

Questions and Answers during class

1. What's different when you represent tasks as arcs?

The tasks now represent state transitions.  
Nodes in the project are then events or states.  
Sometimes you have to introduce dummy tasks.

2. How fine grained does the work breakdown structure have to be?

- The less you know about a task, the more you have to plan for it.
- Taylor proposed breaking things down to a very fine level of detail, however, there is a middle ground that is optimal for the grainyness of the tasks
- The more you break down, the more cumbersome it becomes to manage
- It's variable - Depends on how detailed reports you want to get back
- Very hard to get people from different companies to agree on the level of breakdown
- Make the tasks somewhat related to the duration - if you have to review weekly, you have to have tasks of the same order of magnitude.
- The finer you go, the higher variability of tasks you have. So, going finer and finer implies an update which is more and more frequent... And you want to avoid updating a planning everyday, without losing essential information.

3. Why is it useful to have an algorithm for the critical path?

- So that you can know your CP at any time (so as to check whether it has changed) and in an automated way. This becomes critical if there is a large number of tasks - it would be very cumbersome to do manually and repeatedly.

4. Comments, based on your experience, on "gaming" the

prerequisite tasks or the duration of one task

- People could use simulation outcome to make some design progress, which delays the progress.
- Same thing for documentation - people often ask for more documentation that they really need to start their task
- Development teams have used this as political technique to justify their delays.
- You artificially try to make the tasks too coupled.
  
- This also relates to the breakdown of tasks discussed above
- Sometimes you don't know whether the information you miss is important or not for what you have to do, so you start anyway to save time supposing that when the information comes it will not affect the work you're doing, but when the info comes, you say: my God! and you have to start over again from the beginning.
  
- Sometimes the inflation of task times causes adverse reaction from management who occasionally takes executive decisions to advance deadlines: "management challenges"
  
- When this happens upstream, it impacts your interaction with the customers.

5. Apart from gaming, what other factors drive task variability

- Experience of the people
- Learning curves
- vacation or absence of people
- unforeseen factors
- coupling of durations between tasks -
- "overhead" of each transition for people working on multiple tasks, "transition/transient losses"
- facilities availability
- communication between people
- equipment reliability
- fatigue
- personnel availability
- human factors, for example motivation.