

Present-ing the user: constructing the persona

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Abstract

During the last few years personas has become an established design technique within the IT-design field. Using personas has proven itself as a valuable approach for designers to switch between a developer's perspective and a user's perspective in the design process. The technique is claimed to help designers in keeping a clear focus and shaping a consistent user-interface by making 'the user' present in the design work. In this paper we report on a number of projects where we have elaborated on the persona approach for collaborative design. With the goal of creating 'user presence' in the design process, we have developed an approach building on a combination of ethnographic exploration, participatory inquiry, and collaborative design. This paper carries two interrelated points: the grounding of personas in existing practice; and the notion that 'the user' is created as an ongoing process throughout the design work.

Keywords: concept design, ethnography, interaction design, interdisciplinary design, participatory design, process improvement, user-centred design

1 Introduction

For a number of years we have been working with different ways of involving 'the user' in the design process. Taking a starting point in ethnographic field studies we have developed a user-centred design approach that uses established techniques, such as personas, to explore existing practices and with them as a starting point generate future visions. Coming from environments representing the Scandinavian IT-design tradition (Ehn 1988), it has been natural for our multidisciplinary research group to involve 'real' users in all projects. In exploring the use of ethnography in collaborative design we have found that 'the user' needs to be made present also in the design material. Whilst the persona approach often is used to replace the 'real' user, we have chosen to involve real users in the design process and use the personas as 'boundary objects' among other design materials that everyone taking part in the design process can make use of. Also, we have noted a need to make the user present throughout the design process.

2 Background

Often users are talked about as being 'represented' in the design process. In this paper we will make an argument for 'present-ing the user'—making the user present in the design process. The problem of representations has been debated extensively within the community of 'ethnography and design' (for an overview of this topic, see Plowman et al. 1995). The standpoint put

forward in this paper reflects the notion expressed in René Magritte's painting *C'est n'est pas une pipe* [*This is not a pipe*] (1928, County Museum of Art, Los Angeles). The painting is obviously not a pipe, but it is still a beautiful painting. The same goes for representations of 'the user', they are not (and should not be treated as) users. Instead they should be considered as means for changing perspectives during a design project. In the original notion of personas, as presented by Cooper (1999), they are rich but static descriptions of fictive users. Once they are established, the contents of their description is frozen. In contrast we have worked with a dynamic take on representing the user where we allow new information and different perspectives to enrich the user description as deeper knowledge of users and use contexts is developed in the design process.

2.1 Design worlds and user worlds

Several studies of the design process argue that designers construct their individual perspectives of the design situation at hand. Bucciarelli (1994) introduces the concept of object worlds to describe the set of elements in a design situation that the individual designer relates to in order to frame the design problem. It is necessary for each designer involved in the process to construct her object world for the design situation in order to apply her specialist skills. This is in line with Donald Schön's notion of 'design worlds' (Schön 1983). According to Schön, design worlds are constituted through design typification, where the application of design rules depend on familiarity with the types of elements perceived as present in the design situation. Sharock and Anderson (1994) describe how software developers make 'the user' present as a 'scenic feature'—a tool for the developer to change from a developer's perspective to a perspective of use. Referring to Schön, and his notion of design world construction, they argue that the user is introduced to design

through the use of typificatory structures. They point out that this simplistic way of bringing in a user perspective seems to work fine for the purpose of the designer.

Seen from within the activity of design, in the midst of exploring the design space, these structures enable designers to construct their design worlds.

(Sharock and Anderson 1994 18)

According to Sharock and Anderson (1994) the developers did not gain any new knowledge about 'the user's' everyday practice, something that might have been good, but they were able to explore what they did know and could establish a scenario of future use. In our view, this notion of a 'user world' being constructed through negotiation between a set of heterogeneous orientations brought in by different participants in the design process, seems to be a relevant perspective on how 'the user' is made present in the design process.

Our understanding of design and 'present-ing the user' in the process, takes as one starting point a constructivist perspective on understanding the design situation, in line with Schön (1983) and Bucciarelli (1994). Another starting point is to account for the ill-structured and dynamic nature of design problems as described by e.g. Rittel and Webber (1974) and Herbert Simon (1984). In their seminal paper, Rittel and Webber argue that numerous cases of failure in problem solving at a societal level (e.g. town planning) has made it clear that there is a class of problems where no rational methods apply. They describe ten properties of such ill-structured, or 'wicked', problems, of which two properties are particularly relevant for this discussion: the lack of a definitive description of the problem and the fact that there is no logical solution to a wicked problem (the problem depends on the solution and the space of possible solutions is basically unlimited). The information needed to understand the problem is dependent upon the current

construction of the design world. Each question that we put forward in search of more information is dependent of our understanding of the problem and its possible solutions at the point in time when the questions is formulated. In order to predict the necessary information all possible solutions must be known—an impossible task. Therefore, the formulation of a wicked problem is the problem.

Also, according to Rittel and Webber (1974), the process of problem solving and problem understanding are the same. Since there are no criteria for deciding when enough information has been collected, the problem solving process does not terminate for reasons inherent in the logic of the problem, but simply when we run out of resources. This applies to seeing ‘the user’ as an integral aspect of the design process. Therefore, in our view, any description of ‘the user world’ is inherently open for negotiation, just as any other aspect of the design situation. Constructing ‘the user’ is an on-going part of the design process, and personas must be regarded as open-ended descriptions of ‘the user’ that are constantly re-negotiated throughout the design process as further knowledge of the design situation is developed.

2.2 Personas

The inmates are running the asylum by Alan Cooper (1999) has been a barrier breaker, making the ‘persona for design’ known to industry. Within the academic community several authors have presented their use of personas in a user-centred design process. Grudin and Pruitt (2002) highlight the benefits of gaining insight into social and political aspects through personas. Real users are complex, and inconsistent in their wishes, whereas personas are well defined and clear and therefore better suited as a starting point for design work. The academic discussion about personas has to a large degree been about how engaging the personas are.

Djajadiningrat et al. (2000) argue for ‘extreme characters’ where personas

try to expose those emotions and character traits which remain hidden in scenarios for supposedly real-life characters because they are incorrect or embarrassing.

(Djajadiningrat et al. 2000 71)

In the same vein, Nielsen (2002) argues that personas, as described by Cooper (1999), are too ‘flat’ to engage designers. With examples from movie manuscripts she suggests the development of characters with richer personalities and better descriptions.

3 Our approach

The projects presented in this paper all have in common that they strive to go beyond desktop computing. The focus has been on designing for ubiquitous computing environments where users are not immersed by technology. Rather they are allowed to experience technology alongside other elements in the environment. This brings forward new aspects to be considered in the design process, which in turn led us to develop new approaches to making ‘the users’ present. The perspective presented here, using personas for ‘present-ing the user’ to gain a personalised image to work with, is relevant from a descriptive ethnographic perspective as well as from a collaborative design perspective.

Our understanding of design is very much a continuation of Donald Schön’s writings (1983). The designers need to go in dialogue with the design situation. Designing for user-experiences is difficult since the experiences do not yet exist. The design situation is therefore only partly known, which means that we have to invent (envision) how it possibly can be (different from today). We have experienced that the envisioning work benefits from being organised as collaborative activities where competencies and experiences are mixed. The collaboration gives a larger base for creating possible futures. We usually

organise a collaborative design workshop, or series of workshops, with many stakeholders. A challenge in collaborative design is to organise the work so that it becomes meaningful to all participants (Ehn 1988). One of the starting points for the design work is what we term ‘design material’. Design material can function as boundary objects for design groups (place holders for design ideas, opinions, and discussions; see Star (1989) for an elaborated description) as well as making knowledge about the design situation present. The design material can be ethnographic material, probing material, or mock-ups. The different kinds of design material we have been using all have in common that they are grounded in existing practices and based on engagement with the domain we are designing for. Personas are typically based on interpretations of interviews, surveys or studies; here we rather suggest that the interpretation process becomes part of the design process. Within the CSCW-tradition the question of how to let ethnography inform design has been an ongoing debate during the last two decades. The research presented in this area has with few exceptions been about providing descriptions of how work is done. For example Crabtree (2001) uses his ethnographic descriptions to inform design and see “what action should be taken in light of them” (Crabtree 2001 218). He is assuming an ongoing design process that is ‘interrupted’ with things to consider.

In contrast to both CSCW-projects and persona-use we put emphasis on the participatory inquiry and the exploration that design work requires. When we are working with future scenarios we need to inhabit the world we are designing for, which is where ‘the user’ needs to be present. Like Cooper (1999) we strive for believable characters, but we also want them to be well grounded in existing practices. In the design sessions we typically start out by looking at video snippets selected from an ethnographic field

study, and we immediately start building our future scenarios from the snippets we see. The short video snippets are used as building blocks for future visions. We prefer to work in mixed design groups with people from industry, researchers and ‘the users’ working collaboratively to envision what can be desirable possible futures (Johansson 2003). This connects back to the discussion of representations. In the design sessions described here the problem is not how true the inhabitants are, but their usefulness.

Models are then seen as interpretations, as constructions, which for some purposes, under certain conditions, used by certain people, in certain situations may be found useful, not true or false.

(Robinson and Bannon 1991)

‘The present-ed users’ are useful when they are generative, as are any models. The problem is that the models need to be complex enough to meet the continuously changing design process. ‘The present-ed users’ we work with are examples of who the future ‘users’ might be. ‘The present-ed users’ are based on ‘real people’, but in the design process they get simplified in relation to ‘the real people’. Robinson and Bannon continue:

We thus see the modelling process as one of reframing rather than describing or abstracting.

(Robinson and Bannon 1991)

Reframing is a key word: when we let the design workshop participants participate in the construction of ‘the present-ed user’ they reframe the design situation.

3.1 Ethnographic descriptions

The question of how ethnography best informs design has been discussed extensively during the last two decades (for an overview see Plowman et al. 1995). The approach presented here relates to the CSCW fraction that has turned to PD to establish the ethnography-design relation (for example, Blomberg et al. 1996 and Crabtree 2001). Within the field

of IT-design a number of ‘techniques’ for utilising ethnography have been presented (for example Kensing et al. 1998) but, as Crabtree notes:

The problem in this is that the instances—descriptions of work—do not ‘speak’ to design.

(Crabtree 2001 218)

Strong arguments for the role of ethnography in design have been put forward. When different approaches meet, adjustments have to be made, to make them strive towards the same goal. Unfortunately, it seems that some ethnographers hold ethnography as sacred, and the designers have been unwilling to change their practice. Crabtree (2001) is one of the voices that have been able to take the ethnography–design relation a step further. He uses himself as a mediator taking part in the design work. Whenever he finds it relevant during the design process he tells stories from what he has seen in his study:

What they [descriptions of work] mean to design—what action should be taken in light of them—has to be established by the ethnographer(s) and designer(s) together.

(Crabtree 2001 218)

The approach presented here is perhaps more radical in the sense that it runs a more interweaved process. It takes a starting point in ethnographic fragments when constructing design ideas, and let these fragments invite participants in the design process to reflect on present practices and future possibilities. When one looks at ethnographic video it is sometimes hard to envision how things could be different, possibly due to the sequential character a video has. People (work practitioners) are excellent in making things look straight-forward even when they are doing workarounds. In observing an experienced practitioner there is a flow in the work that makes it look simple and evident. Watching long sequences of video material in a design workshop can be frustrating since it does not offer many openings for outsiders to see how it could be different.

In the workshops we have arranged, the participants have been invited to build the future, with the restriction of using building blocks gathered either from a field study or from the results of our (sometimes provocative) inquiry actions. Building with this kind of material means having to construct your own meaning for each piece and, almost without exceptions, having to describe your interpretations to your fellow designers. Thus, the design material becomes a base for constructing arguments for design moves and design decisions.

4 Examples

In several projects we have been working with ‘present-ing the user’ (Nilsson et al. 1999, Johansson et al. 2002, Messeter et al. 2004, Brandt and Messeter 2004). In exploring ways of utilising ethnography in design we became inspired by the work done on personas. Our entering point has not been to create personas in Cooper’s (1999) sense, but to ground design in actual practices from a design point of view. In this section we will highlight two ideas of making the user present in the design process. The first idea we call ‘pixi-books’—portraits of potential future users with a special twist. The second idea builds on a development of a design game where the aim of the game is to explore the user.

The material used in both approaches is based on selected fragments from field studies. The pixi-books are collections of still photos and statements from the people followed, and the portrait game is based on video snippets selected to describe everyday activities. The selection is in both cases made by us as researchers. Inspired by Buur et al. we have strived to find episodes that do not go

into personal matters, but simply sought to capture the landscape, the places, and the kind of awareness that seemed to be associated with being there.

Buur et al. (2000)

We also tried to capture how the persons we followed felt about what they did. In order to create a material of this kind we have deliberately chosen to bring a design perspective into the field study, trying to see future possibilities as we ask the people we follow to describe what they are doing. This is a way to make the field material more easily accessible for designers.

4.1 Pixi-books

In a project dealing with automated process plants, we worked together with process operators to explore possibilities with mobile technology in process control. The industrial sites we ventured into were: a number of wastewater treatment plants; a sugar refinement plant; and a chemical plant producing paint products. The original pixi-book is a children's book with a very short story and a single sentence per page. We brought our version of pixi-books into workshops with designers from process control equipment manufacturers to provide portraits of the users. We had prepared five pixi-books, each containing a portrait of a process operator, based on video material from a few short field studies. Each book is 8–10 pages long. Each page has a picture selected from ethnographic video material and a short statement of the person taken from the scene represented by the picture. Typically the statements captured are answers from users to questions like 'what are you doing now?'. For example, one answer was: "Some problems are too small to be detected by the system" (so they look into tubes and tanks).

The idea with the pixi-books is that they should portray 'complex' users. They provide enough to make sense of the user but they do not include any data sheet with personal details, etc. In a critique of the persona approach, Nielsen (2002) has recently pointed out the risk of making characters that are 'too flat'. Portraits need to be engaging,

and evoke feelings and thoughts about the user. According to Nielsen an expression like 'she smiles' is more evocative than 'she feels happy' when describing a character. In producing the pixi-books we tried to select what we saw as key statements from the people in describing their everyday life. It was typically 'on-liners' that carried crucial information in a single sentence. During a day of field study we typically found 10 or 20 occurrences that qualified as key statements. We then selected the ones that seemed most evocative in understanding the people for the pixi-books. In some cases we rephrased the quotes to make them more evocative.

In using the pixi-books during the workshop we could observe that the participants started to focus on how it would be to work in the plants:

—It is interesting to study them as we see them here. If they are images with atmosphere, it is fun to see how he appears in that situation. Or is he comfortable in other situations. Is he smiling? Is it good, is he focused, or he just can't stand it.

In trying to make sense of one pixi-book there is some uncertainty, but it has something to do with the atmosphere. Next the designer brings up the expressions they can identify, and raises the question of how the process worker feels about his occupation. In a previous workshop with process operators the theme 'meetings on the plant' had emerged, and in this workshop the assignment was set up to probe deeper into meetings. In the workshop the participants had several different kinds of design material to work with; some focused on activities, others on places, with the pixi-books focusing on people. One of the participants looking in a pixi-book felt resistance from the material. He stopped and reflected:

—I am sitting here thinking ...One can almost not... when one starts to investigate where people meet... Isn't it possible to turn

Figure 1.
Four of the
pages from
one of the
pixi-books.



it around entirely? One walks a long way, another walks equally long to meet the first one. Maybe we should use a computer as well. But can't this be done at a distance—can't it be done from home? In addition we have these personal issues to consider. What do I find good/nice? And maybe it is the change of air that is good, I could perhaps do something with a remote control from my chair. But getting out of the office and see some new things, feel another temperature and get some fresh air...stretching ones legs for a minute.

In this short statement a design principle is getting formulated. It is not what is possible with the technology that is the challenge, but how to make the work enjoyable. The pixi-books are portraits that are intended for designers to see the human side of practices. The pixi-books have the strength of letting the people in the design group make up their own minds of the person they are designing for by presenting contextualized statements and leaving the interpretation to the designers.

4.2 The portrait game

Through the course of a number of projects we have also developed a number of design games as part of our approach to collaborative design. Using games in design is not new. Habraken and Gross (1987) developed a number of 'concept design games' that were used as a tool for research in the design of built environments with the aim of improving the design communities working on buildings and urban environments. Games have also been used in concrete participatory design projects. As one of the pioneering examples in the Scandinavian vein of participatory design, Ehn and Sjögren (1991) describe how they supported participation in change processes in carpentry and newspaper production. While Habraken and Gross (1987) have used design games as a means for learning about design as a social activity, we use games in real-life projects as a means of supporting collaborative design work. In early participatory design projects, like the one described by Ehn and Sjögren (1991), the focus has been the empowerment of workers. Today, in many cases, IT product development

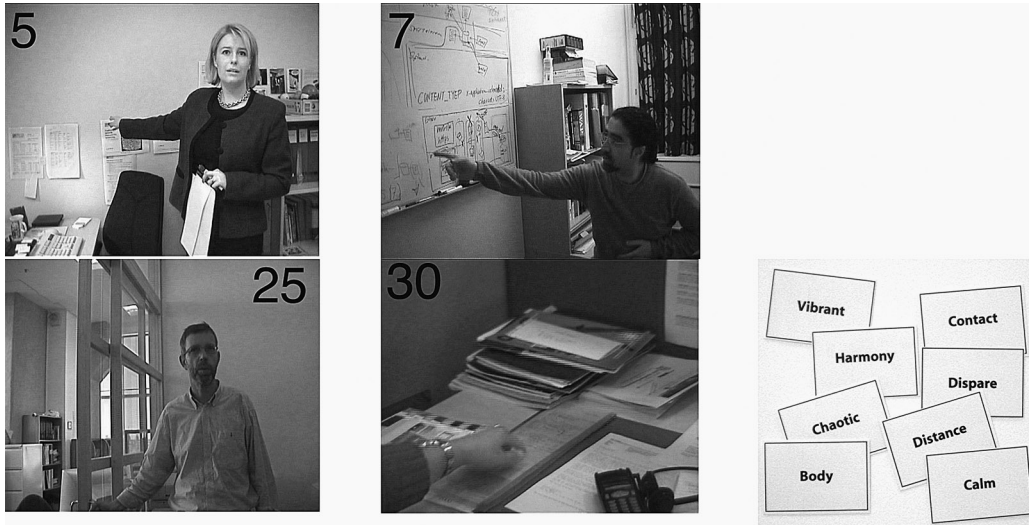


Figure 2.
Four 'moment-cards' (left) and 'sign-cards' (right).

involves several stakeholders apart from users. Our focus is therefore broader. The overall aim of the design games presented here is to help facilitate a user-centred design process for cross-disciplinary design groups in the design process. Framing collaborative design activities in a game format arguably improves idea generation and communication between stakeholders. By shifting focus to the game, power relations and other factors that might hamper idea generation are downplayed.

Here we present one of the games developed, the portrait game, as part of our approach to an active and dynamic construction of the user in collaborative design. For a description of the complete set of games see Brandt and Messeter (2004). The intention of the portrait game is to help the stakeholders involved develop, negotiate and express a shared image of the intended users grounded in field data. During the course of the game the image develops through the collaborative creation of a web of interrelated stories about the user. The material in the portrait game is based on video material from ethnographically inspired field studies.

The game material consists of two types of game pieces: 'moment-cards' and

'sign-cards' (see Figure 2). The moment-cards are numbered plastic cards linked to a short video snippet of 30 seconds to two minutes from video material gathered during a study. Our work with these kinds of cards is inspired by the 'video card games' developed and described by Buur and Søndergaard (2000). We avoid putting names or labels on the clips, as we believe this could spur associations forcing specific interpretations onto the game. We have put some effort into making the video clips easily accessible for the players of the game. RFID-tags was used to associate each card with a digitised video sequence, and by holding the card next to a RFID-tag reader the corresponding video was played back (Sokoler et al. 2002). The number of moment-cards should be small enough to be manageable but large enough not to be constraining. In our projects we have normally used between 20 and 40 cards.

The sign-cards are used to label the stories created. We have provided a general set of 30 sign-cards, each with a word printed. Examples of words in the general set include: 'despair', 'pace', 'vibrant', 'closeness' and 'zones'. However, the purpose of the sign-cards is to provide a conceptual framework



Figure 3. In 'the portrait game' participants create a shared image of a user.

for the stories. Therefore, depending on the project, different sets of concepts or words can be entered into the game as sign-cards. For example, in one project the client introduced a set of keywords for future trends they were interested in, which were transformed to sign-cards.

The portrait game is best played with the players gathered around a flat surface as 'game board', e.g. a table. The moment-cards are either dealt to the players as an ordinary deck of cards, or simply spread out on the surface. In the first case, the player to start the game receives five extra cards. The players can choose to either watch all the videos first to get an impression of the field material or they can begin to play and watch the videos as they go along. The first player constructs a story using at least five cards of the ones available. When the first player has decided on a story, the corresponding cards are laid out horizontally on the game board and the story is presented. The next player chooses two to four moment-cards that make up a second story and one sign-card as a label for

the story. The new story is added to the first one by placing the sequence of cards on the game board so that it crosses the first one. The card at the intersection must be part of the story. This way each subsequent story will share one card with the previous story, and gradually a crossword-like structure will emerge on the game board (see Figure 3). Several rounds are played until the participants agree that new stories do not add new information, and the image of the user created is 'saturated'. At this point, the players summarise the image they created of the user as a short story in text or as a list of keywords. The image of the user can then be used in scenario creation later in the design process.

Playing with different stories about a user by combining sequences of video cards helps participants create a shared image of the user. Furthermore, the story creation encourages participants to probe deeper into the user world, finding new issues to address in design. The game pieces, or props, allow stakeholders to become more fluent in the language of expressing design moves. The activities somewhat resemble the sketching of architects. Having objects at hand to play with is important as it speeds up the process and helps participants to focus. As design material, game pieces and props create a common ground that everybody can relate to and at the same time they act as 'things-to-think-with' (Papert 1980, Kafai and Resnick 1996). They function both as a way of keeping reference to the practice in the design work and as boundary objects (Star 1989) allowing different participants to read and interpret the material differently. A crucial property of game pieces is that they are rich enough in content to span the gap between different understandings and/or interests of different stakeholders. The participants collaboratively control what is allowed in the story building, providing a relevance check on each design move.

We decided early to work with the notion of design games as a means of structuring concept design activities. Using the design game format provides a structure for creating portraits, it is an internalisation process where ‘who the user is’ needs to be explored, viewpoints need to be negotiated and the players will experience what makes the user who s/he is. The gaming format supports temporary shifts in focus on different aspects of designing. Earlier studies in creativity (Finke et al. 1992) have showed that heavy restrictions on idea generation activities actually can improve the outcome. In our trial sessions the rules of the design games seem to play such a positive role of restriction. For instance, in the portrait game producing a story with the restrictions of using the video cards at hand that fit into the current ‘crossword’ of the game seems to be an easier task for the player than openly generating use stories firmly grounded in ethnographic field data with the main goal of producing good design. By entering into the game the participants also agree to play by the rules of the game (if rules are to be changed this has to be negotiated). Arguably, this plays down external factors like power relations between participants or conflicts in organisations. According to Burns et al., games may smooth collaboration in design by making it more independent on credentials:

in this context, members of the design team are removed from their common views and might contribute less self-consciously.
(Burns et al. 1997 1)

Thus, structuring design activities around games is one important driving force in the process of constructing the user.

5 Discussion: a continuous re-construction of ‘the user’

The examples presented from our workshops illustrate a number of issues

relating to the construction of users. In the first example, we had constructed ‘the users’ with each pixi-book describing a ‘real’ process worker, but leaving much of the interpretation of this description up to the workshop participants. In the second example we let the workshop participants construct ‘the users’ with ‘set pieces’, building stories using fragments from different ‘real’ people. In this paper we argue for a process of continuous re-construction of ‘the user’. The design leap from existing practices to new ones is seen as an ongoing process. The ‘playing around with the truth’ (quote borrowed from Gaver et al. 1999) is made possible because it is understood that the scenario being created is fictive. The question ‘what if?’ can be imposed on ‘what is’. The scenario can be seen as a ‘lab’ where it is possible to experiment with ‘what is’. A point stressed both by Cooper (1999) and Grudin and Pruitt (2002) is the dissemination of knowledge about the personas. Cooper’s personas

are so important that we cram them down everyone’s throat.
(Cooper 1999 138)

Grudin and Pruitt have

created many variations of posters, flyers, handouts and giveaways (e.g., squeeze toys-with persona images and information)
(Grudin and Pruitt 2002 148)

to communicate the personas to the design team. However, to us these approaches seem to be fixating the personas, not leaving much room for exploration of who the personas might be in different contexts. Design and exploration are closely connected. Designing requires understanding, and to understand a practice one have to be able to see how it could be different (design). Continuously constructed personas allow ‘the user’ to become an entity of its own right in design worlds.

6 Conclusion

When we wanted to design ubiquitous computing environments a need for new ways to establish a relation to ‘the user’ became apparent. We had good experiences with the use of ethnographic field material in collaborative design sessions, and wanted to continue on that track. We were convinced that the grounding in existing practices is essential, but we also recognised a need for ‘playing around with the truth’ in order to create something different from ‘what is’. From a design point of view, the use of personas as described by Cooper (1999) and Grudin and Pruitt (2002) introduce the same problem as in using work descriptions to let ethnography inform design. The descriptions (of work or personas) are not engaging for the design team. A persona is not something that can be placed on the designer’s desk to make the user present in the design work. The design work includes inquiries and it seems reasonable to let this be the driving force. Making ‘the user’ present in the object/design world of designers requires that ‘the user’ has something to offer as input to the design process—may it be ‘data’, ‘inspiration’ or ‘creative resistance’. Instead of treating ethnographic exploration as a separate activity feeding the design process it becomes an integrated part of concept development. We have created a set of materials that allow us to continue to explore ‘the user’. Instead of freezing the persona, we continue to broaden and enrich our understanding of the user through design moves where early concepts, ideas and mock-ups work as probes. To us, working with fragments as building blocks to construct ‘the user’ has evident advantages. The characters are believable since they are built with material from an ethnographic study. While some researchers have experienced problems with designers’ engagement in personas we have only seen examples of the opposite with this approach. Our experience tells us that as

the framing of the user evolves, a platform emerges where a number of concepts and ideas can be generated. In our future work we will continue to explore and develop techniques for ‘present-ing the user’.

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