Chapter 9
End–User Software Engineering and Why It Matters

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ABSTRACT

End-user programming has become ubiquitous; so much so that there are more end-user programmers today than there are professional programmers. End-user programming empowers—but to do what? Make bad decisions based on bad programs? Enter software engineering’s focus on quality. Considering software quality is necessary, because there is ample evidence that the programs end users create are filled with expensive errors. In this paper, we consider what happens when we add considerations of software quality to end-user programming environments, going beyond the “create a program” aspect of end-user programming. We describe a philosophy of software engineering for end users, and then survey several projects in this area. A basic premise is that end-user software engineering can only succeed to the extent that it respects that the user probably has little expertise or even interest in software engineering.

INTRODUCTION

It all started with end-user programming.

End-user programming enables end users to create their own programs. Researchers and developers have been working on empowering end users to do this for a number of years, and as a result, today end users create numerous programs.

The “programming environments” used by end users include spreadsheet systems, Web authoring tools, and graphical languages for creating educational simulations (e.g., Burnett, Chekka, & Pandey, 2001; Lieberman, 2001; Little, Lau, Cypher, Lin, Haber, & Kandogan, 2007; Pane, Myers, & Miller, 2002; Repenning & Ioannidou,
Figure 1. U.S. users in 2006 and those who do forms of programming. (This is a summary of data in Scaffidi, Shaw, & Myers, 2005)
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