An Experience of Teaching HCI to Undergraduate Software Engineering Students

Guihuan Feng\textsuperscript{1,2}, Bin Luo\textsuperscript{1,2}\ast
\textsuperscript{1}Software Institute, Nanjing University, 210093
\textsuperscript{2}State Key Laboratory for Novel Software Technology, Nanjing University, 210093
\texttt{fgh@software.nju.edu.cn, luobin@nju.edu.cn}

Abstract

Due to the more and more intense competition in software market, usability is gaining more and more attention. For software engineering students, learning and mastering human-computer interaction knowledge can help them design software products with higher usability. In this paper, we describe a preliminary experience of teaching HCI to undergraduate software engineering students in Nanjing University (NJU), including curriculum design, course implementation and improvements based on some feedback from students. We believe that this information is useful at how to teach HCI in a practical way, and we hope it can serve as guidance for other teachers struggling with similar course design issues.

1. Introduction

Software quality has obtained lots of attention ever since the birth of software engineering. Meanwhile, various software testing courses have been proposed, aiming at evaluating and improving software quality. However, a majority of these courses focus on quality issues like correctness, efficiency, and robustness etc. Usability, or in other words, the quality of interaction design is less or even not mentioned. Myers and Rosson\cite{1} has made a survey and found that 48 percent of all programming time is spent on user interface, which confirmed the importance of interaction design.

Many researches have indicated the importance of teaching HCI to computer science and engineering students\cite{2}\cite{3}. Lethbridge \cite{4} noted that HCI is the 7th most important topic of 25 knowledge areas for software engineers. Unfortunately, although HCI is identified as a core area of computer science and engineering in the early 1990s\cite{5}, they are still not so common as areas like requirement analysis and software testing. Worse still, HCI is the second knowledge area that is not taught sufficiently in education\cite{4}. Hence, there is an eager demand for HCI related courses in both industry and education.

In this paper, we describe a preliminary experience of teaching HCI to software engineering students in NJU. The paper is organized as follows. Section 2 presents the related researches and courses. Section 3 outlines the curriculum design and evolution. Section 4 describes the course implementation, such as grading and the term project. Section 5 presents feedback from students and our improvement. This paper concludes and presents the future work in section 6.

2. Related Works

Human-computer interaction is defined as “a discipline concerned with the design, evaluation and implementation of interactive computing systems for human use and with the study of major phenomena surrounding them.”\cite{6}. The Association for Computing Machinery (ACM) reported that SIGCHI is the fastest growing of all its interest groups. However,