Chapter VI

Teaching Technology for Community

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ABSTRACT

Technology for Community is an undergraduate computer science course taught at the University of Colorado under the auspices of the Institute for Women and Technology’s Virtual Development Center. In the course, students use computers to do community service. More specifically, they work with local community service agencies, building computational solutions to problems confronting those agencies. Student projects are developed following the method of task-centered design and are evaluated by the students and the users according to three formal methods. In this chapter, we describe in detail the content of the course and review the design and evaluation methods we use.
INTRODUCTION

Technology for Community is an undergraduate long-term projects course offered by the Department of Computer Science at the University of Colorado at Boulder (UCB). In it, students develop computational products designed to serve the needs of local community service organizations.

BACKGROUND

During the summer of 2000, UCB’s Department of Computer Science was selected to participate in the Institute for Women and Technology’s (IWT) Virtual Development Center (VDC) (IWT, 2002). The VDC is a network of collaborative educational centers, termed Development Centers that share the dual goals of stimulating the participation of women in technology and increasing the positive impact of technology on the lives of women. Through the Development Centers’ educational activities, a diverse community of women is encouraged to participate in the development of technology. In particular, universities participating in the VDC all commit to teaching technical courses in a style thought to be open and appealing to women. Presently, the Development Centers are at Purdue, Santa Clara University, Smith College, Texas A&M, the University of Arizona, the University of California at Berkeley, UCB, the University of Texas at El Paso, and the University of Washington. UCB’s Center is unique in its emphasis on computer science; the others all focus on traditional engineering disciplines.

The primary activity of UCB’s center is the Technology for Community course offered through the Department of Computer Science. Project ideas for the course are generated in community brainstorming workshops, held annually and facilitated by IWT staff members. Participants in the workshops include technical and non-technical women from the Boulder community at large, representatives of local community service agencies, a few interested academics, and the students enrolled in the course. At the workshop, the attendees identify problems confronting the agencies that can be solved computationally. Over the course of one or more semesters, the students work in groups to bring their solutions to product form, with technical and non-technical faculty members and interested community members all serving as advisors. A particular strength of the workshops is that they encourage participants to think beyond their workaday concerns. The resulting project ideas have been creative, interesting, and broad in scope.

The course has been offered each semester since Spring 2001. Its pilot offering will extend for four semesters, but we expect that it will become a permanent part of the UCB curriculum.
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