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Position paper: Collecting and Validating Stories From and with End-users.

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Collecting and Validating Stories from and with End-Users

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ABSTRACT

This position paper takes up issues of scenarios and stories relatively early in the product lifecycle, including the collection of stories, the co-creation of stories with end-users, and the validation or verification of stories with end-users.

INTRODUCTION

Much of the commercial practice of scenarios work focuses on scenarios as vehicles to communicate a design vision or a product concept – i.e., as an expressive means for designers to explain and convince others. In this position paper, I consider three other aspects of applied work with scenarios: the acquisition of scenarios from people; the co-creation of scenarios by users and designers; and the verification/validation of scenarios by the people whose work or lives will be affected by those scenarios. These comments are concerned in part with the principles and practices of participatory design (Schuler and Namioka, 1993), and also with the practical constraints on participation in contemporary commercial practice.

I begin with a brief essay laying out a theoretical framework for thinking about scenarios in HCI.

Readers who are interested in practices and methods may wish to skip to the second page, where I consider techniques for collecting and telling stories, and for working with end-users. Illustrations of several of these methods are provided in the accompanying class notes (Muller, 2000).

A BRIEF ETHNOCRITICAL ESSAY

In Muller (1997), I began to describe some of the particular problems faced by HCI workers who are responsible for acquiring information (including stories) from the world of end-users, and for bringing that information into the world of software professionals and executives. These problems include matters of

- **ethics** – how do HCI workers navigate among their responsibilities to end-users vs. their power-relationships and – often – class loyalties with software professionals and executives (Muller, 1999)?

Position paper submitted to CHI 2003 workshop, Carroll, J., Rosson, M.B., and McInerney, P., *Scenarios in practice*.

- **politics** – how do HCI workers *speak for others*? (e.g., Alcott, 1991), and
- **epistemology** – how do we know what we know? how do we know *together with others*? (e.g., Muller, 2003b).

These concerns led in turn to a study of translation theory as it applies to HCI work (Muller, 1997, 1999). In brief, HCI work often involves two distinct definitions of translation:

- **transformation** of information from one language, culture, or world-view to another
- **transportation** of information from one social setting or context to another

In this framework, stories can be powerful means for communicating both specifics and contexts from the users' world to the software professionals' world. But stories may also appear to be *too transparent*. Stories derive part of their power from the ease with which they can be told and understood. They give a sense – and sometimes a false sense – that the contents of the story may be understood and interpreted within the audience's conceptual framework. However, if the audience's world is different from the users' world, then the transparency of a story can give the audience a false sense of understanding – can allow the audience to assume that their own world's conventions govern the perspectives, actions, and issues in the users' world.

When we tell stories about users and usage, we often have to perform our own acts of translation on stories that users tell us, before those stories are ready for our audiences. We attempt to reconcile the opposing imperatives of being faithful to

- the **audience** – providing them with information that is easy to understand, and that is congenial to them – i.e., that encourages them to agree with us and to adopt our proposal
- the **informants** – advocating for their understanding of the world, and for their interests in their world, and for their interests as affected by the world and actions of software professionals or executives

In the language (so to speak) of translation theory, the act of transforming and transporting end-users' stories into the

world of software professionals and executives is a perilous undertaking. HCI workers are thus not only the tellers of other people's stories: they are also the crafters of those stories, as we recast the stories for enhanced understanding by our audiences and by ourselves. Some translation theorist and critics have denounced the practice of seemingly effortless translation, calling the seeming invisibility of the translator's work a "scandal" – a kind of deceit (Venutti, 1995, 1998). Cutter (1997) called translation "an impossible necessity" – something that has to be done, but that *cannot* be done correctly, because there are always too many conflicting interests to be served. Alcott (1991), writing in a tradition of social critique, noted that the position of speaking for others (the task of the translator, and of the HCI worker who describes users' work and worlds to software professionals and executives) is inevitably partial – "partial" in at least two senses:

- **incomplete** – the translator or HCI worker must reduce a large amount of user-provided material into a meaningful handful of key points or attributes, and must excerpt according to her or his sense of ethics, politics, and epistemology
- **partisan** – the translator or HCI worker inevitably plays a role in a landscape of power and influence, in which decisions about "what really happened" with the end-users, or about "what should be designed" for the end-users, have important consequences on people's work-lives or home-lives.

It is therefore important for us to find scenario methods that allow us to collect stories from and with end-users, in such a way that the end-users can state *their* viewpoints clearly, and in a way that end-users can verify and validate the accounts that we carry away from them. These methods can give us a better grounding, and help us to create (or, in some cases, co-create with users) scenarios of current or future work that are more likely to meet users' needs and to advocate for users' interests.

METHODS FOR SCENARIO COLLECTION AND VALIDATION

In Muller (2003a), I surveyed participatory methods, including scenario-based methods, for analysis, design, and evaluation of software systems and services. This chapter was particularly concerned with methods and practices that allow end-users and HCI workers to communicate in depth and detail, questioning their own and their partners' assumptions in a collaborative and creative setting. In this section, I will summarize portions of that survey, and will provide details on several of the scenario-based methods in that survey.

Stories

Stories in participatory work may function in at least three ways. First, they may be told by end-users as part of their contribution to the knowledges required for understanding product or service opportunities and for specifying what products or services should do (Brandt & Grunnet, 2000;

Lafrenière, 1996; Muller, 2001; Muller et al., 1995b; Noble & Robinson, 2000; Patton, 2000; Sanders, 2000; Tschudy, Dykstra-Erickson, & Holloway, 1994). Second, they may be used as triggers for conversation, analysis, or feedback (Salvador and Howells, 1998; Salvador & Sato, 1998, 1999). Third, they may be used by design teams to present their concept of what a designed service or product will do, how it will be used, and what changes will occur as a result (Druin, 1999; Druin et al., 2000; Ehn & Kyng, 1991; Ehn & Sjögren, 1986, 1991; Gruen, 2001; Muller, Wildman, and White, 1994; Sanders, 2000).

Beeson and Miskelly (1998, 2000) used hypermedia technologies to enable communities to tell their own stories, with the intention that "plurality, dissent, and moral space can be preserved" (Beeson & Miskelly, 2000, p. 1). They were concerned to allow multiple authors to re-use community materials selectively, telling different stories within a common context. The different accounts were organized according to themes, and laid out spatially on the image of a fictitious island for navigation by end-users.

A second line of practice and research has emphasized end-users telling their stories using a system of paper-and-pencil, card-like templates. The earliest version was the Collaborative Analysis of Requirements and Design (CARD) technique of Tudor, Muller, Dayton, and Root (1993), later developed into a more general tool in Muller et al. (1995b) and further refined in Muller (2001). Lafrenière (1996) developed a related practice, Collaborative Users' Task Analysis (CUTA), repairing some of the deficits of CARD for his settings. Tschudy, Dykstra-Erickson, and Holloway (1994) developed their own highly visual version, PictureCARD, for a setting in which they had no language in common with the users whose stories they wished to understand.

The card-based practices used pieces of cardboard about the size of playing cards. Each card represented a component of the user's work or life activities, including user interface events (i.e., screen shots), social events (conversations, meetings) and cognitive, motivational, and affective events (e.g., the application of skill, the formation of goals or strategies, surprises and breakdowns, evaluations of work practices). The cards were used by diverse teams in analysis, design, and evaluation of work and technology. Often, teams used the cards to prepare a kind of storyboard, narrating the flow of work and technology use and annotating or innovating cards to describe that work. The resulting posters formed narratives of the work that were demonstrated to be understandable to end-users, corporate officers, and software professionals, and which led to insights and decisions of large commercial value. Sanders (2000) has also used storyboard posters for a more impressionistic description of work.

Druin (1999; Druin et al., 2000) pursued a third line of storytelling research and practice, with children as design partners in a team that also included computer scientists,

graphic designers, and psychologists (for other participatory work with children, see Sanders, 2000; Sanders and Nutter, 1994). Their purpose was to envision new technologies and practices in children's use of computers and related devices. They used both on-line storyboarding techniques and the construction of prototypes of spaces in which the jointly-authored stories could be performed. This work kept everyone learning from everyone else – children learning about technologies and the storyboarding environment, adults learning about children's views and other adults' expertises, and everyone negotiating the meaning of new technological and narrative ideas, as well as their implementations.

Photographs

There are many ways to tell stories. One approach that has informed recent PD work is end-user photography. Patton (2000) notes that both (a) taking pictures and (b) organizing pictures into albums are, of course, familiar activities to most people in affluent countries. These activities allow end-users to enter into a kind of native ethnography, documenting their own lives. In keeping with the issues raised in the preceding "Stories" section, it is important that the informants themselves (the end-users) control both the camera and the selection of images (see Bolton, 1989, for a set of discussions of the uses and abuses of documentary photography). They thus become both authors and subjects of photographic accounts of their activities – providing the information and validating it at the same time.

In an exploration of products for mobile knowledge workers, Dandavate, Steiner, and William (2000) similarly asked their informants to take pictures as part of a documentation of the working lives. In their study, informants were also invited to construct collages of their working lives, selectively re-using the photographs (among other graphical items) in those collages. The collages were, in effect, one type of interpretation by the photographers of their own photographs. Similarly to Patton's work, Dandavate et al. asked their informants to go out of their conventional professional roles as office workers (but well within their roles as members of an affluent culture) in the activity of taking the photographs. Dandavate et al. asked their informants to go even further out of role, through the construction of the collages based on their photographs, and the interpretation of the collages. They concluded that the photographic work led to new learnings and understandings that had not been accessible through observational studies, as well as a stronger sense of ownership by their informants in the outcome of the study.

Noble and Robinson (2000) formed an alliance between an undergraduate design class at Massey University and a union of low-status service workers, developing photodocumentaries of service work. The photographs served as a kind boundary object (Star & Griesemer, 1989) – for the students, the photographs were composed artifacts of design, while for the union members, the photographs were common and casually-produced snapshots.

Discussions between union members and students were rich, conflicted, and productive, as they negotiated the status and meaning of these hybrid objects. Thus, like the other photographic methods, this work allowed users to act as both recorders and validators of their accounts.

Sanders has employed user-created collage in her participatory practice for a number of years (Sanders, 2000; see also Dandavate, Steiner, & William, 2000; Sanders and Branaghan, 1998; Sanders and Nutter, 1994). The choice of collage is of course strategic: Relatively few people make collages as part of their work activities, and relatively few people interpret their collages to one another as part of their work conversations. The novelty of the collage encourages the challenging of assumptions, and the interpretation and presentation of collages encourages mutual learning across the diversity of experiences and knowledges of the participants.

CONCLUSION

The strengths of these methods are that they support narrative – usually in several ways – and they support validation/verification by end-users. These methods can help us to ground our stories in the world of end-users, and can help us to keep our innovations faithful to that world and its members, while nonetheless supporting collaboration and creativity in the crafting of new stories.

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BIOGRAPHY

I have worked in research and design since the 1980s. I have contributed a number of methods (e.g., CARD, PICTIVE, participatory heuristic evaluation) through which end-users can tell and critique stories in a relatively democratic and egalitarian setting, while delivering practical, useful, and prompt outcomes to software professionals. These methods for analysis, design, and evaluation have been shown to provide value for commercially important products and services, in my own work and in product and research work on four continents. Examples of these scenarios are provided in the attached

CHI papers (Muller 1995, 2001; Muller and Carey, 2002). In total, I have collected nearly a hundred user scenarios, and I've designed and presented about thirty scenarios intended for software professionals, marketers, and/or executives.

I have also participated in scenario development for new products and future technology visions. Unfortunately for the purposes of this position paper, these scenarios are currently held confidential by IBM, and cannot be shared with the workshop.