



*The Persistence of Memory* - Salvador Dali  
Often referred to as *Soft Watches*

## Soft Skills

Week 12  
CS 212 - Spring 2008

## Announcements

- No lecture for next week (April 23)
  - Section meetings will still take place

## Soft Skills

- What are they?
  - Work skills
  - People skills
  - Communication skills
    - Writing
    - Speaking
    - Web/art/...
- Why are they important?

## Soft Skills in CS

- Public/popular perception, stereotypes
- Reality: wide use of soft skills in CS
  - Programming in teams
  - Pair programming
  - Client, business relationships
  - Technical support, marketing
  - Business, consulting

## Groups

- Why groups?
  - Combine talents; wider pool of knowledge
  - Training
  - Self-policing
- Common processes encountered by all groups
  - Forming, storming, norming, performing, adjourning

- Bruce Tuckman [1965]

## Initial Stages

- Forming
  - Meet and learn about opportunity and challenges
  - Agree on goals and begin task
  - Team members tend to work independently
  - Team members are on their best behavior
- Storming
  - Different ideas compete for consideration
  - Possible conflicts
  - Can be contentious, unpleasant and even painful
  - Personalities (and quirks) arise

## Middle-To-Later Stages

- Norming
  - Team members adjust behavior & begin to trust each other
  - Roles are clarified
- Performing
  - Energy spent on working, not fighting
  - Little need for external supervision
  - Trust, respect
- Adjourning
  - Separation anxiety
  - Saying good-bye...

## Management

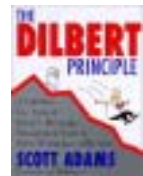
- Project Management
  - "the application of knowledge, skills, tools and techniques to a broad range of activities in order to meet the requirements of a particular project"
  - Project Management Institute [www.pmi.org]
- Student version
  - Resources: mainly time
  - Management: mainly shared, except in large groups
  - Scheduling: mainly due dates
  - Evaluation: grades
- Academic research version
  - Resources: mainly time
  - Management: mostly shared, but NSF requires one official manager
  - Scheduling: conference due-dates; otherwise self-imposed
  - Evaluation: publications (conference proceedings, journals, & books)

## Management Schemes

- There is a lot of available material on management, mostly from a business perspective
- Some well-known management schemes
  - TQM (Total Quality Management)
    - Awareness of quality at all levels
  - Matrix Management
    - Each department holds people with similar skills; each project pulls together people from different departments
  - Six Sigma
    - Set of practices designed to improve processes by eliminating defects

## Management "Difficulties"

- Parkinson's Law [1955]
  - Work expands to fill the time available
- The Peter Principle [1968]
  - In a hierarchy every employee tends to rise to his level of incompetence
- The Dilbert Principle [1995]
  - Companies tend to promote their least-competent employees to management in order to limit the amount of damage they're capable of doing



## Review: Essential Coding Habits

- Commenting & documentation
- Good names for classes, variables, and methods
- Non-obfuscated code
- At some point, the code will need to be modified (by you or someone else)
  - Without well-written code, this can be nearly impossible

## Essential Habits: Comments

- Not just comments, but good comments
- Don't comment when the code itself does a good job of explaining what is happening
- All classes, methods, and variables should be described
- When possible, use the language's provided documentation system (e.g., Javadoc)

## Essential Habits: Naming

- Use descriptive names, but keep them short
- A name should communicate what it's used for
  - A variable's name should indicate what is stored in the variable
  - A method's name should indicate what the method does
  - A class's name should indicate what the class represents
- If the language has naming conventions, use them
- Do not re-use variables for different purposes