ONLINE AGRICULTURE PRODUCTS STORE

Q1) BPM (Business Process Model)

BPM is ordering of activities across time and space to deliver a particular product/service for a specific market. BPM focuses on how a particular task is done within an organization rather than the organizations focus on what.

BPM is thus ordering of activities in a particular order that have a specific beginning, an end , uses resources and delivers value to the end user.

* **Goal**: The goal of the project is to create an online/web application that enables farmers to buy fertilizers, seeds & pesticides from the manufactures directly.
* **Input**: Time, efforts, technology, money and information.
* **Output**: A user friendly online/web application that the new users i.e farmers can use and where manufactures can list their items.
* **Resources**: The users (Kevin, Ben & Peter), Stakeholders of the client (Mr. Pandu the financial head, Mr. Dooku the project coordinator), Stakeholders of the IT company (Mr. Kartik the delivery head, Mr. Vandanam the PM, Ms. Juhi the senior developer, Mr. Teyson, Ms. Lucie, Mr. Tucker, Mr. Bravo the Java Developers. Network Admins Mr. Mike & DB Admins Mr. John. Mr. Jason & Ms. Alekya the testers)

the manufactures whose products will be listed.

* **Activities**:

1. The users (Kevin, Ben and Peter) will be sharing the requirements/current problems with the BA i.e their issues in ordering the seeds, fertilizers and pesticides due to their remote geographical location.
2. The BA will first conduct the enterprise analysis tasks like SWOT analysis, conducts feasibility studies with the Sr. BA and PM to understand the feasibility studies to understand if the project can be done within the given budget and timeline and technology, then conducts risk analysis, GAP analysis, strategy analysis, prepares and business case, architecture framework and defines a solution scope.
3. The BA will then analyze the problems/requirements and document the same. The BA will document these requirements using the industry standard language that can be easy to be understood by Mr. Pandu and Mr. Dooku.
4. The BA will then model the requirements using UML diagram that can be understood by the development team and then communicates these requirements to the development team for development.
5. The development team will use these diagrams to create the application and BA will track the requirements through the development stage. Ba will conduct eh JAD sessions and also regularly be updated about the development stages.
6. BA prepares user manuals and keeps updating RTM till the product is ready to be deployed.
7. BA will handle any change requests and document, validate, conduct a feasibility study effort estimation and the impact analysis for the same.
8. BA participates in high-level testing to se if the application meets the stakeholder’s requirements,
9. BA will then help in test i.e. by facilitating the UAT wherein the users(Kevin, Ben and Peter and others) will participate to evaluate the project completion and recommend any changes if required and to understand if the application is user friendly.
10. Post the UAT the BA will update RTM and End user manuals and prepare documents for te proect closure.
11. Implementation and deployment is done and the project is completed.

* **Value created to the end user:**

The end user can easily order crucial items for farming making their crop yield better and in turn increasing their business wellbeing.

Q2) SWOT Analysis:

SWOT is an acronym for Strengths, weakness, opportunities and threats. SWOT analysis is a technique to understand how influencing factors can affect a change initiative.

Strengths and weaknesses are internal to the organization while opportunities and threats are external factors.

* **Strengths**: Anything that the assessed group does well. May include trained resources, IT systems, seamless processes, price, accreditations and geographical strength. Strengths are factors internal to the organization.

1. The business sponsor i.e Mr Henry is the greatest strength as he is a successful and an experienced businessman.
2. The users (Henry, Ben and Peter) can act as a good strength as they are providing real time ground information to the team.
3. Lower overhead cost compared to a physical store.
4. The resources involved are a great strength.
5. The web/online application is a monopoly means there are no other apps in the current market and hence this can be a competitive advantage of being the first in the marketspace.
6. As the products are directly shipped from the manufacturers the price value it delivers to the customer will be very affordable avoiding the middleman cost as Mr. Henry is doing this under a CSR activity. In-short, the business model is very strong

* **Weaknesses**: Weaknesses indicate anything that the assessed group does not do well or does poorly. Weaknesses are also internal to the organization. Could include issues with resources involved, process, accreditations and price/value.

1. The users i.e the stakeholders of the client may limit their requirements to themselves rather than focusing on a larger picture.
2. The resources/developers may not be able to complete the project on time and within the budget.
3. Communication issues between the stakeholders.
4. Shipping and logistics issues.
5. The budget can be an issue
6. The timeline for project completion can be a weakness.

* **Opportunities**: Opportunities are factors that the assessed group can take advantage of. Opportunities are factors outside of control of the assessed group and whether to or not to take advantage of the situation depends on the assessed group.

1. Niche target markets as the farmers do not have any current apps.
2. New market opportunities like options for future listing of farming tools and vehicles along with irrigation products.
3. The use of technology can automate payments which can increase the efficiency and inventory management.
4. Can run the business 24\*7.

* **Threats**: Threats are external factors that can have a negative impact on the assessed group leading to loss. Threats are also external to the organization.

1. Economic downturn ca result into decreased online order.
2. Competitor risk.
3. Hiring a delivery person can be additional cost.

Q3) 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.

**Feasibility Study: The probability of getting a project completed within certain constraints like time, budget and technology. Feasibility studies help understand the alternate solution options that can feasibly be implemented to the requirements .**

*Here we are doing a software feasibility study hence we will take into consideration the hardware required, the software that will be required, the trained resources, the budget and the timeframe.*

* **Hardware:**

1. Does the IT company have the required number of Laptops/systems.
2. Does the IT company have the required features in the hardware that will enable them to create the desired application.

* **Software:**

1. Does the IT company have the required JAVA development kit to deliver the application.
2. Are the applications integrated with the payment gateways that will enable to achieve the goal of the business?
3. Does the IT company have the necessary/required Cloud storage.
4. Does the customer have testing tool to test the development of the project?

* **Resources:**

1. Business Analyst,
2. Project Manager
3. SME
4. GUI developer
5. Java developers
6. Database Administrator
7. Programming team/Coding team
8. Design team
9. Testers
10. Quality team
11. Usability experts.
12. Manufacturers

* **Time frame:** Can the project be completed within 18 months that is the project duration?
* **Budget:** Can the project be completed within the allotted budget i.e 2 Cr for 18 months i.e 11.11 lacs each month.

**Q4) GAP Analysis:**

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 show case in the GAP Analysis

***Gap analysis is the comparison of the current state and the desired future state to understand the differences that need to be addressed. GAP analysis revolves around 2 questions:***

1. *Where are we &*
2. *Where do we want to be?*

*GAP analysis lays the foundation for estimating the investment of resources, money, time and technology to achieve the desired goal.*

*We use the 5 why techniques to get to the root of the problem*

* **AS-IS: -**
* There is no application from where the farmers can order.
* Currently the farmers do not have a lot of options to compare prices and other factors.
* There is no database management with the current system where the farmers data can be stored.
* While travelling to physical store the farmers might not get an option for delivery.
* **TO-BE: -**
* Farmers can place orders even remotely from the application.
* Farmers will have an option to compare products and make better decisions.
* The new system enables to save the customers data in the DBMS and help understand his buying habits which can be useful for reordering.
* Delivery can be done to help the farmer save his hassles.

Q5) Risk Analysis

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

***An uncertain event that can have an impact on either time, scope, cost or budget of the project. Risk analysis is done to understand if the proposed project carries more risk than the organizations capacity to support.***

* **BA Risks:** *BA risks " refer to potential issues or threats that can arise from the Business Analyst (BA) role, including risks related to inaccurate requirements gathering, poor communication with stakeholders, lack of understanding of business needs, inadequate analysis, and potential changes in business priorities that could negatively impact the project's success.*

Key BA risks in project management:

* Incomplete requirements gathering: Failing to fully capture all necessary business needs and functionalities, leading to scope creep and project delays.
* Misinterpretation of requirements: Incorrectly understanding stakeholder needs, resulting in features or functionalities that do not align with business goals.
* Poor stakeholder communication: Not effectively communicating project updates, changes, or concerns to stakeholders, causing confusion and potential resistance.
* Lack of domain expertise: A BA with insufficient knowledge of the business domain might struggle to analyze requirements accurately and identify potential risks.
* Scope creep: Failure to manage scope changes effectively, leading to uncontrolled additions to the project's requirements.
* Inadequate analysis: Not conducting thorough analysis of business processes and data, resulting in flawed project design and implementation.
* Changing business priorities: Unforeseen shifts in business objectives that require significant changes to the project scope.
* Resource constraints: Insufficient time or personnel allocated to the BA role, impacting the quality of analysis and requirement gathering.
* Technical complexity: Difficulty in translating complex business requirements into technical specifications for development teams.
* Lack of user involvement
* Lack of support from the executives.
* Difficulty to set up JAD sessions/workshops.
* Lack of training of the users involved.
* Delay in UAT/Driving the client for UAT
* Change management with respect to cost and timelines
* Co-ordination between developers and testers
* Making sure that the status reporting is effective
* People Management
* Overall making sure that the project is in good shape and delivered on time-lines without any issues.
* **Process/Project Risk:** *Process risks" in project management refer to potential issues or uncertainties that could arise from the defined workflows, procedures, or methodologies used within a project, potentially impacting its timeline, budget, or quality if not properly managed; essentially, risks stemming from the way a project is executed rather than external factors.*
* Inefficient processes: Poorly designed or outdated workflows can lead to delays, rework, and resource waste.
* Lack of clarity: Ambiguous project documentation or unclear roles and responsibilities can result in misinterpretations and deviations from the plan.
* Communication breakdowns: Poor communication between team members, stakeholders, or departments can lead to misunderstandings and critical information being missed.
* Change management issues: Improper handling of project changes can create disruption and impact the overall process.
* Technical limitations: Reliance on outdated technology or inadequate tools can hinder project progress.
* Quality control gaps: Insufficient quality checks during the project execution can lead to defects and rework later on.
* Inefficiencies with the features for proposed project
* Unfriendly/complicated application
* Budget issues
* Timeline issues
* Resources leaving the job midway.
* Logistics: Online platform will require a delivery channel to deliver products to remote locations.
* Involvement of a delivery partner to deliver at remote locations.
* Logistics: Online platform will require logistics network to facilitate the physical movement of
* ordered products. If there is any loophole in logistics infrastructure it may result in increased
* costs for the businesses and will hinder the expansion of services into new regions.
* Payment process introduces procedural inefficiencies such as delays in payment settlement
* to sellers/dealers. To overcome these issues, businesses should come up with an idea where
* merchants can receive direct money from them instantly.
* Logistics: Online platform will require logistics network to facilitate the physical movement of
* ordered products. If there is any loophole in logistics infrastructure it may result in increased
* costs for the businesses and will hinder the expansion of services into new regions.
* Payment process introduces procedural inefficiencies such as delays in payment settlement
* to sellers/dealers. To overcome these issues, businesses should come up with an idea where
* merchants can receive direct money from them instantly.
* Logistics: Online platform will require logistics network to facilitate the physical movement of
* ordered products. If there is any loophole in logistics infrastructure it may result in increased
* costs for the businesses and will hinder the expansion of services into new regions.
* Payment process introduces procedural inefficiencies such as delays in payment settlement
* to sellers/dealers. To overcome these issues, businesses should come up with an idea where
* merchants can receive direct money from them instantly.

Q6) RACI Matrix

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

**The RACI chart identifies the persons who need to be contacted whenever changes are made to tis document. RACI stands for Responsible, Accountable, Consulted and Informed. These are the main codes that appear in the RACI chart, used here to describe the roles played by team members and stakeholders in the production of BRD.**

* Stakeholder Analysis:
* Project stakeholders:
* Business Analyst - Rushabh Thakkar
* Delivery head - Mr. Kartik
* Project Manager – Mr. Vandanam
* Development team – Ms. Juhi, Mr. Teyson, Ms. Lucie, Mr. Tucker, Mr Bravo
* Testing Team – Mr. Jason, Ms. Alekya
* Network Admin – Mr. Mike &
* DB Admin – Mr. John
* Business Stakeholders
* Business Sponsor – Mr. Henry
* Finance lead – Mr. Pandu
* Project coordinator – Mr. Dooku
* Influencers – Kevin , Peter & Ben.

*The RACI chart identifies the persons who need to be contacted whenever changes are made to tis document. RACI stands for Responsible, Accountable, Consulted and Informed. These are the main codes that appear in the RACI chart, used here to describe the roles played by team members and stakeholders in the production of BRD.*

Codes:

* \* Has the ultimate signing authority for any changes in the document
* R Responsible Responsible for creation of this document.
* A Accuracy Responsible for maintaining the accuracy of this document
* S Supports Provides supporting services in production of this document
* C Consulted Provides inputs
* I Informed Must be informed about the changes

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Name** | **Position** | **\*** | **R** | **A** | **S** | **C** | **I** |
| **Ultimate signatory** | **Responsible** | **Accountable** | **Supporting** | **Consulted** | **Informed** |
| Mr. Henry | CEO | Yes |  |  |  | Yes | Yes |
| Mr. Rushabh | BA |  | Yes |  |  |  |  |
| Mr. Vandanam | PM |  |  | Yes |  |  |  |
| Mr. Dooku | Finance lead |  |  |  | Yes |  |  |
| Mr. Pandu | Project coordinator |  |  |  | Yes |  |  |
| Kevin, Ben & Peter | Influencers |  |  |  |  | Yes | Yes |

Q7) Business case development

Help Mr. Karthik to prepare a business case document.

*A business case is a document that explains why a proposed project or investment is justified. It's used to help decision-makers make informed decisions that support business growth.*

A business case typically includes the following information:

*Problem*: The issue or opportunity the project is intended to address

*Solution:* The proposed solution to the problem

*Costs and benefits:* The estimated costs and benefits of the project

*Risks:* The risks involved in the project

*Strategic context*: The compelling case for change

*Economic analysis*: The return on investment based on investment appraisal of options

*Commercial approach*: Derived from the sourcing strategy and procurement strategy

*Financial case*: The affordability to the organization in the time frame

*Management approach*: The roles, governance structure, life cycle choice, etc.

Business case for Online Agriculture store:

1. Why is the project initiated?

The project is initiated to make life of farmers easy and help them order the essential products like fertilizers, pesticides and seeds via a user-friendly web/software application which in turn will help them reduce the wastage and improve their yield.

1. What are the current business problems?

Currently the farmers are facing issues with procuring the essential materials for farming like pesticides, fertilizers and seeds which is negatively impacting their crops.

1. With this project how many problems can be solved?

With this project the problems that the farmers are facing can be solved by creating a web based/ software application from where they can place orders with the manufactures and procure the required items as per convenience and need.

1. Who are the resources required?

To make this application we need a Project Manager i.e. Mr. Vandanam, a Business Analyst i.e Rushabh Thakkar, Java Developers Ms. Juhi who is the Senior Java Developer, Mr. Teyson, Ms. Lucie, Mr. Tucker, Mr. Bravo who are Java Developers. Network Admin i.e. Mr. Mike and DB Admin i.e. John. Testers who are Mr. Jason and Ms. Alekya, the manufacturers, the stakeholders i.e. Mr. Peter, Kevin & Ben and who will provide the requirements & Delivery boys for Delivery.

1. How much organizational changes is required for adaptation?

The farmers will be new to the technology and hence will need training sessions to get adapted to the new technology.

1. What is the time frame to recover on investment (ROI)?

This is a CSR project done for the well being of the farmers. However, the application/software can earn revenue from the manufacturers by giving them various options to advertise and display their products at the top.

1. How to identify stakeholders?

Stakeholder analysis

Stakeholder listing documents

Stakeholder summary.

Q8) Four SDLC methodologies

The committee of Mr. Henry, Mr. Dooku , Mr. Pandu and Mr. Kartik are having a discussion on the Project Development Approach.

Mr. Karthik explained to Mr.Henry about SDLC .And four methodologies like Sequential Iterative

Evolutionary and Agile. Please share your thoughts and clarity on Methodologies

SDLC is a structured approach to developing software products. It consists various stages like planning, analysis, design, development, testing, deployment and maintenance. Each methodology has its strengths and weaknesses. The choice of methodology depends on project requirements.

* **Sequential / Waterfall:**

This is the most common and classic of life cycle models, also referred to as a linear-sequential life cycle model. It is very simple to understand and use. In a waterfall model, each phase must be completed in its entirety before the next phase can begin. At the end of each phase, a review takes place to determine if the project is on the right path and whether to continue or discard the project.

|  |  |  |  |
| --- | --- | --- | --- |
| Stages of Waterfall Model | Resources |  | Artifacts |
| Requirements gathering | BA, PM |  | BRD |
| Requirements Analysis | BA, PM  Tech Team — Sol Arch,  Arch,  DB Arch | NW | FS/ FRS, SSD, SRS  RTM |
| Design | Tech Team — Sol Arch,  Arch,  DB Arch, GUI Designer | NW | HDD / ADD  Solution Document |
| Development — coding | Programmers Developers |  | LDD /CDD  Application |
| Testing | Testers |  | Test Documents  Application with less Errors |
| Unit, Component, System, System Integration, UAT | |  |  |
| PROCESS - Configuration Management - PM | |  |  |
| Deployment & Implementation | Release Engineers |  |  |

* **Iterative /RUP** :

RUP is an iterative project development method. RUP is based on a set of building blocks, or content elements, describing what is to be produced, the necessary skills required and the step-by-step explanation describing how specific development goals are to be achieved. The main building blocks, or content elements, are the following:

Roles (who) — A Role defines a set of related skills, competencies and responsibilities.

Work Products (what) — A Work Product represents something resulting from a task, including all the documents and models produced while working through the process.

Tasks (how) —A Task describes a unit of work assigned to a Role that provides a meaningful result.



Within each iteration, the tasks are categorized into nine disciplines:

Six " engineering disciplines"

1. Business Modeling
2. Requirements
3. Analysis and Design
4. Implementation
5. Test
6. Deployment

Three supporting disciplines

1. Configuration and Change Management
2. Project Management
3. Environment

Four Project Life Cycle Phases:

Inception: agreement among the team and customer as to what will be built 

Elaboration: agreement within the team as to the architecture and design needed to deliver the agreed system behavior.

Construction: the iterative implementation of a fully functional system 

Transition: delivery, defect correction, and tuning to ensure customer acceptance Six best practices

* **Spiral Model:**

The spiral model gives more emphases placed on risk analysis. The spiral model has four phases: Planning, Risk Analysis, Engineering and Evaluation. A software project repeatedly passes through these phases in iterations (called Spirals in this model).

The baseline spiral, starting in the planning phase, requirements are gathered, and risk is assessed. Each subsequent spiral build on the baseline spiral.

Requirements are gathered during the planning phase. In the risk analysis phase, a process is undertaken to identify risk and alternate solutions. A prototype is produced at the end of the risk analysis phase. Software is produced in the engineering phase, along with testing at the end of the phase. The evaluation phase allows the customer to evaluate the output of the product project to date before the project continues to the next spiral.

In the spiral model, the angular component represents progress, and the radius of the spiral represents cost. 

Advantages:

1. High amount of risk analysis.
2. Good for large and mission-critical projects.
3. Software is produced early in the software life cycle. 

Disadvantages:

1. Can be a costly model to use.
2. Risk analysis requires highly specific expertise.
3. Project's success is highly dependent on the risk analysis phase.
4. Doesn't work well for smaller projects.

* **SCRUM/AGILE:**

Scrum is an iterative development methodology used to manage software projects. In scrum-based projects, there isn’t a specific project manager directing project team tasks; the team is self-directed, with co located team members relying on communication over documentation for effective project delivery.

**Four main Values:-**

1. Individuals and interactions over processes and tools
2. Working software over comprehensive documentation
3. Customer collaboration over contract negotiation.
4. Responding to change over following a plan

Twelve Principles of Agile Software

1. Satisfy the customer through early and continuous delivery of valuable software.
2. Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.
3. Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.
4. Business people and developers must work together daily throughout the project.
5. Build projects around motivated individuals. Give them the environment and support they need and trust them to get the job done.
6. The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

7) Working software is the primary measure of progress.

8) Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.

9) Continuous attention to technical excellence and good design enhances agility.

1. Simplicity—the art of maximizing the amount of work not done—is essential.
2. The best architectures, requirements, and designs emerge from self-organizing teams.
3. At regular intervals, the team reflects on how to become more effective, then tunes and

Q9) **Waterfall RUP Spiral and Scrum Models**

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

these models

When the APT IT SOLUTIONS company got the project to make this online agriculture product store, there is a difference 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?

* Waterfall model is the most common and classic of all life cycle models wherein each phase must be completed before eh next phase can begin and at the end of each phase a review takes place to understand if the project is doing well so the required changes can be made.

The waterfall model is a breakdown of developmental activities into linear sequential phases, meaning that each phase is passed down onto each other, where each phase depends on the deliverables of the previous one and corresponds to a specialization of tasks.

* V model stands for Verification and Validation model wherein testing is done in parallel to the corresponding stages of development. V model is a good option for projects wherein requirements at a low risk of changing and is time saving as the testing of the phases is done in parallel to development.

***Also, V model is cost effective as it saves money that will later be spent in starting the process from scratch and good for small scale projects wherein the requirements are defined well. In this case the requirements of the application are defined very well and hence V – model will be a good option to go ahead that will help save time and budget for the project.***

Compared to the waterfall model where testing is done post a few phases makes it difficult to understand about the risks and challenges in the later stages, ***hence V model can be a good model wherein we can conduct the testing along with development.***

Also there are a few other disadvantages in the waterfall model that can easily be overcome by the implementation of V model . The disadvantages include:

a) Design flaws, when discovered, often mean starting over from scratch

b) It doesn’t incorporate mid-process feedback from users or clients and makes changes based on results

c) Delaying the testing until the end of development is common

d) There’s no consideration for error correction

e) The model doesn’t accommodate changes, scope adjustments, and updates well

f) Work on different phases doesn’t overlap, which reduces the efficiency

g) Projects don’t produce a working product until later stages

**Conclusion**: With the help of V model all the difficulties that might lead to project failure can be avoided and hence as a BA I would recommend V model for this particular project.

Q10) Waterfall Vs V-Model - 5 Marks

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

| **Aspect** | **Waterfall model** | **V-model** |
| --- | --- | --- |
| **Cost** | The cost of Waterfall model is low. | V-model is expensive. |
| **Simplicity** | Simplicity of Waterfall model is simple. | Simplicity of V-model is Intermediate. |
| **Flexibility** | Flexibility of Waterfall model is Rigid. | Flexibility of V-model is Little flexible. |
| **Phases** | There is no way to return to the earlier phase. | There is no such constraint in V-model. |
| **Execution Process** | Waterfall model is a sequential execution process. | It is also a sequential execution process. |
| **Linear Movement of Steps** | Waterfall model’s steps move in a linear way. | V-model’s steps don’t move in linear way. |
| **Reusability** | Re-usability of Waterfall model is Limited. | V-model can be Re-use for some extent. |
| **User Involvement** | User involvement in Waterfall model is only in beginning. | User involvement in V-model is also only in beginning. |
| **Testing Activities Start** | In Waterfall model testing activities start after the development activities are over. | In V-model testing activities start with the first stage. |
| **Success Guarantee** | Guarantee of success through Waterfall model is low. | Guarantee of success through V-model is high. |
| **Process** | Waterfall model is a continuous process. | V-model is a simultaneous process. |
| **Requirement Specification** | Requirement specification in Waterfall model is necessary in beginning. | Requirement specification in V-model is also necessary in beginning. |
| **Customer Involvement** | Less customer involvement. | More customer involvement as compared to waterfall model. |
| **Testing during Development** | It is not possible to test a software during its development. | There is possibility to test a software during its development. |
| **Identification of Defects** | Identification of defects is done in the testing phase. | Identification of defects can be done from the beginning. |
| **Debugging** | Debugging is done after the last phase. | Debugging can be done in between phases. |
| **Usage** | Waterfall model is less used now-a-days in software engineering. | V-model is widely used in software engineering. |

Q11) Justify your choice:

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

* As a BA, I must ensure that the budget timelines and delivery timelines both are met along with delivering a user friendly software/application.
* As the requirements of the projects are clearly explained and understood but as changes are permanent and there can be changes anytime in the project and handling these changes is the major responsibility of the BA.
* Considering all the aspects, **I would prefer the Agile methodology** for development of the project as Agile is cheaper than other models and also welcomes changes even late in the development stages .
* Also, Agile delivers a set of working software with shorter time spans which can help understand and evaluate the software and recommend the changes readily.
* In Agile projects the team is independent and performs the tasks assigned during the sprint meetings establishing a sense of team work and mutual understanding which can foster the speed of the project.
* Agile also focuses on continuous quality checks to enhance the design and promote agility which can ensure that a error free application that is user friendly can be delivered to the end user.

**Looking at all the various SDLC methodologies, their pros and cons , Agile Methodology is what I will choose as a BA.**

Q12) GANTT Chart:

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.

GANTT charts are project management/software development tools that help schedule projects of all sizes.

GANTT charts are a graphical representation of activity against time that help to schedule projects. It is basically a bar chart showing the project schedule.

IT helps the team to understand the time allotted for particular phase and also serves as a tool for allotting activities in a particular order.

* The client wants to make the project in 18 months and hence I have prepared a Gantt Chart as per the client requirements:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Months** | **J** | **F** | **M** | **A** | **M** | **J** | **J** | **A** | **S** | **O** | **N** | **D** | **J** | **F** | **M** | **A** | **M** | **J** | **J** | **A** | **S** | **O** | **N** | **D** |
| **Requirement Gathering** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Requirement Analysis** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Design** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Development 1** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Test Plan & Test Cases** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **QA Testing** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Development 2** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Test Plan & Test Cases** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **QA Testing** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Development 3** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Test Plan & Test Cases** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **QA Testing** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Development 4** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **UAT** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Q13) Fixed Vs Billing projects:

Explain the difference between Fixed bid and billing projects:

|  |  |  |
| --- | --- | --- |
| **Aspects** | **Fixed Bid** | **Billing projects** |
| **Basic** | Fixed bid projects have a fixed charge | Billing projects have variable charges depending on the work completed |
| **Cost** | Price does not change even if there is changes in working hours | Price changes depending on the working hours |
| **Project timelines** | Have a defined start and a end date | Have a tentative end date as the project depends on hourly billing |
| **Flexibility** | Are less flexible as they do not allow changes during execution | Are flexible as they allow changes even during the projects |
| **Client involvement** | Has less client involvement as the client has allotted a budget and work which needs to be completed | Has higher client involvement as the IT company bills the client based on the hours worked and the amount of work delivered |
| **Risk** | High risk as the future predictions is done prior to starting the project and any risks that occur midway need to be dealt with in the same budget | Low risk as the risks are identified before the start and also has the flexibility to increase the budget if any risks occur midway |
| **Binding** | IT company has to deliver the project without fail or this will lead to penalties | If there are any disputes this project can be stopped midway without any penalties |
| **Work scope** | Work scope cannot be changed midway i.e. any refinements to the product/software cannot be made | Work scope can be changed midway and any additions to the project can be done with additional cost. |
| **Better for** | Projects where the scope of the project is at a low risk of changing | Projects where the requirements are at a high risk of changing |

Q14) Prepare timesheets of BA in different stages of SDLC

* Design Timesheet of a BA
* Development Timesheet of a BA
* Testing Timesheet of a BA
* UAT Timesheet of a BA
* Deployment and Implementation Timesheet of a BA.

Timesheets are used to keep a track on the activities performed by a BA . It is a breakdown of activities performed in a day

* Design Timesheet of a BA:



* Development timesheet of a BA:



* Testing Timesheet of a BA:



* UAT Timesheet of a BA



* Deployment and Implementation Timesheet of a BA:

