COMPUTING CURRICULA 2004: THE OVERVIEW PROJECT

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In the fall of 1998, the Computer Society of the Institute for Electrical and Electronic Engineers (IEEE-CS) and the Association for Computing Machinery (ACM) established the Joint Task Force on Computing Curricula 2001 (or CC2001) to update curriculum guidelines for undergraduate programs in computing. Previous curriculum reports attempted to merge such disciplines as computer science, computer engineering, and software engineering into a single report about computing education. The initial charter of the CC2001 Task Force called for us to produce a single volume. As CC2001 work proceeded, we recognized that the scope of what we call computing has broadened to the point that it is difficult to define it as a single discipline. In light of the broadening scope of computing, the rapid changes in its content and pedagogy, and feedback we received at various conferences, we developed a revised plan that calls for:

- Distinct volumes for each of computer science, computer engineering, information systems, software engineering;
- An open-ended structure to permit inclusion of future volumes on emerging computing disciplines;
- The updating of content and pedagogy more frequently than once per decade;
- An Overview Volume to provide an integrated view of the family of computing-related disciplines, including the commonalities and differences among them.

Since then, the Computer Science Volume (CC2001, which might be more descriptively called CS2001) and the Information Systems Volume (IS2002) have been published. The Software Engineering Volume (SE2004) is nearing completion. The Computer Engineering Volume (CE2004) is being developed. (Links to each of these documents can be found at: www.acm.org/education/curricula.html.) The open-ended structure to accommodate additional volumes has already proved useful, as we expect a first draft of the Information Technology Volume (IT2004) to be available for review soon.

Work on the Overview Volume (CC2004) began in 2003 as a joint project of ACM, IEEE-CS, and the Association for Information Systems (AIS). While not all of the five discipline-specific volumes have been published, their bodies of knowledge are sufficiently well defined to permit preliminary analysis and synthesis of their content.

By FIE'03, four meetings of the Overview Volume Task Force will have occurred. Analysis of the problem space led us to develop a strategy of two overlapping projects: what we have called the small project and the large project. The small project is focused on identifying the intersections among the discipline-specific bodies of knowledge, characterizing their commonalities and differences, and investigating how cross-volume inspection might support ongoing improvement to each volume. The large project is focused on creating a map of the superset of the various bodies of knowledge to permit better cross-discipline analysis and investigating how it might support frequent curriculum updating. We will present a preliminary small project draft of the Overview Volume and a progress report on large project work.