

Spring 2019

Lecture 4: Mobile Application and Product Development (cont.)

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Mobile Application and Product Development

Project Management Overview
(Continued)

Agenda

- Review Lesson 1
- Scope Management
- Scope Creep
- Work Breakdown Structure
- Schedule Management
- Estimating Cost
- Quality Management
- Risk Management

Review

- No electronic use during class
- Project vs Process
- Project Management Lifecycle
 - a. Initiating
 - b. Planning
 - c. Executing
 - d. Monitoring and Controlling
 - e. Closing



Scope Management

- Project Scope
 - Defines boundaries of a project
 - What's included and what's excluded
- Scope Management
 - What is, and is not, included in the project
- Scope Management Plan
 - Outlines process for defining, validating, and controlling scope



Scope Creep / Gold Plating

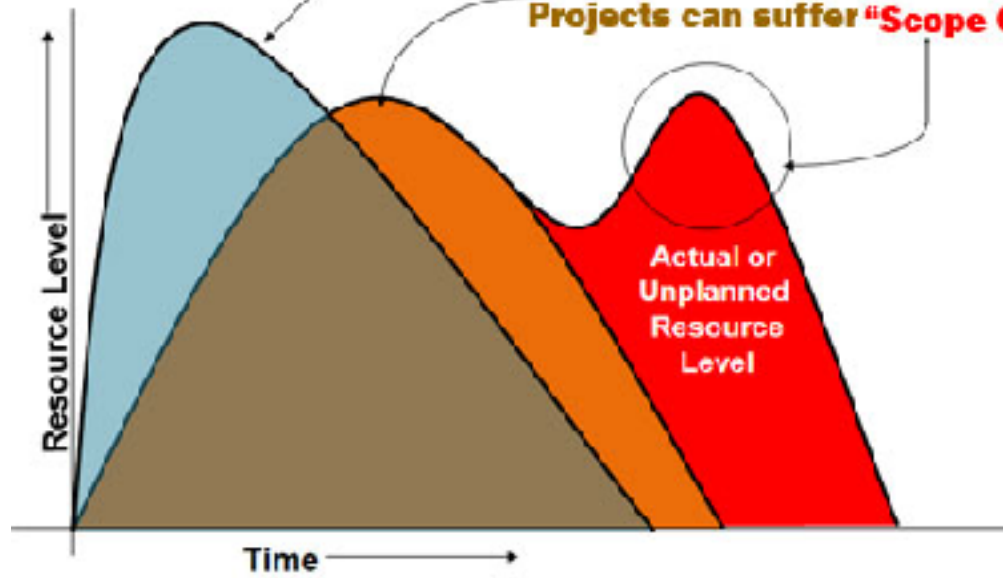
- Project Objective = meet and not exceed expectations
- Scope Creep
 - Changes, continuous or uncontrolled growth in a project's scope, at any point after the project begins
- Gold Plating
 - Addition of any feature not considered in the original scope plan
 - Introduces new source of risks to the original planning, i.e., additional testing, documentation, costs, timelines, etc...



Scope Creep

Implementation projects
(when Requirements are gathered up front
and design specifications are used)

**Traditional Implementation
Projects can suffer "Scope Creep"**



Controlling Scope Creep

- Monitor project status
- Manage change requests

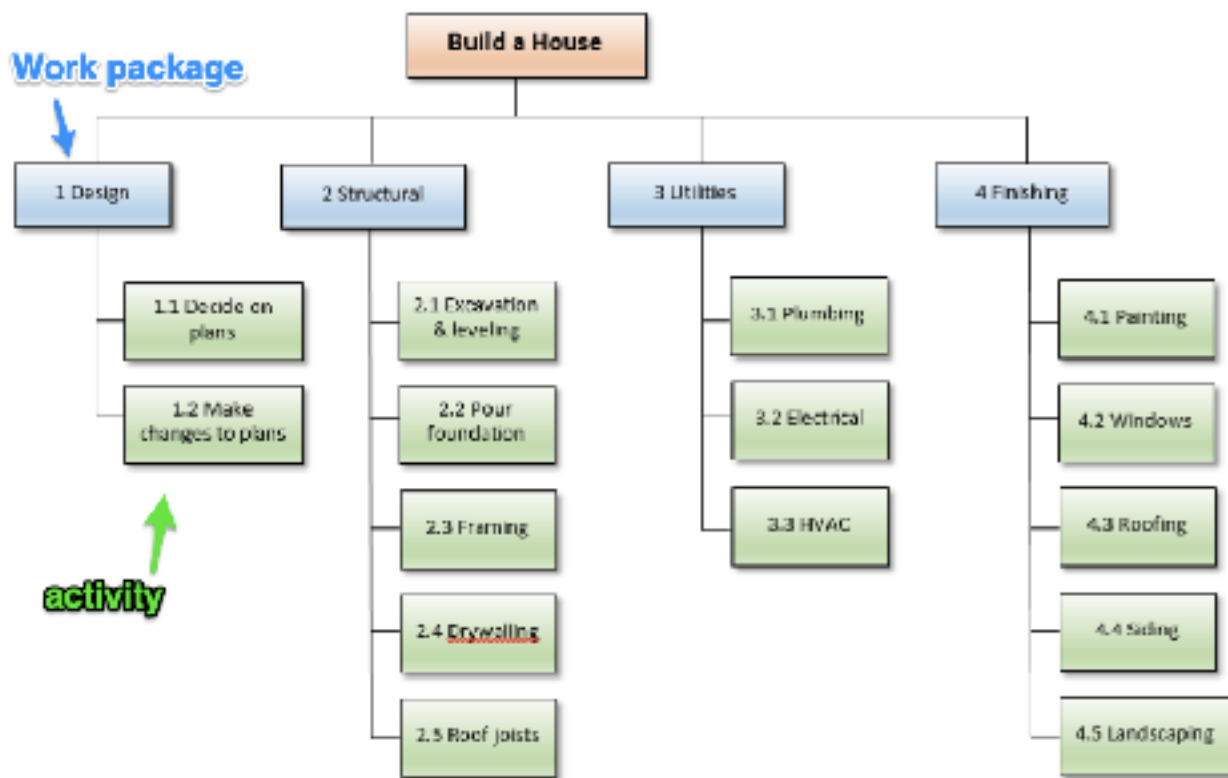


Work Breakdown Structure (WBS)

A **work breakdown structure** (WBS) is a key project deliverable that organizes the team's **work** into manageable sections.

The Project Management Body of Knowledge (PMBOK) defines the **work breakdown structure** as a "deliverable oriented hierarchical decomposition of the **work** to be executed by the project team."

Work Breakdown Structure (WBS)



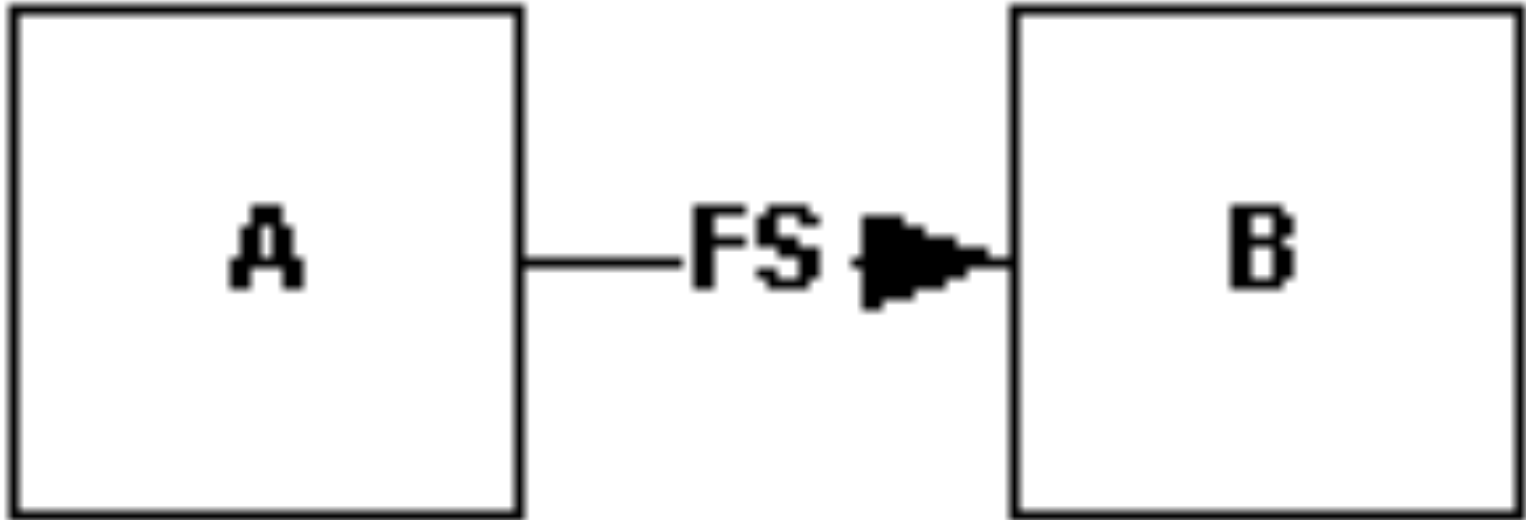
Activity Sequence



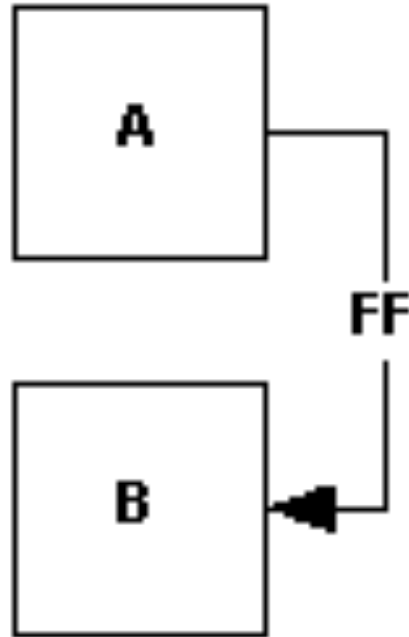
Dependency Management

- **Finish to start (FS)**
 - Activity A must finish before activity B can begin, B can't start until A has finished
- **Finish to finish (FF)**
 - Activity A must finish before activity B can finish, B can't finish before A is finished
- **Start to start (SS)**
 - A SS B means "activity A must start before activity B can start, B can't start until A has started"
- **Start to finish (SF)**
 - Activity A must start before activity B finishes, B can't finish until A has started

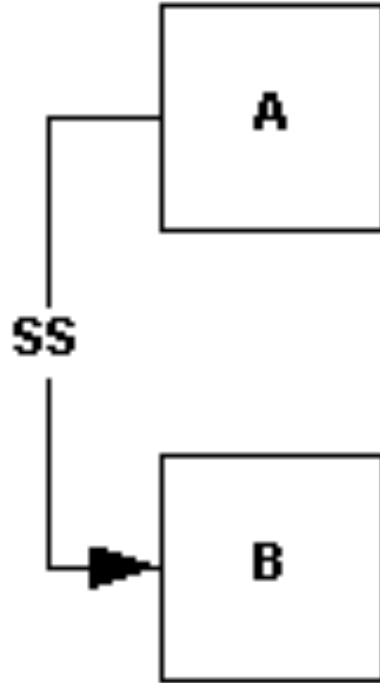
Finish to Start (FS)



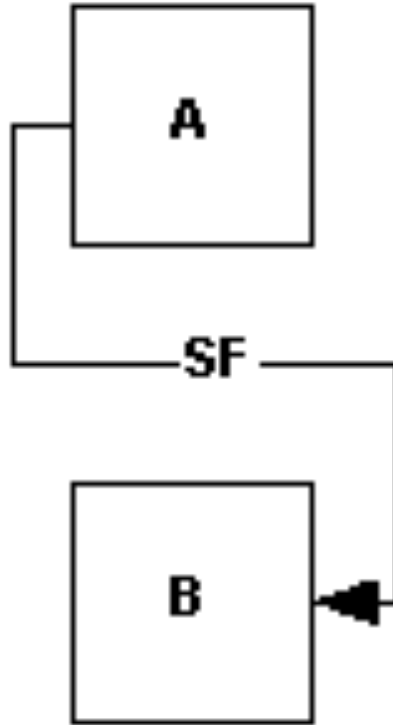
Finish to Finish (FF)



Start to Start (SS)



Start to Finish (SF)



Dependency Management (review)

- Finish to start (FS)
 - Activity A must finish before activity B can begin, B can't start until A has finished
- Finish to finish (FF)
 - Activity A must finish before activity B can finish, B can't finish before A is finished
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Schedule Control

- Critical Path
- Critical Chain



Schedule Control - Critical Path

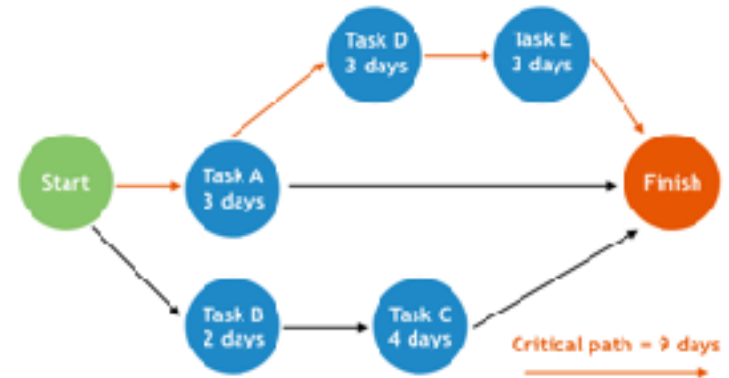
The critical path is the longest sequence of activities in a project plan which must be completed on time for the project to complete on due date.

An activity on the critical path cannot be started until its predecessor activity is complete; if it is delayed for a day, the entire project will be delayed for a day unless the activity following the delayed activity is completed a day earlier.



Critical Path Analysis

- **Early Start** – The earliest time that an activity can start according to the logical constraints.
- **Duration** – The estimated time to undertake the activity.
- **Early Finish** – The earliest time that an activity can finish according to logical constraints.



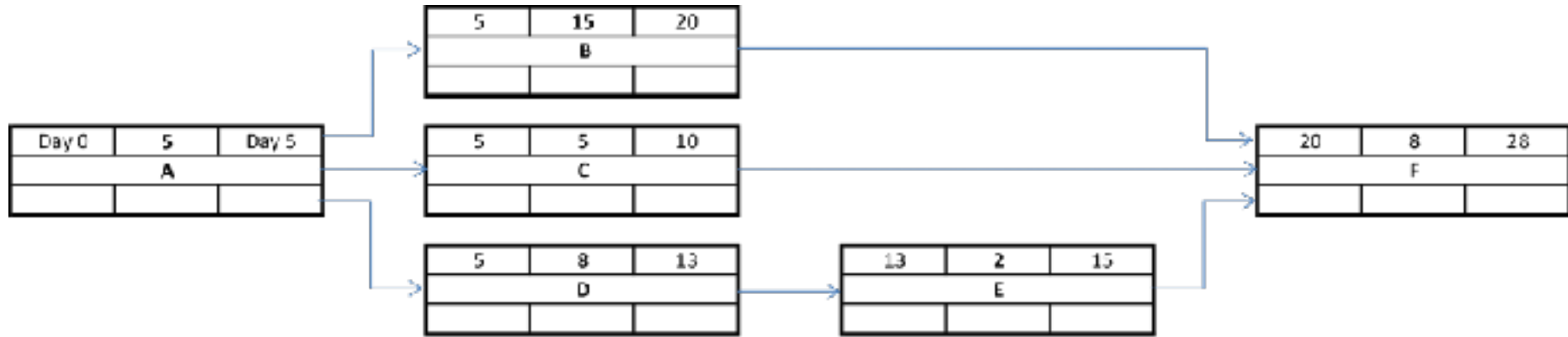
Critical Path Analysis

- **Late Start** – The latest time that an activity can start according to logical constraints and without affecting the overall project duration.
- **Float** – The time by which an activity may be delayed without affecting the overall project duration.
- **Late Finish** – The latest time that an activity can finish according to logical constraints and without affecting the overall project duration.

Critical Path Analysis

Early Start	Duration	Early Finish
Activity		
Late Start	Float	Late Finish

Critical Path Analysis



Estimating Cost

- Expert judgement
 - Referring to an expert for estimates
 - Example:
 - Staff, Consultants, Subject Matter Expert (SME), Industry Groups
- Parametric
 - Estimating using statistics
 - Example
 - Price per sq foot
- Bottom-up
 - Estimate components of work
 - This can be done by breaking up work into individual tasks, estimating, and rolling up the estimates

Estimating Cost

- Initiation
 - Rough Order of Magnitude estimate
 - +/- 75%
- Executing
 - Budget Estimate
 - +/- 5%



Quality Management

- Ensure project satisfies requirements
- Identify quality standards
- Product specifications
- Acceptable error rates



Quality Assurance

- Walk-throughs
- Reviews
- Prototypes



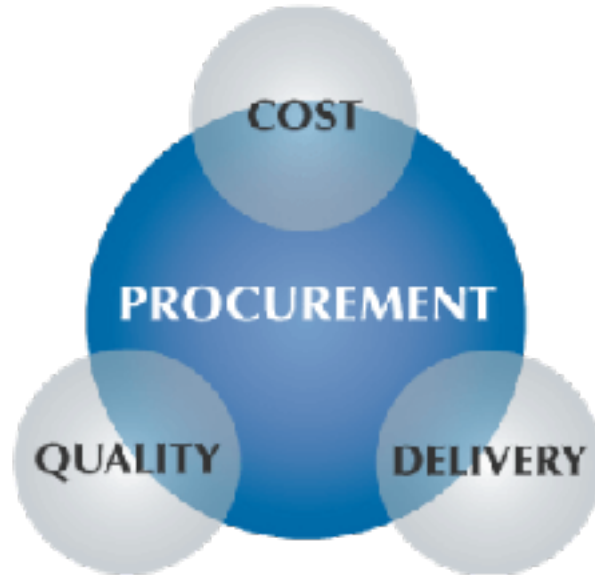
Quality Control

- Test deliverables
- Record results



Procurement

Buying or acquiring things from outside of your organization



Risk Management

1. Create a risk management plan
2. Identify risks
3. Analyze risks
4. Plan risk responses
5. Monitor risks



Stakeholder Management

1. Identify stakeholders

- a. Expectations
- b. Contributions
- c. Influence
- d. Role

2. Stakeholder management plan

- a. How to build good relationship with stakeholders and keep them happy
- b. Gain support
- c. Resolve conflicts
- d. Manage expectations



Pop Quiz!

Scope management ensures that your project includes the work required to_

1. Go above and beyond project requirements
2. Complete the project; no more or less
3. All of the above

Pop Quiz!

What is procurement?

1. Recruiting a team
2. Authorizing work on a project
3. Purchasing products and services outside of your organization
4. All of the above

Project Charter

- Provides an overview of the project
- Defines a project and why it's necessary
- Defines project manager's authority



Project Charter: Structure

- Project Overview
 - Problem Statement
 - Project Goals and Objectives
 - Project Scope
 - Critical Success Factors
 - Constraints
 - Financials
- Milestones
- Organization
 - Identifies stakeholders
 - Stakeholder management plan