Laboratory Report

Experiment No - 03

Batch -

Date of Experiment: _____ Date of Submission: _____

Title: Use project management tool to prepare schedule for the project

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Evaluation:

1) Attendance [2] ----------

2) Lab Performance [2] ----------

3) Oral [1] ----------

Overall Marks [5] ----------

Subject In-Charge

Experiment No: - 03

TITLE: Use project management tool to prepare schedule for the project.

PREREQUISITE:

1. Concepts of Object Oriented Programming & Methodology
2. Knowledge of developing applications with front end & back end connectivity.

HARDWARE CONFIGURATION / KIT:

Sr. No	Minimum Hardware Configuration	
1	Processor	800MHz Intel Pentium III or above versions
2	RAM	512 MB
3	HDD	1.5 GB of free disk space

SOFTWARE CONFIGURATION:

Sr. No	Minimum Software Configuration	
1	Operating System	Microsoft Windows Vista/7 or above versions
2	Editor	MS Word, Notepad

Theory: -

A) Project Scheduling

Software project scheduling is an action that distributes estimated effort across the planned project duration by allocating the effort to specific software engineering tasks.

Principles of Project Scheduling

1. **Compartmentalization**
2. **Interdependency**
3. **Time allocation**
4. **Effort Validation**
5. **Defined responsibilities**
6. **Defined outcomes**
7. **Defined milestones**

Work Breakdown Structure

Dividing complex projects to simpler and manageable tasks is the process identified as Work Breakdown Structure (WBS).

Usually, the project managers use this method for simplifying the project execution. In WBS, much larger tasks are broken down to manageable chunks of work. These chunks can be easily supervised and estimated.

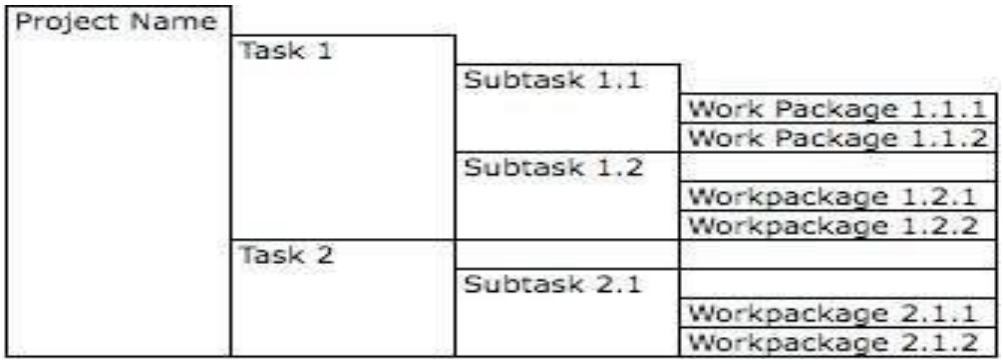

Fig: Work Breakdown Structure

Activity Network (Task Network)

A task network is also called as an activity network, is a graphic representation of the task flow for a project. It is sometimes used as the mechanism through which task sequence and dependencies are input to an automated project scheduling tool. In its simplest form, the task network depicts major software engineering actions.

A task set is a collection of software engineering work tasks, milestones, work products, and quality assurance filters that must be accomplished to complete a particular project. The task set must provide enough discipline to achieve high software quality. But, it must not burden the project team with unnecessary work.

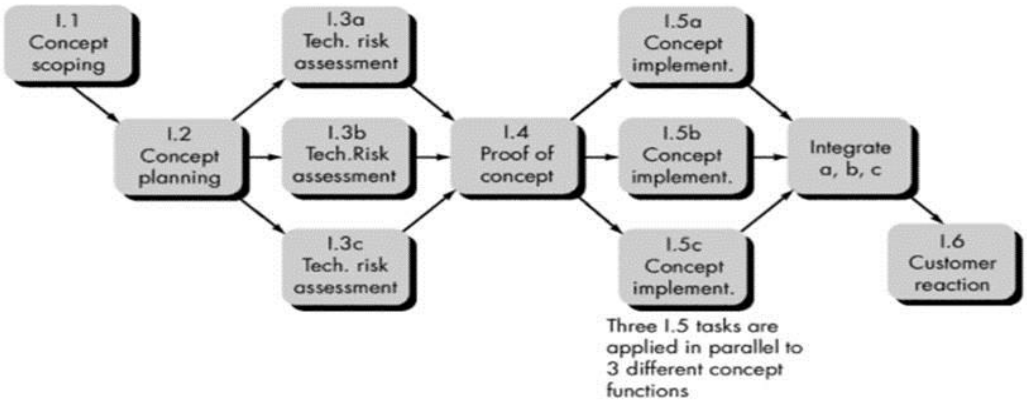

Fig: Activity Network (Task Network)

B) Project Tracking

Project scheduling is very important task. To complete project in decided timing is quite difficult. There might be reality of a technical project that there might be a hundreds of technical tasks. Some of the tasks may lie in the projects or may be some tasks lie outside the project.

There are certain tasks which fall on the critical path. If those are not considered in schedule, the project may be collapsed. The main job of project manager is to define all tasks involved in project, building a network that shows their independencies and the tasks which are critical within the network.

The major activity carried out in software project scheduling is that, it distributes estimated effects across the planned project period by allocating the effort to particular software engineering tasks.

Tracking the schedule

If it has been properly developed, the project schedule becomes a road map that defines the tasks and milestones to be tracked and controlled as the project proceeds.

Timeline Charts

When creating software project schedule, we begin with a set of tasks. If automated tools are used, the work breakdown is input as a task network or task outline. Effort, duration and start date are then input for each task, In addition, tasks may be assigned to specific individuals.

As a consequence of this input, a time-line chart, also called a Gantt chart is generated. A time-line chart can be developed for the entire project.

A **Gantt chart** is a type of bar **chart** that illustrates a series of tasks or activities on a **timeline**. Each task is a small step that must be finished as part of completing a larger objective. The tasks are arranged in a cascading order on the **timeline**, based on their start date.

How to Create a Gantt chart:

1) Define the project settings, such as its start date, end date and scheduling mode. The most common scheduling mode is forwards from the project start date. In this mode the default is for tasks to start as soon as possible, which means that the whole project finishes at the earliest possible date.
2) Define the project calendar. This sets the number of working days in the week, the number of working hours in the day, and so on.
3) Enter or edit task names and durations.
4) Set up a global resources list and assign resources to tasks. Although you can often define the resources as you need them, it is usually quicker to start by setting up a global resources list from which you can then select resources to assign to the various project tasks.
5) Create links to specify the dependencies between the project tasks.
6) Set constraints on the tasks as necessary.
7) Make final adjustments to the project plan.
8) Once the project has actually started, inspect it at regular intervals to detect potential problems or scheduling conflicts and make any corrections required.

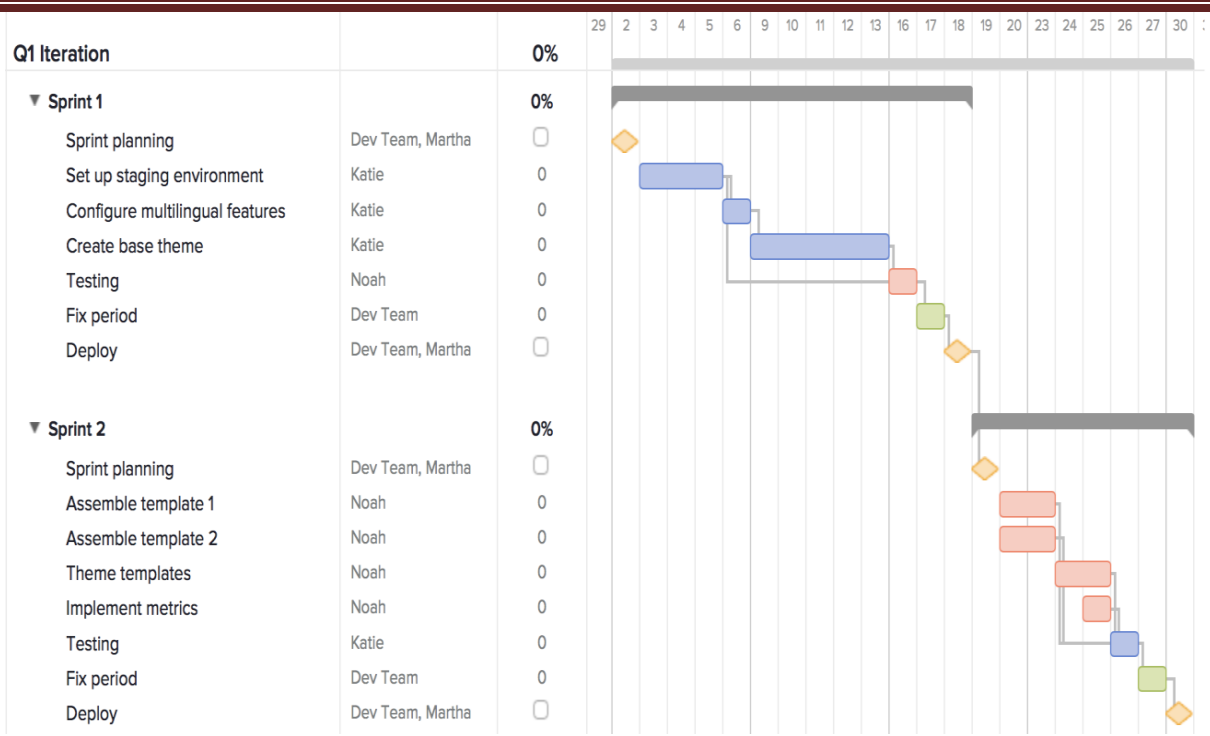

Fig. Timeline Chart / Gantt Chart

Exercise:

(Complete any 3 exercise suggested by your teacher, 4th is compulsory)

1) What are scheduling techniques?
2) Can a project have two critical paths? Justify your answer.
3) What are the Advantages of Gantt Charts?
4) Use any open source tool and perform the activity for a project given by you teacher.
    a. To identify the task set for project.
    b. To prepare the Activity Network (Network Diagram) for a project.
    c. To prepare the Gantt chart for a project.