Work Breakdown Structures

- **Bill of Materials (BOM) format**

```
Project
  Task 1
    Subtask
  Task 2
    Subtask
  Task N
    Subtask
```

**WBS Level Names**

1. Program
2. Project
3. Task
4. Sub Task
5. Work Package
6. Effort or Activity

**Work Breakdown Structures**

- **Indented BOM format**

```
Project
  Task 1
    Subtask 1.1
  Task 2
    Subtask 2.1
    Subtask 2.2
    Subtask 2.3
  Task N
```

**WBS Level Names**

- Common names & terms facilitate:
  - Communication
  - Understanding
- All parties should use a common level naming convention

**When Developing a WBS**

- Identify necessary tasks
- Don’t worry about the particular order—yet
- Don’t worry about particular details—yet
**Scheduling**

develops the sequence; not the WBS development

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**WBS Development Process**

- *First*: Identify all work that needs to be done
- *Then*: Identify who, how long, when, and how much ($ and resources)

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**Scheduling**

- The goal of scheduling is to maximize parallel activities to minimize time
- Minimal time yields
  - the most aggressive schedule
  - an ideal (unrealistic) target

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**Estimating Work**

- Estimate WBS to level of required accuracy
  - Granularity
- “Exact estimates” are oxymoronic (e.g., jumbo shrimp)

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**Scheduling Methods**

- Manual (PERT) *quickest!!!!*
  - Post-It® notes on white board
- Computer-based (Gantt)
  - MS Project, Primavera
Gotchas!!

• Watch for “dangles”
  ▪ Unattached tasks with no predecessors &/or successors
• Remember resource constraints

Adding personnel isn’t always the best answer

• *The Mythical Man-Month*
  by Fredrick Brooks
• Brooks was the System 36 Project Manager for IBM
• Collection of summary evaluation essays to Tom Watson (CEO)

Change Control

The world will not stand still while a plan is being executed.