

Scheduling - Concepts and MS Project

What is a Schedule?

- ▶ *A schedule or a timetable*, as a basic time-management tool, consists of a list of times at which possible tasks, events, or actions are intended to take place, or of a sequence of events in the chronological order in which such things are intended to take place.

~ Wikipedia

What is Scheduling ?

- ▶ Scheduling is the process of arriving at a schedule using appropriate tools and techniques given certain inputs

Key Inputs

Scope Baseline
Activity List
Activity Effort Estimation
Resource Calendars

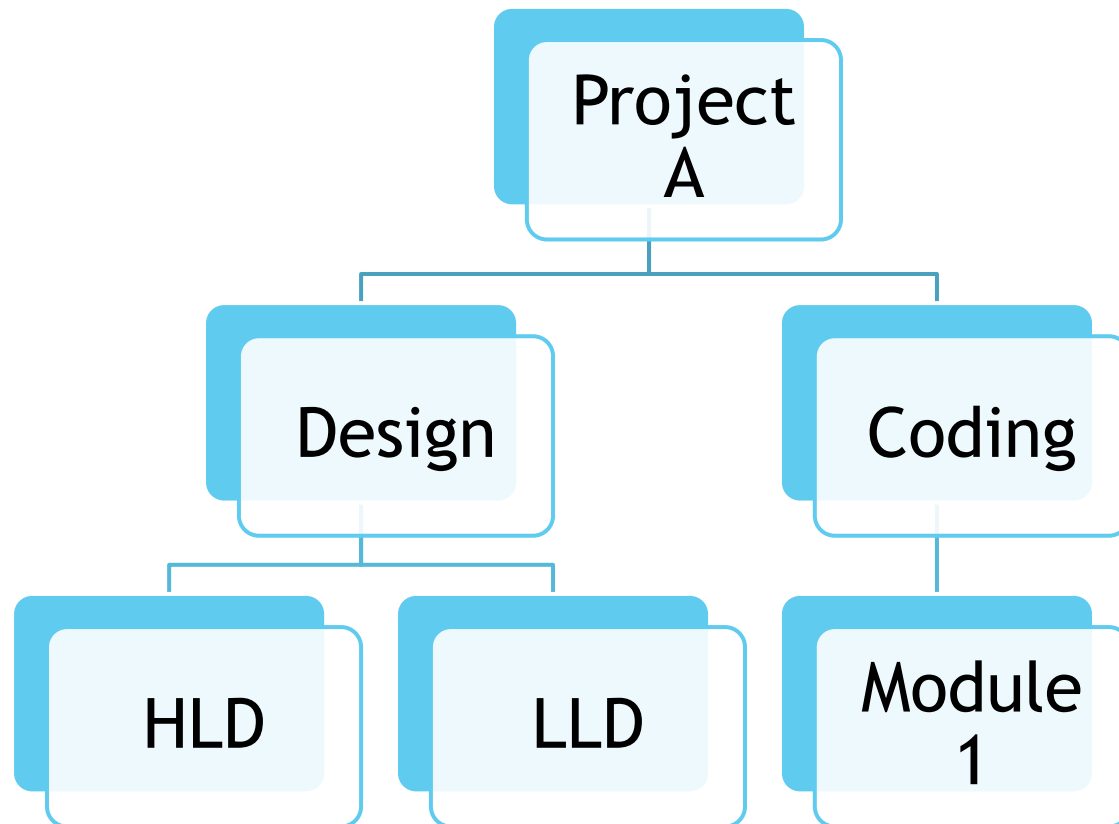
Key Tools and Techniques

Decomposition
Precedence Diagramming Method
Estimation Techniques
Resource Optimization Techniques

Examples of Schedules

- ▶ School Time Table
 - ▶ Airport/Railways/Bus Schedules
 - ▶ Cricket Match Schedules
 - ▶ Anything else you can think of ?
 - ▶ How important is scheduling in above examples?
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- ▶ As you can see Scheduling as a concept is used widely and is not specific to only Project Management
 - ▶ In PMBOK Scheduling is part of Time Management process group which has the highest number of processes defined among all process groups [7]

Work Breakdown Structure



Guidelines

- ▶ WBS can be built Activity/Task based or component based
- ▶ It can also be built as a combination of both
- ▶ WBS helps to identify all activities and all components
- ▶ The more granular the detail in the WBS the better
- ▶ The last level of the WBS is called Leaf Node Level
- ▶ Estimation to be done only at the Leaf Node Levels
- ▶ Thumb rule is for Leaf Node Level effort to be 40 hours or less
- ▶ WBS Estimation follows 100% Rule i.e., effort of parent node equals cumulative effort of child nodes
- ▶ Effort and Duration are different. A task of 10 hours effort can have a duration of 5 days if only 2 hours are devoted to it daily

Task Sequencing

- ▶ Tasks have an inherent dependency with few other tasks. For example testing activity depends on coding activity to have already been performed. Hence we can say that predecessor of testing activity is coding activity. These type of tasks need to be done in sequence
- ▶ Few tasks do not have dependency on each other. For example coding of UI for modules A and B can be independent of each other. Such tasks can be done in parallel
- ▶ Identifying tasks which have the potential to be done in parallel is an important aspect of scheduling

Task Network Diagram

