1. Identify the Business Process Model for the Online Agriculture Store – (Goal, Inputs, Resources, Outputs, Activities, Value created for the end Customer)

Answer:

* **Goal:**

To make a user-friendly online platform where framers can directly purchase the product from the manufacturers which can address supply chain challenges and improve framing outcomes.

* **Input:**

Farmers need what type of fertilizers, seeds, and pesticides to use for their crops. Easy-to-use languages and accessibility options are available. Delivery services to remote areas

Manufacturer Input like product details about fertilizers, seeds, and pesticides that had previously been used by farmers (Customer data). The more stock a company has mostly in lower the prices to move the products

Technical Input like what type of software tools will used, and the trained employee. What are the requirements from stakeholders within the budget of 2 crores INR and timeline of 18 months

* **Resources:**

Technology resources like software, frameworks, applications, and financial resources will Allocated under CSR initiatives, and the Office Space for the APT IT Solution Team, SOONY Committer, and Stakeholder.

* **Output:**

Functional online agricultural store which is easy to handle through mobile and web applications. Product catalogs with fertilizers, seeds, and pesticides. Simple user interface for framers so that they can select and order. Manufactures login for uploading product details and Order tracking and delivery services.

* **Activities:**

Requirement Gathering through conducting workshops with the stakeholders to document key features. Gather feedback from the framers for usability and features. Develop a wireframe and prototype for the platform architecture. Build the application using different software create backend systems for product and user management and have easy payment gateway and delivery tracking for framers. Also, launch the Online Platform, and train the framers and manufacturers on using an application. Regular updates and maintenance for the best customer service.

* **Values:**

Farmers get convenient access to fertilizers, seeds, and pesticides without traveling to distant markets. Which saves their time as well cost-effective also Improves farming productivity through timely access to high-quality products.

For Manufactures they expanded their customer base by reaching farmers in remote areas and even direct interaction with farmers for better business opportunities.

1. Mr Karthik is doing a SWOT analysis before he accepts this project. What Aspects he Should consider as Strengths, Weaknesses, opportunities, and Threats.

Answer:

* **Strength:**

The project has a clear budget of 2 crores INR and a timeline of 18 months, making planning and execution manageable. The project addresses a significant pain point for farmers, ensuring relevance and potential long-term success. The innovative approach of connecting manufacturers directly with farmers eliminates middlemen, ensuring better pricing and product availability which directly link farmers and manufacturers. Even the CSR Initiative backing a project under SOONY’s CSR has strong support from the team ensuring smooth stakeholder engagement. Strong Talent Pool as APT IT solution is already a capable team with experienced developers, testers, and administrators. This ensures the technical aspects of the project can be handled effectively.

* **Weakness:**

Delivering products to remote villages may require a robust supply chain network, which could be challenging to establish and maintain. While the budget is defined unforeseen issues such as technology upgrades or changes in scope could strain the allocated funds.

* **Opportunities:**

This project addresses farmers’ needs, and the platform has the potential to become a market leader in agricultural e-commerce for rural areas. Which also improves access to agricultural products, the platform can create significant social and economic benefits for farmers. Once developed, the platform can be scaled to include more products (e.g. farming tools, irrigation systems) or expand to new regions.

* **Threats:**

The competition among existing e-commerce giants or startups may enter the agricultural domain, posing a challenge to the platform’s adoption. Even Technological Issues such as server downtime, security vulnerabilities, or bugs in the application can hinder its performance, and adoption may happen. Government policies always change policies related to e-commerce, agriculture, or rural development could impact the platform's operations which may cause threats.

1. Mr Karthik is trying to do a feasibility study on this project in Technology (Java), Please help him with points (HW SW Trained Resources Budget Time frame) to consider in the feasibility study.

Answer:

* **Hardware:**

Ensure the platform is compatible with basic smartphones, tablets, and desktop browsers commonly used by farmers. Internet connectivity is essential for deployment and ongoing support. Servers to host the platform, supporting high availability and scalability. Cloud-based solutions like AWS, Azure, or Google Cloud can be considered for flexibility.

* **Software:**

For storing user details, the product catalogs, orders, and transactions with the help of Relational databases by SQL. Compatible front-end frameworks (e.g., React.js or Angular) integrated with Java back-end for a seamless user experience. Payment Process like integration for transactions. Delivery services API integration for order tracking. Testing tool and Security tool implementation.

* **Resources:**

The core team like a senior Java developer, a Java developer with four persons, a DB Admin, a Network admin, a Tester, Business Analysts, and Project management. Upskill developer and tester in domain-specific requirements like e-commerce workflows and agricultural product handling.

* **Budget:**

The development costs include salaries for the project team and licensing fees for software tools and frameworks. Training costs for team members in learning specific tools or technologies. Testing cost for automation testing and performance testing. Maintenance cost for ongoing server hosting, updates, and technical support after deployment.

* **Time frame:**

The project duration is 18 months.

1. Mr Karthik must submit a Gap Analysis to Mr Henry to convince him to initiate this project. What points (compare AS-IS existing process with TO-BE future Process) to showcase in the GAP Analysis.

Answer:

* **Current State:**

Farmers rely on physical stores, often located far from their villages, to purchase fertilizers, seeds, and pesticides. Limited product availability due to geographical constraints. Middlemen often increase costs, reducing farmers' profit margins. Because of the communication gap between Farmers and manufacturers No direct communication between farmers and manufacturers; interactions are mediated through distributors or agents. So Farmers struggle to provide feedback or raise specific requirements to manufacturers. Because of that, they won’t be able to improve the quality of fertilizers, seeds, and pesticide stocks. Even farmers must travel long distances to buy products, losing valuable time and incurring transportation costs. Limited store hours and seasonal availability restrict timely procurement which also causes inconvenience to framers. Sometimes Farmers may overpay or settle for inferior products due to a lack of alternatives. Supply chain inefficiency is fragmented and unreliable, leading to delays in product availability. Farmers often face stock shortages during critical farming periods. Farmers rely on informal networks (peers or local agents) for advice on products. Limited access to expert guidance or verified product information.

* **Desired State:**

Farmers can directly order products online from manufacturers through the platform. A wider variety of products is available with transparent pricing. Elimination of middlemen ensures better pricing for farmers. Detailed product descriptions, reviews, and recommendations help farmers make informed decisions. Through this they will remove logistical and financial barriers, giving farmers better access to agricultural products. The platform enables direct communication channels between farmers and manufacturers. Manufacturer team can respond to farmers' queries or customize products based on regional requirements. Which can Build trust and ensure farmers' specific needs are met by manufacturers. The online platform is accessible 24/7, allowing farmers to order products from the comfort of their homes. Delivery services bring products directly to farmers’ locations, even in remote areas. Which also Saves time and money while ensuring timely availability of products. Transparent pricing is displayed on the platform with real-time updates. Farmers can compare prices from different manufacturers to choose the best option. Promotes fair pricing and empowers farmers to make cost-effective choices. Streamlined supply chain with direct manufacturer-to-farmer delivery. Real-time inventory updates ensure farmers are aware of product availability. Which Enhances supply chain reliability and ensures timely delivery of products. The platform can include educational resources like farming tips, product usage guides, and expert consultations. Multi-language support ensures ease of use for farmers in different regions. Empower farmers with knowledge and support to improve farming outcomes.

1. List down different risk factors that may be involved (BA Risks And process/Project Risks)

Answer:

* **Business Analysis Risks:**
  + 1. **Requirement Risks:** Misunderstanding farmers’ and manufacturers’ needs due to language or communication barriers. Overlooking key features like multi-language support or offline functionality. Ambiguities in the scope of work can lead to missed deliverables or unrealistic stakeholder expectations. May frequently changes in requirements Stakeholders may change their requirements mid-project, leading to delays and rework.
    2. **Stakeholder Risks**: Farmers and manufacturers may not actively participate during requirement-gathering sessions low engagement from farmers may have Difficulties in aligning expectations across multiple stakeholders (e.g., farmers, manufacturers, SOONY committee). Which may create conflict interests among Misaligned priorities between stakeholders like SOONY (CSR goals) and manufacturers (profit motives).
    3. **Communication Risks**: Inefficient communication between BA, the development team, and stakeholders which is Misinterpretation of technical jargon by non-technical stakeholders like farmers. The documentation gap or Poorly documented requirements can lead to misaligned development efforts.
* **Process/ Project Risks:**

1. **Technological Risks:** Platform performance issues due to Slow load times or downtimes due to poor infrastructure design. Difficulty in scaling the platform to accommodate a large number of users then risks of cyberattacks, data breaches, or unauthorized access to farmer/manufacturer data. Challenges in integrating third-party services like payment gateways and delivery systems.
2. **Resources Risks:** Insufficient expertise like Lack of experience among the team in e-commerce or agricultural systems. Unavailability of trained resources during critical project phases and Losing key developers, testers, or the BA can disrupt project timelines and quality.
3. **Schedule and Budget Risks**: Delays in completing deliverables due to scope creep, technical challenges, or resource unavailability. Unplanned expenses for cloud services, training, or additional development resources.
4. **Adoption Risks**: Farmers may be reluctant to adopt the platform due to a lack of digital literacy or mistrust of online transactions. Manufacturers may hesitate to participate if they perceive the platform as costly or complex to use.
5. **Operational Risks**: Difficulty in ensuring timely delivery of products to remote areas. Dependence on unreliable delivery networks could tarnish the platform’s reputation. Post-deployment support may face challenges if the platform requires frequent updates or bug fixes.
6. Perform stakeholder analysis (RACI Matrix) to find out the key stakeholders who can make decisions and Who are the influencers

Answer:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Stakeholder | Role | Responsible | Accountable | Consulted | Informed |
| Mr. Henry | Project Sponsor |  | Yes | Yes |  |
| Mr. Pandu | Financial Head |  | Yes | Yes |  |
| Mr. Dooku | Financial Head |  | Yes | Yes |  |
| Peter, Kevin, Ben | Farmer/ Stakeholders |  |  | Yes |  |
| Mr. Karthik | Delivery Head | Yes |  | Yes | Yes |
| Mr.Vandanam | Project Manager | Yes |  | Yes | Yes |
| Ms. Juhi | Senior Java Developer | Yes |  |  |  |
| Mr.Teyson Ms.Lucie Mr.Tucker Mr.Bravo | Java Developers | Yes |  |  |  |
| Mr. Mike | Network Administrator | Yes |  |  |  |
| John | Data Administrator | Yes |  |  |  |
| Mr. Jason  Ms. Alekya | Testers | Yes |  |  |  |
| You | Business Analyst | Yes |  | Yes | Yes |

1. Help Mr Karthik to prepare a business case document

Answer:

* **Project Initiation:**

The project to build an Online Agriculture Store has been initiated by Mr. Henry, under SOONY’s CSR initiative, to empower farmers in remote areas. The store will connect farmers and agricultural product manufacturers (fertilizers, seeds, pesticides) through an accessible online platform. APT IT Solutions has been entrusted with the development of the project. The budget of INR 2 crores, the timeline of 18 months and the main purpose is to solve procurement issues faced by farmers and improve their access to quality agricultural inputs.

* **Current Problems:**

Launching this involves certain challenges like limited accessibility Farmers in remote areas struggle to access physical stores for fertilizers, seeds, and pesticides. Dependency on middlemen results in increased product costs limited variety of fertilizers, seeds, and pesticides. Farmers spend considerable time traveling to procure products which is time-consuming. No direct communication channel between farmers and manufacturers regarding the communication gap issues.

* **Problems that could be solved:**

By implementing the Online Agriculture Store, the following problems will be addressed Farmers can order products online from anywhere, with doorstep delivery. A wider range of products is available from multiple manufacturers. Farmers save time by purchasing products online. Clear and competitive pricing is displayed on the platform. Improved Communication: Direct interaction between farmers and manufacturers for queries and feedback.

* **Resources Required:**

Business Analyst Requirement gathering and stakeholder communication. The project Manager will Oversee project execution.Java Developers will develop the web and mobile applications. Network Administrator Ensure platform connectivity and uptime. Database Administrator Manage the database for farmers and manufacturers. Testers Conduct thorough application testing. The hardware and software will be their servers for hosting the application and backup systems for data security. The software will see the payment gateway through Google Gay and PhonePe. Cloud services for scalability. Financial Resources INR 2 crores, allocated for development, testing, deployment, and training.

* **Organizational change required to adapt the technology:**

To adopt this new technology, SOONY and its stakeholders need to train farmers and manufacturers by conducting workshops to educate users on how to use the platform. Provide multilingual user guides for better accessibility**.** They adopt digital processes like Transition to online procurement and reduce dependency on physical distribution. Strengthen customer service to support digital inquiries. Support Incorporated feedback loops like Regularly gathering user feedback to improve platform features. Building Partnerships like Collaborate with reliable delivery networks to ensure timely product distribution.

* **Identify Stakeholders:**

The primary stakeholders are the framers they are the ones how going to get benefits from this online shopping, and manufacturers are going to supply the fertilizers, seeds, and pesticides. And SOONY’s Committee will decision maker and sponsor of the project.

The secondary stakeholders are the APT IT Solution team Responsible for developing and maintaining the platform. Partners ensure last-mile delivery of products so delivery networks and Government Bodies: Regulatory authorities to ensure compliance with agriculture and e-commerce laws. Methods to Identify Stakeholders through Interviews and Surveys Conduct with farmers and manufacturers to understand their needs. Workshops Organize brainstorming sessions with the SOONY committee and project team. Market Research will Study similar platforms to identify additional stakeholder groups. Stakeholder Mapping will Categorize stakeholders based on their influence and interest in the project.

1. The committee of Mr. Henry, Mr. Pandu Mr. Dooku, and Mr. Karthik are having a discussion on the project Development Approach. Mr Karthik explained to Mr. Henry about SDLC. And four methodologies like Sequential Iterative Evolutionary and Agile. Please share your thoughts and clarity on Methodologies

Answer:

* **Waterfall or Sequential Methodology:**

This method's main approach follows a linear, step-by-step process where each phase must be completed before the next begins. Phases include Requirement Gathering → Design → Development → Testing → Deployment → Maintenance. Changes in requirements are difficult to incorporate once a phase is completed. There are many advantages like Best suited for projects with well-defined and stable requirements. Easy to manage due to its clear structure and fixed timeline. Each phase is documented, providing clarity for all stakeholders. And even disadvantages do not accommodate changes in requirements. Testing happens at the end, making early issue detection impossible. Not suitable for dynamic or uncertain projects like the online agriculture store. This project with a fixed scope and a low likelihood of changes

* **Iterative Methodology:**

This approach develops the system through repeated cycles (iterations), improving the product at each iteration**.** Focuses on building a basic version of the system in the first iteration and refining it in subsequent iterations. Each iteration includes requirement analysis, design, development, and testing. There are identification and resolution of issues. Users can see working versions of the product at each stage, enabling better feedback. Accommodates changing requirements. Can be resource-intensive due to repeated cycles. Requires constant stakeholder engagement, which may not always be feasible. However, the project uses Projects where requirements are uncertain or likely to change over time useful for building systems that require incremental improvements.

* **Evolutionary Methodology:**

This approach focuses on building a system through prototypes or evolving versions, leading to the final product. Involves developing a functional prototype first, which evolves into the final system. Heavy emphasis on feedback and refinement. Farmers and manufacturers (end-users) can provide feedback on prototypes. Reduces the risk of delivering an unusable product by validating concepts early. Allows stakeholders to see the progress and adjust their requirements. Prototyping can lead to scope creep if the final goals are not well-defined. High dependence on user feedback. Requires skilled developers to handle evolving requirements efficiently. Projects with evolving requirements or when end-user involvement is crucial for success. Ideal for innovative projects like an online platform catering to a diverse audience.

* **Agile Methodology:**

Agile focuses on delivering small, functional increments of the product over short cycles (sprints), with constant collaboration and flexibility. Based on iterative development with faster feedback cycles. Emphasizes teamwork, collaboration, and adaptability. Includes frequent deliveries of working software. Advantages Highly adaptable to changing requirements. Delivers functional modules frequently, enabling early testing and feedback. Encourages close collaboration with stakeholders. Disadvantages are Requires continuous stakeholder involvement and collaboration. Can be challenging to manage for inexperienced teams. Lack of detailed documentation may cause issues in large-scale projects. Complex projects with rapidly changing requirements. Suitable for this project since farmers and manufacturers may provide new insights during development.

* **Comparison Table:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Criteria | Sequential | Iterative | Evolutionary | Agile |
| Flexibility | Low | Medium | High | Very High |
| Requirement Stability | High | Medium | Low | Low |
| Stakeholder involvement | Low | High | High | Very High |
| Time to Market | Long | Moderate | Moderate | Short |
| Cost of Changes | High | Moderate | Moderate | Low |
| Testing Approach | End of Process | Per Iteration | During Prototyping | Continuous |

Given the dynamic nature of the requirements for this project, the Agile methodology is most suitable because Farmers and manufacturers may refine their needs during development. Continuous delivery of working modules ensures early validation. It allows the team to adapt quickly to feedback and prioritize critical features.

1. They discussed models in SDLC like waterfall RUP Spiral and Scrum. You put forth your understanding of these models

Answer:

* **Waterfall Model:**

A linear, sequential approach where each phase depends on the completion of the previous one. Phases: Requirements → Design → Development → Testing → Deployment → Maintenance. Simple and easy to understand. Clearly defined stages, make it easier to track progress. Suitable for projects with stable and well-defined requirements. Inflexible; changes are hard to accommodate once a phase is completed. Testing happens at the end, so early detection of issues is not possible Projects with clear, unchanging requirements.

* **RUP (Rational Unified Process):**

A framework that follows an iterative approach, dividing the project into 4 phases: Inception, Elaboration, Construction, and Transition. Heavily focused on documentation, modeling, and iterative improvements**.** Focuses on risk reduction early in the project. Allows iterative refinements, making it suitable for dynamic environments. Requires skilled teams to implement successfully. Can be expensive and time-consuming due to its complexity. Supports reusable components, improving efficiency. They also have disadvantages Requires skilled teams to implement successfully. Can be expensive and time-consuming due to its complexity. Large, complex projects where risks need to be mitigated iteratively.

* **Scrum:**

A framework under Agile methodology that focuses on iterative development, teamwork, and short sprints (2-4 weeks) to deliver working increments of the product. Encourages continuous collaboration between teams and stakeholders. Their advantages Highly flexible and adaptable to changes. Frequent deliveries allow for early testing and validation. High stakeholder engagement ensures alignment with business needs. Projects with evolving requirements and high stakeholder involvement. Requires skilled teams with strong collaboration. Lack of documentation may create challenges in large, complex projects. These are disadvantages

* **V-Model:**

An extension of the Waterfall Model where each development phase has a corresponding testing phase, ensuring early detection of defects. The "V" shape represents the relationship between the development stages on the left and the corresponding testing stages on the right Emphasizes testing at every stage, leading to higher quality. Well-suited for projects where requirements are clear from the beginning. Easy to manage and track progress. Inflexible; changes are difficult to incorporate once the development begins. Requires complete clarity on requirements before the project starts this is a disadvantage.

As a Business Analyst, I recommend using the **V-Model** for the following reasons:

Higher Focus on Quality: This is critical for a project where usability and reliability directly impact the livelihoods of farmers and manufacturers.

Clarity of Requirements: Since the project has clearly defined goals (e.g., selling agricultural products online), the V-Model ensures systematic development with rigorous validation.

Stakeholder Satisfaction: SMEs advocating for the V-Model might prefer its structured testing approach, ensuring confidence in the final product.

Risk Mitigation**:** Early defect detection reduces the risk of delivering a faulty system.

While the V-Model is slightly more resource-intensive than the Waterfall Model, its focus on testing and quality aligns well with the project's goals. By prioritizing quality assurance and defect prevention, the V-Model can ensure the success of the Online Agriculture Store.

1. Write down the differences between the waterfall and V models.

Answer:

|  |  |  |
| --- | --- | --- |
| Aspect | Waterfall Model | V Model |
| Definition | A linear and sequential model where each phase of development flows into the next. | An extension of the Waterfall Model where every development phase is linked to a corresponding testing phase. |
| Testing | Testing is performed only after the entire development phase is complete. | Testing happens parallel to each development phase, ensuring early defect detection. |
| Focus | Focuses on the development process. | Focuses equally on development and validation/testing processes. |
| Flexibility | Less flexible; changes are difficult to incorporate once a phase is completed. | Less flexible, but changes can be accommodated in the corresponding testing and validation phases. |
| Risk Identification | Risks are identified late, usually during testing or implementation. | Risks are identified early through continuous testing at each stage. |
| Cost of Fixing Defects | High, as defects are often detected late in the process. | Lower, as defects are identified and fixed during the earlier stages. |
| Documentation | Require extensive documentation for all phases. | Documentation is required for both development and testing activities at each stage |
| Suitability | Suitable for projects with well-defined and stable requirements. | Suitable for projects with well-defined requirements and high-quality needs, like critical systems. |
| User Involvement | Minimal user involvement after the requirements phase. | Minimal user involvement, as the focus is on internal validation and testing. |
| |  | | --- | | Error Detection |  |  | | --- | |  | | Errors are detected late, during the testing phase | Errors are detected earlier due to testing happening at every stage. |
| Project Complexity | Best for simple and straightforward projects. | Best for projects requiring high quality and reliability, like healthcare or financial systems. |
| Phases | Sequential: Requirements → Design → Development → Testing → Deployment → Maintenance. | V-shaped: Verification phases (Requirements → Design → Coding) align with Validation phases (Unit Testing → Integration Testing → System Testing → User Acceptance Testing). |
| Time to Market | Typically longer, as testing is performed only at the end | Faster than Waterfall, as testing occurs throughout development. |
| Cost Efficiency | It can be costlier if defects are discovered late. | More cost-efficient due to early defect detection and prevention. |
| Dependencies | Each phase depends on the completion of the previous phase | Each testing phase depends on its corresponding development phase. |
| Examples | Static websites, and internal tools with fixed requirements. | Critical systems like banking, healthcare, and embedded systems. |

* **The Waterfall Model** is suitable for simple projects with clear requirements where testing at the end is sufficient.
* **V-Model** is preferred for projects requiring high quality and reliability, where early testing is critical.

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

Answer:

The V-Model is the ideal choice for this project due to its emphasis on quality, structured testing, and early defect detection. This ensures that the online agriculture store will be reliable, user-friendly, and aligned with stakeholders' expectations, minimizing risks and maximizing project success.

* **Focus on Quality Assurance:** The project involves farmers and manufacturers as end-users who may not be technologically savvy. Ensuring a high-quality product is critical, and the V-Model emphasizes early and systematic testing at every development stage to deliver a reliable application.
* **Early Defect Detection:** Testing begins as early as the requirements phase and runs parallel to development. This ensures any defects or misalignments are identified and corrected early, saving time and costs later in the project.
* **Well-Defined Requirements**: The project's requirements (e.g., facilitating the purchase of seeds, fertilizers, and pesticides through a user-friendly platform) are clear and unlikely to undergo frequent changes. This aligns perfectly with the V-Model, which works best when requirements are stable.
* **Structured and Organized Approach:** The V-Model's sequential yet parallel structure ensures clarity and systematic progress. For a project involving multiple stakeholders (Mr. Henry, SMEs, project managers, and developers), this structured approach ensures alignment and accountability at every stage.
* **High Stakeholder Confidence**: The SMEs advocating for the V-Model likely value its focus on validation and testing. Using this model demonstrates a commitment to delivering a high-quality product, which can build trust among stakeholders.
* **Minimizing Risks:** Since the platform will be used by farmers who may not have prior exposure to such technology, usability and reliability are crucial. The V-Model minimizes risks by validating both functionality and usability throughout the development lifecycle.
* **Compliance with Budget and Time Constraints:** The V-Model's emphasis on early defect detection reduces the likelihood of expensive rework later in the project. This aligns with the project’s defined budget (₹2 crore) and timeframe (18 months).

1. The Committee of Mr. Henry, Mr. Pandu, and Mr. Dooku discussed with Mr. Karthik and finalized the V Model approach (RG, RA, Design, D1, T1, D2, T2, D3, T3, D4, T4, and UAT) Mr. Vandanam is mapped as a PM to this project. He studies this Project and Prepares a Gantt chart with the V Model (RG, RA, Design, D1, T1, D2, T2, D3, T3, D4, T4, and UAT) as a development process and the Resources are PM, BA, Java Developers, testers, DB Admin, NW Admin

Answer:

|  |  |  |  |
| --- | --- | --- | --- |
| **Week** | **Phase** | **Description** | **Resources Involved** |
| **1-2** | RG(Requirement Gathering) | Collect requirements from stakeholders and SMEs. | Project Manager, Business analyst |
| **3-4** | RA (Requirement Analysis) | Analyze requirements, finalize scope, and prepare BRD. | Project Manager, Business analyst |
| **5-6** | Design | Create system architecture and UI/UX designs. | PM, BA, Java Developers, DB Admin |
| **7-8** | D1 (Development Phase 1) | Develop initial modules (e.g., product catalog). | Java Developers, DB Admin |
| **9** | T1 (Testing Phase 1) | Unit testing of modules developed in D1. | Testers |
| **10-11** | D2 (Development Phase 2) | Develop backend integrations (e.g., manufacturer portal). | Java Developers, DB Admin, NW Admin |
| **12** | T2 (Testing Phase 2) | Integration testing for backend and frontend. | Testers |
| **13-14** | D3 (Development Phase 3) | Develop transaction systems (e.g., payment, order tracking). | Java Developers, DB Admin |
| **15** | T3 (Testing Phase 3) | Testing transaction system functionality. | Testers |
| |  | | --- | | **16** |  |  | | --- | |  | | D4 (Development Phase 4) | Finalize the system and integrate all components. | Java Developers, NW Admin, DB Admin |
| **17** | T4 (Testing Phase 4) | System testing and final bug fixes. | Testers |
| **18** | UAT (User Acceptance Testing) | End-user testing with feedback and adjustments. | Testers, PM, BA |

* **Project Manager (PM)**: Involved in all phases of coordination and monitoring.
* **Business Analyst (BA)**: Focused on Requirement Gathering (RG), Requirement Analysis (RA), and supporting UAT.
* **Java Developers:** Work during Design and all Development Phases (D1, D2, D3, D4).
* **Testers:** Involved in all Testing Phases (T1, T2, T3, T4) and UAT.
* **Database Admin (DB Admin):** Supports during Design and Development Phases (D1, D2, D3, D4).
* **Network Admin (NW Admin):** Assists in the Development of Phases D2 and D4, particularly for system integration.

1. Explain the difference between Fixed Bid and Billing projects.

Answer:

|  |  |  |
| --- | --- | --- |
| **Aspect** | **Fixed Bid Project** | **Billing Projects** |
| **Definition** | A project with a fixed price agreed upon before the project begins. | A project where the client pays based on the actual time and resources used. |
| **Pricing Model** | The price is predetermined and does not change regardless of the time or effort required. | Charges are based on hourly/daily rates for resources utilized. |
| **Scope Flexibility** | Scope is usually fixed at the start and changes are discouraged or require renegotiation. | Flexible scope; changes are accommodated, with additional time and resources billed accordingly. |
| **Risk** | The vendor bears the risk if the effort exceeds the estimated budget. | The client bears the risk as they pay for the actual time spent on the project. |
| **Budget Predictability** | Predictable for the client, as the total cost is fixed. | Less predictable; costs depend on the actual effort and time required |
| **Project Type Suitability** | Suitable for projects with well-defined and stable requirements. | Ideal for projects with evolving or unclear requirements. |
| **Quality Focus** | Vendors may try to optimize costs, potentially affecting quality. | The focus remains on delivering quality, as additional effort is billable. |
| **Change Management** | Changes to the scope typically require contract renegotiation. | Changes are easier to accommodate, with billing adjusted accordingly. |
| **Project Complexity** | Best for simple, low-complexity projects where effort is easy to estimate. | Ideal for complex, long-term projects with evolving requirements. |
| **Client Involvement** | Limited involvement after the initial contract signing and requirement finalization. | High involvement, as the client tracks progress and approves work regularly. |
| **Examples of Use** | Development of small websites, fixed-scope software, or turnkey solutions. | Agile software development, consulting, or R&D projects. |

1. Preparer Timesheets of a BA in various stages of SDLC

➢ Design a Timesheet of a BA

➢ Develop Timesheet of a BA

➢ Testing Timesheet of a BA

➢ UAT Timesheet of a BA

➢ Deployment and Implementation Timesheet of a BA

Answer:

* **Design a Timesheet of a BA**

|  |  |  |
| --- | --- | --- |
| **Task** | **Description** | **Hours (Per Week)** |
| Requirement Validation | Reviewing and validating requirements with stakeholders. | 6 hours |
| Preparing Use Cases & User Stories | Documenting detailed use cases and user stories. | 10 hours |
| Wireframe and Mockup Review | Assisting in creating wireframes and reviewing UI/UX designs. | 8 hours |
| Stakeholder Meetings | Conducting discussions with stakeholders for design approvals | 6 hours |
| Collaboration with Architects | Supporting system design and data flow discussions with architects. | 5 hours |
| Documentation Updates | Updating BRD/SRS as per design changes. | 5 hours |

**Total Weekly hours: 40 hours**

* **Development a Timesheet of a BA**

|  |  |  |
| --- | --- | --- |
| **Task** | **Description** | **Hours (per week)** |
| Requirement Clarifications | Providing clarifications to the development team on requirements. | 10 hours |
| Monitoring Development Progress | Tracking development milestones and ensuring alignment with requirements. | 8 hours |
| Supporting Agile Ceremonies | Participating in stand-ups, sprint planning, and retrospectives (if Agile). | 6 hours |
| Collaboration with Developers | Coordinating with developers to ensure accurate implementation. | 8 hours |
| Change Management | Assessing and documenting scope changes. | 4 hours |
| Review and Feedback | Reviewing prototypes and providing feedback. | 4 hours |

**Total Weekly Hours: 40 hours**

* **Testing Timesheet of a BA**

|  |  |  |
| --- | --- | --- |
| **Task** | **Description** | **Hours (per week)** |
| Test Case Review | Reviewing and validating test cases prepared by the QA team. | 8 hours |
| Supporting Test Execution | Assisting testers with requirement clarifications during test execution. | 10 hours |
| Defect Analysis | Analyzing reported defects and assessing their impact on requirements. | 6 hours |
| Requirement Traceability Matrix | Ensuring all requirements are covered in testing. | 6 hours |
| Collaboration with Testers | Discussing test progress and resolving ambiguities. | 5 hours |
| Test Result Review | Validating test results and ensuring alignment with the requirements. | 5 hours |

**Total Weekly Hours:** **40 hours**

* **UAT (User Acceptance Testing) Timesheet of a BA**

|  |  |  |
| --- | --- | --- |
| **Task** | **Description** | **Hours (per week)** |
| UAT Planning | Coordinating with stakeholders for UAT schedules and planning. | 6 hours |
| UAT Scenario Validation | Assisting users in preparing UAT scenarios and scripts. | 8 hours |
| UAT Support | Supporting end-users during UAT execution and clarifying doubts | 10 hours |
| Issue Logging | Logging issues and working with the team to resolve them. | 8 hours |
| Stakeholder Feedback Sessions | Gathering and documenting user feedback for improvements. | 4 hours |
| Documentation Updates | Updating documentation based on UAT findings. | 4 hours |

**Total Weekly Hours:** **40 hours**

* **Deployment and Implementation Timesheet of a BA**

|  |  |  |
| --- | --- | --- |
| **Task** | **Description** | **Hours (per week)** |
| Deployment Readiness Review | Ensuring all requirements are ready for deployment. | 6 hours |
| Go-Live Coordination | |  | | --- | | Coordinating go-live activities with stakeholders. |  |  | | --- | |  | | 8 hours |
| |  | | --- | | Training and Knowledge Transfer |  |  | | --- | |  | | Conducting training sessions for end-users. | 10 hours |
| Post-Go-Live Support | Providing support for issues reported after deployment. | 6 hours |
| Monitoring Implementation Success | Tracking user adoption and implementation metrics. | 6 hours |
| Documentation Finalization | |  | | --- | | Finalizing and archiving project documentation. |  |  | | --- | |  | | 4 hours |

**Total Weekly Hours: 40 hours**

* Design: Focus on wireframes, user stories, and stakeholder alignment.
* Development: Ensure alignment between developers and requirements.
* Testing: Bridge the gap between QA and stakeholders by validating tests and clarifying defects.
* UAT: Coordinate and assist end-users in testing the application.
* Deployment & Implementation: Train users, provide post-go-live support, and ensure a smooth transition.