TOWARDS A MODEL FOR BRIDGING AGILE DEVELOPMENT AND USER-CENTERED DESIGN

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Abstract

As a reaction to the complexity and rigor of commercial software development processes, “agile” software development methods have gained increasing attention. Agile methods prioritize delivering working software over producing extensive models and documentation. Agile processes focus on the people involved and the required interaction instead of on processes and tools. Furthermore, it emphasizes that responding to the changes that invariably take place over the course of a project is more important than strictly adhering to a contract or plan. From the perspective of usability and user-centered design, however, agile methods do not inherently provide the required support to the development process. This being said, the agile philosophy does not prevent focusing on usability during the design process: in fact, the agile and user-centered approaches have the potential to work very well together. This chapter intends to describe the core principles of agile development and investigate to what extent usability-enhancing activities can be supported within the agile approaches. As a conclusion, it will outline a model for integrating agile development and user-centered design.
12.1 INTRODUCTION

Developing interactive software is all about people: not only about the people that will use the software, but also about those who develop it. Most developers of interactive software deliver some sort of enhanced support for end-users, and as such, their knowledge about the users and the use situation is crucial to the outcome of the process. Although there are numerous methods and techniques to capture information about the users and tasks, it is the attitude and basic values of those who develop the software that will inevitably make a difference in the results.

For some time now, one of the main ways of introducing usability and user-centered design into systems development is to focus on the processes by which the systems are designed and developed. The importance of this was stressed in 1991 by Liam Bannon (Bannon, 1991):

“...more attention needs to be paid to the process of design, to working with users in all stages of design, to see the iterative nature of design, and the changing conception of what one is designing as a result of the process itself. This is in contrast to a view of design that proceeds from a set of fixed requirements without iteration, and without involvement of the users.”

More recently, it has been recognized that processes alone cannot guarantee usable systems. Göransson, 2004, argues that systems that fit well into the workplace are ultimately the product of some kind of user-centered development process and a user-centered focus during development. This means that the real users and their needs, goals, context of use, abilities and limitations should be guiding development, instead of development being driven by technology. Persson, 2003, opines that development processes are mainly controlled by time and money, and that there is an increasing trend to rely on whatever models and methods are currently in vogue. This approach reflects the organization’s basic values, as well as a lack of awareness regarding the consequences of various strategic decisions.

Agile approaches to software development (Agile Alliance, 2001; Cockburn, 2002; Ambler, 2002; Highsmith, 2002; Fowler, 2003a), such as Extreme Programming, XP (Beck, 2000), have recently received increasing attention. They place less emphasis on the process and its deliverables, and center instead on the people involved and their cooperation in order to produce results more quickly with reduced risk of failure or delays. The driving force behind the agile perspective is to impart more agile or ‘light-weight’ qualities on software development.

One issue related to the various agile processes is that they do not sufficiently address usability and user-centered design (or UCD) concerns (Constantine and Lockwood, 2002; Hudson, 2003; Armitage, 2004; Jokela and Abrahamsson, 2004). The main focus of agile processes is how to organize the required tasks to reach the overall goal of delivering working software. Delivering working software is obviously a mandatory condition for any usable system. However, agile development focuses on making coding more efficient, and usability issues can potentially fall to the wayside since an explicit user-centered focus is lacking.

The overall focus of the agile approach is somewhat different from that of UCD. Agile values and practices are concerned primarily with project management and team organization in combination with detailed coding tactics. UCD, on the other hand,