Student Startup Sequence
- Verify network connection
- Rotate to Landscape mode
- Start Presenter 2.0
- Maximize Application
- Role -> Student
- Connect -> Classroom 1
- Test student submissions
- Draw something here
- Select All
- Send Selection

Announcements
- Reading Assignment
  - Mythical Man Month, Chapters 4-6
  - Read Chapter 4 before Wednesday
- Recommended book (if you find this stuff interesting)
  - Rapid development
  - Steve McConnell

Lecture Recap
- Team Size

O(n^2) Communication graph
- Support full communication in team of size n

CSE 403 Lecture 4
Software Teams

Draw an O(n) communication graph
Team structure
- Many different models

Software development teams
- Brooks
  - Surgeon team

Chief programmer team
- Key points
  - Technical leadership
  - Technical lead has direct development responsibilities

Team Construction
Class Exercise
- Select six individuals from the list to form a software team
- The product is a homework management and grading system
- Pick a team that will maximize your chances of project success
- Budget constraints limit your choices

Attributes
1 to 5 scale
- Job Class: PM, Developer, Test
- Cost: A, B, C
- Job Class specific
  - Communication (PM)
  - Programming Ability (Dev)
  - Technology Understanding (Test)
- General
  - Charisma (Leadership, External interactions)
  - Congeniality (Getting along with team members)
  - Reliability

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<th>Comm</th>
<th>Prog</th>
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Choose 6 Team members, at most 2 A's, and at least 1 C

Main factors in your choices:
Successful software teams

- Studies show a 10 to 1 difference in productivity of programmers
- Equal differences observed in productivity of teams
- Substantial differences observed in performances of teams even when the strength of the programmers is equivalent

What makes a successful team?

- Shared, elevating vision or goal
- Team identity
- Results driven structure
- Competent team members
- Commitment to the team
- Mutual trust
- Interdependence among team members
- Effective communication
- Sense of autonomy
- Sense of empowerment
- Small team size
- High level of enjoyment

Team building

- Team members derive satisfaction from the team’s accomplishments
- Important to both
  - Reward the team’s success
  - Maintain individual accountability

Motivation

- Motivation is undoubtedly the single greatest influence on how well people perform. Most productivity studies have found that motivation has a stronger influence on productivity than any other factor. (Boehm 1981)

List three important motivation factors

- Responsibility
- Job security
- Personal life
- Work itself
- Recognition

Select the five most important motivation factors

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Top five motivation factors

- Achievement
- Ownership
- Goal setting
- Possibility for Growth
- Work itself
  - Skill variety
  - Task identity
  - Task significance
  - Autonomy
  - Job feedback

Top five motivation factors

- Opportunity to focus on the work itself
- Reduce administration
- Remove obstacles
- Personal life
- Technical-supervision opportunity
  - Assign each developer to be technical lead for some particular product area

How not to manage: Morale killers

- Management manipulation
- Excessive scheduling pressure
- Lack of appreciation for team member’s efforts
- Inappropriate involvement of technically inept management
- Not involving team members in decisions that affect them
- Productivity barriers
- Low quality
- Heavy handed motivation campaigns
- Frequent changes in direction

Student Project Teams

- I’ve observed a high success rate
- But failures happen . . .