**CAPSTONE PROJECT -1 PART -1**

**ONLINE AGRICULTURE PRODUCT STORE**

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

**ANS:**

1. **GOAL:**

* To enable to buy the agricultural products like pesticides, fertiliser, seeds, etc .. in e commerce platform.
* To engage the farmer and manufacture relationship to ensure accessibility in remote areas.

1. **INPUTS:**

* Product information and its specifications like price, colour, quantity etc..
* Gather technical requirements for the projects.

1. **OUTPUTS:**

* Easy access to the customers (farmers) to purchase the product and on time delivery
* To facilitate the system to engage relationship between manufactures and customers

1. **RESOURCES:**

* Financial resources ( 2 crore budget)
* Technical resources ( IT teams like developers, testers and other project stakeholders)

1. **ACTIVITES:**

* Allows manufactures to upload product info.
* Purchase of product through different payment methods.
* During project development, we need to gather requirements from stakeholders, design and develop the product functionalities, testing and implementing the online store.

1. **VALUE END:**

* Gain access to farmers in remote areas
* Expanding the crops yields, sales opportunities
* Gain more profit and user friendly.

1. ***Mr Karthik is doing SWOT analysis before he accepts this project. What Aspects he should consider as Strengths, as Weaknesses, as Opportunity and as Threats?***

**ANS:**

**SWOT ANALYSIS**

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| **Strengths**   * Good communications between farmers   and manufactures.   * More accessibility to farmers in remote areas * CSR initiatives as financial backup. | **Weakness**   * Lack of internet issues and stability * Unaware of using applications in online   platforms. |
| **Opportunities**   * Partnership with others distributers, delivery   partners, payment sponsors.   * To expand their own agriculture products and   Firms. | **Threats**   * Competitions with other ecommerce   platforms.   * Data Insecurity and hacking of personal   Info. |

1. ***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 ?***

**ANS:**

* To conduct a feasibility study in doing this project in JAVA technology we have following points,

1. **Hardware Requirements:**

* Ensure we have sufficient amount of data availability to store application data like product databases includes SQL.
* Ensure we have adequate internet connectivity to allow access in remote areas.
* Test the application data with the user hand on experience includes mobiles, smartphones etc.

1. **Software Requirements:**

Here some of the software requirements includes MySQL, JAVA, Selenium, Sprint boot for developments and frameworks and API testing.

1. **Trained Resources:**

* BA should gather and analyse the requirements includes GAP analysis.
* Testers should do both automatic and manual testing and UI/UX should be able to design a application in terms of user friendly.
* Developers includes JAVA to be skilled in Hibernate and other API’s and Network admins will manage the servers.

1. **Budget & Time Frame:**

* Salaries for IT teams like Developers, testers, BA etc. other infrastructure costs for servers, tools and internet etc..
* From the estimate budget of **2 crore**  we can estimated **time frame**  of **18 months** includes ,

BA: To gather and analyse the requirements – 2 months

Design: to model the requirements - 3 months

Development: to develop the user requirements – 7 months

Testing: To check the user testing and other Testers – 4 months

Implementation: To deploy the user application – 2 months

1. ***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* ?**

**ANS:**

**GAP ANALYSIS**

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| **AS IS – CURRENT STATE** | **TO BE – FUTURE STATE** |
| * Lack of communication between farmer   and manufactures.   * High prices and lack of product availability * Limited number of product varieties and   Product manufacturers. | * Good communication and relationship   between farmers and manufactures.   * Digital platforms provides 24/7 online   purchasing.   * Sequence of product selection, faster   delivery of products in doorstep.   * Discount on price, saving time and effort   on physical needs. |

Therefore, the gap between current state and future state by implementing this portal helps in various factors like,

* Digital Access to all farmers and manufactures.
* Easy purchases of all items in one location
* Increase of digital literacy among the customers.
* Price transparency of all products which includes discounts on particular time
* Good communication with farmer and manufactures.
* Product efficiency includes product yields and variety of products in one platforms.
* Lack of dependent to local retailers and suppliers, bargaining of price with the owners.

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

**ANS:**

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| **BA RISKS** | **PROCESS RISKS** |
| * Improper gathering of requirements from   committee members.   * Frequent changes of user requirements   in the project.   * Lack of execution of elicitation techniques   like brainstorming etc..   * Lack of document practises and inadequate   detailing of BRD/FRD documentation.   * Less participation of clients leads to failure of   Solution in users validation. | * Lack of internet connectivity lead to face issue   in remote areas and cannot handle high user  traffic activity.   * Lack of skilled teams includes tester, designer,   etc..   * Lack of digital literacy among using platform * Exceeding the framed budget due to unexpected   expenses.   * Lack of data information and resource attrition   in project cycle.   * Exceeding the time frame due to frequent   change in deadlines of project . |

Therefore, we can to avoid these risk factors we can mitigate these factors by,

* Conducting any of the elicitation techniques to have clear understand of the users requirements and accuracy one.
* Using some of the prototypes which includes detail understanding of the agenda to all members in a project.
* Have frequent interaction with stakeholder to avoid the deviation of the agenda. BA should engaged with developers and tester for all time to know the project goes in right direction.
* Ensure skilled training persons involved in project cycle and have rigours UAT
* Provide the User friendly manual to farmers in remote areas to avoid illiteracy.

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

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|  | **RESPONSIBLE** | **ACCOUNTABLE** | **CONSULTED** | **INFORMED** |
| **HENRY** |  | **Y** | **Y** | **Y** |
| **PANDU (FH)** |  | **Y** | **Y** | **Y** |
| **DOOKU (PC)** | **Y** |  | **Y** | **Y** |
| **Henry’s Friends** |  |  | **Y** | **Y** |
| **KARTHICK (DH)** | **Y** |  | **Y** | **Y** |
| **VANDANAM (PM)** | **Y** | **Y** |  | **Y** |
| **JUHI (Sr. DEVL)** | **Y** | **Y** |  | **Y** |
| **Tyson, 3 other (DEV)** | **Y** | **Y** |  | **Y** |
| **Sarath (BA)** | **Y** | **Y** |  | **Y** |
| **Askaya ,Jason (Tester)** | **Y** | **Y** |  | **Y** |
| **Mike (NA)** | **Y** | **Y** | **Y** | **Y** |
| **John (DBA)** | **Y** | **Y** |  | **Y** |

1. ***Help Mr Karthik to prepare a business case document?***

**ANS:**

**Business Case Document**

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| **Project Name :** Online Agriculture Product Store | **Project Manager :** Mr. Vandanam |
| **Client :** SOONY Company | **Duration:** 18 months |

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| **Summary** | This project aims to deliver the Online Agricultural product store in digital platform especially in remote areas. As, Mr.Henry discusses with his three friends whosaw the difficulty of the farmers to collect and buy the agricultural products from local store.  So he decided to provide Online Agriculture product store to ensure the farmer will  able to access the products in digital store which leads to good relationship between  farmer and manufacturers, price, delivery at doorstep. |
| **Problem Statement** | Limited access of product availability, digital illiteracy in remote areas, dependency of products with its high price in local retailers and suppliers. |
| **Product** | Online Agricultural Product Store (APPs/Web application) |
| **Objective** | To develop the web applications/ apps in remote areas which is user friendly.  To purchase the product from the different manufactures. Able to deliver a product at  Home/ its preferred location. |
| **Product Benefits** | To engage the digital literacy in remote areas, to avoid physical efforts of products  purchase in local store. |
| **Key Stakeholders** | Business Owner – Mr Henry  Project Stakeholders – APT IT solutions (PM, Delivery head, BA, Developer, tester) |
| **Feasibility Study** | Technology: JAVA based web application with its APIs.  Time: 18 months  Budget : 2 crore  Resource: Skilled IT team from APT IT solutions |
| **Risks** | Lack of digital literacy, lack of internet accessibility, exceeding of budget and time  frame.  Mitigation: provide user manual, conduct rigorous testing with application and have deadlines. |
| **Financial Justification** | Under allocated CSR initiatives, we perform cost effectiveness |
| **Project Delivery** | Project initiatives align with product expectation along with the agricultural sector. |

1. ***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?***

**Ans:**

* **Sequential:** It also called as linear sequential life cycle model which is simple to understand and use. In this model, each stage must be completed in fully and move to another stage. At end, review will takes place to determine the project in correct direction and if not we will discard the project.
* **Iterative:** It is called as RUP (rational unified process) which is created by IBM. It consists of four projects life cycle phases which is “Inception, elaboration, construction, transition etc.. So it is set of content elements which describes what to be showed in step by step explanation and how these goals to be achieved.
* **Evolutionary –** It is called as Spiral model which gives more emphases on risk analysis, which has four phases like planning, risk analysis, engineering, and evaluation. The baseline in the spiral model is called as planning. These were used only in high amount of risk analysis and also can be costly to use this model.
* **Agile –** It is called as Scrum model which high in delivery time and handle change requests. In this model, working software is the primary measure of progress and at regular intervals, the team reflects on how to become more effective then tunes and adjusts its behaviour

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

* **Sequential:** It also called as linear sequential life cycle model which is simple to understand and use. In this model, each stage must be completed in fully and move to another stage. At end, review will takes place to determine the project in correct direction and if not we will discard the project.

They have different stages which is requirements gathering & analysis, design, development, testing, deployment & implementation.

**Advantages:**

It phases are completed at one a time and it works well for smaller projects and where requirements were understood well.

**Disadvantages:**

No working software is produced until late during the life cycle. And poor model for complex and oops.

* **Iterative:** It is called as RUP (rational unified process) which is created by IBM. It consists of four projects life cycle phases which is “Inception, elaboration, construction, transition etc.. So it is set of content elements which describes what to be showed in step by step explanation and how these goals to be achieved. The building block of the models are roles, works products, tasks.

So employ a component based architecture and model software visually and control changes.

Their disciplines are business modelling, requirements, analysis & design, implementation test, deployment, configuration and change management, project management and environment.

* **Evolutionary –** It is called as Spiral model which gives more emphases on risk analysis, which has four phases like planning, risk analysis, engineering, and evaluation. The baseline in the spiral model is called as planning. These were used only in high amount of risk analysis and also can be costly to use this model.

**Advantages:**

Good for large and mission critical projects

**Disadvantages:**

Doesn’t work for small projects.

* **Agile –** It is called as Scrum model which high in delivery time and handle change requests. In this model, working software is the primary measure of progress and at regular intervals, the team reflects on how to become more effective then tunes and adjusts its behaviour

Scrum can be implemented at either beginning or when you feel something is falling behind its schedule. Usually we have 7 members in scrum team and the work will divided into sprints (2,3,4 weeks). In this agile, we have face to face communication with a stakeholders and we will get much clarity in requirement. So agile model is used everywhere in all projects.

1. ***Write down the differences between waterfall model and V model ?***

**Ans: Waterfall Model:**

* In waterfall model, it linear sequential life cycle where each phase must be completed fully and we can’t be move next phase without completing before phase.
* Testing will happen after development stage of the cycle

**V model:**

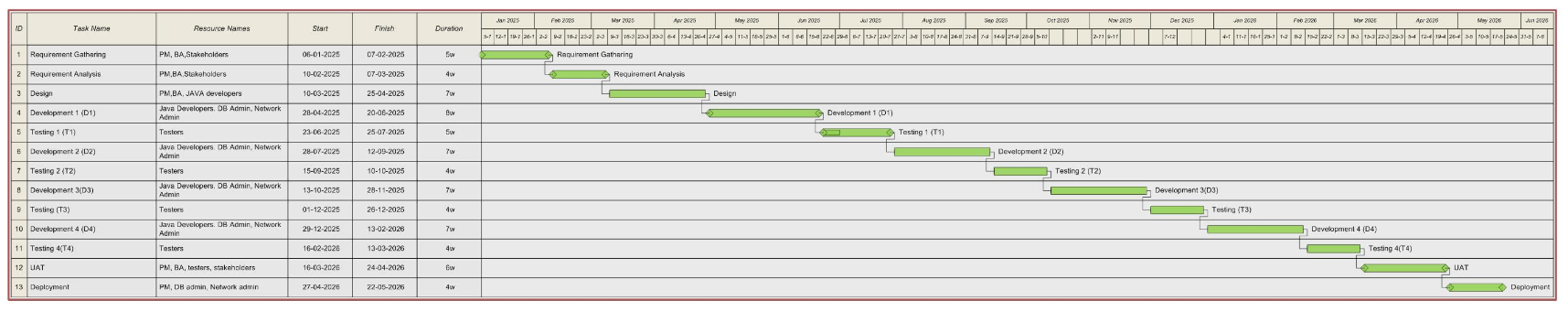
* In V model, verification and validation will happen parallel at each stage of a cycle.
* Testing were integrated in every stage of the cycle so which is suitable for high quality needs.

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

**Ans:**  As a BA I prefer V model is suitable for this project. Because, testing which includes verification and validation will happen parallel to each stage of a cycle which provides high quality needs for user.

1. ***The Committee of Mr. Henry, Mr Pandu, and Mr Dooku discussed with Mr Karthik and finalised 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.?***

**Ans:**  I tried my this preparation from MS visio.



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

**Ans:**

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| **Fixed Bid Projects** | **Billing Projects** |
| * It is useful for smaller projects with clear   requirements | * It is useful for evolving projects with unclear   requirements and it’s called as “Time &  material projects. |
| * Budget is predetermined | * Budget is based on time and material invested |
| * It is predefined scope, changes occurs extra   expenses | * Flexible scope changes occurs any time |

1. ***Prepare Timesheets of a BA in various stages of SDLC***

**Ans:**

***Design Timesheet of a BA***

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| --- | --- | --- | --- | --- |
| **S.no** | **Task and Activities** | **Start Time** | **End time** | **Hours** |
| 1. | Requirement gathering and analysis to meet business stakeholder’s needs. | 10.00 AM | 11.30 AM | 1.5 hrs |
| 2. | Creation of BPM for current business  needs and to define improvements | 11.30 AM | 2.00 PM | 2.5 hrs |
| 3. | Documentation of SRS preparation from  gathered requirements | 2.00 PM | 4.30 PM | 2.5 hrs |
| 4. | Communicate to client for design solutions  status to drive UAT. Update RTM and end  user manual. | 4.30 PM | 7.00 PM | 2.5 hrs |

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| **S.no** | **Task and Activities** | **Start Time** | **End time** | **Hours** |
| 1. | Clarifying the technical requirements related to coding and conducting JAD sessions | 10.00 AM | 12.30 AM | 2.5 hrs |
| 2. | Create and sorting of user stories for developing the requirements | 11.30 AM | 1.00 PM | 1.5 hrs |
| 3. | Defining the acceptance criteria by test case preparation | 2.00 PM | 4.30 PM | 2.5 hrs |
| 4. | Conduct regular meeting to team and clients. Update RTM and end user manual. | 4.30 PM | 7.00 PM | 2.5 hrs |

***Development Timesheet of a BA***

***Testing Timesheet of a BA***

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| --- | --- | --- | --- | --- |
| **S.no** | **Task and Activities** | **Start Time** | **End time** | **Hours** |
| 1. | Creation of test cases from use cases for UAT | 10.00 AM | 12.30 AM | 2.5 hrs |
| 2. | Log issues during UAT session will be solved | 12.30 AM | 3.30 PM | 3 hrs |
| 3. | Documentation of feedback session for UAT | 3.30 PM | 5.30 PM | 2 hrs |

***UAT Timesheet of a BA***

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| --- | --- | --- | --- | --- |
| **S.no** | **Task and Activities** | **Start Time** | **End time** | **Hours** |
| 1. | Creation and planning of deployment and communicate with stakeholders | 10.00 AM | 1.00 PM | 3 hrs |
| 2. | Providing user support for post deployment | 1.00 PM | 4.00 PM | 3 hrs |
| 3. | Review the implementation with business for ensuring coordination | 4.00 PM | 6.00 PM | 2 hrs |

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| **S.no** | **Task and Activities** | **Start Time** | **End time** | **Hours** |
| 1. | Review test case from Quality assurance team | 10.00 AM | 11.30 AM | 1.5 hrs |
| 2. | Provide functional support to testers and engaging with developers if any test case has issue | 11.30 AM | 3.30 PM | 4 hrs |
| 3. | Perform high level test and prepare client for UAT drive | 3.30 PM | 5.30 PM | 2 hrs |

***Deployment n Implementation Timesheet of a BA***