Project Plan

As stated earlier, a project plan stores the outcome of project planning. It provides information about the end date, milestones, activities, and deliverables of the project. In addition, it describes the responsibilities of the project management team and the resources required for the project. It also includes the description of hardware and software and lists the methods and standards to be used. These methods and standards include algorithms, tools, review techniques, design language, programming language, and testing techniques.

A project plan helps a project manager to understand, monitor, and control the development of software project.

This plan is used as a means of communication between the users and project management team.

There are various advantages associated with a project plan, some of which are listed below.

- It ensures that software is developed according to the user requirements, objectives, and scope of the project.
- It identifies the role of each project management team member involved in the project.
- It monitors the progress of the project according to the project plan.
- It determines the available resources and the activities to be performed during software development.
- It provides an overview to management about the costs of the software project, which are estimated during project planning.

A typical project plan is divided into the following sections.

- **Introduction:** Describes the objectives of the project and provides information about the constraints that affect the software project.
- **Project organization:** Describes the responsibilities assigned to the project management team members for completing the project.
- **Risk analysis:** Describes the risks that can possibly arise during software development as well as explains how to assess and reduce the effect of risks.
- **Resource requirements:** Specifies the hardware and software required to carry out the software project. Cost estimation is done according to these resource requirements.
- **Workbreakdown:** Describes the activities into which the project is divided. It also describes the milestones and deliverables of the project activities.
- **Project schedule:** Specifies the dependencies of activities on each other. Based on this, the time required by the project management team members to complete the project activities is estimated.

Work Breakdown Structure

The Work Breakdown Structure (WBS), is a hierarchical breakdown of the work and activities that must be executed by the team to achieve project objectives and create the required deliverables.

The WBS organizes and defines the total scope of the project and splits the work into smaller, more manageable parts.

With a Work Breakdown Structure, the project manager can concentrate on what he has to accomplish as he approaches the **project deadline.**

This is a fundamental tool for a PM as it helps **to plan, manage and evaluate any type of project.**

With a WBS, we start from the result or the **desired final product**, we analyze it and decompose it into smaller deliverables or the activities necessary to create it.

The deliverable can be an object, a service, or an activity.

It is usually a graph or a visual diagram that defines the temporal sequence and the **process of a project**. It breaks down into each activity that will be performed during the **project life cycle**.

A WBS is often represented as a structure, as a summary, but can also be organized using tabulations or other **visual organizational systems**.

PURPOSES OF A WORK BREAKDOWN STRUCTURE

- Provides a **visual representation** of all parts of a project
- It offers a **continuous vision on how the whole project proceeds**, helping its management
- Defines **specific and measurable results**
- Decomposes the job into **manageable blocks**
- Provides a system that allows **successful experiences to be repeatable**
- Sets a basis for **estimating costs** and **allocating resources,** both human and other
- Avoids overlaps or **lack of work for the resources**
- Minimizes the possibility of **forgetting a critical result or a risk**

STRUCTURE FOR WRITING A WBS:

- Determine and **describe the project result**;
- Highlight all the **necessary phases of the project**;
- Divide the final results into **manageable tasks;**
- Assign each section and make sure that each owner, ie the corresponding team member, has all the information, skills and knowledge necessary **to complete the job.**
- Ensure **frequent feedback.** The WBS is a dynamic document, whose content can be revisited, even frequently, to ensure the **correct execution and delivery of the project.**

EXAMPLE OF A WBS