Capstone Project – 1

14 Questions

Online Agriculture Products Store

Question 1 – BPM – 5 Marks

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

Goal: Develop an online agriculture store to facilitate farmers in remote areas to purchase agricultural products.

Inputs:

1. Farmer’s requirement for fertilizers, seeds, and pesticides.
2. Agricultural products manufacturers and suppliers.
3. Internet and digital platform.

Resources:

1. APT IT SOLUTIONS develop team.
2. Budget of Rs. 2 cr.
3. 18-month time limit.
4. Software (Java Based).
5. IT infrastructure.

Output:

1. Functional online agriculture marketplace.
2. Farmers receiving necessary products efficiently.
3. Manufacturing and suppliers expanding their reach.

Activities:

1. Requirement gathering.
2. Design and development of platform.
3. Testing deployment.
4. Training and support for farmers.

Value created to the end customer:

1. Easy accessibility to agricultural products.
2. Improved efficiency in farming.
3. Enhanced communication between farmers and suppliers.

Question 2 – SWOT – 5 Marks

Mr. Karthik is doing SWOT analysis before he accepts this project what aspects he should consider as Strength, as Weaknesses, as Opportunity and as Threats.

Strengths:

1. Strong financial backing (2cr).
2. Experienced development team.
3. Addressing a crucial problem in agriculture.

Weaknesses:

1. Farmers may lack technical knowledge to use the platform.
2. Logistic and delivery issue in remote areas.

Opportunities:

1. Expansion to other agricultural services (training, consultancy).
2. Integration with government schemes and subsidies.

Threats:

1. Competition from existing platforms.
2. Internet connectivity issues in rural areas.

Question 3 – Feasibility Study – 5 Marks

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

* Hardware and Software Requirements:

Identify the hardware and software requirements needed for the project such as servers, storage, networking equipment, and development tools. Ensure that the infrastructure is scalable to handle the expected increase in traffic and data storage. Determine if any third- party software components or APIs are required to build the application.

* Trained Resources:

Evaluate of the availability of trained resources with expertise in Java, web development, database management, and networking. Consider the possibility of training existing resources or hiring new resources with required skill set. Ensure that there are enough resources to meet the project requirement within the stipulated time frame.

* Budget:

Determine the budget required for the project, including hardware and software costs, salaries of resources, and other expenses such as marketing, legal, and administrative costs. Ensure that the budget is feasible and that the project can be completed within the allocated funds.

* Time Frame:

Determine the time frame required for the project to be completed, including development, testing, and deployment phases. Ensure that the time frame is realistic and achievable within the constraints of the available resources and budget.

Based on the information provided, the project has a duration of 18 months under the CSR initiative. Therefore, the feasibility study should consider these timelines and ensure that the project can be completed within this period.

Once the feasibility study is completed it will be easier to determine if the project is viable and if the required resources are available. Additionally, it will help in identifying any potential risks or challenges that may arise during the development process.

Question 4 – Gap Analysis – 5 Marks

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

* As a Business Analyst to showcase the Gap Analysis we need to compare AS-IS existing process with the TO-BE future process. Here are some points to be considered:
* AS-IS Process:

Farmers have to physically visit the market to buy agricultural products such as fertilizers, seeds, and pesticides. Farmers have to rely on intermediaries for the procurement of these products, which results in higher prices and sometimes even low-quality products.

Farmer often face difficulty in finding the right products according to their specific crop requirements. The lack of communication between the farmers and the manufacturers results in farmers not being able to procure the latest and most effective products.

* TO-BE Process:

Farmers will able to order the required agricultural products online, saving their time and efforts. Farmers can buy products directly from the manufacturers at affordable prices, eliminating intermediaries.

The online store will have a search functionality to filter products based on crop types, specific requirements, and other parameters, which will help farmers to find the right products easily.

Through the online store the manufacturers can communicate with farmers and provide them with the latest products and technologies, resulting in higher productivity and better crop yield.

* Other Points to Consider:

The online store should be user-friendly and accessible to farmers who may not have much technical knowledge. The payment gateway should be secure and reliable to smooth transactions.

The online store should have an effective supply chain management system to ensure timely delivery of products. The online store should have a robust customer support system to address any issues or queries raised by farmers.

By showcasing the above points, Mr. Karthik can convince Mr. Henry to initiate the project and take the initiative forward.

Question 5 – Risk Analysis – 10 Marks

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

As a Business Analyst, there are several risks factors that need to considered during the project planning phase. These risk factors can be categorized into BA Risks and Project Risks.

Here are some of the risk factors that can be involved this project:

BA Risks:

* Inadequate understanding of the agriculture industry and the specific need of farmers in remote areas.
* Miscommunication with stakeholders resulting in unclear requirements.
* Unclear project requirements and scope.
* Insufficient knowledge of the technology required to develop the online agriculture product store.
* Difficulty in gathering and managing stakeholder requirements due to their remote location.
* Insufficient resources and budget allocated for the project.

Project Risks:

* Inadequate IT infrastructure and internet connectivity in remote areas leading to difficulty in accessing the online store.
* Dealy in delivery of materials due to unforeseen circumstances such as natural disasters or logistical issues.
* Security risks associated with online transaction and personal information of the users.
* Technical risks associated with the development and implementation of the online store such as software bugs or system crashes.
* Resistance to change from farmers who are accustomated to traditional methods of purchasing agricultural products.
* Competition from established brick-and-mortar stores or other online agricultural stores.

It is important to identify and manage these risk factors to ensure the success of the project. As a BA it is crucial to work closely with the project manager and other team members to mitigate these risks and develop a contingency plan if needed.

Question 6 – Stakeholder Analysis (RACI Matrix) – 8 Marks

Perform stakeholder analysis (RACI Matrix) to find out the key stakeholders who can take Decisions and Who are the influencers.

Stakeholder analysis helps to identify the stakeholder involved in a project and their roles and responsibilities. RACI Matrix is useful tool for stakeholder analysis, which defines the roles and responsibilities of stakeholders in a project.

RACI Matrix:

R = Responsible

A = Accountable

C = Consulted

I = Informed

Based on the information provided, the stakeholders in this project and their roles in the RACI Matrix are as follows:

* Mr. Henry – (Accountable) – As the initiator of the project, Mr. Henry is responsible for ensuring the success of the project and making the final decisions.
* Mr. Pandu – (Responsible) – As the financial head, Mr. Pandu is responsible for managing the project budget and ensuring financial compliance.
* Mr. Dooku – (Consulted) – As the project coordinator, Mr. Dooku provides guidance support to the project team and consults with other stakeholders.
* Peter, Kevin, and Ben – (Consulted) – As stakeholders and farmers, they provide requirements and feedback to the project team and consult with other stakeholders.
* APT IT SOLUTIONS company – (Responsible) – As the company executing the project, they are responsible for delivering the project on time, within budget, and meeting all the requirements.
* Mr. Karthik – (Responsible) – As the delivery head of APT IT SOLUTIONS, Mr. Karthik is responsible for managing the project delivery and ensuring that the project meets the client’s expectations.
* Mr. Vandanam – (Responsible) – As the project manager, Mr. Vandanam is responsible for managing the project team and ensuring that the project is completed successfully.
* MS. Juhi, Mr. Teyson, Ms. Lucie, Mr. Tucker, and Mr. Bravo – (Responsible) – As Java developers, they are responsible for developing the software applications and delivering them on time.
* Mr. Mike – (Responsible) – As the Network admin, he is responsible for setting up the network infrastructure required for the project.
* Mr. John – (Responsible) – As the DB admin, he is responsible for managing the project’s database.
* Mr. Jason and Ms. Alekya – (Responsible) – As Testers, they are responsible for testing the software applications and ensuring that they are error free.

From the above RACI Matrix, we can see that Mr. Henry, as the initiator of the project, is accountable for the project’s success, while the APT IT SOLUTIONS company and its team are responsible for delivering the project. Mr. Pandu, the Financial Head, is responsible for managing the project budget, while Mr. Dooku provides guidance and support to the project team. Peter, Kevin, and Ben are consulted for their requirements and feedback.

Overall, the key decision-makers in this project are Mr. Henry, APT IT SOLUTIONS company, and Mr. Karthik. The influencers in this project are Mr. Pandu, Mr. Dooku, and the farmers, Peter, Kevin, and Ben, as they provide requirements and feedback that can influence the project’s outcome.

Question 7 – Business Case Document – 8 Marks

Help Mr. Karthik to prepare a business case document

Executive Summary:

The purpose of this business case is to propose the development of an Online Agriculture Products Store to facilitate remote area farmers to buy agriculture products. The proposed solution is a web / mobile application that allows farmers and companies manufacturing fertilizers, seeds, and pesticides to communicate directly with each other. The goal is to provide a platform for farmers to purchase necessary products without facing any difficulties in procuring fertilizers, seeds, and pesticides. The project is expected to be completed within 18 months and is being undertaken as a part of the Corporate Social Responsibility initiative

Problem Statement:

Farmers in remote areas face difficulties in procuring fertilizers, seeds, and pesticides, which are essential for farming. These products are not readily available in the market and farmers often have to travel long distances to procure them. This leads to wastage of time and money, which could have been utilized in farming activities. Therefore, there is a need for a platform that can facilitate the purchase of these products for farmers.

Solution:

The proposed solution is an Online Agriculture Product Store, a web / mobile application that enables farmers and companies manufacturing fertilizers, seeds, and pesticides to communicate directly with each other. The application will have the following features:

* Farmers can browse through the products and select the once they need.
* Companies can submit their product details, which will be displayed on the application.
* Farmers can place an order for the products and request delivery to their location.
* The application will have a user-friendly interface for easy navigation.

Benefits:

The Online Agriculture Product Store will provide the following benefits:

* Farmers will be able to purchase necessary products without facing difficulties in procuring them.
* Companies manufacturing fertilizers, seeds, and pesticides will have a platform to reach out to farmers directly.
* The application will save time and money for farmers, which can be utilized in farming activities.
* The application will promote the use of quality products, which will lead to better yields.
* The project will be undertaken as part of the Corporate Social Responsibility initiative, which will help in fulfilling the company’s social obligations.

Costs:

* The estimated budget for the project is 2 crores INR.
* This includes the cost of development, testing, deployment, and maintenance.
* The project is expected to be completed within 18 months.

Key Stakeholders:

* Mr. Henry, who proposed the project and is a key stakeholder.
* Peter, Kevin, and Ben, who shared their requirements for the project and are stakeholders.
* Mr. Pandu, who is the Financial Head and key stakeholder.
* Mr. Dooku, who is the Project Coordinator and key stakeholder.
* Mr. Karthik, who is Delivery Head in APT IT SOLUTIONS company and a key stakeholder.
* Mr. Vandanam, who is the Project Manager and a key stakeholder.
* Ms. Juhi, Mr. Teyson, Ms. Lucie, Mr. Tucker, Mr. Bravo, who are Java Developers and stakeholders.
* Mr. Mike, who is the Network Admin and a stakeholder.
* Mr. John, who is the DB Admin and a stakeholder.
* Mr. Jason and Ms. Alekya, who are Testers and stakeholders.

The farmers and companies manufacturing fertilizers, seeds, and pesticides who will use the application.

Risks:

* The application may face technical issues during development and deployment.
* There may be delays in development due to unforeseen circumstances.
* The application may not be user- friendly, leading to low adoption by farmers.
* There may be issues with product quality and delivery, leading to dissatisfaction among farmers.
* Competitors may develop similar applications, leading to a loss of market share.
* Conclusion:

This mobile application will be beneficial for all the farmers, fertilizers and pesticides companies. The time frame for return on investment is 4 to 5 years. To complete this project we need PM, BA, software developers, testers, technical team, DB. We need some organizational changes.

Question 8 – Four SDLC Methodologies – 8 Marks

The committee of Mr. Henry, Mr. Pandu, and Mr. Dooku and Mr. Karthik are having a discussing on Project Development Approach.

Mr. Karthik explained to Mr. Henry about SDLC and four methodologies like Sequential Interactive Evolution and Agile. Please share your thoughts and clarity on Methodologies.

SDLC, which stands for Software Development Life Cycle, is a process used by software development teams to plan, design, build, test, and deploy software. SDLC consists of several methodologies or approaches that can be used to develop software applications. These methodologies include Sequential, Interactive, Evolutionary, and Agile.

* Sequential:

Sequential methodology, also known as the Waterfall model, is a linear approach where each phase of the software development process must be completed before moving on to the next phase. This methodology works well or projects where requirements are well-defined and there is a clear understanding of what the end product should look like. However, this approach may not be suitable for projects where there are evolving requirements or where changes need to be made during the development process.

* Interactive:

The interactive methodology involves multiple iterations or cycles of the SDLC process. In this approach, the development team creates a working prototype of the software product, tests it, and then makes changes based on feedback before moving on to the next iteration. This methodology is useful for projects where requirements are not well-defined or may evolve during the development process.

* Evolutionary:

The evolutionary methodology is similar to the iterative methodology in that it involves multiple iterations. However, in this approach, the initial product is not fully functional but evolves over time through a series of iterations. This methodology is best suited for projects where the requirements are not fully defined or may change frequently.

* Agile:

The Agile methodology is an iterative and incremental approach to software development that focuses on delivering working software in small increments or sprints. This Agile approach emphasizes customer collaboration, continuous feedback, and flexibility in response to changing requirements. This methodology is deal for projects where requirements may change frequently and where there is a need for rapid delivery of working software.

Each methodology has its advantages and disadvantages, and the choice of methodology will depend on the specific needs of the project. It is essential to consider factors such as project requirements, project scope, team size, budget, and timeline before choosing the methodology.

Question 9 – Waterfall RUP Spiral and Scrum Models – 8 Marks

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

Wen the APT IT SOLUTIONS company got the project to make this online agriculture product store, there isa the differences of opinion between a couple of SMEs and the project team regarding which methodology would be more suitable for this project. SMEs are stressing on using the V model and the project team is leaning more onto the side of waterfall model. As a business analyst, which methodology do you think would be better for this project?

As a business analyst, I would consider the characteristics and requirements of the project to determine which methodology would be better suited: V model or the waterfall model.

Considering the available information and the stable nature of requirements in this project. I would lean towards recommending the waterfall model. However, its important to note that the final decision should be made based a comprehensive understanding of the project requirements, available resources, and the preferences and expertise of the project team and SMEs involved.

Question 10 – Waterfall Vs V- Model – 5 Marks

20 Write down the differences between waterfall model and V model.

|  |  |  |
| --- | --- | --- |
|  Features  |  Waterfall Model  |  V- Model  |
| Definition: -  | A linear, sequential approach to software development.  | An extension of the waterfall model where testing is done in parallel with development. |
| Process Structure: -  | Follows a strict phase-by-phase approach. | Each development phase has a corresponding testing phase. |
| Testing Approach: -  | Testing happens after development is completed. | Testing occurs at every stage of development. |
| Flexibility: -  | Less flexible; changes are difficult to accommodate. | More flexible due to early testing feedback. |
| Risk Management: -  | Higher risk as issues is found late. | Lower risk due to early defect detection. |
| Cost of Fixing Bugs: -  | High, as errors are identified late in the process. | Lower, since defects are found early. |
| Overlapping Phases: - | No overlapping, strict phase sequence. | Development and testing phases overlap. |
| Parallel Testing: -  | No parallel testing. | Testing runs parallel to development. |
| Error Detection: -  | Errors are detected late in the development cycle. | Errors are detected early due to verification at each stage. |
| Feedback Loop: - | Minimal or no feedback before completion. | Continuous feedback throughout the lifecycle. |
| Documentation Requirement: -  | Requires extensive documentation at each phase. | Requires extensive documentation, especially for testing. |
| Suitability: - | Best for projects with clear, fixed requirements. | Best for projects with strict validation needs (e.g. medical, aviation). |
| Complexity Handling: -  | Less effective for complex projects. | Better suited for complex projects due to early validation. |
| Development Cost: - | Lower initial cost but higher in case of late defects. | Slightly higher initial cost but saves money in defect prevention. |
| Project Size: -  | Suitable for small to medium sized projects. | Suitable for medium to large scale projects. |
| Client Involvement: -  | Waterfall has minimal client interaction after requirement gathering. | While V-Model requires continuous client validation. |
| Time Consumption: -  | Can take longer due to late-stage testing. | Can be faster due to early defect detection. |
| Changes in Requirements: -  | Hard to incorporate changes once development starts. | Changes are manageable due to early verification. |
| Examples of Use: - | Basic web applications, simple projects. | Safety critical systems (e.g. medical, defense, automotive). |
| Development Approach: - | Follows a “develop first, test later” method. | Follows a “develop and test in parallel” |

Question 11 – Justify your choice – 3 Marks

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

As a business analyst, my recommendation would be using the Waterfall model for this project.

The Waterfall model is a linear sequential approach where each phase of the software development process is completed before moving onto the next phase. This model is suitable for projects with clear and well-defined requirements, which is the case for the online agriculture product store project. This project has a clear objective of developing an e-commerce platform for farmers to buy agriculture products, and the requirements for the project have been shared by the stakeholders.

On the other hand, the V model is an extension of the Waterfall model, and it is used for testing and verification. It is useful when the requirements are clear and well-defined. However, it is not an appropriate approach for software development projects as it does not provide a framework for design and development. Therefore, based on the project’s clear requirements, I recommend the Waterfall model for this project.

Question 12 – Gantt Chart – 5 Marks

The Committee of Mr. Henry, Mr. Pandu, and Mr. Dooku discussed with Mr. Karthik and finalized on 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 V Model (RG, RA, Design, D1, T1, D2, T2, D3, T3, D4, T4 and UAT) as development process and the Resources are PM, BA, Java Developers, testers, DB Admin, NW Admin.

|  |  |  |
| --- | --- | --- |
| **Task** | **Start Week** | **Complete Week** |
| Requirement Gathering (RG) | 1 | 8 |
| Requirement Analysis (RA) | 9 | 8 |
| Design | 17 | 13 |
| Development (D1) | 27 | 9 |
| Testing (T1) | 35 | 4 |
| Development Backend (D2) | 39 | 9 |
| Testing (T2) | 47 | 4 |
| Development Frontend (D3) | 51 | 9 |
| Testing (T3) | 58 | 4 |
| Development Live Environment (D4) | 62 | 9 |
| Testing (T4) | 71 | 4 |
| User Acceptance Testing (UAT) | 75 | 4 |

* Explanation of the Gantt Chart for V-Model Development Process:

The Gantt Chart visually represents the timeline of tasks involved in the V-Model software development process. The V-Model follows a sequential approach where each development phase is validated with corresponding testing phase.

* Phases and Timeline Breakdown:
* Requirement Gathering (RG) (Weeks 1-8):

The initial phase involves collecting functional and non-functional requirements.

Business Analysts (BA) and Project Managers (PM) are involved.

* Requirement Analysis (RA) (Weeks 9-16):

Detailed requirement analysis ensures that specifications are clear.

Any ambiguities are resolved before design begins.

* Design Phase (D1) (Weeks 17-30):

System and architecture design are finalized.

Java Developers and Database Administrators (DB Admin) define technical specifications.

* Development and Testing:
* Development (D1) (Weeks 27-36):

Initial coding phase for core components.

* Testing (T1) (Weeks 35-44):

Unit testing ensures code correctness before integration.

* Development Backend (D2) (Weeks 39-48):

Database integration and APIs development.

* Testing (T2) (Weeks 47-56):

Backend functionality validation.

* Development Frontend (D3) (Weeks 51-60):

UI/UX development and user interface coding.

* Testing (T3) (Weeks 58-67):

Frontend testing for responsiveness and usability.

* Live Environment Development (D4) (Weeks 71-75):

System is configured in a real-time environment.

* User Acceptance Testing (UAT) (Weeks 75-79):

End user validation to confirm that all requirements are met.

Final adjustment before project closure.

* Key Observations:

The process follows a strict Verification and Validation (V&V) approach, where each development phase has a corresponding testing phase.

Testing and development improve efficiency.

The structured approach minimizes risks, ensuring high-quality final product.

* Conclusion:

The V-Model approach ensures a well-structured development process with systematic validation and verification at each phase. By aligning testing phases directly with design and development, it reduces the risk of defects and ensures higher software quality. The Gantt chart effectively illustrates the timeline, resource allocation, and dependencies, aiding in better project planning and execution. Ultimately, this approach results in a robust and thoroughly tasted system, ready for deployment with minimized risk and enhanced efficiency.

Question 13 – Fixed Bid Vs Billing – 5 Marks

Explain the difference between Fixed Bid and Billing projects.

|  |  |  |
| --- | --- | --- |
|  Feature  |  Fix Bid (Project) |  Billing (Time and Material) Project |
| Definition: -  | A project with a fixed price agreed upon in advance, regardless of effort. | A project billed based on time spent and resources used. |
| Cost Structure: -  | Fixed cost, predefined at the start. | Variable cost, based on actual work done. |
| Scope: -  | Well-defined and rigid; changes require renegotiation.  | Flexible; scope can evolve based on needs. |
| Risk: -  | High risk vendor (cost overruns are their responsibility). | Shared risk; client pays for actual effort. |
| Billing Method: -  | Lump sum or milestone-based payments. | Hourly, daily, or per task billing. |
| Client Control: -  | Limited involvement once scope is set. | High involvement in project decisions. |
| Flexibility: -  | Low; changes require formal change requirements. | High; easy to adjust scope and requirements. |
| Best For: -  | Well-defined projects with clear requirements. | Dynamic projects where needs may evolve. |
| Example Use Case: -  | Website development with fixed features and deadline. | Agile software development where priorities shift. |

Question – 14 – Prepare Timesheet of a BA in various stages of SDLC – 20 Marks

 Design Timesheet of a BA

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sr. no  | Tasks | Actionable Items | Start Time  | End Time | Duration hrs |
| 1 | Requirements Review | Review finalised requirements | 10:00AM | 11:00AM | 1 |
| 2 | Stakeholder consultation | Conduct meetings with stakeholders | 11:00AM  | 1:00PM | 2 |
| 3 | User Interface Design | Collaborate with UI/UX designers | 2:00PM | 4:00PM | 2 |
| 4 | Data model design | Analyse data requirements and design DB Admins | 4:30PM | 5:30PM | 1 |
| 5 | System Architecture design | Collaborate with teams to design system architecture | 5:30PM | 7:30PM | 2 |
|   |   |   |   |   | 8 HRS |

* A Business Analyst (BA) working in the design phase of the Software Development Life Cycle (SDLC). Below is an explanation of each task:
* Requirements Review (10:00AM to 11:00AM) (1 Hour):

The BA reviews finalized requirements to ensure they are clear, complete, and aligned with business needs.

* Stakeholder Consultation (11:00AM to 1:00PM) (2 Hours):

The BA conducts meetings with stakeholders to gather input, validate requirements, and clarify any uncertainties.

* User Interface (UI) Design (2:00PM to 4:00PM) (2 Hours):

Collaboration with UI/UX designers to create user friendly interfaces based on business and user needs,

* Data Model Design (4:30PM to 5:30PM) (1 Hour):

The BA analyzes data requirements and works with database administrators (DB Admins) to design a suitable data model.

* System Architecture Design (5:30PM to 7:30PM) (2 Hours):

The BA collaborates with development teams to design the overall system architecture, ensuring scalability and efficiency.

* Summary:

The total working time is 8 Hours.

The BA’s role in the design phase involves requirements validation, stakeholder interaction, UI/UX collaboration, database structuring, and system architecture planning.

This structured approach ensures a smooth transition into the development phase of SDLC.

* Conclusion:

The timesheet demonstrates the crucial role of a Business Analyst (BA) in the design phase of the Software Development Life Cycle (SDLC). It highlights how the BA ensures that business requirements are well-documented, validated, and effectively communicated to stakeholders, designers, and development teams.

By reviewing requirements, collaborating with stakeholders, working on UI/UX designs, analyzing data models, and contributing to system architecture, the BA helps in shaping a well-structured and efficient system. This structured approach minimizes future development risks, enhances system usability, and ensures that business objectives are met effectively.

Overall, the BA acts as a bridge between business needs and technical implementation, making their role crucial for the project’s success.

Development Timesheet of a BA

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sr. no  | Tasks | Actionable Items | Start Time  | End Time | Duration hrs |
| 1 | Requirement Gathering with Stakeholders | Initial discussions with key stakeholders | 10:00AM | 12:00AM | 2 |
| 2 | Business process analysis | Mapping current work flows | 12:00AM | 01:30PM | 1.5 |
| 3 | Preparing business requirement document (BRD) | Draft version shred for internal review | 02:30PM | 05:00PM | 2.5 |
| 4 | User story development for agile team | Created high priority user stories | 05:00PM | 06:15PM | 1.25 |
| 5 | Daily scrum and sprint planning  | Discussed sprint goals and backlog prioritization | 06:15PM | 07:00PM | 0.75 |
|   |   |   |   |   | 8 HRS |

* Detailed explanation of the Business Analyst Development Timesheet:

The Development Timesheet of a Business Analyst (BA) showcase a structured work schedule during the development phase of the software development life cycle (SDLC). The table consist of task, actionable items, time spent on each activity, and the total working hours (8 hours). Below is a depth breakdown of each task:

* Requirement Gathering with Stakeholders:

Actionable Item: Initial discussions with key stakeholders.

Start Time: 10:00AM

End Time: 12:00AM

Duration: 2 Hours

* Explanation:

This step involves meeting with key stakeholders (such as a business owners, product managers, and end-users) to gather initial project requirements.

The BA works to understand the business needs, goals, challenges, and expectations for the project.

This stage helps to define the scope of the project, identify key features, and prioritize requirements.

* Business Process Analysis:

Actionable Item: Mapping current workflows

Start Time: 12:00AM

End Time: 01:30PM

Duration: 1.5 Hours

* Explanation:

The BA analyzes the existing business processes to identify areas of improvement.

This involves process mapping, where the current workflow is visually represented to find bottlenecks or inefficiencies.

The goal is to optimize the existing processes before moving to development.

The outcome is often an “AS-IS” Vs. “TO-BE” process model, which helps define how the new system should function.

* Preparing Business Requirement Document (BRD):

Actionable Item: Draft version shared for internal review.

Start Time: 02:30PM

End Time: 05:00PM

Duration:2.5 Hours

* Explanation:

A Business Requirement Document (BRD) is a formal document that defines the project’s business needs and requirements.

The BA drafts the BRD based on the gathered requirements and business process analysis.

IT Includes: Project overview, Functional and Non-functional Requirements, Business Process Workflows, Stakeholder Expectations.

The draft version is shared with internal teams for review ensuring alignment before development begins.

* User Story Development for Agile Team:

Actionable Item: Created high priority user stories.

Start Time: 05:00PM

End Time: 06:15PM

Duration: 01:25 Hours

* Explanation:

In Agile methodology, requirements are broken down into user stories- small, manageable tasks that describe system functionality from the user’s perspective.

The BA works with the development team to prioritize and create user stories based on the BRD.

* Example of the User Story:

“As a customer, I want to reset my password so that I can regain access to my account”.

* Explanation of this User Story Example:

The BA ensures that user stories are well-structured, prioritized, and include acceptance criteria that define when the story is considered “done”. These stories help developers, testers, and designers understand user needs clearly.

This user story describes a common feature where a user needs to reset their password to regain access to their account.

* User Role:

“As a customer” – The user of the system who needs to reset their password.

* Action:

“I want to reset my password” – The specific functionality the user requires.

* Goal / Benefit:

“So that I can regain access to my account” – The reason why the feature is important.

* Acceptance Criteria (Defines when the user story is considered complete):
* The BA also writes acceptance criteria, which help developers and testers validate the feature:

A “Forgot Password” link should be available on the login page.

When a user enters their registered email, a password reset link should be sent.

The reset link should expire after a certain time (e.g. 24 hours).

The new password should meet security requirements (e.g. minimum 8 characters, special characters, etc.).

After resetting the password, the user should be able to log in with the new credentials.

If the email is not registered, an error message should be displayed.

* Why User Story is Important?

Ensures better user experience by allowing customers to regain access without external support.

Enhances security by implementing password reset rules.

Provides a clear development scope so that the team can build the feature efficiency.

The BA ensures that each user story is clear, concise, and includes acceptance criteria for development teams to follow.

By writing well-defined user stories and acceptance criteria, the BA helps the development team build the right functionality while ensuring it meets user needs.

* Daily Scrum and Sprint Planning:

Actionable Item: Discussed sprint goals and backlog prioritization.

Start Time: 06:15PM

End Time: 07:00PM

Duration: 0.75 Hours

* Explanation:

The daily scrum is short Agile meeting where the development team reviews, progress, discussed blockers, and refines the backlog.

The BA participates in this meeting to:

Discussed prioritized sprint goals.

Ensure that user stories are well-defined and clear for development.

Help with backlog grooming, ensure high-priority tasks are ready for implementation.

This step keeps the project on track, aligned with business needs, and adaptable to changes.

* Summary of the Development Timesheet:

The total working hours for the day are 8 hours.

The Business Analyst’s responsibilities include:

Requirement gathering to understand business needs.

Analyzing workflows to optimize processes.

Documenting requirements in a structured format.

Creating user stories for Agile teams.

Participating in daily scrum meetings for project alignment.

* Conclusion:

The BA acts as bridge between stakeholders and the development team, ensuring that business requirements are accurately translated into technical solutions. This structured workflow helps ensure smooth development, minimized risks, and alignment with business goals. By maintaining a clear documentation process, prioritizing user stories, and participating in Agile ceremonies, the BA plays a critical role in the development phase of SDLC.

Testing Timesheet of a BA

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sr. no  | Tasks | Actionable Items | Start Time  | End Time | Duration hrs |
| 1 | Test planning | Gather testing requirements and identify test objectives | 10:00AM | 12:00PM | 2 |
| 2 | Test case development | Review requirements and design test cases | 01:00PM | 02:30PM | 1.5 |
| 3 | Test environmental setup | Install and configure the necessary software | 02:30PM | 03:30PM | 1 |
| 4 | Test execution | Execute test cases and identify the log defects | 04:00PM | 06:30PM | 2.5 |
| 5 | Test documentation | Document test results and prepare summary reports | 06:30PM | 07:30PM | 1 |
|   |   |   |   |   | 8 HRS |

* Detailed explanation of Testing Timesheet of Business Analyst (BA):
* Test Planning

Actionable Item: Gather testing requirements and identify test objectives.

Start Time: 10:00AM

End Time: 12:00PM

Duration: 2 Hours

* Explanation:

The BA gathers test requirements, identifies objectives, and collaborates with stakeholders to ensure a clear understanding of what needs to be tasted. This stage involves defining the scope of testing and identifying key functionalities.

A well-structured test plan ensures that testing efforts align with the business requirements and project goals.

* Test Case Development

Actionable Item: Review requirements and design test cases

Start Time: 01:00PM

End Time: 02:30PM

Duration: 1.5 Hour

* Explanation:

The BA reviews requirements and design test cases that cover different scenarios, including positive and negative test cases. These test cases for the QA team to perform testing

Well-documented test cases improve efficiency and help in identifying defects early.

* Test Environment Setup

Actionable Item: Install and configure the necessary software

Start Time: 02:30PM

End Time: 03:30PM

Duration: 1 Hour

* Explanation:

The necessary software, tools, and set up to create a stable testing environment. This ensures that testing is conducted in conditions that closely resemble the production environment.

A properly configured test environment ensures accurate and reliable test results.

* Test Execution

Actionable Item: Execute test cases and identify the log defects

Start Time: 04:00PM

End Time: 06:30PM

Duration: 2.5 Hours

* Explanation:

The BA and testers execute the test cases, analyze the results, and log defects if any are found. This phase focuses on verifying whether the software meets the defined requirements.

Identifying and logging defects at this stage helps improve software quality and reduces post-production issues.

* Test Documentation

Actionable Item: Document test results and prepare summary reports

Start Time: 06:30PM

End Time: 07:30PM

Duration: 1 Hour

* Explanation:

The test results are documented, and a summary report is prepared, highlighting key findings, defects, and overall test coverage. These reports are essential for stakeholders to assess the software’s readiness for deployment.

Proper documentation ensures transparency and provides a reference for future improvements.

* Summary of the Testing Timesheet:

The testing Timesheet of a Business Analyst (BA) provides a structured schedule for testing activities, ensuring that software meets business requirements before deployment.

Identifying test requirements and defining objectives to ensure comprehensive coverage.

Reviewing requirements and designing detailed test cases.

Installing and configuring the necessary software for testing.

Running test cases, identifying defects, and logging issues.

Recording test results and preparing a summary report.

The total duration for these activities is 8 hours, demonstrating on organized approach to quality assurance. This systematic workflow enhances software reliability, reduces defects, and ensures alignment with business goals.

* Conclusion:

The Testing Timesheet highlights the structured approach a Business Analyst follows to ensure software quality. By meticulously planning, developing test cases, setting up the environment, executing tests, and documenting results, the BA ensures that the software meets business requirements and is free from critical defects before deployment. This structured approach leads to better software quality and improved business outcomes.

UAT Timesheet of a BA

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sr. no  | Tasks | Actionable Items | Start Time  | End Time | Duration hrs |
| 1 | UAT planning and preparations | Review test objectives and identify test scenarios | 10:00AM | 11:00AM | 1 |
| 2 | UAT test script development | Create UAT test script | 11:00AM  | 12:30AM | 1.5 |
| 3 | UAT test execution | Execute test script, record, results and defects | 01:30PM | 04:00PM | 2.5 |
| 4 | Defect management | Document and track UAT defects  | 04:30PM | 05:30PM | 1 |
| 5 | UAT test closure | Evaluate results and prepare UAT closure report | 05:30PM | 07:30PM | 2 |
|   |   |   |   |   | 8 HRS |

Detailed explanation of UAT Timesheet of a Business Analyst (BA)

* UAT Planning and Preparations

Actionable Item: Review test objectives and identify test scenarios.

Start Time: 10:00AM

End Time: 11:00AM

Duration: 1 Hour

* Explanation:

The BA reviews the test objectives based on business requirements.

Identifies the necessary test scenarios that will be used during execution.

Ensures all necessary documents, resources, and test environments are in place before proceeding to the next phase.

* UAT Test Script Development

Actionable Item: Create UAT test script

Start Time: 11:00AM

End Time: 12:30PM

Duration: 1.5 Hours

* Explanation:

Develops structured test scripts based on the identifies test scenarios.

Ensures test cases cover all possible business use cases and functionalities.

Defines expected outcomes for each test case to compare with actual results during execution.

* UAT Test Execution

Actionable Item: Execute test script, record results, and identify defects

Start Time: 01:30PM

End Time: 04:00PM

Duration: 2.5 Hours

* Explanation:

Executes test scripts step by step and records actual results.

Identifies discrepancies between expected and actual outcomes.

Documents all findings are classifies defects based on severity.

Works closely with the development team to validate any functional issues.

* Defect Management

Actionable Item: Document and track UAT defects

Start Time: 04:30PM

End Time: 05:30PM

Duration: 1 Hour

* Explanation:

Logs all identified defects in a defect tracking tool (such as JIRA, Bugzilla, Excel Sheets).

Prioritizes defects based on business impact and assigns them to the relevant team for resolution.

Follows up on defect fixes and retests to ensure issues are resolved.

* UAT Test Closure

Actionable Item: Evaluate results and prepare the UAT closure report

Start Time: 05:30PM

End Time: 07:30PM

* Explanation:

Reviews the overall UAT results to determine the system’s readiness for production deployment.

Prepares a UAT Closure Report summarizing the testing process, defects identified, resolutions, and final recommendations.

Presents the final findings to stakeholders and provides approval for deployment if all test cases pass.

* Summary of UAT Timesheet:

The UAT process ensures that the software meets business needs before being released into production. The Business Analyst plays a critical role in planning, executing, and closing UAT efficiently. The timesheet showcase a structured approach with dedicated time for test preparation, execution, defect tracking, and final reporting. It provides a systematic approach for quality assurance and decision-making regarding system readiness.

* Conclusion:

A well-structured UAT timesheet helps ensure software quality and reduces the risk of defects in a production environment. By following a systematic approach, BAs can confirm that the software meets business expectations and is ready for deployment. The process also provides transparency to stakeholders and helps in making informed decisions regarding system readiness.

Deployment and Implementation Timesheet of a BA

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sr. no  | Tasks | Actionable Items | Start Time  | End Time | Duration hrs |
| 1 | Solution design | Collaborate with development team | 10:00AM | 12:00PM | 2 |
| 2 | Functional specifications | Document detailed functional specification | 01:00PM | 04:00PM | 3 |
| 3 | UI design  | Work with UI/UX designers | 04:30PM | 07:30PM | 3 |
|   |   |   |   |   | 8 HRS |
| Sr. no  | Tasks | Actionable Items | Start Time  | End Time | Duration hrs |
| 1 | Data mapping | Analyse date requirements and map data elements | 10:00AM | 12:00PM | 2 |
| 2 | Test planning | Collaborate win QA team | 12:00PM | 02:00PM | 2 |
| 3 | UAT  | Collaborate UAT with stakeholders | 03:00PM | 07:00PM | 4 |
|   |   |   |   |   | 8 HRS |
| Sr. no  | Tasks | Actionable Items | Start Time  | End Time | Duration hrs |
| 1 | Training and documentation | Prepare training materials and user guidance | 10:00AM | 01:00PM | 3 |
| 2 | Deployment  | Collaborate with IT teams for system deployment | 02:00PM | 04:00PM | 2 |
| 3 | Deployment  | Collaborate with IT teams for system deployment | 04:30PM | 07:30PM | 3 |
|   |   |   |   |   | 8 HRS |

Detailed explanation of Deployment and Implementation Timesheet of a Business Analyst (BA)

* Solution Design

Actionable Item: Collaborate with the development team

Start Time: 10:00AM

End Time: 12:00PM

Duration: 2 Hours

* Explanation:

The BA works closely with the development team to design a solution that aligns with business requirements, ensuring feasibility and technical compatibility.

* Functional Specifications

Actionable Item: Document detailed functional specifications

Start Time: 01:00PM

End Time: 04:00PM

Duration: 3 Hours

* Explanation:

The BA prepares comprehensive functional documentation, outlining system behavior, features, and user requirements to guide developers and stakeholders.

* UI Design

Actionable Item: Work with UI/UX designers

Start Time: 04:30PM

End Time: 07:30PM

Duration: 3 Hours

* Explanation:

The BA collaborates with UI/UX designers to ensure that the user interface is intuitive, user-friendly, and aligned with business needs.

Total Duration: 8 Hours

Overview of this timesheet the Business Analyst key responsibilities in the deployment and implementation phase, ensuring a structured and efficient workflow.

* Data Mapping

Actionable Item: Analyze data requirements and map data elements

Start Time: 10:00AM

End Time: 12:00PM

Duration: 2 Hours

* Explanation:

The BA analyzes and maps data elements to ensure data accuracy and consistency across systems.

* Test Planning

Actionable Item: Collaborate with the QA team

Start Time: 12:00PM

End Time: 02:00PM

Duration: 2 Hours

* Explanation:

The BA works with the (Quality Assurance) team to define test strategies, cases, and scenarios to ensure the system meets business requirements.

* UAT

Actionable Item: Collaborate with stakeholders for UAT

Start Time: 03:00PM

End Time: 07:00PM

Duration: 4 Hours

* Explanation:

The BA supports UAT, working with stakeholders to validate that the system functions correctly before deployment.

Total Working Time: 08 Hours

* Training and Documentation

Actionable Item: Prepare training materials and user guidance

Start Time: 10:00AM

End Time: 01:00PM

Duration: 3 Hours

* Explanation:

Training and documentation are critical for ensuring a smooth transition during deployment. In this phase, the BA is responsible for:

Creating user manuals, guidance, and FAQs for end-users.

Developing training materials such as presentations and videos.

Conducting training sessions to educate users on the new system or changes.

Gathering feedback from users to improve documentation.

This step ensures that stakeholders, including employees and IT teams, have a clear understanding of how to use the new system effectively.

* Deployment (First Session)

Actionable Item: Collaborate with IT teams for system deployment

Start Time: 02:00PM

End Time: 04:00PM

Duration: 2 Hours

* Explanation:

Deployment involves rolling out the system changes, which requires close coordination between the BA and the IT teams. During this session the BA:

Works with IT engineers to implement system updates or new software.

Assist in troubleshooting any technical issues that arise.

Verifies system functionality after deployment.

Ensure that all business requirements are met in the deployed system.

This phase is essential for minimizing system downtime and ensuring a seamless transition.

* Deployment (Second Session)

Actionable Item: Collaborate with IT teams for system deployment.

Start Time: 04:30PM

End Time: 07:30PM

Duration: 3 Hours

* Explanation:

The second deployment session focuses on further integration, training, and addressing any remaining issues. The BA:

Conducts post-deployment check to confirm that all functionalities are working as expected.

Engages with IT teams to resolve any unexpected bugs or errors.

Collects feedback from stakeholders for future improvements.

Ensures system stability and readiness for full-scale use.

This final step ensures that the deployment is successful and that all business requirements are fully addressed.

Total working hours: 8 Hours.

* Summary of the Deployment and Implementation Timesheet of BA:

The timesheet outlines the key tasks and responsibilities of a Business Analyst (BA) during deployment and implementation it is divided into three major work segments, each totaling 8 hours per day, covering activities such as solution design, functional specifications, UI design, data mapping, test planning, user acceptance test (UAT), training, documentation, and deployment.

* Conclusion:

The Business Analyst plays a key role in the deployment and implementation process by ensuring that system requirements are well-documented, stakeholders are trained, and IT teams are supported during deployment.

The structured approach in the timesheet ensures:

Proper planning and design of the systems.

Collaboration with development, UI/UX, and QA team.

Smooth deployment with IT teams.

Training and documentation for end-users.

By following this detailed plan, the deployment process becomes more efficient, reducing errors and ensuring successful system implementation.

Overview of the Online Agriculture Product Store Project:

The Online Agriculture Products Store is an initiative led by Mr. Henry, a successful businessman, to help farmers in remote areas purchase essential agricultural inputs such as fertilizers, seeds, and pesticides. His friends, Peter, Kevin, and Ben, who are farmers, highlighted difficulties in procuring these resources, prompting Mr. Henry to develop an online platform where farmers easily buy agriculture-related products.

The project aims to connect farmers with manufacturers and suppliers through a web and mobile application, allowing them to browse, select, and order products with ease. This platform ensures that farmers have better access to resources, reducing supply chain issues and improving agricultural productivity.

The project is being developed under Mr. Henry’s company, SOONY, with a budget of 2 Crore INR and a timeline of 18 months under the Corporate Social Responsibility (CSR) initiative. It has been assigned to APT IT SOLUTIONS company which is responsible for the development and implementation.

Summary of the project:

Problem Identification: Farmers in remote areas face challenges in procuring fertilizers, seeds, and pesticides.

Solution: Creation of an online agriculture store to enable direct purchase from manufacturers.

Project Execution:

Managed by SOONY company.

APT IT SOLUTIONS in the development partner.

Project budget 2 Crore INR.

Duration 18 Months.

Key Team Members:

Mr. Karthik: Delivery head, Apt IT SOLUTIONS. Secured the project.

Mr. Vandanam: Project Manager.

Ms. Juhi: Senior Java developer. Along with a team of Java.

Developers: Mr. Teyson, Ms. Lucie, Mr. Tucker, Mr. Bravo.

Mr. Mike: Network Admin.

Johan: DB Admin.

Testers: Mr. Jason and Ms. Alekya.

Business Analyst (BA): Pooja.

Conclusion of the project:

The Online Agriculture Project Store is a well- structured initiative aimed at improving the agricultural sector by eliminating supply chain inefficiencies and ensuring farmers have timely access to essential farming materials. By leveraging technology to bridge the gap between farmers and suppliers, the project will enhance productivity, reduce dependency on intermediaries, and contribute to rural development.

As a Business Analyst, role in this project involves gathering requirements, coordinating with stakeholders, ensuring smooth implementation, and validating that the platform meets user needs. With a dedicated development team and a structured approach, this project has the potential to revolutionize the way farmers procure agricultural products and bring long-term benefits to the farming community.