**Online Agriculture Products Store**

1. **Business Process Model:**
   * 1. Goal: The goal which is being identified from the given case of ‘Online Agriculture Products Store’ is that to focus on creating a user friendly digital or the online platform, that connects with the farmers and with the manufacturers of the fertilizers, seeds and pesticides. This is to address the accessibility challenges faced by farmers in remote areas, by enabling them to procure essential agricultural products through a user-friendly web or mobile application.
     2. Inputs: The process begins with the inputs for online agriculture store, which could be categorized into the key areas that will contribute to the platforms development and also the functionality.

* Stakeholder Requirements – which means the farmers needs like an easy access to the fertilizers, seeds and the pesticides.
* Product details from the manufactures – which means the information about the fertilizers, seeds & pesticides, including their usage details, price provided by the manufactures.
* Finance – Rs 2 Cr provided by SOONY under their CSR initiative to support the development and maintenance of the online platform.
* Infrastructure – This means the tools and the technologies which is required for building the application like software design, development, testing etc.
  + 1. Resources: It includes human resources like-
* Project committee (Mr. Henry, Mr. Pandu, Mr. Dooku)
* Development team – APT IT Solutions with the delivery head, project manager, developers, testers and support team.
* Farmers (Peter, Kevin and Ben (as the stakeholder)
* Manufacturers supplying agricultural products
* Development of tools and database systems for storage.
  + 1. Outputs: The output includes a functional online store (web/mobile application that is user-friendly), the product listings (categoriesd information on fertilizers, seeds and pesticides), an efficient order placement system (allowing farmers to select and purchase products), mechanisms to ensure timely delivery of products (delivery to remote locations) and also improved accessibility for farmers to get easy access to agricultural products.
    2. Activities: The several activities like gathering and analyzing the requirements from stakeholders (understanding needs of farmers & manufacturers), followed by designing and developing the platform.
    3. Value created to end customer: This platform will create good value for farmers by offering convenience like they can access a wide range of agricultural products without traveling to far marketplaces, affordability and time efficiency. This process also empowers the farmers, enhances agricultural productivity and ensures the project achieves its objectives of bridging accessibility gaps for remote farmers.

1. **SWOT Analysis:**
2. Strength –

The project has a good significant budget of Rs.2 Cr which reflects very strong financial support under SOONY’s CSR initiative, which ensures financial security for its development and execution. The team at APT IT Solutions includes experienced professionals including developers, testers and administrators ensuring technical capabilities. The platform’s unique model of directly connecting farmers with manufacturers without intermediaries is a major advantage.

1. Weakness –

The weakness includes limited digital literacy among farmers. There also will be limited internet access in rural and remote areas. Logistical issues like ensuring reliable delivery to remote locations also may be a constraint. Also, this project relies heavily on manufactures for accurate and timely product listings as this is in direct contact with the manufacturers.

1. Opportunities –

On the opportunities side it includes the chance to solve a critical problem in the farming sector. It fills a major market gap in the agricultural supply chain, enabling farmers in remote areas to access essential products. It also has the potential to expand services such as, providing advisory features for farming techniques or adding e-learning for farmers. The platform could explore partnerships with NGOs, logistics providers and government initiatives for rural development by increasing its reach.

1. Threats –

The major threat would be competition from existing e-commerce platforms, resistance from the intermediaries, who might feel threatened by the direct manufacturer-to-farmer model. Additionally, logistic challenges in delivering to remote areas and there is a risk of low user adoption if farmers are not trained or made aware of the platform’s benefits.

1. **Feasibility Study:**

While conducting the feasibility study it is required to access several factors critical to the success of the project. The key areas include hardware, software, trained resources, budget and time frame:

1. Hardware requirements –

Mr. Karthik firstly must consider the hardware requirements like the servers to host the platform, high-capacity storage systems to manage and store the data. There also should be good reliable internet connection.

1. Software requirements – Java for backend development with frameworks like Spring boot or Hibernate and tools like React/ Angular for creating user friendly interface. A good database system such as MySQL or Mongo DB for database management, to store product and user details. DevOps tools like Jenkins and Docker for deployment. Selenium for automated and manual testing.
2. Trained resources – The project also requires trained professionals such as Java developers, front end developers, database administrators, testers with expertise in automation and manual testing.
3. Budget – It includes cost for development and infrastructure costs (servers, tools etc), salaries for team, team training cost, marketing expenses, ongoing maintenance, cost for software licenses (cost for paid tools, frameworks, or libraries), post deployment maintenance and support expenses.
4. Time frame – It is estimated for 18 months which is divided into phases like;

2-3 requirement gathering and stakeholder analysis,

1-2 months designing the platform

6-8 months backend and front-end coding

3-4 months of usability and security testing for any issues

1-2 months of deployment training and resolving issues.

1. **Gap Analysis:**

The analysis is focused on identifying inefficiencies in the existing process and how the proposed solution addresses them:

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| --- | --- | --- |
|  | AS-IS (Existing Process) | TO-BE (Future Process) |
| Procurement Challenges | Limited access to fertilizers, seeds, and pesticides due to reliance on local markets. | Direct access to products through an online platform, ensuring availability and affordability. |
| Communication | No direct communication between farmers and manufacturers, leading to mistrust and misinformation. | Direct interaction between farmers and manufacturers via the platform, fostering trust and transparency. |
| Process Efficiency | Manual methods of sourcing products require significant time and effort. | Automated browsing, ordering, and payment systems streamline the process, saving time and effort. |
| Geographic Barriers | Remote farmers struggle to access products due to transportation and distance from suppliers. | Products are delivered directly to farmers' locations, eliminating geographic constraints |
| Cost Efficiency | Dependence on intermediaries leads to higher costs. | Direct purchases from manufacturers reduce costs and ensure competitive pricing. |
| Transparency | Farmers cannot compare prices or verify product quality before purchase. | Detailed product descriptions, user reviews, and price comparisons empower farmers to make informed decisions. |
| Product Availability | Limited options available in local markets, restricting farmers' choices. | Wide variety of products available online, ensuring farmers get what they need. |

1. **Risk Analysis:**
2. Business Analyst Risk –

These risks are associated with the tasks and responsibilities of the BA.

* Requirement gathering risk: It includes the risk of incomplete or unclear requirements due to communication gaps with stakeholders like farmers and manufacturers. It makes difficulty in understanding technical needs or user preferences.
* Stakeholders conflict: The conflicts among the stakeholders, such as differing priorities between farmers and manufacturers, could lead to challenges in aligning the project goal.
* Documentation errors: It means documentation errors can also occur, where crucial details are missed or outdated, leading to misunderstandings during development.
* Miscommunication: Additionally, there is a risk of miscommunication between the BA and the technical team, which might result in unclear user stories or acceptance criteria affecting project outcomes.
* Timeline pressure: Finally, working under tight timelines to gather and finalize requirements can further lead to rushed decisions and delays in obtaining necessary approvals from stakeholders.

1. Process/ Project Risk –

These risks are related to the overall execution of the project:

* Technical risks: There may be compatibility issues between Java technologies and any legacy systems farmers or manufacturers currently use. Performance problems could arise if the platform struggles to handle high user traffic or large product catalogs. Security vulnerabilities are another concern, especially when managing sensitive user data and online payment transactions.
* Resource risks: The availability of skilled personnel is critical for the success of this project. There is a risk of not having enough trained resources, such as Java developers, testers, or database administrators, to meet the project’s technical requirements. Additionally, there is a possibility of key team members who leave during the project which causes delays and requires additional time and effort to onboard replacements.
* Budget risks: Budget overruns are a significant concern. Unforeseen expenses, such as the need for additional software licenses, hardware upgrades, or extended development timelines, could exceed the ₹2 Crores allocation. Marketing expenses and ongoing platform maintenance costs might also have been underestimated, potentially straining the overall budget.
* Time risks: The project’s estimated timeline of 18 months could face delays due to several factors. These include unexpected technical challenges, or dependencies on third-party vendors for hardware or software. Any delay in one phase can lead to subsequent phases, impacting the project delivery schedule.
* Adoption risks: Farmers and manufacturers may face challenges in adapting to the new platform due to a lack of technical knowledge or insufficient training. If the platform is not user-friendly or does not meet the expectations of its target audience, adoption rates could remain low. This would directly impact on the project’s success and its ability to address the identified problems.
* External risks: Regulatory changes affecting the sale or distribution of agricultural products could disrupt operations. Internet connectivity issues in rural areas may limit the usability of the platform for its primary audience. Additionally, competition from similar platforms launched during or after the project could reduce its market share and relevance.

By identifying these risks early and preparing strategies to mitigate them, Mr. Karthik can ensure the successful execution and adoption of the online agriculture store project.

1. **Stakeholder Analysis (RACI Matrix):**

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| --- | --- | --- |
| **Stakeholder** | **Role/Responsibility** | **RACI Designation** |
| Mr. Henry | Visionary and project sponsor, providing funding and strategic direction. | Accountable (A) |
| Mr. Pandu | Financial Head ensuring budget allocation and monitoring expenditures. | Consulted (C) |
| Mr. Dooku | Project Coordinator managing timelines, communication, and project coherence. | Responsible (R) |
| Peter, Kevin, Ben | Primary stakeholders (farmers) provide real-world challenges and feedback on platform usability. | Consulted (C) |
| APT IT Solutions Team | Technical teams tasked with building and delivering the platform. | Responsible (R) |
| Mr. Karthik | Oversees project execution, ensuring alignment with organizational objectives. | Accountable (A) |
| Manufacturers | Suppliers offering product data and participating in platform collaboration. | Consulted (C) |
| Farmers (End-Users) | Target audience providing essential feedback on the platform’s impact and functionality. | Informed (I) |
| Project Manager | Directs resource allocation, risk management, and milestone achievement. | Responsible (R) |
| Java Developers | Implement platform features and functionality as per requirements. | Responsible (R) |
| Network Admin | Maintains network infrastructure to ensure platform stability. | Responsible (R) |
| DB Admin | Secures and manages the database to store and retrieve data efficiently. | Responsible (R) |
| Testers | Validate the platform’s functionality and ensure seamless user experience. | Responsible (R) |
| Regulatory Authorities | Provide guidelines and ensure platform compliance with laws governing agriculture products. | Consulted (C) |

**Key Decision-Makers and Influencers**

* Decision-Makers:

1. Mr. Henry: The project sponsor holds ultimate authority over the project’s approval, funding, and scope decisions.
2. Mr. Karthik: As the Delivery Head, he ensures that the project adheres to timelines, budget, and goals.

* Influencers:

1. Farmers (Peter, Kevin, Ben): Their feedback influences the platform’s functionality and relevance, as they represent the primary users.
2. Manufacturers: Their involvement determines the availability and accuracy of the product data essential to the platform’s operations.
3. Regulatory Authorities: Their compliance standards shape the operational boundaries of the platform.
4. **Business Case Document:**
5. Project Overview –

The Online Agriculture Store project is designed to address the challenges faced by farmers in remote areas, particularly in accessing essential agricultural products such as fertilizers, seeds, and pesticides. By creating an e-commerce platform, this project aims to provide farmers with the convenience of purchasing products directly from manufacturers, improving their farming practices and productivity. The platform will be designed to be simple and user-friendly, ensuring that even farmers with minimal technical knowledge can navigate it easily. Through this initiative, Mr. Henry hopes to bridge the gap between agricultural product suppliers and farmers in rural areas, thereby enhancing agricultural efficiency.

1. Business Objectives –

The key objectives of the Online Agriculture Store project are:

* Facilitate Access to Agricultural Products: Enable farmers to purchase fertilizers, seeds, and pesticides online, improving product availability and affordability.
* Connect Farmers with Manufacturers: Establish a direct communication channel between farmers and manufacturers, ensuring better transparency and timely product supply.
* Improve Agricultural Productivity: By providing easy access to quality agricultural products, the project aims to enhance farming productivity and quality.
* Simplify Procurement: Reducing time and effort involves traditional procurement methods, offering farmers the convenience of online shopping.

1. Project Scope

* Product Range: The platform will include a variety of agricultural products, such as fertilizers, seeds, pesticides, and related tools.
* Target Audience: Primarily small to medium-sized farmers in rural and remote areas.
* Technologies:

The platform will be developed using Java and will be available as both a web and mobile application.

* Payment Methods: Integration of secure payment gateways to enable online transactions.
* Delivery: Coordination with third-party logistics companies for product delivery to the farmers' locations.
* Compliance: The platform will adhere to relevant agricultural and e-commerce regulations.

1. Market Analysis

* Target Market: The target audience consists of farmers in rural and remote locations who face difficulties in procuring essential agricultural products.
* Demand for Online Agriculture Products: The demand for online procurement of agricultural products is growing as technology adoption increases in rural areas.
* Competitive Landscape: There are few platforms catering specifically to remote farmers, providing an opportunity to capture a significant market share by offering user-friendly solutions and competitive pricing.

1. Benefits

* Convenience for Farmers: Farmers will be able to easily browse, order, and receive products without having to travel long distances.
* Cost Savings: The direct connection between manufacturers and farmers can lead to cost reductions, as intermediaries are minimized.
* Increased Sales for Manufacturers: Manufacturers can expand their reach to a broader customer base in rural areas.
* Improved Agricultural Practices: By ensuring timely and easy access to high-quality products, farmers can improve their farming techniques and yield.
* Economic Growth: The platform has the potential to boost the rural economy by supporting local farmers and manufacturers.

1. Risk Assessment

* Technology Risks: Potential issues with the platform’s performance, user interface, or technical compatibility could hinder adoption.
* Security Risks: Safeguarding sensitive user data and financial transactions is critical to maintaining trust.
* Adoption Risks: Farmers may be hesitant to adopt online platforms, particularly if they have limited technical knowledge.
* Regulatory Risks: Changes in agricultural regulations could affect product offerings or platform operations.
* Supply Chain Risks: Dependence on manufacturers and third-party logistics companies could cause delays in product availability and delivery.

1. Cost Estimate and Budget

The total estimated budget for the project is ₹2 Crores. The breakdown is as follows:

* Development Costs: ₹1.2 Crores for platform development, testing, and deployment.
* Marketing and Outreach: ₹30 Lakhs for promoting the platform among farmers and raising awareness.
* Logistics and Operations: ₹20 Lakhs for establishing partnerships with delivery service providers.
* Training and Support: ₹10 Lakhs for educating farmers on using the platform and providing ongoing customer support.
* Contingency Fund: ₹10 Lakhs to cover unforeseen expenses during the project.

1. Timeframe

The project is expected to be completed within 18 months, with key milestones as follows:

Month 1-3: Requirement gathering, project planning, and initial design.

Month 4-9: Platform development, integration of payment gateways, and database setup.

Month 10-12: Beta testing, user feedback collection, and platform optimization.

Month 13-15: Marketing and outreach efforts to promote the platform.

Month 16-18: Full launch, ongoing support, and maintenance.

1. Conclusion and Recommendation

The Online Agriculture Store project presents a valuable opportunity to empower farmers by providing them with easy access to essential agricultural products. By eliminating logistical barriers and offering competitive pricing, this platform has the potential to transform the way farmers procure products, ultimately improving their productivity and quality of life. Given the identified market demand, expected benefits, and manageable risks, it is recommended that Mr. Karthik proceed with the approval and initiation of this project.

Approval

This business case is submitted for review and approval to Mr. Henry, with the objective of proceeding with the planning and execution of the Online Agriculture Store project.

1. **Four SDLC Methodologies:**
2. ***Sequential Methodology (Waterfall Model)***

The Sequential methodology follows a clear, step-by-step approach where each phase of development happens one after the other. It is a rigid approach, with requirements gathered upfront, and development follows a linear path.

*Advantages:*

* Easy to manage and understand.
* Well-defined phases and processes.

*Disadvantages:*

* Inflexible—once a phase is completed, you cannot go back easily.
* It doesn’t accommodate changes well.

Relevance to the Online Agriculture Store:

This approach may not work well for this project, as the needs of the farmers and stakeholders could change over time, and adjustments might be needed throughout development.

1. ***Iterative Methodology***

The Iterative methodology breaks the project into smaller cycles or iterations. Each iteration involves going through phases like design, development, and testing. After each iteration, the software is reviewed, and changes are made for the next cycle.

*Advantages:*

* Flexible, allowing changes after each iteration.
* Feedback is incorporated early on.

*Disadvantages:*

* This can lead to delays if too many changes are made.
* It Requires constant monitoring to keep the project on track.

Relevance to the Online Agriculture Store:

This methodology is useful for this project, as it allows for adjustments after each cycle. Given that the needs of the farmers may evolve, this flexibility is beneficial.

1. ***Evolutionary Methodology***

The Evolutionary methodology involves creating prototypes and improving them over time. Each new version of the software adds more functionality based on feedback and evolving requirements.

*Advantages:*

* Very flexible and can adapt to new requirements.
* Constant feedback from users helps improve the software.

*Disadvantages:*

* This can be time-consuming to manage.
* Might result in a final product that is not well integrated if not carefully planned.

Relevance to the Online Agriculture Store:

This methodology could work well, as it allows the team to develop the platform in stages and evolve it based on the feedback from farmers and manufacturers. It helps in meeting changing demands but requires careful planning to avoid confusion.

1. ***Agile Methodology***

The Agile methodology is focused on delivering small, working parts of the project frequently, typically through sprints (2-4 weeks). Feedback is gathered after each sprint, and the next phase is adjusted accordingly.

*Advantages:*

* Highly flexible, allowing quick responses to change.
* Frequent updates and releases keep the project moving forward.

*Disadvantages:*

* This can be difficult to manage if the scope is not controlled.
* Requires a lot of stakeholder involvement and communication.

Relevance to the Online Agriculture Store:

Agile is the most suitable for this project. Since it involves developing a platform for farmers who may have varying needs, frequent releases and feedback ensure that the project stays on track and adapts to the users' evolving needs.

**Conclusion:**

After reviewing all the methodologies, Agile is the best choice for the Online Agriculture Store project. It allows for flexibility, frequent updates, and continuous feedback from farmers, which is crucial for a product that may evolve as users interact with it. Iterative and Evolutionary approaches could also be useful, depending on how the development team decides to structure the project, but Agile’s focus on continuous delivery and adaptability makes it the most effective for this type of project.

1. **Waterfall RUP Spiral and Scrum Models:**

Considering the evolving nature of the Online Agriculture Store project, where user feedback and changing requirements are expected, Scrum or Spiral would be more suitable compared to the Waterfall or V-Model.

Scrum would be the best choice because of its flexibility, iterative process, and regular feedback loops, making it easier to adapt to the farmers' changing needs. It’s particularly suited for projects that require frequent releases and continuous stakeholder involvement.

Spiral could also be a good option, especially if the project team anticipates significant risks and wants to manage those risks through continuous evaluations. This approach provides an additional layer of risk management while maintaining flexibility.

While Waterfall and V-Model are well-suited for smaller, well-defined projects, they may not be the best fit for the Online Agriculture Store, where continuous feedback and the ability to change based on evolving requirements are critical.

1. **Waterfall Model**

The Waterfall model is a traditional, linear approach to software development where each phase (requirements, design, implementation, testing, deployment, and maintenance) must be completed before the next one begins.

This model might not be the best for the agriculture store project because the requirements might evolve over time, especially as feedback from farmers and manufacturers is incorporated. The flexibility to make changes during development is limited in the Waterfall model, which could hinder the ability to adapt to user needs and new features.

1. **RUP (Rational Unified Process)**

RUP is an iterative software development process that divides the project into four phases: Inception, Elaboration, Construction, and Transition. Each phase includes several iterations of development, and feedback is gathered from users during each iteration.

RUP would work well for a project like the Online Agriculture Store, as it provides flexibility for changing requirements. It allows the project team to gather continuous feedback, which is crucial when developing a product for farmers in remote areas, as their needs may evolve over time. However, it can be resource-heavy, which may require more careful planning and management.

1. **Spiral Model**

The Spiral model combines elements of iterative development and the Waterfall model. It involves repeating cycles (spirals), with each cycle including planning, risk analysis, engineering, testing, and evaluation. It’s particularly useful for large and complex projects where risks are high.

The Spiral model is useful when the project involves significant risks or unclear requirements. Since the Online Agriculture Store aims to cater to farmers with diverse needs, the risk of misalignment with user expectations is high. The Spiral model’s focus on risk management and iterative feedback would be helpful in mitigating those risks and ensuring the product is aligned with the users' evolving needs.

1. **Scrum**

Scrum is an Agile methodology that organizes development into "sprints" (short, time-boxed periods of development, usually lasting 2-4 weeks). The team works on prioritized tasks during each sprint, and at the end, a potentially shipping product increment is delivered. Scrum emphasizes collaboration, continuous feedback, and adapting to changes throughout the development process.

Scrum is a strong contender for the Online Agriculture Store project. It allows for quick iterations and constant feedback from farmers and manufacturers. Since the project is likely to evolve as users provide input, Scrum’s flexibility and emphasis on frequent releases make it a perfect fit for delivering a product that aligns with user needs over time.

1. **V-Model**

The V-Model is a variation of the Waterfall model where development phases are closely aligned with corresponding testing phases. The "V" shape represents the sequential nature of the development process, with each development stage being matched by a testing phase. This model is effective in projects where requirements are well-understood and unlikely to change.

While the V-Model ensures high-quality deliverables due to its strict testing at each phase, it shares many of the same limitations as the Waterfall model. Since requirements for the Online Agriculture Store are likely to change as more feedback is received from farmers and manufacturers, the V-Model’s rigidity could pose a challenge.

1. **Waterfall Vs V-Model**

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|  | **Waterfall Model** | **V-Model** |
| **Development Process** | Linear and sequential, one phase at a time | Linear with parallel testing phases |
| **Testing Approach** | Testing begins after development is complete | Testing happens concurrently with development |
| **Flexibility** | Rigid, difficult to accommodate changes | Less flexible than Agile, but offers some flexibility due to early testing |
| **Focus on Testing** | Testing is done at the end of the project | Testing is integrated into each phase |
| **Feedback Timing** | Feedback comes after the development is finished | Feedback comes early due to early testing |
| **Suitability for Changes** | Not suited for projects with changing requirements | Not ideal for projects with constantly evolving requirements |
| **Ideal Project Size** | Small to medium-sized projects with clear requirements | Medium to large-sized projects that require rigorous testing |

1. **Justification:**

Considering the nature of the Online Agriculture Product Store project, the V-Model would be the better choice. The project involves critical features like secure transactions, product management, and user engagement, all of which require thorough testing at each stage of development. The V-Model’s approach of aligning development with corresponding testing phases ensures that any issues are identified early, which is vital for maintaining the quality and functionality of the platform. This model is more suited for projects that require rigorous validation and quality assurance, which is essential for delivering a reliable product to the farmers.

1. **Gantt Chart**

The Gantt chart for the V-Model development process, which includes various stages such as Requirements Gathering (RG), Requirements Analysis (RA), Design, Development (D1, D2, D3, D4), Testing (T1, T2, T3, T4), and User Acceptance Testing (UAT), would be structured as follows:

A chart with colorful squares

Description automatically generated

1. Requirement Gathering

The Requirements Gathering (RG) phase begins in Week 1 and ends in Week 2. During this phase, the Project Manager (PM) and Business Analyst (BA) collaborate to collect and document all the necessary requirements from the stakeholders, such as farmers and manufacturers.

1. Requirement Analysis

After gathering the requirements, the team enters the Requirements Analysis (RA) phase, which starts in Week 2 and concludes in Week 3. Here, the PM and BA analyze the collected requirements, ensuring they are clear, feasible, and aligned with the project goals.

1. Design Phase

The Design phase takes place from Week 3 to Week 5, where the system's architecture, user interfaces, and database schemas are created. PM, BA, Java Developers, and Database Admin (DB Admin) are involved in this phase.

1. Development Phase (D1)

Following the design, the first development phase, Development (D1), occurs from Week 5 to Week 7. During this phase, the Java Developers work on building the core functionalities of the platform,

including setting up the database, while the PM oversees the progress.

1. Testing Phase (T1)

Once the development of D1 is complete, the team moves to Testing Phase 1 (T1) from Week 7 to Week 8. The testers, along with the DB Admin, conduct tests to ensure the features developed in D1 are functioning as expected.

1. Development Phase (D2)

After T1, the second development phase, Development (D2), starts in Week 8 and ends in Week 10. During this phase, the Java Developers continue adding more features to the platform, with the PM managing the progress.

1. Testing Phase (T2)

Subsequently, Testing Phase 2 (T2) occurs from Week 10 to Week 11, where testers perform additional tests on the features developed in D2.

1. Development Phase (D3)

The third development phase, Development (D3), takes place from Week 11 to Week 13. During this time, the Java Developers finalize the remaining functionalities and features.

1. Testing Phase (T3)

Testing for this phase is performed during Testing Phase 3 (T3) from Week 13 to Week 14. This round of testing ensures the features developed in D3 work as intended.

1. Development Phase (D4)

The final development phase, Development (D4), occurs from Week 14 to Week 15, where any tweaks or changes based on feedback are implemented by Java Developers.

1. Testing Phase (T4)

Following D4, the team enters the final Testing Phase 4 (T4) from Week 15 to Week 16, where testers, along with the DB Admin, perform final testing to ensure that the application is fully ready.

1. User Acceptance Testing (UAT)

The last phase, User Acceptance Testing (UAT), takes place from Week 16 to Week 17. In this phase, stakeholders, including Mr. Henry and farmers, conduct the final round of testing to verify that the platform meets their needs before it goes live.

Resource Allocation:

* PM (Project Manager): Oversee the entire project, ensuring timelines are met, and resources are allocated efficiently.
* BA (Business Analyst): Work closely with stakeholders during the Requirements Gathering and Analysis phases, ensuring the product aligns with their needs.
* Java Developers: Develop the actual code and functionality for the platform in the Development phases (D1, D2, D3, D4).
* Testers: Perform testing at each stage of development (T1, T2, T3, T4) to ensure quality control and identify bugs early.
* DB Admin: Handle database design, setup, and testing (T1, T2, T3, T4) to ensure the platform’s backend works correctly.
* Network Admin: Monitor and maintain the network environment throughout the development process, ensuring the infrastructure supports the development and testing phases.

1. **Fixed Bid Vs Billing:**
2. Fixed Bid Projects:

In a Fixed Bid project, the total cost of the project is agreed upon and fixed before the work begins. This means that the client and the service provider (like a company or a vendor) agree on a set price for the entire scope of work. The agreed amount remains the same throughout the project, regardless of how much time or resources are spent completing the project.

Key Characteristics:

* The price is predetermined and fixed.
* The project scope, timelines, and deliverables are clearly defined upfront.
* Any change in scope or requirements during the project might lead to renegotiation of the price.
* Fixed Bid projects are often used for projects with well-defined requirements where the service provider can estimate the resources and time needed accurately.
* Risks are mainly on the service provider since they must deliver the project within the agreed budget, regardless of unforeseen challenges.

1. Billing Projects:

In Billing projects, the client is charged based on the actual time and resources used to complete the project. The service provider typically tracks hours worked (or other metrics like resources consumed) and bills the client accordingly. There’s no fixed price for the entire project upfront, and the cost can vary depending on how long it takes or how many resources are needed.

Key Characteristics:

* The client pays for actual work done or hours spent.
* The scope of the project can be flexible and might evolve over time.
* The cost might fluctuate depending on the time taken and resources required.
* Billing projects are common in situations where the requirements are not fully defined upfront, or there is potential for scope changes throughout the project.
* Risks are greater on the client as the total cost is uncertain, and they may have to pay more if the project takes longer than expected.

1. **Timesheet of a BA in various stages of SDLC:**

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| --- | --- | --- | --- |
| **Date** | **Task Description** | **Hours Spent** | **Remarks** |
| Day 1 | Review UI/UX wireframes | 3 hours | Validating alignment with requirements. |
| Day 2 | Conduct meetings with designers | 2 hours | Clarifying requirements and business rules. |
| Day 3 | Update functional specification docs | 4 hours | Incorporating design decisions. |
| Day 4 | Approve finalized design mock-ups | 2 hours | Final review before proceeding to development. |
| Day 5 | Address queries from design team | 2 hours | Continuous collaboration for clarifications. |

Design timesheet of a BA

Development timesheet of a BA

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| --- | --- | --- | --- |
| **Date** | **Task Description** | **Hours Spent** | **Remarks** |
| Day 1 | Participate in sprint planning | 2 hours | Ensuring tasks are prioritized appropriately. |
| Day 2 | Address developer queries | 3 hours | Clarifications on business requirements. |
| Day 3 | Review development progress demos | 2 hours | Verify if development aligns with requirements. |
| Day 4 | Update stakeholders on progress | 1 hour | Sharing updates with stakeholders. |
| Day 5 | Document change requests (if any) | 2 hours | Documenting scope changes during development. |

Testing Timesheet of a BA

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Task Description** | **Hours Spent** | **Remarks** |
| Day 1 | Review test cases | 3 hours | Validating alignment with requirements. |
| Day 2 | Participate in functional testing | 4 hours | Testing core features and business logic. |
| Day 3 | Conduct defect triage meeting | 2 hours | Prioritizing and classifying defects. |
| Day 4 | Clarify business rules for testers | 2 hours | Helping testers understand requirements. |
| Day 5 | Approve resolved defects | 3 hours | Verifying fixes meet expectations. |

UAT Timesheet of a BA

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| --- | --- | --- | --- |
| **Date** | **Task Description** | **Hours Spent** | **Remarks** |
| Day 1 | Create UAT test plan | 3 hours | Preparing a structured approach for UAT. |
| Day 2 | Train end-users on UAT | 4 hours | Explaining features and functionality. |
| Day 3 | Support users during UAT | 5 hours | Resolving user queries in real-time. |
| Day 4 | Document UAT feedback | 3 hours | Consolidating feedback from users. |
| Day 5 | Prioritize UAT issues for resolution | 2 hours | Ensuring critical issues are addressed. |

Deployment and Implementation Timesheet of a BA

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| **Date** | **Task Description** | **Hours Spent** | **Remarks** |
| Day 1 | Prepare deployment checklist | 3 hours | Ensuring all steps are accounted for. |
| Day 2 | Monitor deployment process | 5 hours | Observing and documenting live issues. |
| Day 3 | Validate deployed features | 4 hours | Ensuring everything works as expected. |
| Day 4 | Collect user feedback post-go-live | 3 hours | Documenting user satisfaction and issues. |
| Day 5 | Prepare deployment review report | 2 hours | Summarizing deployment and feedback. |