SWINBURNE UNIVERSITY OF TECHNOLOGY

SWE20001
Managing Software Projects

Lecture 9

Traditional Project Planning

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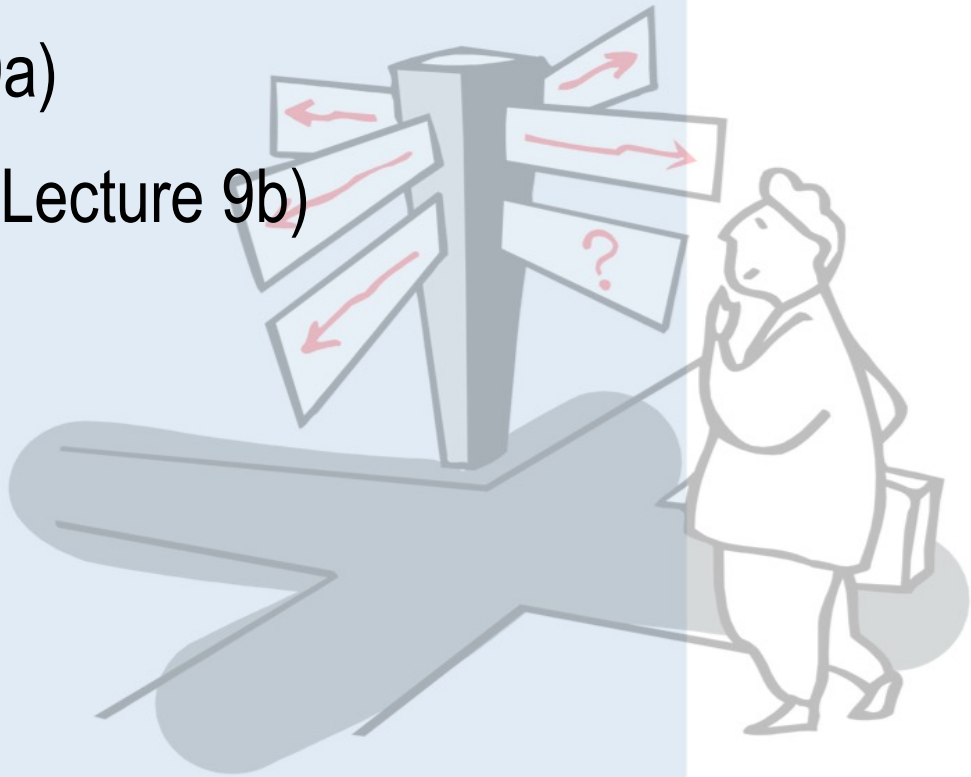
Lecture Overview

- Project Planning
- Task Scheduling (Lecture 9a)
- Project Management Plan (Lecture 9b)



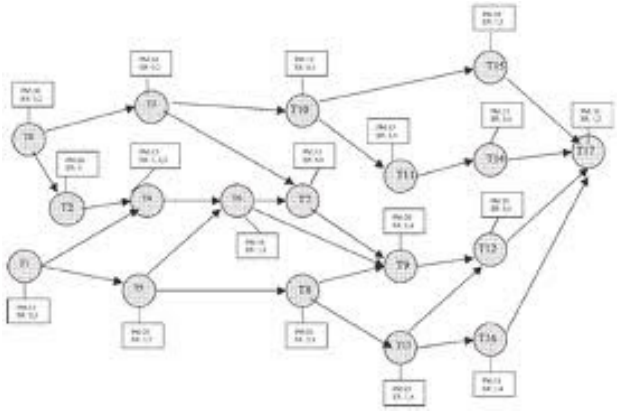
Project Planning

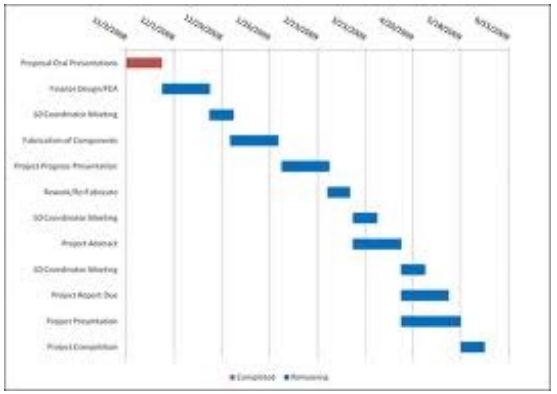
- Split project into *tasks* or *activities* using the chosen SDLC as an anchor:
  - Create a *Work-Breakdown-Structure* (WBS)
    - breaks the project down into a set of well-defined, discrete tasks
  - For each task or subtask, estimate the time for completion and assess resources required

Project Scheduling

1. Develop the WBS – identify the discrete tasks that need to be done (see later)
2. Identify the dependencies between these tasks
3. Estimate the duration needed to complete the tasks
4. Schedule the tasks in order

	Task Name	Duration	Priority	Predecessors
1	Demolition	6 d	Lowest	
2	Site Preparation	6 d	Lowest	1
3	Cast-in-Place RC Pile	20 d	Lowest	2
4	Excavation & Support System	30 d	Lowest	3
5	Foundation Basement	6 d	Lowest	4
6	RC Formwork	42 d	Lowest	5
7	Steel Formwork	30 d	Lowest	6
8	Roof works	6 d	Lowest	7
9	Water supply & sewerage works	30 d	Lowest	7
10	Power supply system	30 d	Lowest	7
11	Lighting system	20 d	Lowest	7
12	Air conditioning	30 d	Lowest	7
13	Computer & communication network	30 d	Lowest	7
14	Floor finish & polishing	50 d	Lowest	8
15	Internal wall finish	30 d	Lowest	14
16	External wall finish	20 d	Lowest	8
17	Internal partition wall	30 d	Lowest	9,10,11,12,13
18	Ceiling work	40 d	Highest	15
19	Site improvements	6 d	Lowest	16
20	Landscaping work	6 d	Lowest	16





List tasks

Identify Relation-ships

Schedule the tasks

Risks

- PMBOK: *"an uncertain event or condition that, if it occurs, has a positive or negative effect on a project's objectives."*
- PRINCE2: *"the chance of exposure to the adverse consequences of future events."*

☞ Key elements:

- ☐ Risks relate to the future (*"speculating about future events"*)
  - ☞ *What can go wrong in a project?*
- ☐ Risks involve cause (*"why"*) and effect (*"measurable consequence"*), and require estimation of likelihood and impact of occurrence
- ☐ We'll study risk analysis later in this unit

Risks and WBS

- For each activity in the WBS there may be particular risks that apply
- Hence one way to commence risk analysis in a project is to assess risks for each task in the WBS
- These are not the only risks, but doing this is helpful, and can help plan risk mitigation

Risk Drivers

One way to assess risks in software projects is to address principal risk drivers:

- Knowledge Gap (what we *don't know* about the problem domain, and the context of the system)
- Skill Gap (inexperience of project staff on a system of this kind, using the proposed approach)
- Technology Gap (unknown/young or unavailable technologies desirable for the implementation)

What is sometimes called *KoST analysis* attempts to determine

- knowledge and skill gaps a team/individual has, and
- whether any technology gaps exist

Can you answer these questions?

- How do you monitor the progress of a project?
  How often do you monitor the progress of a project?
- Does something like the “ideal” project management methodology exist? If so, how? If not, why not?
- For what kinds of projects is an activity-based scheduling approach suitable?

Recommended Reading Lecture 9

- Roger S. Pressman, *Software Engineering - A Practitioners Approach* (7th Edition), Addison-Wesley, 2010, Chapters 23 and 25.