Senior Project

Week 1 - Project Management

Project Management

- What's a project?
- PMI definition
  - *A project is a temporary endeavor undertaken to create a unique product or service*
- Progressively elaborated
  - With repetitive elements
- A project manager
  - Analogy: conductor, coach, captain

Project vs. Program Management

- What's a 'program'?
- Mostly differences of scale
- Often a number of related projects
- Longer than projects
- Definitions vary
- Ex: Program Manager for MS Word

Interactions / Stakeholders

- As a PM, who do you interact with?
- Project Stakeholders
  - Project sponsor
  - Executives
  - Team
  - Customers
  - Contractors
  - Functional managers

PMI's 9 Knowledge Areas

- Project *integration* management
- Scope
- Time
- Cost
- Quality
- Human resource
- Communications
- Risk
- Procurement

First Principles

- One size does not fit all
- Patterns and Anti-Patterns
- Spectrums
  - Project types
  - Sizes
  - Formality and rigor

Why Rapid Development

- Faster delivery
- Reduced risk
- Increased visibility to customer
- Don't forsake quality

Strategy

- Classic Mistake Avoidance
- Development Fundamentals
- Risk Management
- Schedule-Oriented Practices

Four Project Dimensions
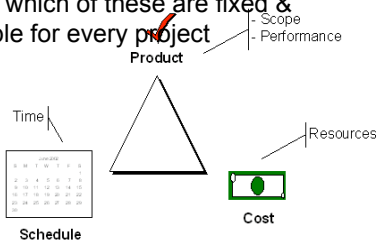
- People
- Process
- Product
- Technology

Trade-off Triangle

- Fast, cheap, good. Choose two.

Trade-off Triangle

- Know which of these are fixed & variable for every project

Technical Fundamentals

- Requirements
- Analysis
- Design
- Construction
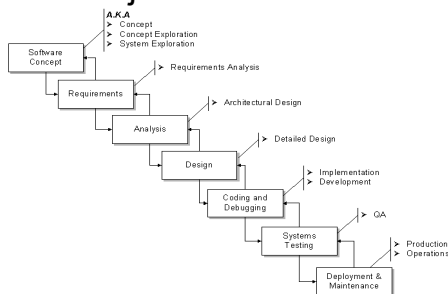- Quality Assurance
- Deployment

Project Phases

- All projects are divided into phases
- All phases together are known as the Project Life Cycle
- Each phase is marked by completion of Deliverables
- Identify the primary software project phases

Seven Core Project Phases
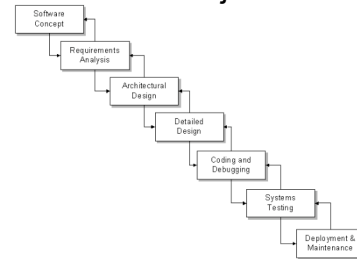
Project Phases A.K.A.

People-Related Mistakes Part 1

- Undermined motivation
- Weak personnel
  - Weak vs. Junior
- Uncontrolled problem employees
- Heroics
- Adding people to a late project

People-Related Mistakes Part 2

- Noisy, crowded offices
- Customer-Developer friction
- Unrealistic expectations
- Politics over substance
- Wishful thinking

People-Related Mistakes Part 3

- Lack of effective project sponsorship
- Lack of stakeholder buy-in
- Lack of user input

Process-Related Mistakes
Part 1

- Optimistic schedules
- Insufficient risk management
- Contractor failure
- Insufficient planning
- Abandonment of plan under pressure

Process-Related Mistakes
Part 2

- Wasted time during fuzzy front end
- Shortchanged upstream activities
- Inadequate design
- Shortchanged quality assurance

Process-Related Mistakes
Part 3

- Insufficient management controls
- Frequent convergence
- Omitting necessary tasks from estimates
- Planning to catch-up later
- Code-like-hell programming

Product-Related Mistakes

- Requirements gold-plating
  - Gilding the lily
- Feature creep
- Developer gold-plating
  - Beware the pet project
- Push-me, pull-me negotiation
- Research-oriented development

Technology-Related Mistakes

- Silver-bullet syndrome
- Overestimated savings from new tools and methods
  - Fad warning
- Switching tools in mid-project
- Lack of automated source-code control