Process Overview

COMP 3700.002
Software Modeling and Design
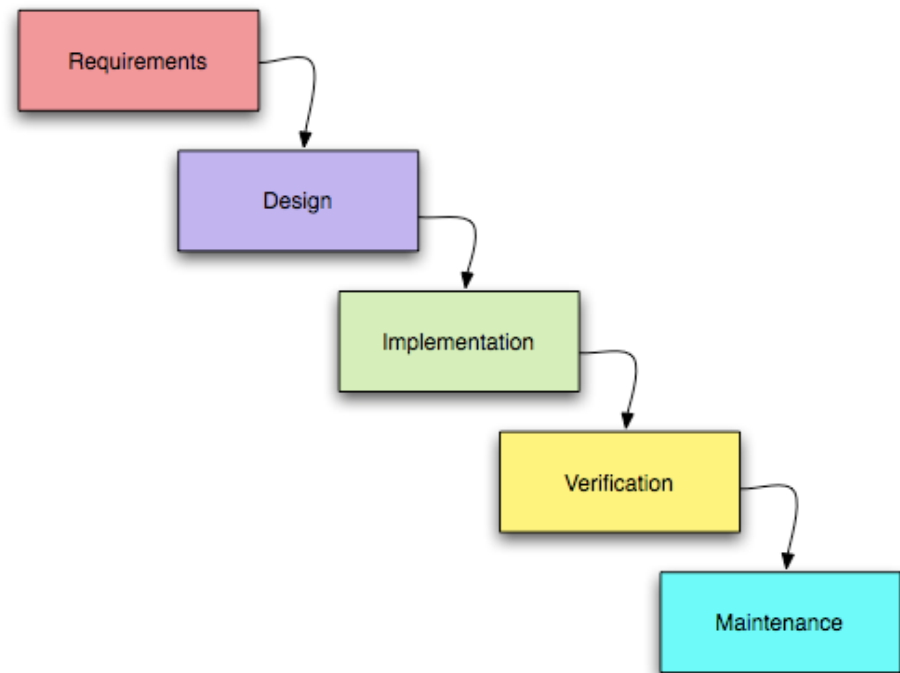
Shehenaz Shaik

Software Development Process

- Facilitates organized production of software, using a collection of predefined techniques and notations

Software development: Stages

- System conception
- Analysis
- System design
- Class design
- Implementation
- Testing
- Training
- Deployment
- Maintenance

Software Development Lifecycle: Waterfall approach

- Sequential approach
  - Strict linear sequence
  - Each stage must complete prior to next
  - No backtracking

- Does this suffice for all applications?
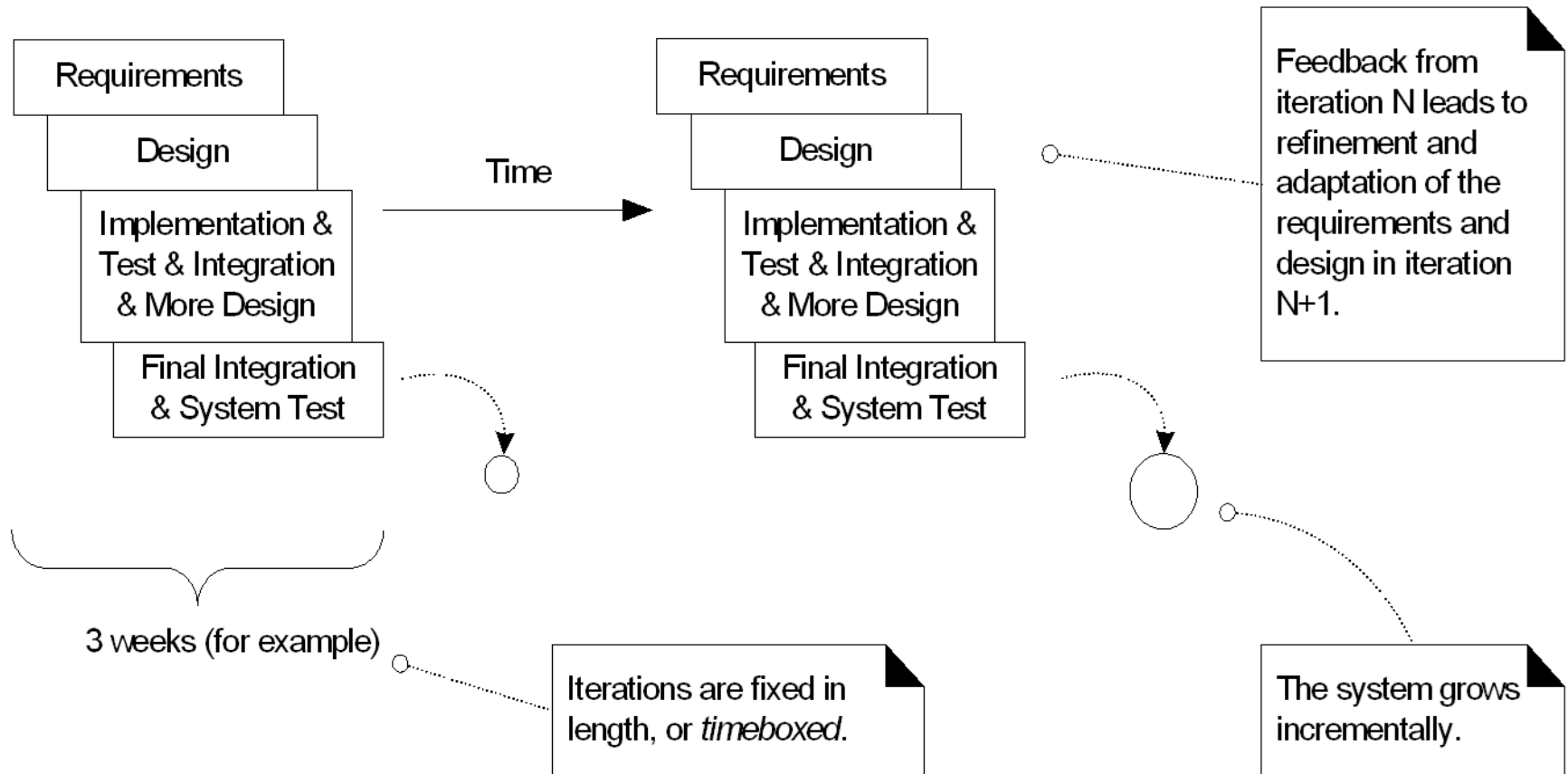
Waterfall approach (Contd.)

- Applicability
  - Well-understood applications
  - Predictable outputs from analysis and design
  - Clear and stable requirements
- Limitations
  - Limited applicability
  - Does not deliver a useful system until completion
  - Difficult to assess progress
  - Difficult to correct project that drifted away from reqs
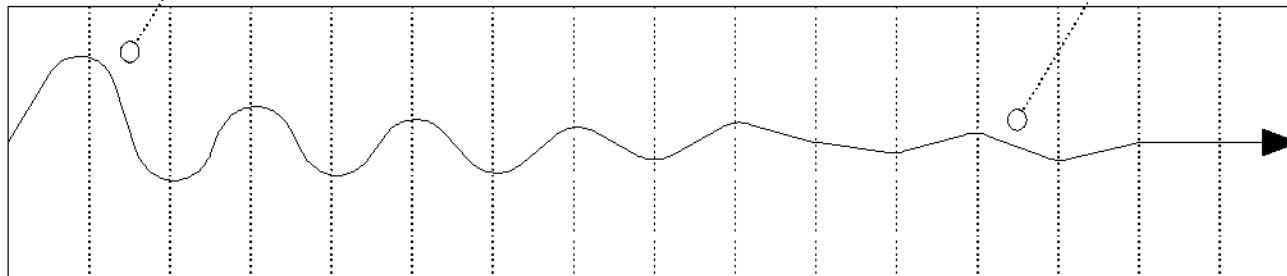- High failure rate

Iterative approach

Iterative approach

Early iterations are farther from the "true path" of the system. Via feedback and adaptation, the system converges towards the most appropriate requirements and design.

In late iterations, a significant change in requirements is rare, but can occur. Such late changes may give an organization a competitive business advantage.

one iteration of design, implement, integrate, and test

Next sessions…

- System conception

Reading assignment

- [Blaha] Chp 10: Pages 167-171