Session 13: Professionalism in Project Management

The Project Management Institute
The Software Engineering Institute
Certification programs
Reference material
Chicago-area opportunities

The Project Management Institute (PMI)
- Founded 1969, Philadelphia
- Initial emphasis on construction & civil engineering projects
- Open membership (~1,000,000 members)
- Activities
  - Conducts conferences
  - Administers certification programs (PMP, etc.)
  - Publishes reference material (PMBOK)
  - [www.pmi.org](http://www.pmi.org)

PMI Local Chapters
- Many hold regular meetings
  - Speaker on an interesting topic
  - Opportunity to converse with fellow professionals
- Chicago chapter
  - Monthly dinner meetings
  - "Knowledge-sharing forum (July 22)
    [www.pmi-chicagoland.org](http://www.pmi-chicagoland.org)
- Other chapters worldwide
  - [www.pmi.org/GetInvolved/Pages/PMI-Chapters.aspx](http://www.pmi.org/GetInvolved/Pages/PMI-Chapters.aspx)

Project Management Body of Knowledge (PMBOK)
- Comprehensive guidebook for project managers
  - Developed through voluntary contributions from PMI members
  - Definitive study guide for PMP certification
- Status (per PMI website, June, 2010)
  - Third edition, $40 to members, $50 to others
  - "The next update, the Fourth Edition, will be released 31 December 2008."
- More than most of us need for a software development project.
Example of too much knowledge in the PMBOK
- Predecessor-successor relationship can be:
  a. **Finish to start**: Task B may not start until Task A ends.
  b. **Start to start**: Task B may not start until task A is underway
  c. **Start to finish**: Task B can't be completed until task A is underway
  d. **Finish to finish**: Task B can't be completed until task A is underway
- When would a software development project need anything other than a? Why?

Another example
- You can specify *three* estimates for each task:
  - optimistic estimate
  - pessimistic estimate
  - realistic (best) estimate
- This is useful
  - for very large projects
  - for preparing fixed cost, fixed target date proposal
- PMS will aggregate the totals
  - Critical path may be different under different assumptions

The Software Engineering Institute (SEI)
- Founded 1984 at Carnegie-Mellon University, Pittsburgh
- Led by Watts Humphrey, former IBM VP, colleague of Fred Brooks during OS/360 development project
- Proposed **Capability Maturity Model** (CMM) for software-development organizations
  - www.sei.cmu.edu

Capability Maturity Model
- A software development organization's methodology ("processes") is characterized by one of these levels:
  1. **Initial**: (chaotic, ad hoc)
  2. **Repeatable**: (some processes yield consistent results.)
  3. **Defined**: (most projects follow documented standards)
  4. **Managed**: (all projects subject to metrics that control their performance)
  5. **Optimized**: (continuous process improvement)
- SEI representatives and contractors audit and certify