ensured all critical issues were identified for future testing. | 03:00PM | 04:00PM | 1 Hour |
| 9 | **Daily UAT Report Preparation**: Compiled a summary of the day’s activities, issues, and feedback to present to the project manager. | Documented issues, defects, and farmer feedback for review. | 04:00PM | 04:30PM | 30Min |
| 10 | **Follow-Up with Development Team**: Clarified the details of defects with the development team, ensuring they had all the required information. | Discussed defect resolution plans with the dev team. | 04:30PM | 05:30PM | 10Hour |

Deployment and Implementation Timesheet of a BA

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sl No | Tasks | Actionable Items | Start time | End time | Duration |
| 1 | Morning Stand-up Meeting | Attend the project team’s daily stand-up meeting to review project status, discuss blockers, and confirm priorities for the day. | 09:00 | 09:30AM | 30 min |
| 2 | Stakeholder Communication | Check-in with Peter, Kevin, and Ben to gather any immediate feedback or requirements updates. | 09:30AM | 10:30AM | 1 Hour |
| 3 | Review Deployment Plan | Review deployment plan with Mr. Karthik (Delivery Head), Project Manager Mr. Vandanam, and relevant technical teams. Ensure alignment on timelines and tasks. | 10:30AM | 11:30AM | 1 Hour |
| 4 | User Acceptance Testing (UAT) Preparation | Finalize UAT test cases for fertilizers, seeds, and pesticides, ensuring they align with business requirements. Coordinate with testers Ms. Alekya and Mr. Jason. | 11:30AM | 12:30PM | 1 Hour |
| 5 | Meeting with Development Team | Review current progress with development team (Ms. Juhi, Mr. Teyson, etc.). Identify any issues related to functional requirements or scope. | 01:30 PM | 02:30PM | 1 Hour |
| 6 | Documentation Update | Update the Business Requirement Document (BRD) and ensure all changes from stakeholder feedback are captured. | 02:30 PM | 03:30 PM | 1 Hour |
| 7 | Deployment Readiness Check | Conduct a final check on system readiness for deployment. Confirm infrastructure setup with Network Admin (Mr. Mike) and DB Admin (Mr. John). | 03:30 PM | 04:30PM | 1 Hour |
| 8 | Wrap-up and Reporting | Summarize the day’s activities, update the project status report, and send communication to stakeholders (Peter, Kevin, Ben) on the progress. | 04:30 PM | 05:00PM | 30Min |