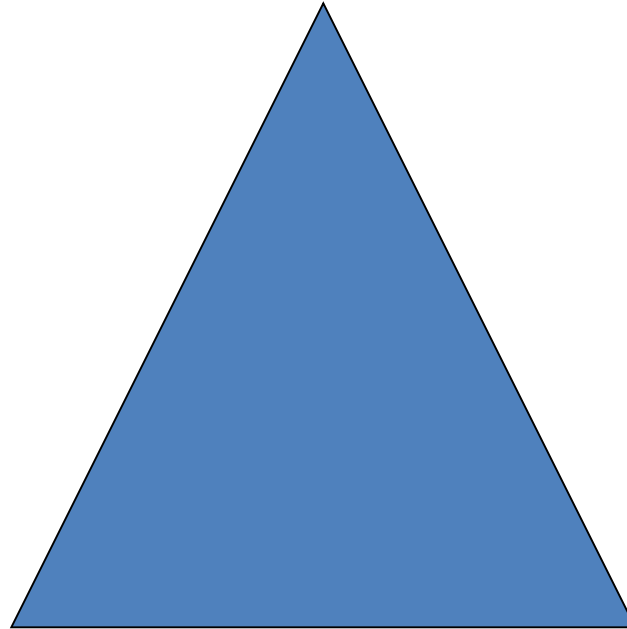# Software Engineering II

Lecture 3

Project Management

- Software Projects – factors that influence results:

  - size
  - delivery deadline
  - budgets and costs
  - application domain
  - technology to be implemented

  - system constraints
  - user requirements
  - available resources

Project Management Concerns

Scope

Resources

Schedule

Why Projects Fail?

- changing customer requirements
- ambiguous/incomplete requirements
- an unrealistic deadline is established
- an honest underestimate of effort
- predictable and/or unpredictable risks
- technical difficulties
- miscommunication among project staff
- failure in project management

Team Leaders

- MOI model of leadership - Weinberg
  - Motivation:
    - The ability to encourage technical people to produce their best
  - Organization:
    - The ability to mold the existing processes (or invent new ones) that will enable the initial concept to be translated into a final product
  - Idea or innovation:
    - The ability to encourage people to create and feel creative

The Software Team Organization

- Democratic decentralized (DD)
- Controlled decentralized (CD)
- Controlled centralized (CC)

The Software Team Organization

- Democratic decentralized (DD)
  - No permanent leader
  - Task coordinators are appointed for short duration
  - Decisions on problems and approach are made by group consensus
  - Communication among team is horizontal "team members interact and share information on an equal level"

The Software Team Organization

- Controlled decentralized (CD)
  - Defined leader who coordinates specific tasks
  - Problem solving remains a group activity
  - Communication among subgroups and individuals is horizontal.

The Software Team Organization

- Controlled centralized (CC)
  - Top level problem solving and internal team coordination are managed by the team leader
  - Communication between the leader and team members is vertical.