

# Software Development Lifecycle

- Series of steps developers go through to develop software
  - Steps involve activities
    - Planning, coding, testing, etc.
  - Steps happen under constraints and limited resources
    - Requirements from clients
    - Limited time and people
    - Limited money

- Many approaches

- Generally best to draw from prior experiences

- Good to create a systematic development process for each project

# Software Development Process

- Players involved
  - Clients, or stakeholders
  - Management
  - Development teams
  - Quality assurance
  - Marketing
  - End users

## - Steps

- Requirements gathering
- Design
- Implementation
- Testing
- Deployment - release it to the world
- Maintenance

- Waterfall model
  - Sequential process - go through steps in order
  - Works for some projects, but is not flexible enough for others
- Iterative models
  - Revisit requirements and design as need be, often in regular intervals
- Overhead
  - Meetings and other communication

- Good process can lead to good things

- Reduced cycle time

- Time between getting requirements and delivering the product

- Reduced development cost

- Reduced product risk

- Risk of failing to complete a project or shipping bad software

## - Requirements

- Gathered from stakeholders
- Analyzed to ensure they are clear, complete, and consistent
- Written down
  - Summary lists
  - Written documents
  - User stories - concise descriptions of what users do or need to do with the software
  - Use cases