Topic: Licensing and Certification of Software Professionals

1. Licensing – conducted by a governmental authority; usually mandatory
   - In the USA, licensing is done by the individual states (e.g. lawyers, doctors, motorist)
     - All 50 states license Professional Engineers (PEs)
       - “Health, safety and welfare of the public”
       - 1998 – Texas licenses software engineers
       - Illinois will have a P&P exam (see below) for software engineers by 2005
   - Usual state process:
     - Graduation from an ABET-accredited engineering program
     - Passage of the Fundamentals of Engineering (FE) exam
     - Four or more years of work under a licensed PE
     - Passage of a Principles and Practices of Engineering (P&P) exam, an ethics and professional practices exam, and some references
   - In the United Kingdom, Australia and Canada, software engineers are licensed as professional engineers

2. Controversy about the licensing of software engineers
   - In 1993, IEEE-CS/ACM form joint ad hoc committee on SE as a profession
   - Replaced by a permanent joint committee (SWECC) in 1999
   - SWECC projects:
     - Software Engineering Body of Knowledge (SWEBOK) project
     - Software Engineering Education Project (SWEEP)
   - However, many in ACM are very distrustful of licensing – some of those are against licensing of any profession
   - ACM first comes out against licensing of software engineers (1999), and then pulls out of the SWEBOK project (feeling it is too associated with licensing) and of SWECC itself (2000)
• IEEE-CS continues with SWEBOK project (currently finishing two years of trial runs)

• SWEEP continues to this day, under the new name of Computing Curricula-Software Engineering (CCSE)

3. Certification – conducted by a non-governmental organization
   • Certification organization (e.g. ICCP) [http://www.iccp.org]
   • Professional Society (e.g. IEEE-CS Certified Software Development Professional program, which is similar to a P&P exam)
   • Company (e.g. MCSE)
   • There have been problems in some states when an organization wanted to use the term “engineer” in the certificate title

4. There is much less controversy over certification (ACM is even a part of ICCP)

5. For Friday: a debate on SE licensing, followed by a homework to summarize it; see [http://www.rose-hulman.edu/class/cs/cs415/HW/licensingdebate.html] for details. (Thursday’s class is cancelled in lieu of debate preparations)