

Welcome to the Class



Department of Computing and Information System

Project Management Tools

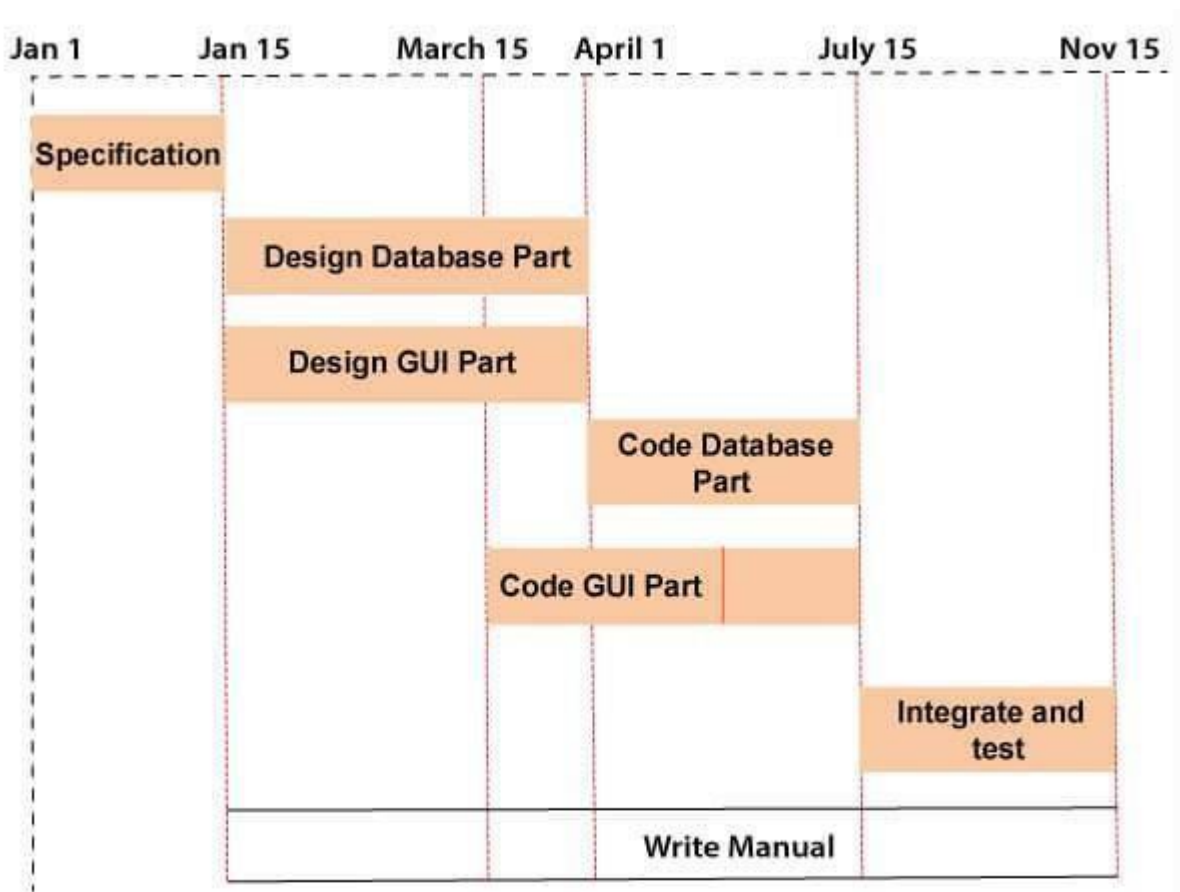
To manage the Project management system adequately and efficiently, we use Project management tools.

Here are some standard tools:

Gantt chart

Henry Gantt developed the Gantt Chart in 1917. Gantt chart is a handy tool when you want to see the whole landscape of either one or multiple projects. It helps you to view which functions are dependent on one another and which event is coming up.

Gantt charts are primarily used to allocate resources to activities. The funds allocated to activities include staff, hardware, and software. Gantt charts are useful for resource planning. A Gantt chart is a particular type of bar chart where each bar represents an activity. The bars are drawn along a timeline. The distance of each bar is proportional to the duration of time planned for the corresponding event.



Gantt chart representation of the MIS Problem

Advantages of Gantt Chart:

- It is to represent the Project schedules and Activities
- Easy to represent Tasks, Sub-tasks, Milestones and Projects Visually on a Graph
- Clear visibility of Dates and Time Frames
- It helps to see the Plans by Day, Week, Month, Quarter and Year
- Helps to effectively manage the Team
- And it helps in efficient Time Management
- Easy to group all sub tasks under a main task
- Also, we can see the Team Members and their responsible tasks
- Easy to Check the Project Status
- We can See the Completed % of Tasks
- Tasks in Progress and Pending work is clearly visible on Stacked Bars
- Helps Managers to easily coordinate with the teams
- Gantt chart is good tool for presenting in Team Meetings

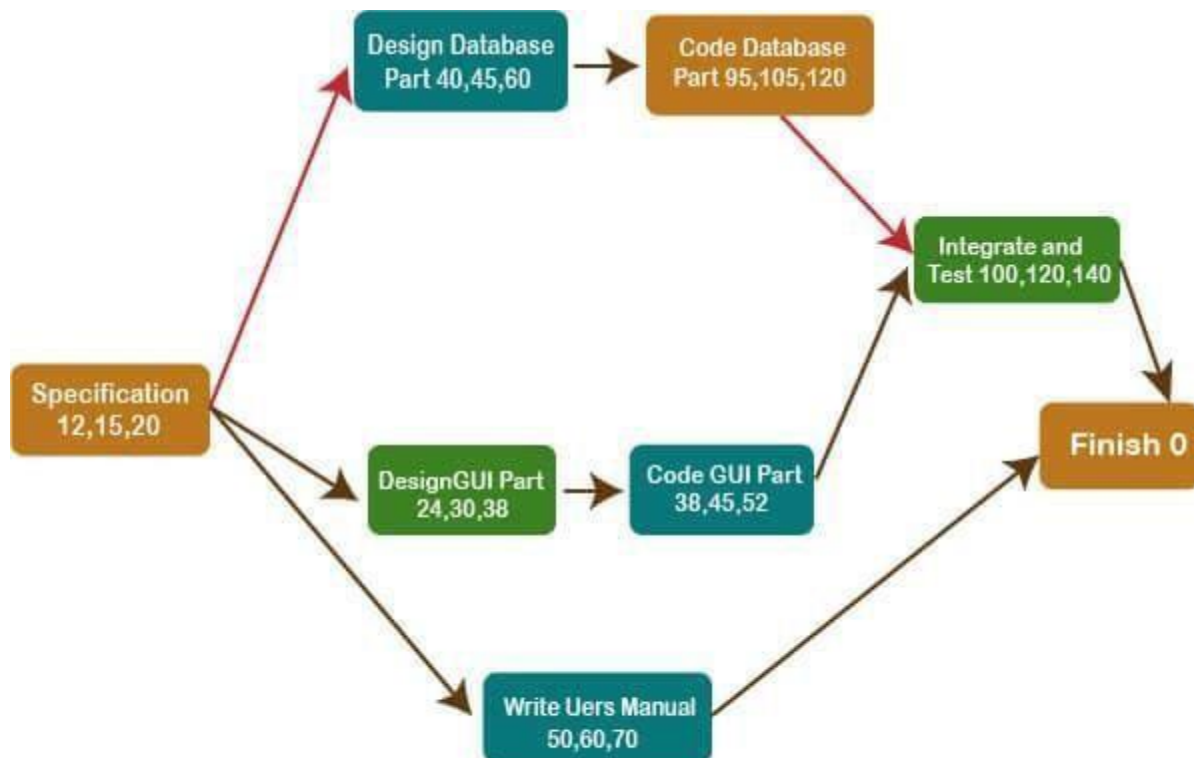
•**Disadvantages:**

- Require more efforts for Creating and Managing the Chart
- Updating a Chart is Very Time Consuming
- All Tasks are not visible in a single view of a Gantt
- Need to scroll and Click additional buttons to view remaining items
- Stacks represents only the time and not the hours of the work
- Not easy to re align the tasks from on section to another
- Not easy to calculate the aggregates

PERT chart

PERT (Project Evaluation and Review Technique) charts contain a network of boxes and arrows. The boxes show activities, and the arrows represent function dependencies. PERT chart represents the numerical variations in the plan estimates assuming a normal distribution. Thus, in a PERT chart consist of making a single estimate for each function, pessimistic, likely, and optimistic size is made. The boxes of PERT charts are generally annotated with the pessimistic, likely, and optimistic estimates for each method.

Gantt chart representation of a project record is useful in planning the usage of resources, while PERT chart is useful for monitoring the proper progress of activities. Also, it is easier to identify parallel operations in a project utilizing a PERT chart. Project managers use to determine the parallel activities in a project for assignment to various engineers.



PERT chart representation of the MIS problem

Advantages of PERT –

The advantages of PERT are mentioned below:

•**Planning For Large Projects in PERT** – The scheduling of project activities is done easily with the help of the PERT system by the project manager. This technique is more active in large sophisticated project works.

•**Visibility of Critical Path in PERT** – The PERT method will show the critical path in a well-defined manner. The critical path is the path with activities that cannot be delayed under any circumstances. Proper knowledge about the slack values with limited conditions of dependencies will help the project manager to bring fast and quality decisions that will favor the project performance.

•**Analysis of Activity in PERT** – The activity and the events are analyzed from the PERT networks. These are analyzed independently as well as in combination. This will give a picture of the likely completion of the project and the budget.

•**Coordination in PERT** – The various departments of the construction organization will deliver data for the PERT activities. Good integration is developed between all the departments which will help in improving the planning and the decision-making capabilities of the project team. The combination of qualitative and quantitative values from a large amount of data will help in improving the coordination of the project activities. This will also improve the communication between various departments of the organization.

•**The What-if Analysis** – The possibilities and the various level of uncertainties can be studied from the project activities by properly analyzing the critical path. This type of analysis is called what-if-analysis. For these various sets of permutation and combination are conducted. Among them, the most suitable combination is taken into consideration. This set chosen will be the one with minimum cost, economy, and best result. This analysis helps to identify the risk associated with any activities.

Disadvantages of PERT –

Various Demerits of PERT are mentioned below:

- Time Focused Method** – PERT is a time-bound method, so finishing projects or activities on time is of high importance. If it does not happen then a problem can arise
- Subjective Analysis** – Here, the project activities are recognized according to the available data. However, it is difficult in PERT projects as it is applicable for the only new project which is not repetitive in nature, therefore, the collection of information to be subjective in nature.
- Prediction Inaccuracy** – PERT does not have any past records for a framework of a project, so prediction comes into play. The project will be ruined if the prediction is not accurate.
- Expensive** – Too expensive in terms of time consumed, research, prediction, and resources utilized.
- Other Issues with PERT** – This method is highly labor-intensive in nature. As there are chances of an increase in project activities large and complicated networks are developed as many task dependencies come into existence. If two activities share common resources, this technique won't find very apt for the project.

Any Question???