Designing for Reflective Practitioners: Sharing and Assessing Progress by Diverse Communities

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WORSHOP THEME AND GOALS: DESIGNING FOR REFLECTIVE PRACTITIONERS

Donald Schön described professionals as practicing reflection-in-action [13]. This characterization inspired many researchers to experiment with computing systems whose interfaces supported and even prompted reflection on the part of end users [5]. Many parallels to Schön's notion exist in different communities whose members attend CHI. Some work extends beyond computer interfaces to social and organizational issues. This workshop is an opportunity for diverse researchers to come together to identify and trace the evolution of common threads, to share and assess solutions, and to open channels of communication that will support one another's long-term objectives of designing for reflective practitioners.

Author Keywords

Reflection-in-action; software critics; software agents; situated action; participatory design; open source.

ACM Classification Keywords

D.2.2 Design Tools and Techniques; H.5.2 User Interfaces; K.4 COMPUTERS AND SOCIETY

PARALLEL THEMES WITH A COMMON CHALLENGE

The theme and title for this workshop is inspired by Donald Schön's writings about the reflective practitioner in which he describes professional practice as transcending technical rationality [13]. Ill-formed problems lead to breakdowns, which become opportunities for reflection and modification of practice. Many others have articulated related concepts, and concerns. For instance, Fred Brooks distinguished between accidental and essential activities for designers of software systems [1]. Software tools could support mundane aspects of designers' work, but the most creative aspects would still elude computer support. Herbert Simon also referred to the bounds of rationality and evoked the anecdote of the painter faced with a blank canvas to describe ill-formed problems that required a different kind of thinking [14]. Designers postulate starting points, evolve them to stable substrates, and then rethink them. Lucy Suchman demonstrated the limits of rationalized designs in her seminal characterization of situated action [15]. As she notes, anticipating all potential user behaviors is not a feasible approach to design.

Interestingly, these concepts create a conflict of sorts for researchers in computing. Namely, if computer software operates on the plane of technical rationality, how can it support reflective and situated action by practitioners in the real world?

TAKING UP THE CHALLENGE

The challenge of designing computer support for reflective practitioners has been taken up by many communities and from many perspectives. There are software-based approaches, cognitive approaches, and social and organizational approaches.

Among the software based responses, software critics are intended directly to trigger reflection by end users, providing feedback on design tasks while designers are still in the context of making design decisions [5]. Critics are not intended to replace human decision making, but to complement it [7][16]. Similarly, software agents proactively coordinate to assist end users, including software designers as end users [9]. Even techniques for supporting software process descriptions have evolved from rigid prescriptive systems to reflective models that can adapt to exceptions [11].

There are cognitively based responses to supporting reflection. In a sense, the notion of affordances [10] and even social translucence [4] may be interpreted as styles that enable essential reflection by removing the distraction of an awkward interface.

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There are also social responses to this challenge. The computer-supported collaborative learning community seeks to enhance reflection by integrating working and learning, physical and computational artifacts, and different communities of interest [6]. The methods and techniques of participatory design integrate end users into the design process to achieve greater realism in systems [2][8]. The open source movement might also be interpreted as a style of software development geared toward placing the evolution of a software system with the practitioners [12]. Activity theorists also emphasize the role of reflection in community activity [3].

FOSTERING A NEW COMMUNITY

The above responses by different communities to the reflective and situated nature of work practice have existed for decades, and have faced trials and refinements. Many themes have evolved within these disciplines. Some have appeared independently under different terms and in different settings. The purpose of this workshop is to bring together representatives of diverse communities who have designed solutions that support reflection-in-action, or related notions such as those named above. The organizers seek to trace the evolution of common threads, to share and assess solutions, and to open channels of communication that will support one another in the long term. We seek to foster a sense of community among diverse researchers who all have been designing for reflective practitioners.

RELATION TO CHI 2004 THEME

The Conference Overview by Elizabeth Dykstra-Erickson and Manfred Tscheligi describes the themes of CHI 2004 as forming connections and expanding boundaries (see http://www.chi2004.org/geninfo/overview.html). In this workshop, we seek to build connections among people from many disciplines and strengthen communication in the long term. The theme of focusing on reflective practitioners has a long history because it is a problem rooted in humanity, namely the abilities and instincts human beings have for carrying out activities in a complex world, where routine action is frequently frustrated. The major change in recent decades is the involvement of the computer in these activities. From one perspective, the computer is merely a new opportunity for understanding humanity. In this sense, the workshop is also forward-looking as well.

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