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Supportive Resources: Mastering the Art of Making Sense

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ABSTRACT

This paper questions the nature of qualitative user studies as currently applied in the context of experience-centered design. We suggest that conceiving knowledge as if it were an entity that can be captured in some form and transferred unchanged oversimplifies the situation in the case of design, and, for the purpose of opening a dialogue on the topic is problematic. We put forward an alternative perspective, that of *supportive resources*, which go beyond social science-based approaches, such as user studies, to focus on the forming of knowledge by designers. *Supportive resources* are intended to *inspire*, but equally they are intended to help *frame*, *guide* and *support* the design process in a non-prescriptive way. Designers can apply them as needed to support existing approaches. In order to better describe *supportive resources* and their role in design, the authors present four examples from projects currently being undertaken by the authors; storytelling, language and touch, material knowledge, and video.

Author Keywords

User experience; story telling; design tools; language; video; materials; touch.

ACM Classification Keywords

General Terms

Human Factors; Design.

INTRODUCTION

Designers face a twofold issue when it comes to the use of qualitative user methods. Not only must they assemble background contextual material that can inform design, they must also interpret the findings from this material in ways that both inform and rationalize design choices.

This is complicated by that fact that contextual material is captured in a range of forms and media that cannot be directly translated for use in design, but rather must be interpreted and reinterpreted throughout design. Issues of this kind are closely linked to language and the activity of sense-making. Also, these issues are not restricted to a single phase of design, but arise in any situation where

design draws on external sources for understandings and inspiration. The material outcomes of qualitative user studies are only one of many assets a designer will base his/her design decisions on. Our research aims to increase a designer's opportunities for inspiration and for gaining insights throughout the design lifecycle. We are not simply concerned with helping designers identify, gather and manage 'concrete' contextual materials, but rather in providing designers with new opportunities for knowledge generation. We do this by readdressing what is, in design, a long-standing question; what do designers need? Expanding on the work of Woolrych et al. (2011), we propose *supportive resources*.

Our approach questions the efficacy of traditional social science-based, user-centered methods in design research. Furthermore, we are cautious about the use of terminology that tends to be associated with them, such as 'knowledge capture' and 'knowledge transfer'. While methods that claim to support design (e.g. qualitative user studies) have been systematically improved over the past four decades, many of them have also become prescriptive (prescribing rules or procedures that are considered "good" or correct). Use of these methods can give the false impression that if certain methods are used, certain outcomes can be expected: one only need apply it and, voilà. These approaches, we propose, do not adequately serve the needs of contemporary design work and will not support the kinds of challenges that design expects to face in the future.

We are affiliated with the *Making Sense Through Insights* theme in the School of Design at Northumbria University. As such, we adhere to a *Research for Design* approach that is focused on helping designers make sense of the communities they serve and the challenges they encounter by providing them with novel perspectives and worthwhile 'insights'. Our resources help to *inspire* novel and productive thinking during key design activities, such as *framing* (helping designers decide whom they are designing for and for what purpose), *guiding* (helping designers to navigate design situations), and *choice support* (providing designers with what they need to make informed choices). In the following section we present four research perspectives that provide an overview of *supportive resources*.

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SUPPORTIVE RESOURCES

Getting the Right Story and the Story Right

As design has focused on the complex challenge of understanding the "user", it has inherited another challenge, that of working with representations of users and experiences. Stories have emerged as one of the most effective forms of user and experience representation (Quesenbery & Brooks, 2010). Numerous storytelling methods and tools are available to designers, yet one of a designer's greatest challenges remains the ability to get the right story and the story right. The challenge includes: gaining understandings to inform choices about which stories to tell, choosing appropriate forms of representation, managing the evolution of stories (including evaluation of the effective transfer of value statements), and translating stories from one form or modality to another. A survey of the literature suggests that support for competencies in storytelling and story management lag behind support for methods and tools. Knowledge resources that can support designers in this area are needed.

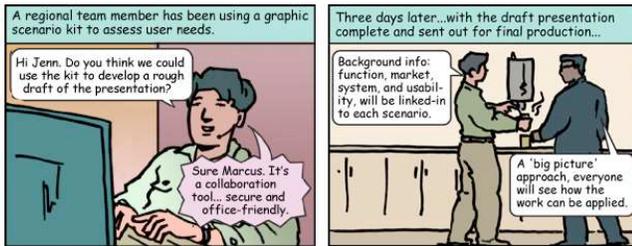


Figure 1. Naturalistic storyboards

An example of a situation in which these challenges become extreme is when textual scenarios are transcribed into 'naturalistic storyboards' (refer to Figure 1; a sequence of images with human participants that are 'akin to story-writing'; Kress & van Leeuwen, 2006: 62). The project aims to develop a set of storytelling knowledge resources that support designer's understandings of how story, narrative and scenarios work in design. The resources are envisioned as a loose collection of game-like activities that simulate design storytelling situations. It is proposed that this will facilitate informed choices and lead to more effective use of existing scenario-based approaches.

Increasing Designers' Expertise in Touch Through Language

In research on design and language, especially that in relation to touch, attention is generally focused on users rather than designers (e.g. Dagman, 2010), or seeks to *quantify* sensory responses to their work (Kansei Engineering, as described by Schütte; 2005). However, in apprentice-based learning (such as design studio education) language plays a key part in knowledge acquisition, acting as a means for novices to not only pick up the vocabulary of experts in situ, but also understand the means by which to evaluate their decisions (Seely Collins et al, 1991). In other

words, language is a tool for *informing* perception and spurring further action (Bardzell, 2010).

Why is there no generally accepted designers language relating to touch? In comparison, visuals and sound have generally accepted language systems. Music has a long-standing language system that supports notation, dissemination and knowledge composition. Visuals, while with a shorter history, have a stable language due to the Bauhaus, Gestalt psychology and semiotics. Part of the difficulty surrounding language and touch is its situatedness (see for example McCullough; 1998): touch, unlike other senses such as vision and sound, is personal and exploratory, and thus a less likely candidate for discussion.

This project therefore looks at the means with which to both collect and encourage a vocabulary relating to touch. By collecting the language of designers in various stages of their career and in different disciplines, it will help to create a framework with which designers can both acquire the vocabulary used by other experts and also understand how their use of language can help make more informed and reflexive design decisions.



Figure 2. Video showing descriptions of touch

These findings will also use video as a means of both collecting and disseminating information. In this aspect they will act as a decision-making resource, enabling designers to become more aware of the role of language without dictating the use of rigid dictionary terms.

Material Representations of Knowledge

Cultural probes (Gaver 1999) help researchers and designers identify 'what to design'. Cameras, postcards and maps are only one way to collect such open and unexpected data formats. One current project explores the use of materials for insight collection and representation, specifically looking at mobile device experience. People are encouraged to reflect on their experience by sewing their daily paths and device use with colored threads onto an

abstract map printed onto a handkerchief. The aim of the material (e.g. fabric, threads) is to more fully engage people, to make the recording tool portable and to raise the potential for collecting open, unexpected and surprising data. By making a physical artefact, our participants articulate and preserve their experience through an object.

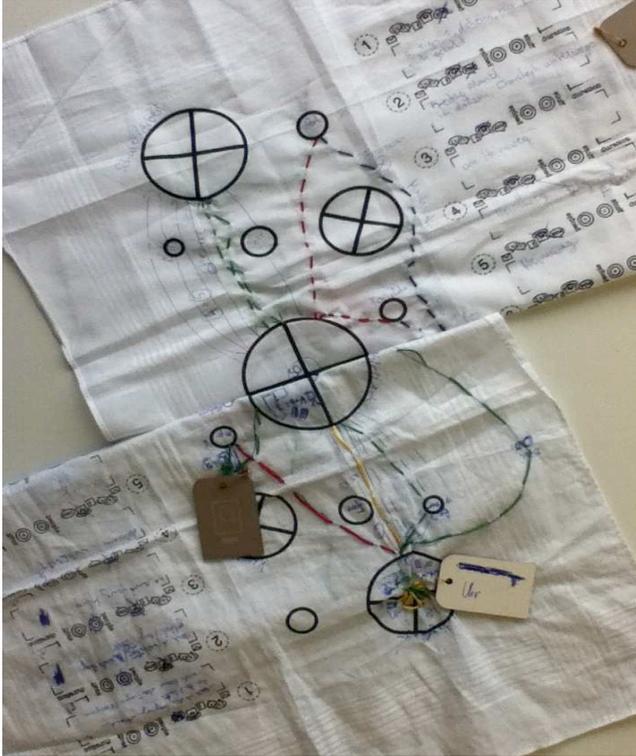


Figure 3: Handkerchiefs showing paths

The resulting ‘artefact’ is used as stimuli for experience accounts in interviews. The artefacts and experience accounts are then used in design meetings and the designers need to interpret the artefact, i.e. they need to make sense of it in order to identify design purposes rather than to respond to well-described problems. This, we believe, can be seen as a valuable aspect in design-centred user research.

Video as a Way of Representing Insights:

Within HCI, video is typically used for data collection, interpretation, evaluation, or to show fictional scenarios (Ylirisku and Buur, 2007). For an ongoing project located in the area of mobile interaction design we use video formats to communicate use and experience scenarios to designers. The videos were based on interview data and video is used as a sense-making tool to select foci, to explore the data and to depict context and experience (compare Saldaña, 2005 on Ethnodrama). The scenarios are acted out, recorded and displayed in short films. This contrasts with traditional text-based approaches, where analysis tries to describe phenomena and problems exhaustively and in a generalised way. By introducing this media in a novel way, we channel the designer’s attention

onto specific aspects in the data without losing the empathic qualities of personas or the power of scenarios to envision future opportunities.

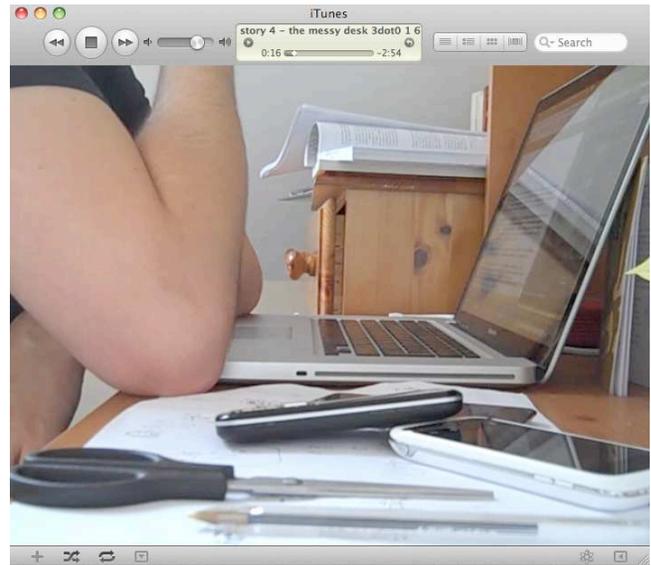


Figure 4: video showing device use

CONCLUSION AND DISCUSSION:

We challenge the notion that knowledge can be either “captured” or “transferred”, because it focuses only on the kind of knowledge can be physically and temporally located in external representations. This simplistic notion appears to go hand-in-hand with, and indeed underpin, the notion that the use of certain design methods can lead to a set of prescribed design outcomes. We propose that existing prescriptive-type design methods can be profitably supplemented and ‘softened’, i.e. applied in less rigid ways, by using loose collections of *supportive resources*. Our case studies illustrate how these resources work to *inspire, frame, guide, and support* design:

- *Getting the right story and the story right* is not straightforward. The problem extends beyond a focus on tools and methods, which have traditionally supported story crafting and communication rather than understandings about how stories work. Narrative-based knowledge resources will support designer’s understandings of how story, narrative and scenarios work. These can be applied as needed to gain insights, make informed choices, and ensure effective use.
- While designers may not realise it, there is a *language around touch*: becoming fluent in articulating these qualities can enable better work. Creating a means to capture, share, and built upon this language will help designers make better design decisions, and looking towards the future, be suitably equipped for the ‘anonymous materials’ of the future that do not fit our existing categories (Manzini, 1989).

- New ways of using *materials* in user centered research can open up new opportunities to collect, store, and represent experience. These knowledge resources can be used to communicate insights to design. As open and interpretive data they present an alternative to the formulation of problems and closed solution scenarios.
- *Video* formats function as a means to edit and process collected insights. They present them to designers in a condensed but accessible format. This resource helps to evoke design insights, from which design opportunities can be derived.

Resources are, by their nature, raw. It is for others to take them and shape them to their needs. By changing our focus from *methods* to *resources*, we support a new perspective on user centered design research. We anticipate that this will enable designers to not just follow prescriptive methods, but play with resources that support their practices throughout design.

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