Administrivia

- Informal feedback meetings with LCO groups
  - FantasySportsLeague: still to come today
- Individual assignment #1 due this Fri by 10pm
- Group assignment #2 (LCA) announced
  - Due in two parts, next Tue and Thu
  - LCA presentations in class next Wed

Lecture 07:
Team Environment Issues (Part II)

"Talent wins games, but teamwork and intelligence wins championships." -- Michael Jordan

"We must all hang together or assuredly, we shall all hang separately." -- Benjamin Franklin

"If a team is to reach its potential, each member must be willing to subordinate his personal goals to the good of the team." -- Bud Wilkinson

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Outline

- Team Models
- Creating a High-Performance Team
- Motivation Factors and Killers

Resources

- *"Rapid Development"*, by Steve McConnell
  - Ch. 12, 13
- *"The Pragmatic Programmer"*, by Andrew Hunt and David Thomas
  - Ch. 8 (section 41: pp.224-230)
- Guest lecture by David Schmaltz & Amy Schwab
  - From summer 2003

Software Teams

- Typically, software development teams include:
  - Several "developers" in a broad sense: programmers, testers
  - A person with lead developer/architect responsibilities
  - A person with functional management responsibilities
  - A person with project management responsibilities

- These could be *all different* team members!

Team Models and Management Structures

- **Dominion model**
  - Pros: clear chain of responsibility; people are used to it
  - Cons: single point of failure at the commander; less or no sense of ownership by everyone
- **Communion model**
  - Pros: a community of leaders, each in his/her own domain; inherent sense of ownership
  - Cons: people aren't used to it (and this scares them)

Note: Both models allow for having a point-of-contact person, responsible for completing a particular task.

Specifically for Your Team...

- Who will do the scheduling/planning?
- Who will do the development?
- Who will do the testing?
- Who will do the documentation?
    - Includes spec, design, write-ups, presentations, ...
- Who will do the build/release preparation?
- Who will take care of inter-team communication?
- Who will do the customer communication?
- Who will do ...?

More on Team Organization

> Pragmatic Programmer Tip:
> "Organize Around Functionality, Not Job Functions"

- What are some benefits of organizing teams around:
    - ... functionality?

    - ... job functions?

- In what context(s) might the former be superior?

Creating a High-Performance Team

Typically, teams go through 4 stages:

1. **Forming**
   - Exploration period, cautious and guarded, exploring boundaries
2. **Storming**
   - Deals with issues of power, control, leadership
3. **Norming**
   - Establish cohesiveness among team members
   - Appreciate differences, trust begins to evolve
4. **Performing**
   - Full functioning of team
   - Leadership is participative and shared
   - Sense of identity and high level of work accomplishment

How Can a Team Start "Performing" Faster?

- **Forming stage**
    - Clarify team's purpose and goals
    - Clarify responsibility of each member
    - Validate skills each team member brings
    - Identify communication methods
- **Storming stage**
    - Establish norms of discussions
    - Model openness in resolving conflict
    - Ensure everyone participates on all key issues
- **Norming stage**
    - Let members take on more responsibility as productivity increases
    - Chart progress! Reward successes!
    - Reduce meeting time as things become smooth

What is Common among High-Performance Team Models?

Results-driven structures:

- Clear roles and responsibilities
    - Each person knows and is accountable for their work
- Monitor individual performance
    - Who is doing what, are we getting the work done?
- Effective communication system
    - Available, credible, tracking of issues, decisions
- Fact based decisions
    - Focus on the facts, not the politics, personalities, ...

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."

-- Barry Boehm (1981)

Motivation Factors

Think for a moment of up to 3 factors that most often affect your motivation!

Motivation Factors for You?

- Achievement
- Recognition
- Advancement
- Salary
- Possibility for growth
- Interpersonal relationships
  - Subordinate
  - Superior
  - Peer
- Status
- Technical supervision opportunities
- Company policies
- Work itself
- Work conditions
- Personal life
- Job security
- Responsibility
- Competition
- Time pressure
- Tangible goals
- Other?

Motivation Killers

- Do you recall situations in which people around you managed to "kill" your motivation (whether intentionally or not)? How did they do that?

Motivation Killers (and There Are More…)

- Micro-management or no management
- Lack of ownership
- Lack of effective reward structure
  - Including lack of simple appreciation for job well done
- Excessive pressure and resulting "burnout"
- Allowing "broken windows" to persist
- Lack of focus in the overall direction
- Productivity barriers
  - Asking too much; not allowing sufficient learning time; using the wrong tools
- Too little challenge
- Work not aligned with personal interests and goals
- Poor communication inside the team

What is Dilbert Motivated and De-motivated by?