Project Scheduling

Software Process

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Learning Objectives

By the end of this video, you will be able to

• Draw a PERT chart for a software project.
• Draw a Gantt chart for a software project.
• Conduct project scheduling and tracking for a software project.
Scheduling

• Determine list of tasks

• Determine needed resources for each task
  • People
  • Computers, testing infrastructure, etc.

• Schedule tasks
  • Some tasks depend on others
  • Some tasks compete for resources
Program Evaluation and Review Technique (PERT)

- Model for project management and planning
- Represent tasks and their dependencies
- Estimate amount of time for each task
- Compute the time for entire project and the critical path

(Kemp, 2005)
PERT Example

- Critical path – path that takes **longest**
- Slack – **extra** time for task (activities not on the critical path have slack)

Only optimize steps on critical path

(Kemp, 2005)
## Gantt Charts

![Gantt Chart Image]

(Dbsheajr, 2006)
Gantt Chart – Example

Start to Start (SS): The task cannot start until the predecessor starts, although it may start later.

Finish to Finish (FF): The task cannot end before the predecessor ends, although it may end later.

(Booker, 2011)
Project Tracking

• Keep track of when each task is finished

• Compare plan to reality

• Some processes forbid “90% finished” – decompose tasks
  • Tasks are either finished or not
Schedule

• List of dates, and the tasks to be finished (or started) at certain dates
  • Can put into a spreadsheet/table
  • Task & date, sorted by date
  • Separate column for actual completion date

(Dbsheajr, 2006)
When is a Task Finished?

• Must be objective
  • Actions: “Wrote a program” not “Learned language”
  • Artifacts: “Design passed review” not “Design is reusable”

• Different tasks are evaluated differently
  • In XP, a programming task is not finished until all tests run correctly
  • In RUP, writing a document is a separate task from reviewing it

• Example tool for task management: Trello (https://trello.com/)
References

• Booker, G. L. (2011). *It is intended to be more descriptive than the previous example* [Online image]. Retrieved from https://commons.wikimedia.org/wiki/File:GanttChartAnatomy.svg


The End