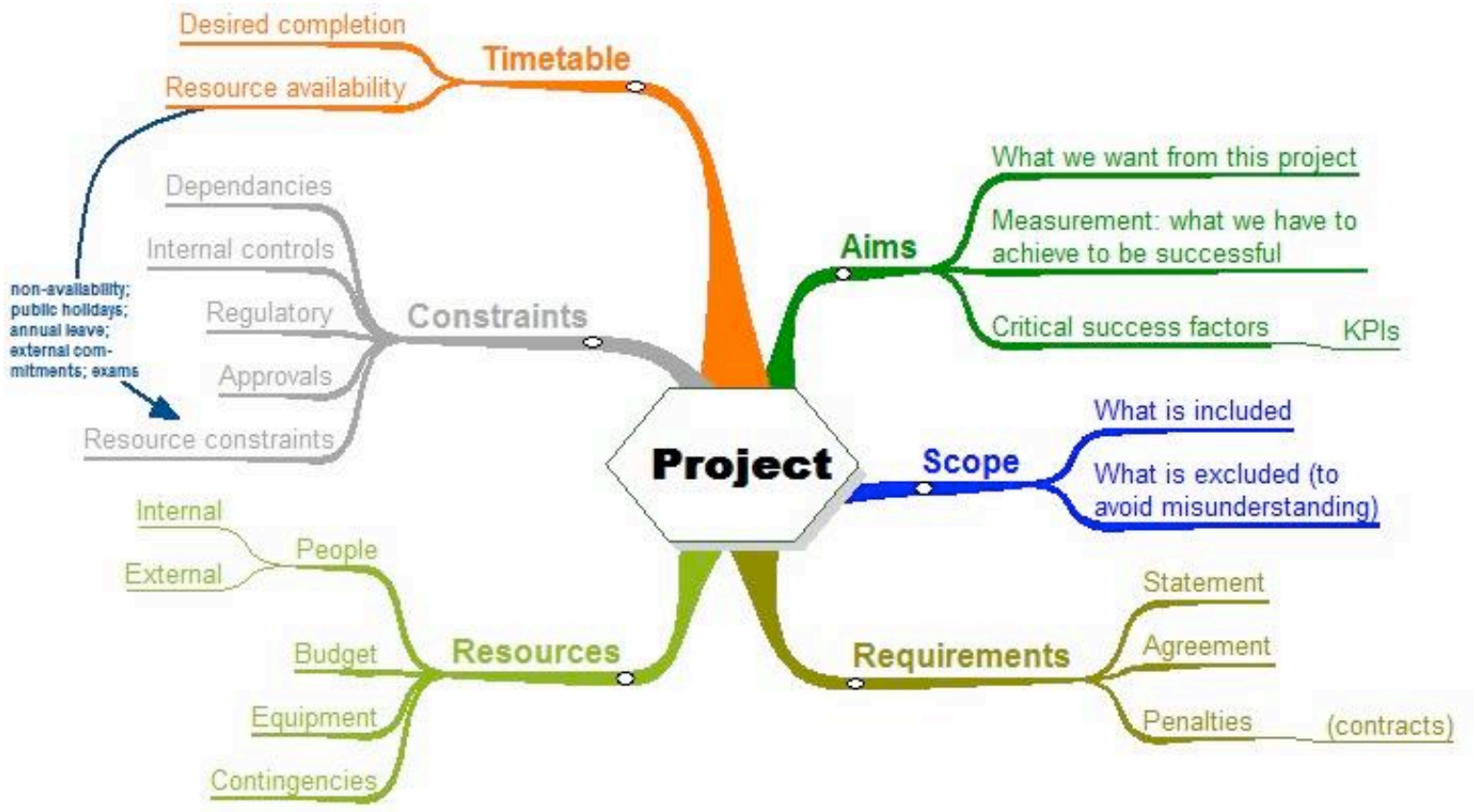
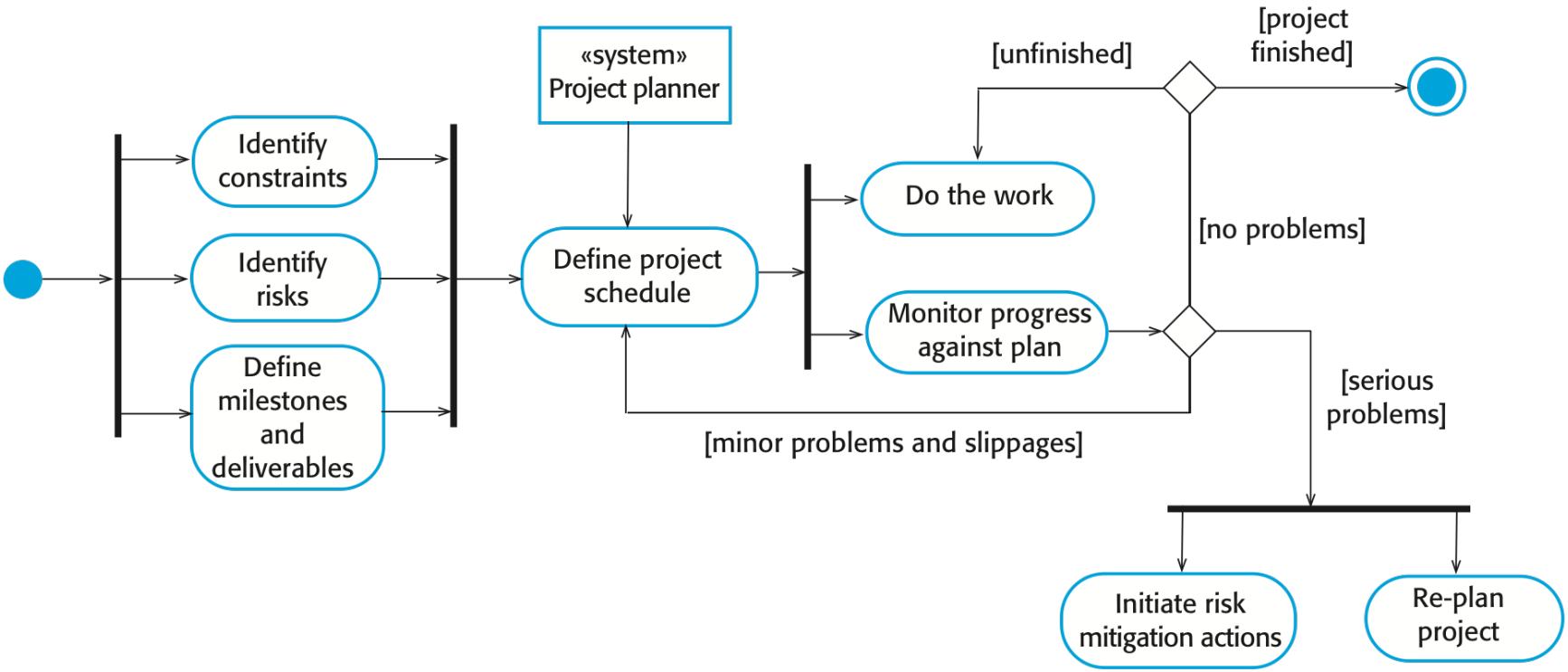
Project planning: A Mind-Map

Politecnico di Milano



The project planning process



Terminology

- Tasks: activities which must be completed to achieve the project goal
- Milestones: are points in the schedule against which you can assess progress, for example, the handover of the system for testing.
- Deliverables: are work products that are delivered to the customer, e.g. a requirements document for the system.

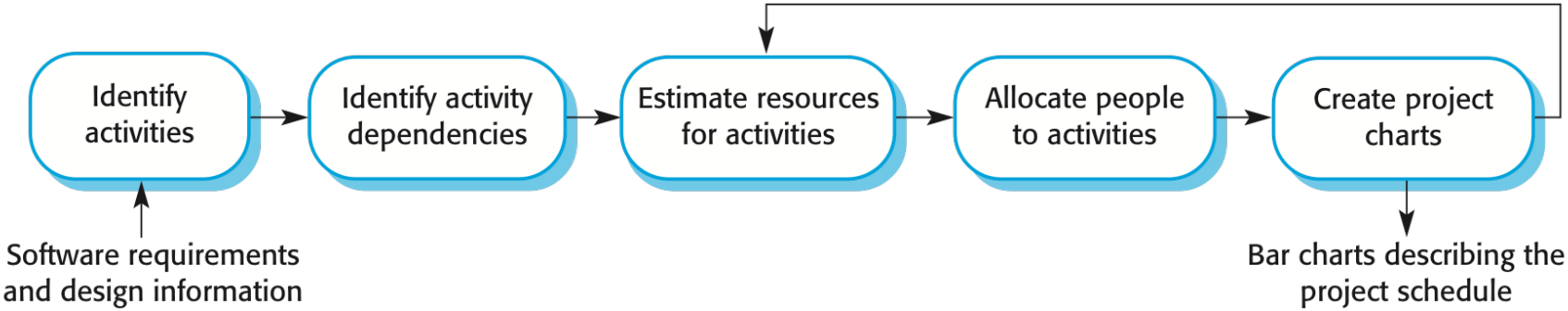
Project scheduling

- Project scheduling
  - deciding how the work in a project will be organized as separate tasks,
  - when and how these tasks will be executed.
- Estimates for
  - the calendar time needed to complete each task,
  - the effort required
  - who will work on the tasks that have been identified.
  - estimate the resources needed to complete each task (e.g., disk or server space, time required on specialized hardware, simulators, travel budget)

Project scheduling activities

- Split project into tasks and estimate time and resources required to complete each task.
- Organize tasks concurrently to make optimal use of workforce.
- Minimize task dependencies to avoid delays caused by one task waiting for another to complete.
- Dependent on project managers intuition and experience.

The project scheduling process



Scheduling problems

- Estimating the difficulty of problems and hence the cost of developing a solution is hard (see later for some approaches).
- Productivity is not proportional to the number of people working on a task.
- Adding people to a late project makes it later because of communication overheads.
- The unexpected always happens. Always allow contingency in planning.

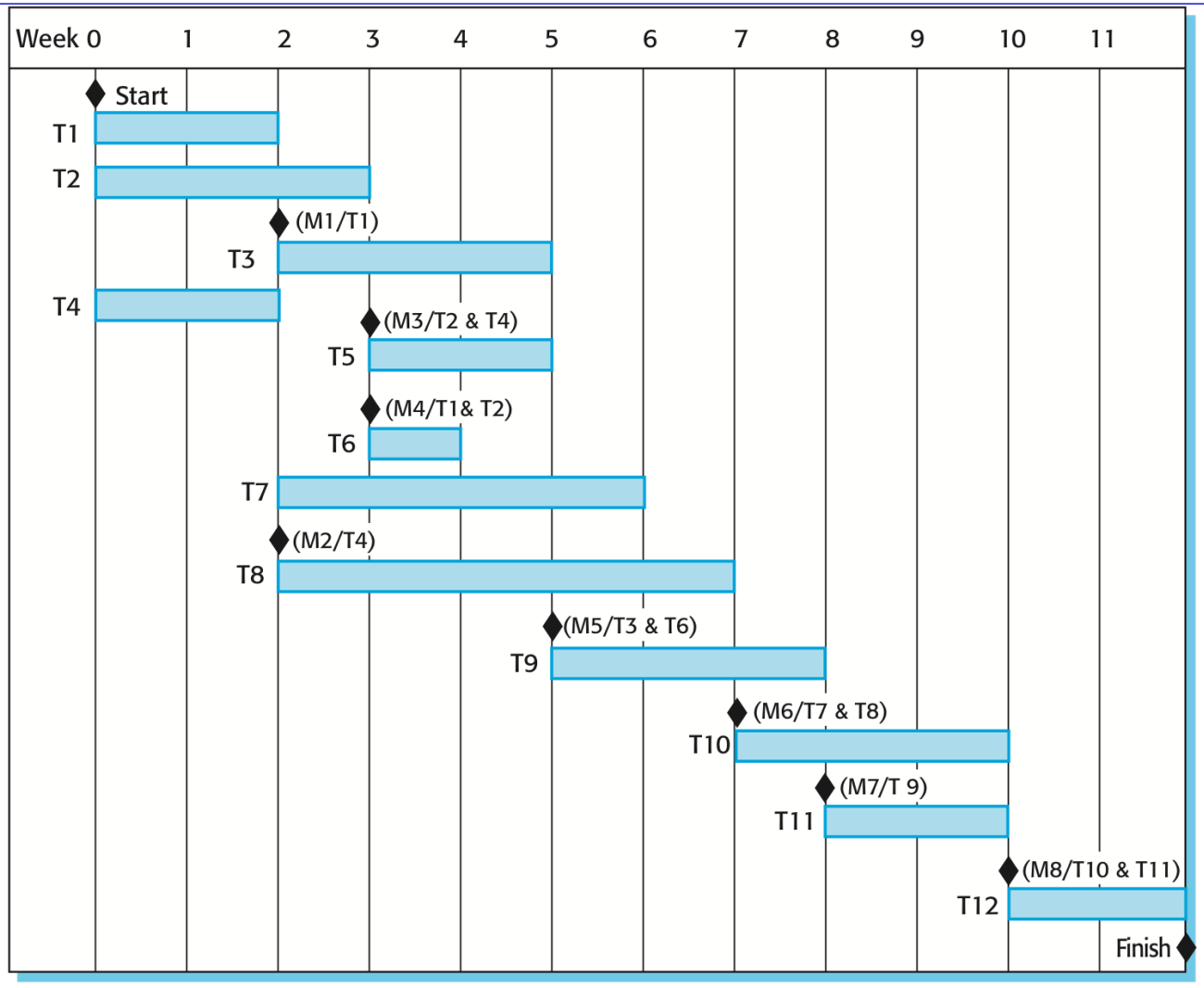
Schedule representation

- Graphical notations are normally used to illustrate the project schedule.
- These show the project breakdown into tasks. Tasks should not be too small. They should take about a week or two.
- Bar charts are the most commonly used representation for project schedules. They show the schedule as activities or resources against time.

Tasks, durations, and dependencies

Task	Effort (person-days)	Duration (days)	Dependencies
T1	15	10	
T2	8	15	
T3	20	15	T1 (M1)
T4	5	10	
T5	5	10	T2, T4 (M3)
T6	10	5	T1, T2 (M4)
T7	25	20	T1 (M1)
T8	75	25	T4 (M2)
T9	10	15	T3, T6 (M5)
T10	20	15	T7, T8 (M6)
T11	10	10	T9 (M7)
T12	20	10	T10, T11 (M8)

Activity bar chart



Staff allocation chart