lecture notes for method

Observation & Invention

Konrad Tollmar,
Interactive Institute

... is a creative tool that highlight the value of interdisciplinary design teams. Different use of media that keep a record of the design process ensures rich preconceptionally findings that engage the whole group. Important is to capture early observations of real users in real contexts. Based on presents observations future characters and scenarios are formed that will move the stage to a future use of a virtual system. Finally the method outline how to unify a conceptual model, with corresponding representations and artefacts.

Introduction

Through numerous of examples has it been shown that traditional design methods for software engineering are not sufficient when it come to design new smart everyday technology. Traditional design methods neither fully understand nor capture the needs and the situated use of everyday technology.

Hence has it been proposed that their exist an emergent need for new design approaches. “Envisioning Design” is an example of such initiative. By using non-standard forms of representations its possible to provide a holistic and contextualized view of the design space.

“Human-centred design” is an other design approach that highlights that traditional requirement specification pays insufficient attention to the social context of technology. The only way to avoid this is by put the intended user, and his / her social context in the very focus through the whole design process.

A third strand of new design approaches could be found in the area of “Software Design”. Software design is coming from a new understanding of everyday use and experience of software. We have moved our relation to software from use and interaction to inhabitation of software. This happens mainly through all new interfaces, new devices, that start to inhabit our everyday lives, such as, e.g., ubiquitous computing, software agents, PDA’s, wearables etc. Parts of the equation is to shift the understanding of the rational use through cognitive models to understand how his new technologies inhabit out lives from the sensual and the emotional responses. Something I would like to refer to as the quality of the user experience.

What is Observation&Invention?

Observation and Invention is a creative tool, a design method, that embeds all three of these design approaches. The core idea in the method is to view the design as an interdisciplinary design endeavour that use different kind of media and representations to keep a rich record of the design process.

Important is to capture early observations of real users in real contexts. Based on presents observations future characters and scenarios are formed that will move the stage to a future use of a virtual system. Finally a metaphoric exercise aid to construct a unified conceptual model, corresponding representations and artefacts.

Observation and Invention is a design method that is suitable to a broad range of product and concept development projects in the area of consumer electronics, transportation and telecommunication.

This design experience...

Imagen that you have been hired by XYZ Inc. to develop a new concept. Your first task is to explore the feasibility to use and accept a given concept within a user community. In a second step should you apply the observations to fictive scenarios and characters that move the design ideas from the past to future innovations.

Presentation of your design is preformed in a short oral represenations as well as in a written design report. In the oral represenations should you focus on the first step – the observations. This take place the 27th of Nov. The design report should cover the first three steps of the design process and drawn in conclusion a set of general guidelines for the given product. The design report should be written and posted to konrad.tollmar@interactiveinstitute.se, before Dec 4th (as an acrobat file or a web-link).

Observation

We start the process of invention at the place we aim to end - with the real people that might use our technology. By observe potential customers interacting with current products we form a basic understanding of how technology is used in situations. Observations bridge hence the gulf between cultures, since;

- Its hard to start work without preconceptions
- Observation help to gain an understanding of real users, and real tasks, set in real contexts
- Lays the foundation for scenarios
- The diversity always surprice

How can Observation go wrong?

However dispute the informal nature of observation we need to plan carefully how to make these observations. There are several reasons why observation could go wrong, e.g.

- Friends and relatives are convenient but biased and sometime misrepresentative,
- The user group is wider that ”end users”, e.g. service and customer service.
- Ideas hatch down very early

We should avoid these traps by ensure that we; access to the right people,

make early observation, seek for consistency and plugging gaps between observations.

Reporting observations

Observations are wortless if you cant communicate your findings. Expressive media could be effective to create affective communication, eg pictures showing users in real context are useful cues. The nature of observations make them also more valuable if representation of the user is made directly without biased editing. One approach is to identify key themes and make the designers voice well and clear separated from users comments.

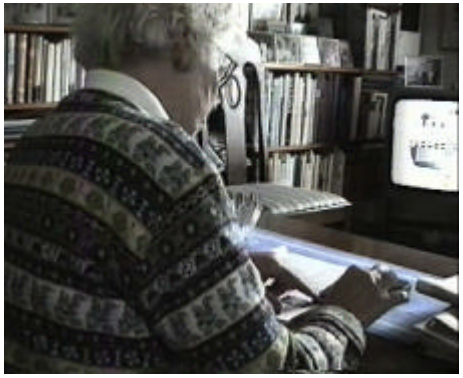
Exercise 1

You have been hired by XYZ Inc. to explore the feasibility to develop a concept for the given artifact.

1, Form a group.
2, Make an observation plan, what to observ and how.
3, Make your observation, use sketches, and video, to record your findings. Be aware of the situiated context.
4, Make a observation summary.
5, Prepare a 3min oral presentation of your observations.

Exercise 2

Perform the observations at Östergård as outlined in a separate document



ToDO

- Get familiar with existing research.

- After your initial briefing draw up a chart of potential users.
- Plan to perform observation across the chart to build up a picture of use of the product and the interaction between people and the environment surrounding it.

- Always keep a record of when information was gathered.
- Observe outside your own environment.
- Observe early with an open mind.
- Consider all your observations together, checking for inconsistencies and gaps

- Compile still pictures by quotations from users, maybe backed by video recording.
- Always make an observation reflection before proceeding with design work.
- Prepare material to be easily present in a workshop session.
- Keep observation material to later use in a design report.

Characters - Design for who?

- Designers are often surprised by ways in which people use products in real life.
- Choose sample characters who represent an envelope of relevance for the design of our product.

Exercise 3 – Characters

1, List possible functions that elderly might would like to carry out themselves.
2, Create four different characters to span the range of elderly people.
3, Cartoon each character, and list their personal characteristics. Identify the functions which will capture the most important distinctions among the characters.

ToDo

- Create characters and give them attributes both personal and such that have an impact how they might use the product.
- Create characters maps and situation sampling maps.
- Get into the character by sketch a drawing, or ”be” the character for some time.

Character map	*Olle*	*Anna*	*Åke*	*Margareta*
Location	Västerås	Vagnhärad	Uppsala	Västervik + Costa del Sol
Age	10	35	55	70
Relation	Mother in Sthm	Father close	Doughter in Linköping	Son in Göteborg
Fam situation	Single father	Married+3ch	Married	Widow + 3 adult ch
Personality	Sport	Antroposof	Reading	Social

Scenarios

Scenarios will move from the past to the future in a way that will guess wisely about the changes in peoples behavior and preferences. Scenarios help us to look at changes in context, and the invention of specific characters for the scenarios keeps us connected to a range of users and preferences.
We populate a map of users and contexts. As we develop the attribute of the characters, we hope to see them taking over and ”running the scenarios” themselves, like renegade characters in a novel.

What are Scenarios?

- Fictional stories with characters, events, products and environments.
- Include a visual element, they are the vehicle for expressing visual design ideas and interactions between people and things.
- Put us in another persons shoes.
- Storytelling is an engaging way of focusing on user needs and system issues.

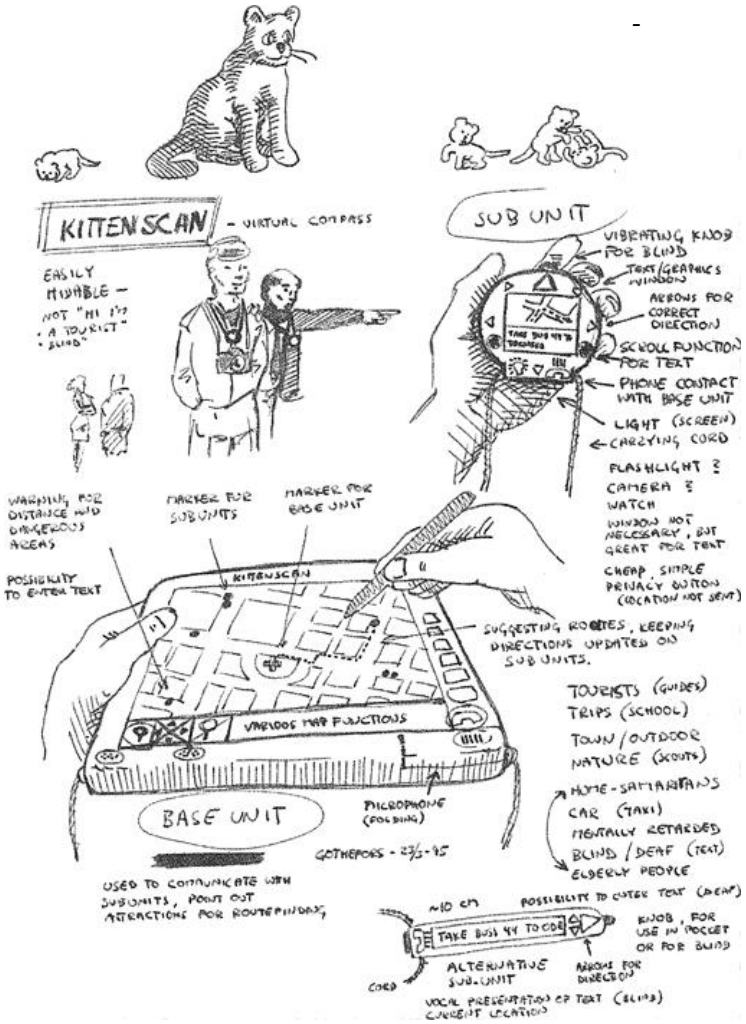
Levels of Interaction

- Scenarios makes us think about many levels of interaction at once.
- Scenarios embody information about the environment, person, and details of screen and input devices as well as other objects and activities happening.
- They reflect the complexity of the real-world interactions with things.
- Snapshots and storyboards are two different kinds of exploration.

Exercise 3 – Scenarios

1, Write a three-step scenario for one of the four characters
a, What is the situation that motivates the need for a particular function?
b, How do they access that function?
c, What satisfaction do they have from using that specific function?

2, Sketch a short three-panel storyboard illustrating one of your scenarios. Do also elaborate on a specific interaction style such as, e.g., touch or voice.



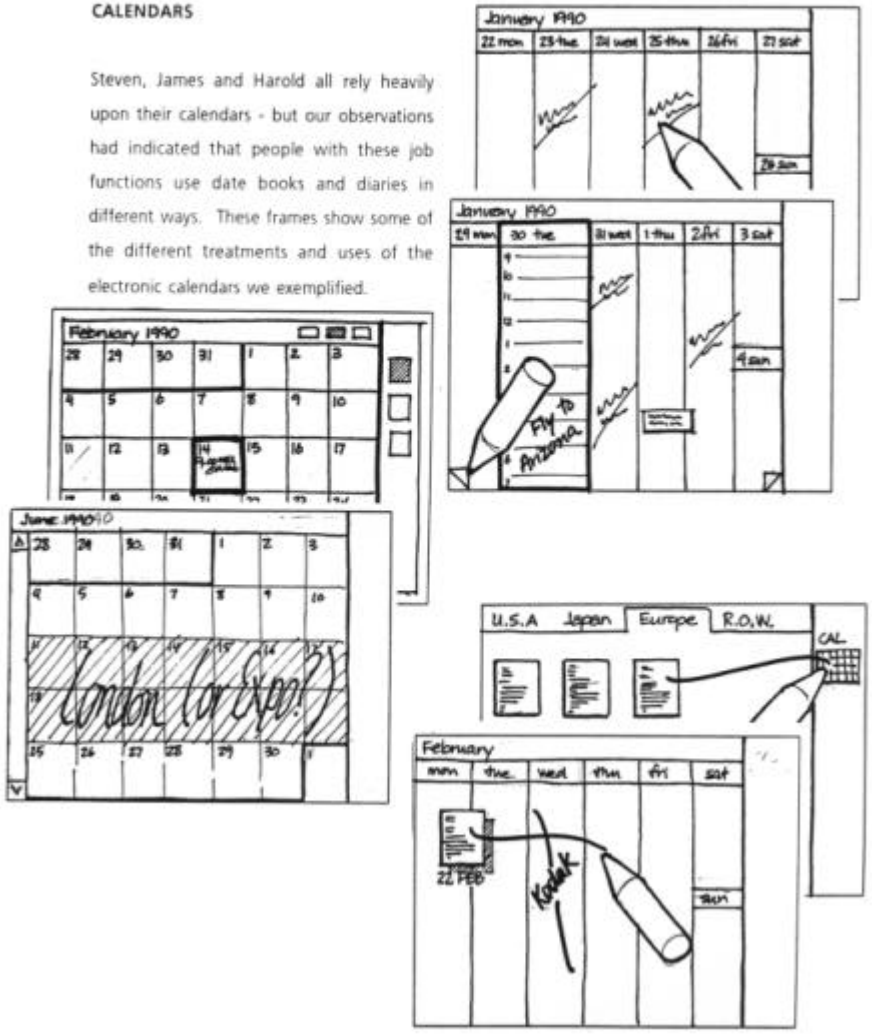
ToDo

- Use multiple scenarios to explore different visions of the future.
- Use some identifying events, activities or designs so it is possible to compare alternatives.
- A useful scenario model are a to make ”A day in the life...”.
- Keep the social and physical setting in mind
- Use Key themes

SESSION 3
SCENARIOS

CALENDARS

Steven, James and Harold all rely heavily upon their calendars - but our observations had indicated that people with these job functions use date books and diaries in different ways. These frames show some of the different treatments and uses of the electronic calendars we exemplified.



SESSION 3
SCENARIOS

KEEPING TRACK OF BLOOD SAMPLES

Identify donor aliquots

(One of the following situations is assumed:

- *The patient's blood type is known.*
- *A quick type can be done on the patient's blood.*
- *Type and screen has been done on a previous run of the BBS and crossmatch is done on a separate run.)*

If necessary, the tech retrieves donor units from refrigerated storage.

For every donor unit, the tech performs the following tasks:

- Writes the donor number on the requisition.

- Takes a set of identical labels from a sheet and applies one to the requisition and another to a clean sample tube. A third label is placed with the donor unit.

- Places a special insert in the tube and places it in a rack.

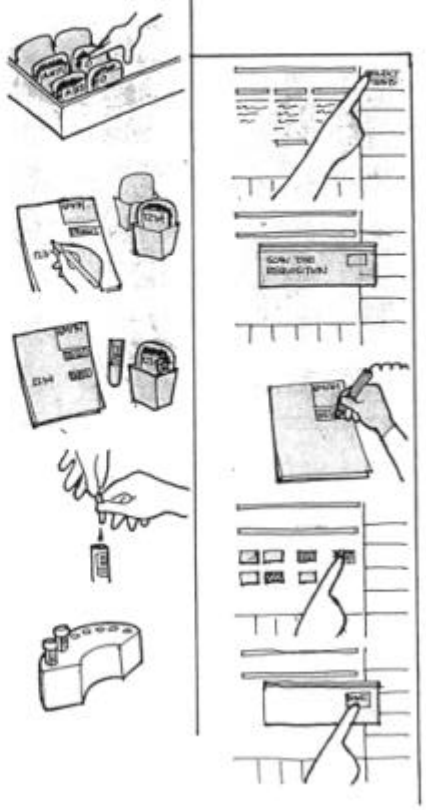
- Removes a segment from the donor unit and empties it into the labelled tube.

- Seals the tube and puts it in the sector beside the sample tube.

This procedure is repeated for all of the donor units.

The technologist sets the requisition aside and repeats the procedure for all of the samples.

All of the scanned donor units are returned to the refrigerator but are placed in a separate area.



Invention

We are searching for artistic expressions that link smart technology with perceptual experience and semiotic messages. There is a great need in the digital technical world to develop "REAL" physical solutions that express virtual experiences. Industrial Designers have a unique training in bringing conceptual (virtual) ideas into the concrete world.

MAKE IT PHYSICAL and PERCEPTUAL !

Exercise 4 – Digital Formgiving

Developing 3-D sketches/ models that explores concrete form/spatial/texture solutions.

Explore different esthetical attributes that can provide a foundation for an overall gestalt.

In the spirit of this project we would like to stimulate solutions that bridge over generations and challenge our esthetical frame of reference and our imagination.

ToDo

We hope to inspire a great deal of experimentation which means that each group will approach the project in a unique way with varying degrees of emphasis on exploring:

- materials and shape
- semiotics and concept
- user needs and fantasies
- artistic interpretations