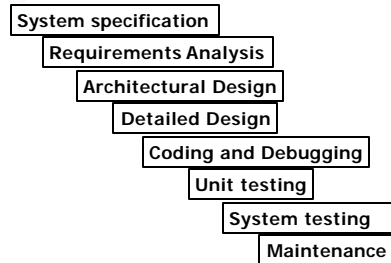


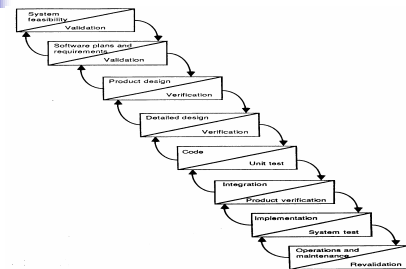
## CSE 403, Software Engineering Lecture 2

### Software Life Cycle

## Waterfall model (McConnell)



## Waterfall Model (01 au slides)



## Spiral model

## What is the value of a model

- Understand process
- Defining procedures
- Decomposing workflow
- Track, clarify, modify requirements through life cycle
- Management tool

## Limitation of models

- A model is just a model
- Artificial constraints
- Compromises with model necessary
  - (as with almost everything else in SE)
- Risk of overemphasizing process
  - The process is not the end in itself
  - Product delivery is

## Requirements on requirements

- Who are they for?
- What are they for?
  - Pitch to management
  - Fodder for market study
  - Basis for legal contract
- Easy to understand, concise, complete, unambiguous, . . .

## Requirements

- "Gather and document the functions that the application should perform for the users in the users' language and from the users' perspective"
- Requirements should neither constrain nor define methods of implementation

## Challenges of requirements gathering (Kulak, Guiney)

- Finding out what users need
- Documenting users' needs
- Avoiding premature design assumptions
- Resolving conflicting requirements
- Eliminating redundant requirements
- Reducing overwhelming volume
- Traceability

## Use case

- Overview of interactions
- Text details
- Example
  - Authenticate User
    - Actors: User, Unauthorized user
    - Summary: Users request entry to the system, valid credentials allow access

## Restaurant Reservation System

- Support assignment of patrons to tables
- Customer
  - Restaurant in a large chain
  - Willing to invest resources for a system that could be deployed widely

## Develop use cases for reservation system

- What are the use cases?