Iterative Development an The Unified Process

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About This Course

- Define an iterative and adaptive process
- Define fundamental concept in the Unified Process
Outline

- Iterative Process
- Unified Process: best practice and concept
- Unified Process Phase
Iterative Development

Development is organized into a series of short, fixed-length mini projects (4-6 weeks) called **iterations**

The outcome of each iterations is
- Tested system
- Integrated system
- Executable system (incomplete systems)

Each iterations includes: analysis, design, implementation and testing activities
Iterative Development

A development cycle is divided into a sequence of four phases that partition the sequence of iterations. The phases are:

- **Inception**: approximate vision, business case, scope, vague estimates
- **Elaboration**: refined vision, iterative implementation of the core architecture, resolution of high risk, identification of most requirements and scope more realistic estimates
- **Construction**: iterative implementation of remaining lower risk and easier elements, and preparation for deployment
- **Transition**: beta test, deployment
From Sequential to Iterative cycle

- R: Requirements Analysis
- D: Design
- C: Coding, Unit Testing
- T: Integration, Test

Time

One Iteration
Benefits of Iterative Development

- The iterative approach accommodates changes in requirements and in implementation strategy.
- It confronts and mitigates risks as early as possible.
- It allows the development organization to grow, to learn, and to improve.
- It focuses on real, tangible objectives.
Activities across one development cycle
Typical Iteration Plans

- An iteration in the inception phase to define the project vision and the business case
- An iteration early in the elaboration phase to build an architectural prototype
- An iteration late in the construction phase to implement the system
Defining the Product Vision and the Business Case
Building an Architectural Prototype

Core Process Disciplines
- Business Modeling
- Requirements
- Analysis and Design
- Implementation
- Test
- Deployment

Core Supporting Disciplines
- Configuration and Change Management
- Project Management
- Environment

Phases
- Inception
- Elaboration
- Construction
- Transition

Iterations
- Preliminary Iteration(s)
- Iter. 1
- Iter. 2
- Iter. n
- Iter. n+1
- Iter. n+2
- Iter. m
- Iter. m+1
Implementing the system
Discussion

What is the difference between waterfall and iterative development