Faculty of Computer Science
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Topic 03:
Planning and Managing the Project

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from previous resources by

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References

- All materials in these slides are from:
  - Bentley, Lonnie D., Jeffrey L. Whitten, and Gary Randolph. Systems Analysis and Design for the Global Enterprise. 7th ed. Boston: McGraw-Hill Irwin, 2007.
  - Pfleeger, Shari Lawrence., and Joanne M. Atlee. Software Engineering: Theory and Practice. Upper Saddle River [N.J.]: Prentice Hall, 2010.

Dilbert by Scott Adams

Project and Project Managers

- ***Project*** – a [temporary] sequence of unique, complex, and connected activities having one goal or purpose and that must be completed by specific time, within budget, and according to specification.
- ***Project manager*** - the person responsible for supervising a systems project from initiation to conclusion

Project Management v.s. Process Management

Project management:

The process of scoping, planning, staffing, organizing, directing, and controlling the development of an acceptable system at a minimum cost within a specified time frame.

Process management:

The activity of documenting, managing, and continually improving the process of systems development.

Project Management OR Process Management?

- Coding?
  - ❖Process Management
- To look for a new programmer to replace a programmer who resigned from the team?
  - ❖Project Management
- To pay the development team?
  - ❖Project Management
- To sketch the system design?
  - ❖Process Management

Project Management OR Process Management?

- To manage the schedule?
  - ❖Project Management
- To construct a test plan document testing?
  - ❖Process Management
- Reward and punishment mechanism?
  - ❖Project Management
- Requirements gathering?
  - ❖Process Management

Measures of Project Success

- The resulting software / information system is acceptable to the customer.
- The system was delivered "on time."
- The system was delivered "within budget."
- The system development process had a minimal impact on ongoing business operations.

Causes of Project Failure

- Failure to establish upper-management commitment to the project
- Lack of organization's commitment to the methodology
- Taking shortcuts through or around the methodology
- Poor expectations management
  - **Feature creep** – uncontrolled addition of technical features to a system.
  - **Scope creep** – unexpected and gradual growth of requirements during an information systems project.

Feature Creep

Project Management Functions

- ***Scoping*** – setting the boundaries of the project
- ***Planning*** – identifying the tasks required to complete the project
- ***Estimating*** – identifying the resources required to complete the project
- ***Scheduling*** – developing the plan to complete the project
- ***Organizing*** – making sure members understand their roles and responsibilities
- ***Directing*** – coordinating the project
- ***Controlling*** – monitoring progress
- ***Closing*** – assessing success and failure

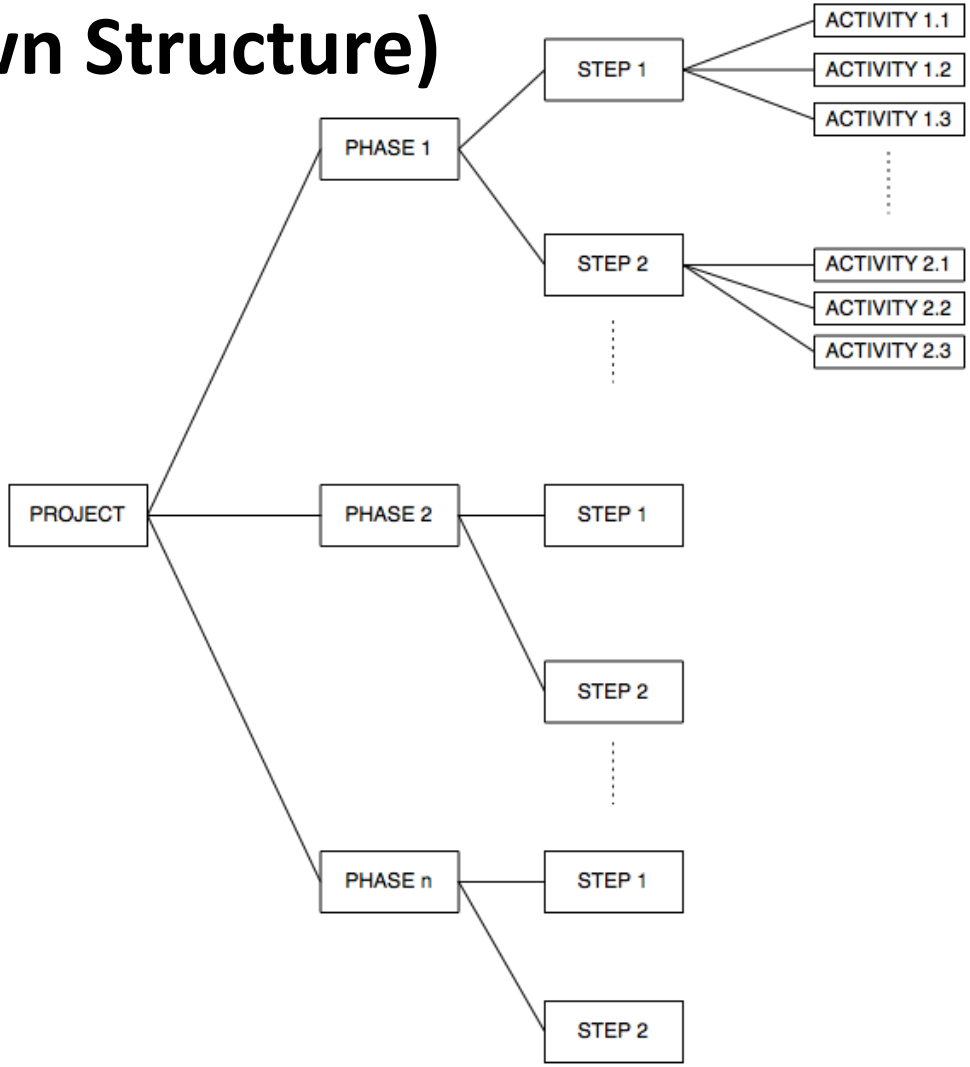
Tracking Progress

- Identify the list of all ***project deliverables / work products / artifacts***.
  - ❖Items that the customer expects to see during project development.
- Next, determine what activities must take place to produce those deliverables.
  - ❖**Activity** is a part of the project that takes place over a period of time (it has a beginning and an end)
  - ❖**Milestone** is the completion of an activity (a particular point in time).

Tracking Progress

WBS (Work Breakdown Structure)

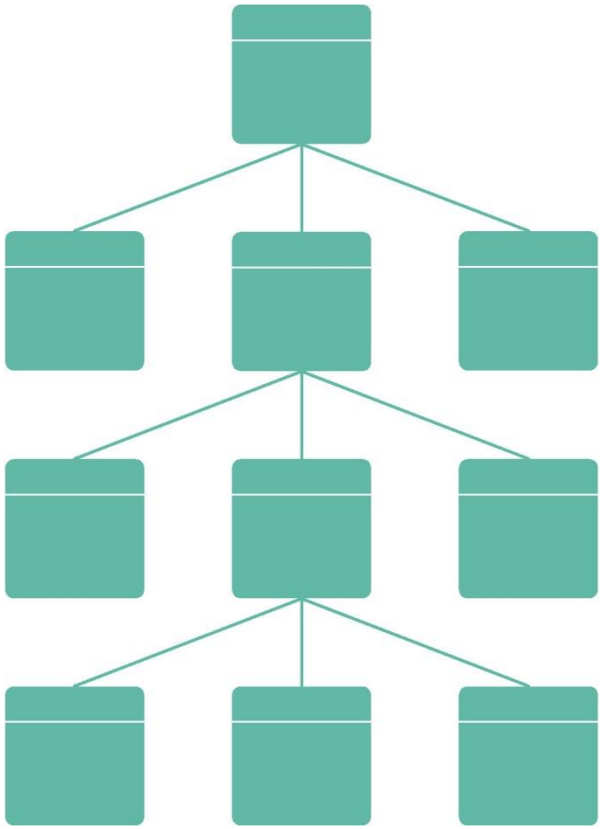
WBS ***does not give indication of the interdependencies of the work units***



Project deliverables / work products / artifacts, should appear on the WBS

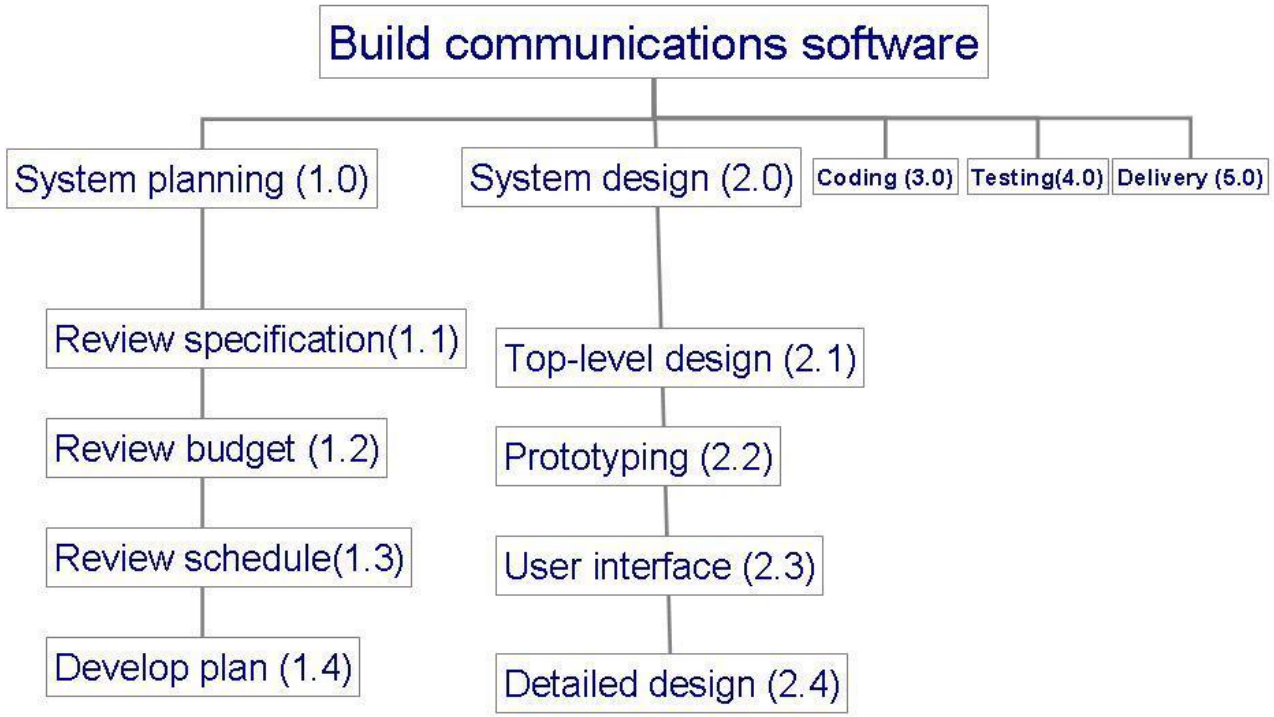
Tracking Progress

- A graphical WBS can flow either vertically or horizontally



Tracking Progress

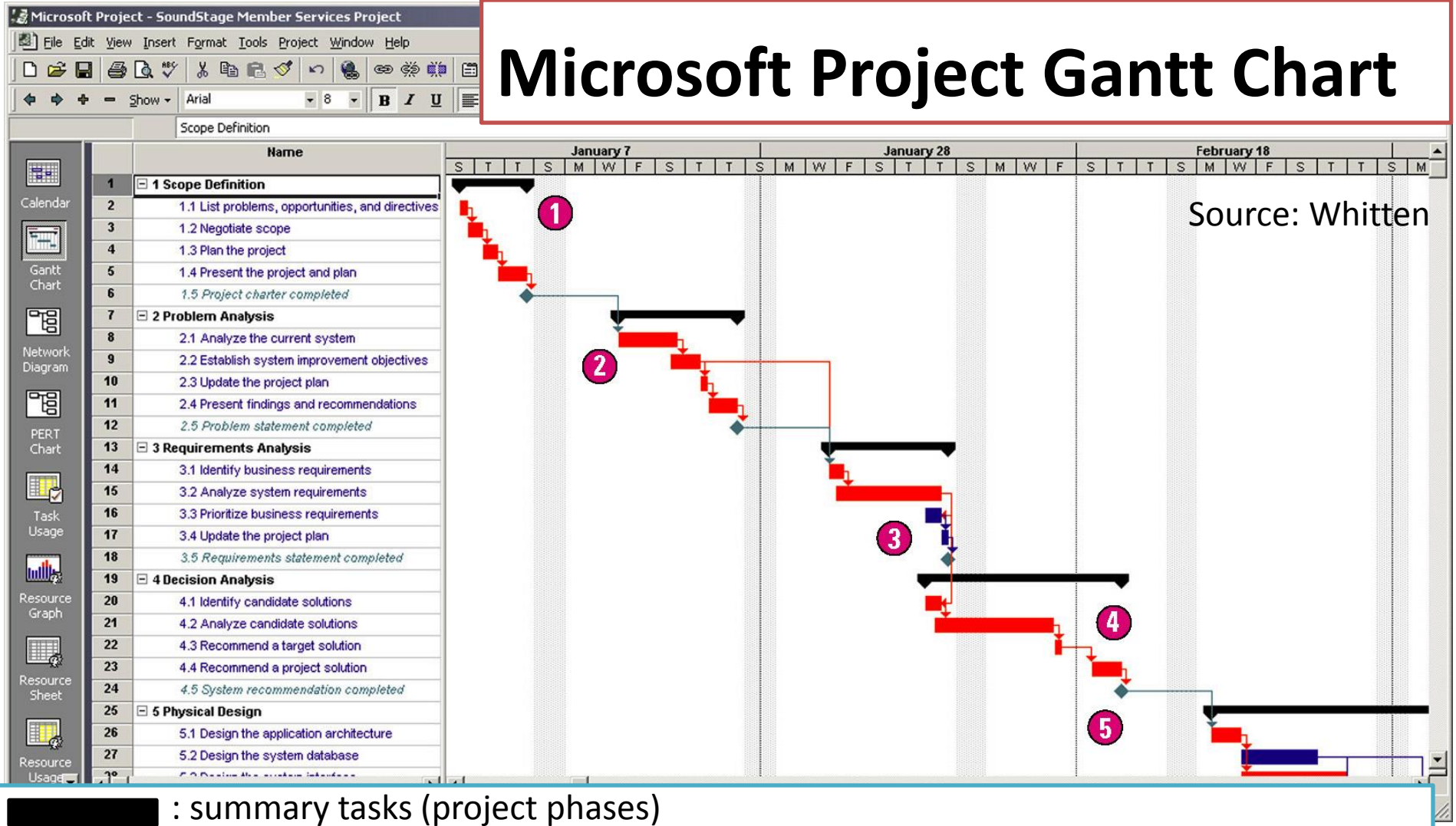
- Example: to track progress of building a communication software
  - ❖Consider the following WBS:



Tracking Progress

- Several Gantt Chart softwares:
  - ❖Microsoft Project
  - ❖GanttProject

Microsoft Project Gantt Chart



Source: Whitten

: summary tasks (project phases)

: critical tasks

: non-critical tasks (have a flexible time available, can move forward or vise versa)

: indicate prerequisites (precursor) between two critical tasks

: indicate milestones (events that have no duration)

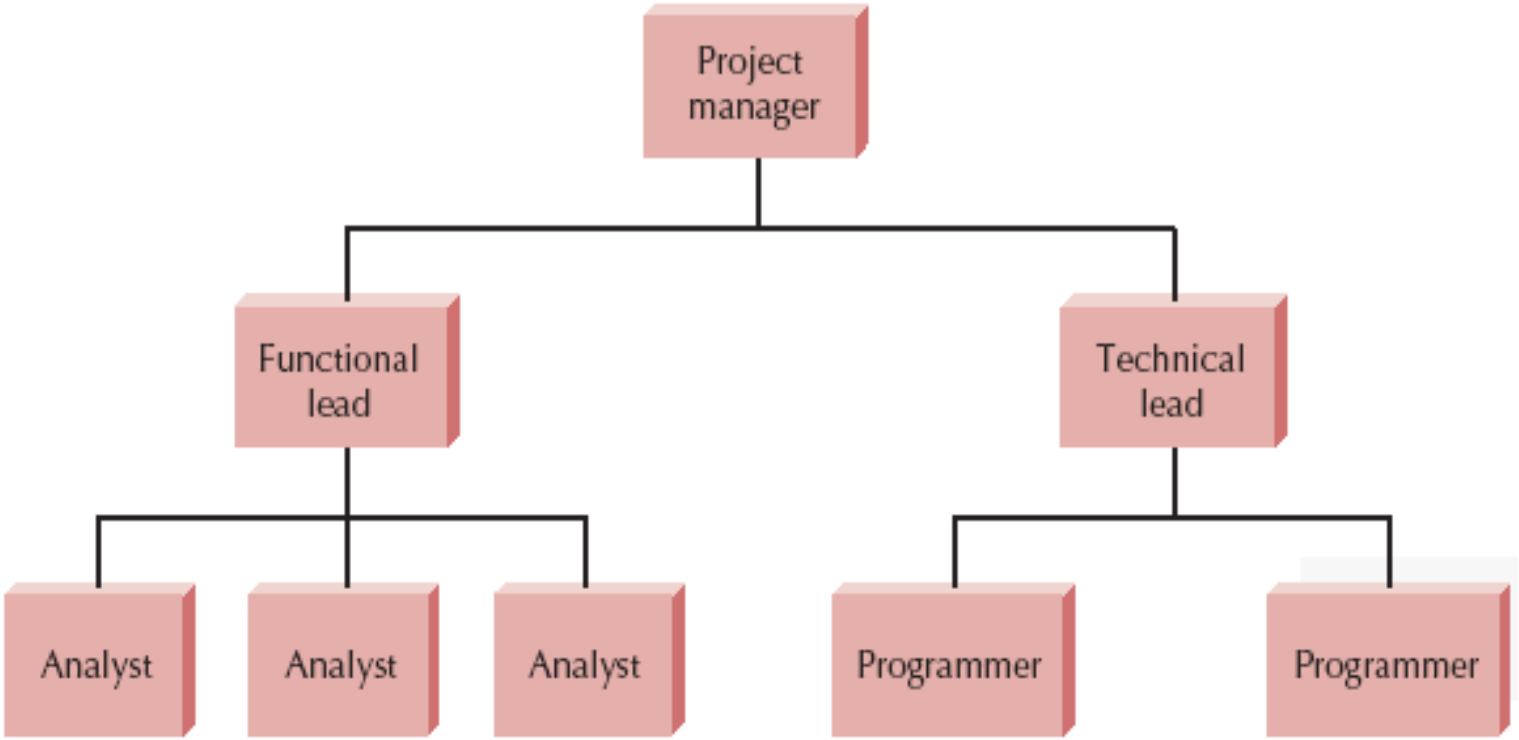
Project Staffing

- To determine the project schedule and estimate the associated effort and cost, we need to know:
  - ❖Approximately how many people will be working on the project
  - ❖What tasks they will perform
  - ❖What abilities and experience they must have so they can do their jobs effectively

Project Staffing

- Key project activities: (Roles)
  - ❖Requirement analysis
  - ❖System design
  - ❖Program design
  - ❖Program implementation
  - ❖Testing
  - ❖Training
  - ❖Maintenance
  - ❖Quality assurance

Staffing Plan: Possible Reporting Structure



The Contents of a Good Project Plan

1. Project scope
2. Project schedule
3. Project team organization
4. Technical description of the proposed system
5. Project standards, procedures, and proposed techniques and tools
6. Quality assurance plan
7. Configuration management plan
8. Documentation plan
9. Data management plan
10. Resource management plan
11. Test plan
12. Training plan
13. Security plan
14. Risk management plan
15. Maintenance plan

Q & A