Project Design Phase-Part 2

Requirements Analysis
(Functional,Operational,Technical)-Flow Charts

Team Id	NM2023TMID04415
Project Name	Block Chain Technology For Electronic Health Records

Requirement Analysis:

- Requirements analysis or requirements engineering is a process used to determine the needs and expectations of a new product. It involves frequent communication with the stakeholders and end-users of the product to define expectations, resolve conflicts, and document all the key requirements.

- One of the greatest challenges faced by any organization is to share the vision of the final product with the customers. Hence, a business requirements analysis involves a team effort of all the key stakeholders, software developers, end-users, and customer managers to achieve a shared understanding of what the product should do. This is always done in the early phase of

any project to ensure that the final product conforms to all the requirements.

Stages of Requirement Analysis:

1. Drawing the Context Diagram:

The purpose of drawing a context diagram is to find out how to design a new system within an organization or how to modify it. Context diagram defines how external elements impact the internal system of an organization. They are complex diagrams that draw the system analysis simply yet crisply. The arrows indicate the date-flow between the external elements and the internal system. For example, the following diagram shows how different elements move within the hotel reservation system.

2. Developing a Prototype (Optional):

The prototype is usually created faster and at an affordable cost. However, it always comes with some limitations and is not accepted in the final analysis.

3. Modeling the Requirements:

This stage involves creating requirement models that ultimately allow customers and stakeholders to imagine the product in the making. Various functions, data tables, external elements, and their relation to each other are represented in graphical forms. A

graphical viewing of these things assists in finding flaws in the requirements. It allows the developers to see if there are any inconsistencies, missing, wrong, or unnecessary elements added to the system. Such requirement models can be divided into the following categories.

4. Finalize the Requirements:

Requirement models will add to the understanding of the system. All the necessary corrections are done at this stage. All ambiguities are removed, and the data flow is examined across various models.
The elicitation process and subsequent analysis lead to a greater understanding of the system. So finally, the requirements are approved, and the documentation begins.

Requirement Analysis Techniques:

Business Process Model and Notation (BPMN):

Business Process Model and Notation is used to create graphs that simplify the understanding of the business process. It is a popular technique used by business analysts to coordinate the sequence of messages between different participants in a related set of activities.

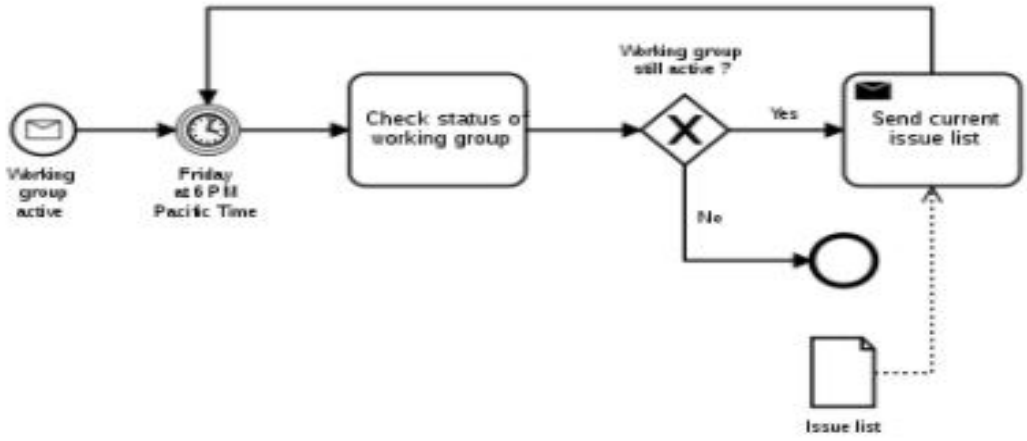

Fig: BPMN example

Flowcharts:

Flowcharts depict sequential flow and control logic of a related set of activities. They are useful for both technical and non-technical members.

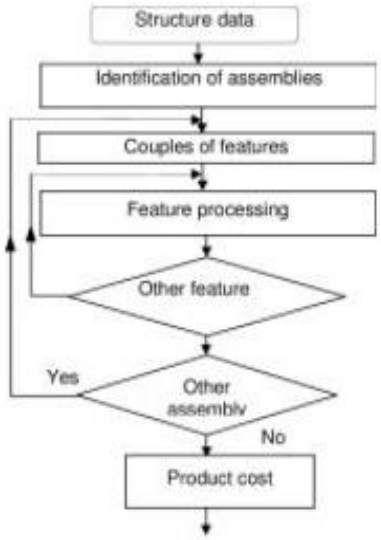

Fig: Flowchart example

Gantt Charts:

Gantt Charts provide a visual representation of tasks along with their scheduled timelines. They help business analysts visualize the start and end dates of all the tasks in a project.

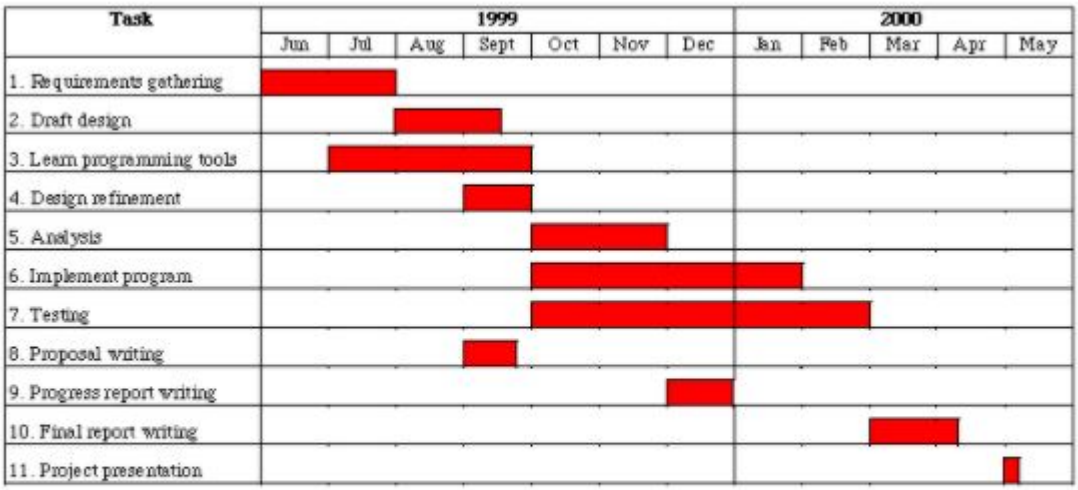

Fig: Gantt Charts example

Gap Analysis:

Gap analysis evaluates the gaps in a product's performance to determine whether the requirements are met or not. They help business analysts determine the present state and target state of a product.

Fig: Gap analysis example

Requirement Analysis Example:

Here's an example of a requirement analysis for a fictional e-commerce website:

Project Name: A Ficionnal Online E-Commerce Website

Objective: Create a user-friendly e-commerce website to allow customers to browse and purchase products online.

Stakeholders:

1. Customers (shoppers)
2. Product vendors and sellers
3. Website administrators

4. Payment gateway providers
5. Shipping and logistics partners