State of the art

The project started with gathering, combining, and confronting existing tricks, guidelines, examples, and theories.

The contextmapping team, designers from Philips Design, a guest from RCA London, and the students all informed about what they knew, and shared what had inspired them.

After the founding theory (section 2), groups of student focused each on an aspect, sought for new literature and examples, and presented their findings (section 3).

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title

Communicating experiences

a picture is worth a thousand words and vice versa

intro

Communicating experiences to design teams is a complex balancing act. The design team wants to be both inspired and informed. The data should be sufficient, but not overwhelming. It should serve generalization beyond individual users, but also sustain empathy with the users. Some elements of the message are conveyed best visually, others verbally. The data must be quick to access, yet have sufficient depth.

body text

In the visual communication literature, there are tips, guidelines, and examples, but no sure-guide cookbook or overarching theory exists as yet. Communicating experiences is still an explorative design subject: out of the richness of user experience research, we should make a contextmap, giving hold to designers, yet leaving them free to use this data together with the many other considerations that are needed in designing.

In order to organize and connect the many what's, who's, and how's that come out of research, we often use 'narrative structures' that tie the bits together in coherent wholes: *personas* bind to people, *scenarios* bind to storylines, *situations* bind to places. Combinations of these different structures can be used to weave a larger, coherent, structure without losing the richness of the data.

Two main sources of insight are used a lot in finding forms for communication: works on visual communication design present guidelines, background theory, and even experimental justification of the principles. Edward Tufte's books on information visualization are the standard source of examples of infographics. Many inspirational examples of conveying heavy loads of data can

2.1a

2.1b

The Fog of War: Eleven Lessons from the Life of Robert S. McNamara (2003) -
© 2003 Sony Pictures Entertainment. ALL RIGHTS RESERVED.

2.1c

be found here, although relatively little about conveying user experiences. Stephen Kosslyn addresses basic perceptual issues of graphic communication design based on perception theory, giving principled guidelines to enhance the unambiguous communication quality of diagrams. Scott McCloud's Understanding Comics discusses conveying emotions and narratives, and the impact of abstraction in visual styles. Lidwell et al. present a provocative set of perceptual principles which can help design.

The other source is formed by examples of evocative narration and depiction. For examples, collections of school wall charts show how many different small stories can be conveyed in one overview which can become a 'map of activities and events' sparking discussions in the design team. The exactitudes art project shows similarities and differences in user groups.

refs   Stappers, P.J., van der Lugt, R., Hekkert, P.P.M., & Sleeswijk Visser, F. (2005) *Context and Conceptualization*. Course reader, TU Delft.

Lidwell, W, Holden, K, Butler, J. (2003) *Universal principles of design*. Rockport Publishers.

McCloud, S. (1993) *Understanding Comics: The invisible art.* Kitchen Sink Press

Kosslyn, S. (1993) *Elements of Graph Design.* Freeman

Buzan, T., & Buzan, B. (2000) *The mindmap book.* BBC

Tufte, E. (1986) *The Visual Display of Quantitative Information.* Graphics Press.

Tufte, E. (1990) *Envisioning Information.* Graphics Press.

Tufte, E. (1997) *Visual Explanations.* Graphics Press.

Briggs, R. (1983) *When the wind blows.* Penguin

Morris, E. (Director), (2003) *The fog of war.* Sony Classic Pictures

www.exactitudes.com

2.1d

author(s)

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title
Representing user data by people

intro
One way for conveying user data in an engaging way, is showing PEOPLE. These people can be 'real people' who participated in the actual research and/or fictive people, which are called personas.

body text
(Re)presenting user data by showing people could be in videos, photos, images, anecdotes, etc. Besides conveying the authenticity of the data, showing people has the advantage of communicating more than explicit information. It can also convey tacit information.

Images of people utilize our mind's powerful ability to extrapolate from partial knowledge of people and to create coherent wholes and project them into new settings and situations.

2.2a

So showing actual people conveys a richer insight into the data and it is easier for designers to relate to a set of people with actual names and faces (in comparison to abstracted target groups) than explicit and abstracted information. Moreover, it stimulates empathy with the users, since designers see individual people and get insight in their daily lives.

If the participating user number is low (<10) and it is allowed to show the real actual people, it is a great advantage to (re)present the data with these actual people (such as The Personal Cardset, see 2.2a). In practice (especially in large companies) personas are often used. A persona is a fictive person who has life stories, goals and tasks. A persona creation can involve quant & qual information, including market, trends, demographic

2.2a

2.2b

research and focus groups, etc.
These personas (often 3-5 personas) are created for a project, e.g.,
Bill, Jane & Daniel) and are used to communicate information to the multi-disciplinary team (so they all know who they are talking about). Next, these personas can be used to explore early concept ideas in scenarios (How would Bill use this concept in his early morning routine?)

illustrations

2.2a - by showing personas from across (and outside) the target group an understanding for the varieties of user experiences is given.
2.2b - the Personal Cardset
2.2c - one of three personas from a design project for Belastingdienst

2.2c

Beautiful people
-
we share the
same back door.
And it isn't
right we never
met before

[Melanie]

refs

Sleeswijk Visser, F., van der Lugt, R., Stappers, P.J. (2004) *The Personal Cardset-a designer-centered tool for sharing insights from user studies.* Proceedings of Second International Conference on Appliance Design, Bristol. pp 157-158

Pruitt, J., Adlin, T. (2006) *The Persona Lifecycle: Keeping People in Mind Throughout Product Design*. Morgan Kaufmann.

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title

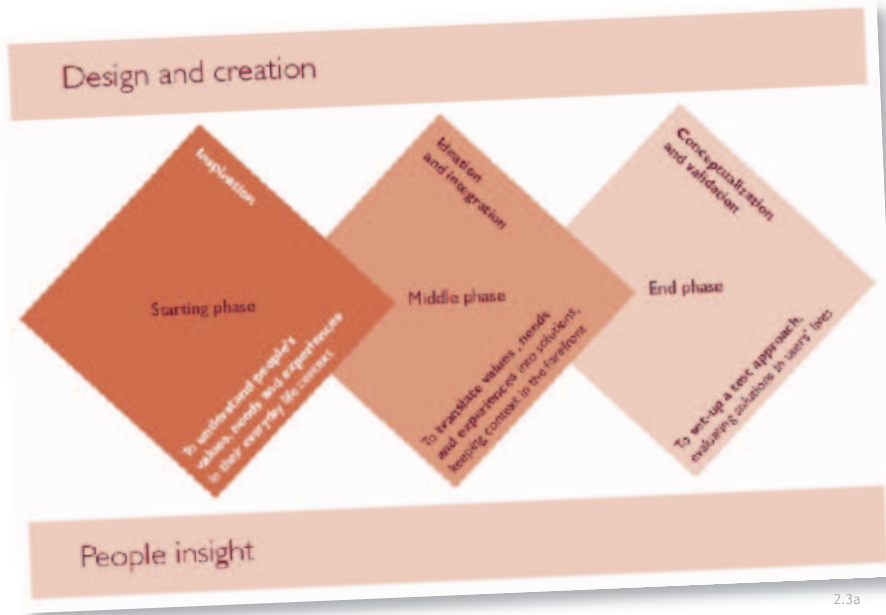# Experience-centered design in the real world: Philips design

intro **Philips Design is one of the world's leading design companies. We are renowned for our visionary approach - enriching design with human sciences, user research and always with a clear people focus - allows us to shape technology in a way that answers people's existing and latent needs.**

body text Whilst we may already be practicing user experience-centered research there is always the need to continually improve our tools and methodologies. It is our everyday practice of course, which enables us to identify opportunities for such improvement. Our design teams are truly multi-disciplinary comprising designers and researchers with different capabilities each of whom undoubtedly has varying strengths and weaknesses. Whilst we work hard at enabling communication within our teams one of the biggest
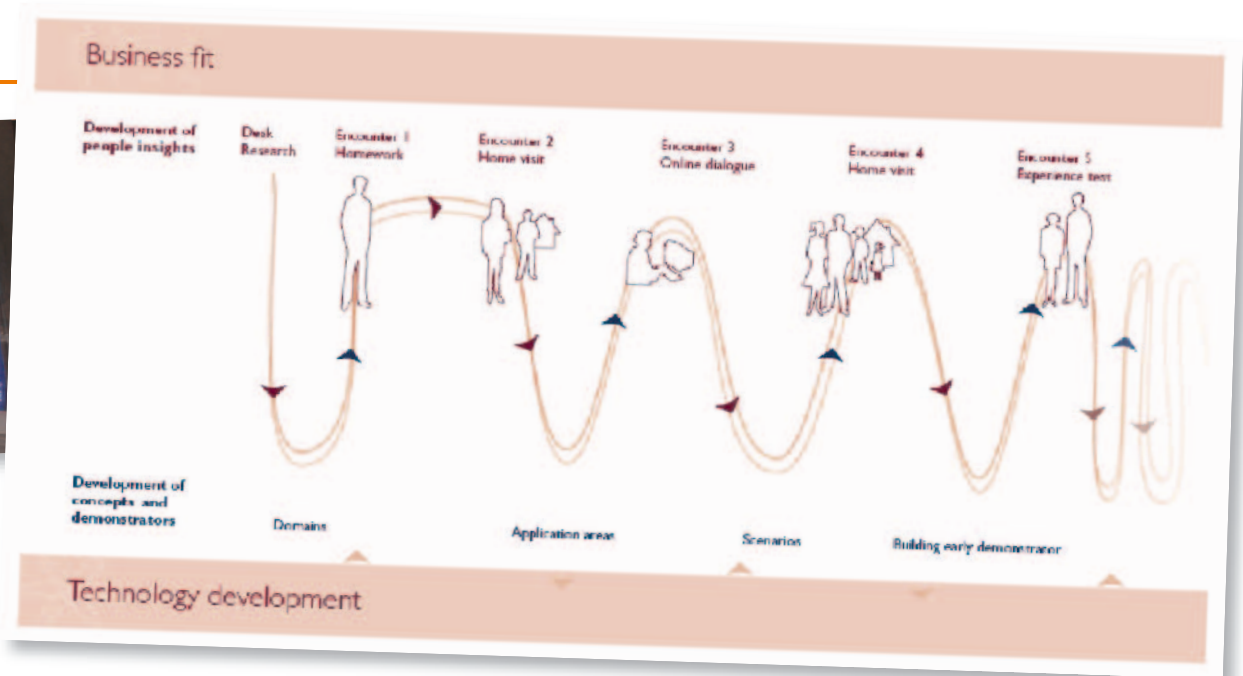
People insights are integrated and translated to generate initial ideas.
Often underestimated, this phase is the creative heart of the process.

Design and creation

Inspiration

Ideation and integration

Conceptualization and validation

Starting phase

Middle phase

End phase

To understand people's values, needs and experiences as they everyday life

To translate values, needs and experiences into solutions, keeping context in the forefront

To set-up a test approach, evaluating solutions in users lives

People insight

2.3a

hurdles we tend to find is the ability to transfer information from the research specialists to the 'creatives' within the team. One could argue that in a true multi-disciplinary approach the designers should be involved from the outset in the fieldwork however this proves logistically never as easy to realize as stated.

Rich Visualizations are therefore an interesting tool to us in facilitating the process of translating user research into the start of the design ideation process. What is required is a means of enabling designers to rapidly immerse themselves in user-centered data, making it tangible,

Business fit

Development of people insights

| Desk Research | Encounter 1 Homework | Encounter 2 Home visit | Encounter 3 Online dialogue | Encounter 4 Home visit | Encounter 5 Experience test |

Development of concepts and demonstrators

| Domains | Application areas | Scenarios | Building early demonstrator |

Technology development

2.3b

understandable and interpretable for them. Design being a 'visual' profession it only seems logical that we should utilize visual language as a means of enabling this process – hence when the RichViz team approached us asking for our involvement we thought immediately it was worth diving in.

refs   Lucile Rameckers & Stefanie Un (2005); *People insights at the fuzzy front of innovation*, Philips Design.

Anton Andrews (2006): *The Open Lifestyle Home*, Philips Design

www.design.philips.com

To achieve human-centric innovation, it is important to understand people in the context of everyday life and anticipate this when developing and creating solutions.

PHILIPS

15

author(s)

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title

Play-acting and storyboarding

intro

A storyboard is a visualisation form which can integrate all the aspects that convey experiences: It tells a story, featuring all the Artistotelian questions of *why?, how?, what?, where?, when?, with whom?, what for?, ...* It has visual and verbal elements, shows a concrete instantiation in the cells, and annotations explaining and generalizing issues. It appeals to the reader to *step in* to experience the user's experience, and to *step back* to take an overview of the event.

body text

Making a storyboard is not easy. Just begining with the first frame and start drawing is not an option. Experience from the film industry, and from teaching and research suggests the following group process:

- Collect ingredients, e.g., considerations, people and products;
- Determine a set of events that expresses what you need to express;
- Intertwine these into a story line, which has an interesting development;
- Act out the story, take photos and immediately make rough prints;
- Arrange, discuss, replace, and sketch over the prints;
- Rework the storyboard into a page;
- Restyle its aesthetics

By acting and photographing rather than drawing out, the team already steps into the action, experiences the story, and postpones decisions of aesthetics in favour of discussions of content.

In a photoboarding workshop, story lines were developed for the fictional design case of 'social interactions on viewing TV together'.

Every story needs a problem point

[Laurel]

refs

van der Lelie, C. (2006). The value of storyboards in the product design process. *Personal and Ubiquitous Computing* 10. Springer. pp 159-162

Sibley, B. (1998). *Wallace & Gromit "The Wrong Trousers": Storyboard Collection*. BBC

Katz, Steven D. (1991) *Film directing shot by shot: visualizing from concept to screen*. Michael Wieze Productions, Studio City

Laurel, B. (2006) Combining design and research in MOBO. In: van der Lugt and Stappers (Eds), *Design and the growth of knowledge,* StudioLab Press. Delft. pp 16-22
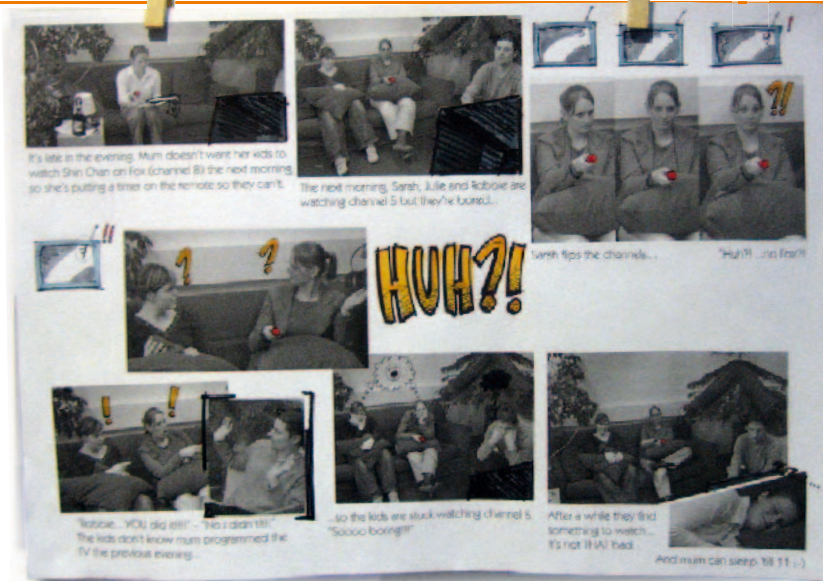
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title
Design Documentaries

2.5c

intro
Often not everyone in multidisciplinary design teams can take part in the ethnography at the beginning of a project. It is too time-consuming for the team members and too invasive for the users. Design Documentaries can communicate what designers have found in everyday life to a larger team in an inspiring way, without imposing fixed conclusions.

body text
As a designer you try to empathize, you aim to understand situations from the perspective of the people you are designing for. But you can't just follow what your participants say, you also have to develop your own perspective. This balance act is not unfamiliar to documentary filmmakers. Interesting documentary films present a discussion between the perspectives of the filmmaker and the people s/he films.

2.5b

2.5a
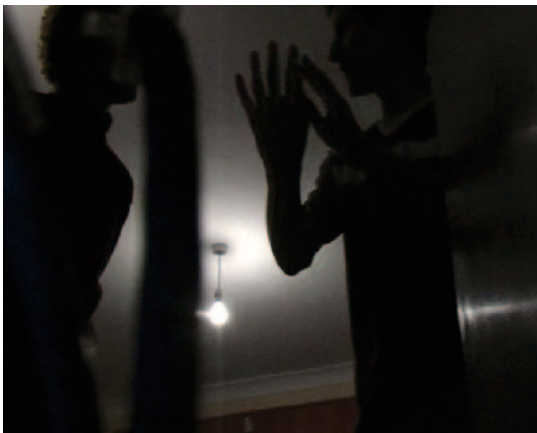
In our research at the early stages of a design process we can benefit from the techniques and approaches for portraying everyday life that documentary filmmakers have developed over the past 100 years. Design Documentaries are building on that potential by suggesting a new way of using video to discover what matters to people, and to designers. They go beyond the usual neutral observations or interviews that we normally record on video. In stead they adapt documentary techniques like empathic observation, ethno-fiction, juxtaposition, intervention, performance or compilation to tell a story with a film.

Design Documentaries
are the result of
PhD research by Bas
Raijmakers at the Royal
College of Art in London.

All these techniques help to setup a discussion between different perspectives in a visual way that can easily be understood by all members of a multidisciplinary team. Design Documentaries offer a solid shared and inspiring reference for the continuation of that discussion during the rest of the design process.

Ilustrations

up-to-date good information

2.5d

2.5a – *'Storage, clutter and display in the home;' an interactive film by Bas Raijmakers for the Equator network, UK (2003).*
2.5b – *'Kent;' a film on the everyday life of a heart patient based on observations and interventions by Bas Raijmakers for Philips Medical Systems (2004).*
2.5c – *'Debra;' a video letter from one heart patient to another by Bas Raijmakers for Philips Medical Systems (2005).*
2.5d – *'Fred;' a compilation film on a heart patient persona by Bas Raijmakers for Philips Medical Systems (2004).*
2.5e – *'On/Off the Bus,' an observation experiment on the Routemaster bus platform by Bas Raijmakers (2003).*

2.5e

I do not intend to speak about Just speak nearby

[Trinh T. Minh-ha (filmmaker, anthropologist, poet)]

refs

Raijmakers, B., Gaver, W. and Bishay, J. (2006), *Design Documentaries: Inspiring Design Research Through Documentary Film.* Proceedings of Designing Interactive Systems 2006. ACM Press, New York, NY.
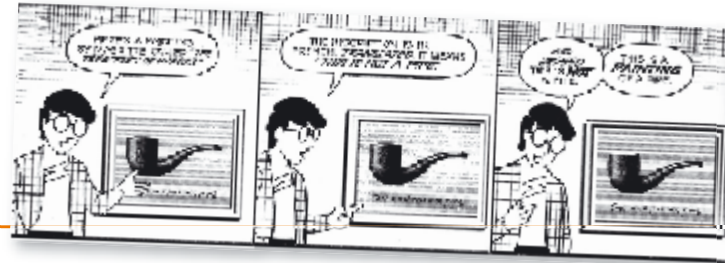
http://www.designdocumentaries.com

http://www.interaction.rca.ac.uk/people/phds/bas-raijmakers.html

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title
Stepping in...

intro
A famous painting by the french artist Margritte depicts a pipe, accompanied by the statement 'Ceci n'est pas une pipe (this is not a pipe)'. With this, the power of visual imagery is shown. While it is indeed not a pipe but rather an image of one, this statement causes a kind of cognitive dissonance because we are accustomed to interpret images as being 'real'.

If a picture says a thousand words, how do you make it say what you want it to?

body text

This quality – often refered to as suspension of disbelief – is used about a mulititude of media, to immerse the viewer in what is communicated; to allow him to *step in,* to have a feeling of 'being there'. To use this in a design process, it is important to determine the qualities that the visuals should have in order to allow a designer to step in. The visuals should generate *empathy* with a user. The reader should experience the story empathically, i.e., through the eyes of our hero: the user.

3.1a

How can this be achieved? The literature points at two important factors. One factor is the amount of visual information. Here again we have an optimum; to provide the viewer with sufficient information to trigger immersion, but not to confuse and tire him with an overload. The other factor is the level of

3.1b

20
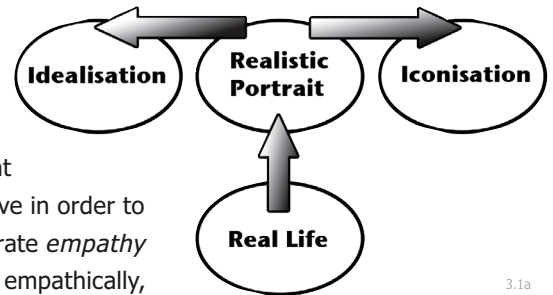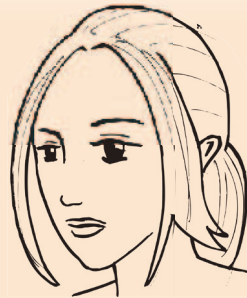
abstraction: A realistic visualisation can be abstracted by either idealising it, or by iconising it. Idealisation is common in advertising and provides a fake look that is not useful for conveying empathy. Iconisation is the process of removing detail, often in facial characteristics. There is an optimal level of iconisation, in which the viewer will go from regarding a character as someone else, to placing himself in position of the character, and experience the story from his or her viewpoint.

Undertaxation of the senses. People get bored.

Immersion

Overtaxation of the senses. People get frustrated and stressed.

3.1d

McCloud gives the example that in Manga comics, the hero is often drawn in iconic style, surrounding characters in realistic style. This promotes the reader to 'fill in' the hero, and to identify with him/her. There is a lot that can be learned from the expressive languages of comics and cinema. Yet design communication is different from these modes of narration. For a movie-goer, it may be best to 'only experience' the story. The designer must also reflect on it. That is, he or she must step in, but also step back.

refs   McCloud, S. (1993) *Understanding Comics: The invisible art.* Kitchen Sink Press

Lidwell, W, Holden, K, Butler, J. (2003) *Universal principles of design*. Rockport Publishers.

illustrations   *3.1a – iconisation and idealisation*
3.1b – iconisation of a face
3.1c – McCloud's interpretation of Magritte's painting
3.1d – balancing sensory load for immersion
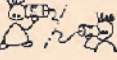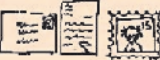
welcome to the strange and wonderful world of the icon!

[Scott McCloud]

21

3.2a – an abstraction hierarchy shows how a single interaction can be simultaneously understood and described on different levels.

3.2b – an infographic supports both primary impression, overview, and repeated returns for more detailed information.

3.2c – a mindmap uses various expressive means to provide overview, relations, associations, and detail.

3.2a

refs

http://www.volkskrantblog.nl/blog/58

http://www.elmundo.es/graficos/multimedia/espana.html

http://homepage.mac.com/jonming/PhotoAlbum4.html

Chaos and
order are not
enemies, only
opposites

[Richard Garriott]

3.2b

author(s)

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title
...and stepping back

intro **The context-driven design team must integrate insights from very many disciplines, many perspectives, and moving beyond the individual stories of individual users at singular events. What techniques help to give an overview of different factors, to give the design team a map to tackle the complexity of issues involved?**

body text Several stages in a design process require the designer to step back from the experience and take an overview. For each stage a certain technique fits best.

3.2c

In the beginning of the design process stepping back is required to sort your own thoughts and the information you found but haven't analysed yet. Mindmaps are suitable for getting this overview.
A mindmap clusters all gathered information, and allows you to organize and emphasize elements and connections.
When you want to analyse the information, an abstraction hierarchy can be used. It ranks the information from purpose and functions to physical implementation. By asking 'why?' and 'how?', respectively, you move up and down between abstraction and physical form. On the one side stand social values and needs, on the other means to support those.

Then when you are in a stage where you have analysed your data and want to visually represent it, infographics are suitable. An infographic is a visualisation of lots of information in form of rich pictures, maps, charts, diagrams, or combination of those. The information in it is given in different layers, quotes, samples, and small explanations. This allows a quick grasp on the main message, and supports exploring the subject deeper and deeper by a flexible set of routes.

Beside these common techniques, there is a whole range of visualisations that give overview.

23

Know your audience!

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title
Inspired by the old techniques of storytelling

intro

Stories are a major tool for uniting different, but related insights. Theories from theatre and movies have been applied to design, in order to do justice to the fact that experience with products occurs over time, in sequences of interactions between products, people, and environments. In developing storylines, narrative wholes, these techniques help the design team deal with the complexity at hand.

body text

But what makes a good story? During research, we found enough guidelines to get one started. A story always has a beginning, middle and end and needs the following fundamental elements: setting, character, plot, invisibility, mood and movement. It has a systematic form, consisting of stages. These stages add emotional depth, meaning and magnitude. In most interesting stories, there is a reversal of fortune (Laurel, 2005). For design inspiration the story should not be a flawless user-instruction, but can be a dramatic narrative containing negative event (possibly resolved within the story).
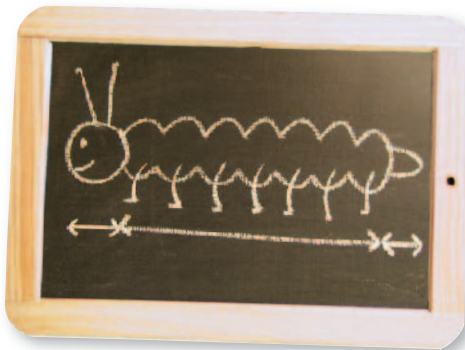
3.3a

Products interact with people and are designed for people, so the character is of great importance. To empathize with the character, the audience should be able to understand the character, or 'the hero', to identify with him/her; therefore it is important to know your audience. To make a character come alive he/she should be good (morals), appropriate and consistent.
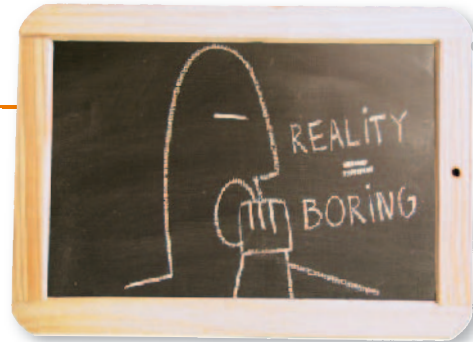By giving details and giving the character a past, the character will become more realistic and therefore evoke empathy.
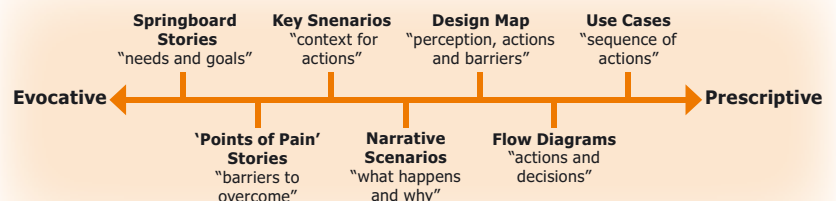
3.3b

3.3c

3.3d

Because reality is boring, a story should always be somewhat enhanced to make it more interesting. In a story there should be no coincidences, because everything that happens gets a meaning. Ambiguous or too much information should be avoided, just as missing links.

Stories are used throughout the design process, moving from evocative stories as the design ideas are created to prescriptive stories that describe the details of the design. They can be used for evoking discussion, for communication (e.g. user data) or for persuading people. They are easy to remember and can act as an equalizer within the design team, providing a common ground in discussions. Through stories, personal engagement of designers with users can be enhanced.

refs   Tierno, M. (2002) *Aristotle's Poetics for screenwriters*. Hyperion, New York

Schellhardt, L. (2003) *Screenwriting for dummies*. Wiley

Boorstin, J. (1990) *Making movies work*. Silman-James Press

McCloud, S. (1993) *Understanding Comics: The invisible art*. Kitchen Sink Press

www.whitneyquesenbery.com

illustrations

3.3a – a story has a beginning, middle and end

3.3b – a dramatic reversal of fortune

3.3c – fundamentals of the character

3.3d – reality is boring

3.3e – storytelling in the design process

| | Springboard Stories "needs and goals" | Key Snenarios "context for actions" | Design Map "perception, actions and barriers" | Use Cases "sequence of actions" |

Evocative ←————————————————————————————————————→ Prescriptive

'Points of Pain' Stories "barriers to overcome" — Narrative Scenarios "what happens and why" — Flow Diagrams "actions and decisions"

3.3e

25

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title
Space for creativity

intro

Rich visualisations are created to support creative work. They are not meant to be read, enjoyed, and forgotten, but used as tools, e.g., in idea generation workshops. Therefore it is worthwhile to consider not only the message and its audience, but also the ways in which they are used. That includes the space in which creative sessions occur. What type of place works well to stimulate creativity and what gets us in the right frame of mind?

body text

What is the theory?

The space we are in is more than the room around us and all the artifacts in it. Basically everything around us can serve as an inspirational factor. Besides visual input there is varied input to all our senses.

Some inspirations may be guided by the user research, e.g., storyboards, others are unintentional, chirping birds. When materials are developed to guide creativity in a certain direction, toward a consistent company style or toward empathy with the user, the materials should only provide guidance: you can not force creativity. With other words, all materials should leave room for exploration and interpretation.

Creativity is an active process, opportunities should be available to play with ideas mentally, but also physically. Provide materials for play and tinkering, to make mock-ups, sketches or just to fool around.

Put this into practice

There are at least two ways to shape your working space to support your design inspiration. First you can adapt your present location into a more inspirational environment. This can be done in a general fashion or by introducing aspects of the intended context of use. Secondly you can move to a space that is more related to a specific activity. There are 'creativity rooms', facilities which are specialized in providing inspirational spaces. Or you can move to a place that is similar to the intended design usage context, as IDEO did when they went to long corridors as a place to make a design for an airplane's interior.

3.3a

refs

Myerson, J. (2001) *IDEO Masters of Innovation*. Laurance & King Ltd.

Keller, A.I. and Stappers, P.J. (2001) Using video collages in the design process to experience presence and atmosphere. *Cyberpsychology & Behavior*, 4(2), pp 215-223.

Lugt, R. van der, Janssen, S., Kuperus, S. and Lange, E. de (in press) *Future Centre The Shipyard, learning from practice.* Creativity and Innovation Management.

The atmosphere of being there with the end user in the environment ... can provide inspiration for solutions that would not be thought of behind the office desk

[Ianus Keller]

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title
Communication over time

intro
Communication, like product use, takes place over time. Workshops have a progressive structure to facilitate the creative process. And the design process has already begun before the workshop, and continues afterward.
In contextmapping, a lot of attention is paid to the process of sensitizing the creative participant over time before sessions take place. Advertisement campaigns similarly use teasers to get people started, into the right frame of mind, before they come to meet the product. How can we use these techniques in setting up design communication?
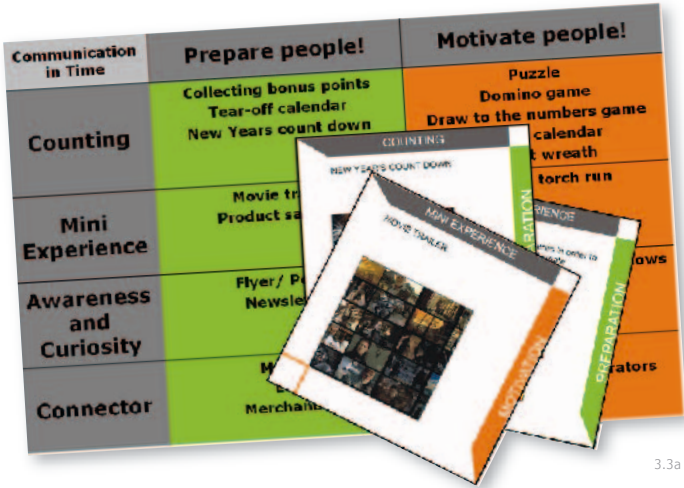
body text
With this question in mind the research focused on identifying and analyzing everyday activities or rituals that are used to build up tension or excitement for an event to come. The long list included rituals such as the Christmas calendar and advent wreath, the Olympic Games' torch runner or domino and memory games.

By using the clustering technique four basic principles were found: counting towards the future, foretaste or some kind of mini experience, send a message and involve connectors, like clowns in the circus or moderators in a TV show. Those principles could again be divided into two groups. The more active level aims at motivating the person or receiver in order to get them passionate whereas the other one would solely aim at preparing or informing the person, which is a bit more passive than the other option.

Out of these clusters a matrix was developed which can be used to sort any everyday life example into a certain category. This provides not only inspiration but also becomes a working toolbox over time, as the amount of similar yet somehow different principles support new sensitizer combinations.

3.3a

COUNTING

ADVENT CALENDER
Each day from the beginning of December children can open a little door containing a candy...Excitement of Christmas...

COUNTING

TEAR OFF CALENDER

COUNTING

ADVENT WREATH
Each synday in advent one candle is lighted

MOTIVATION

PARATION

3.3b

COUNTIN

COUPONS & BONU

COUNTING

NEW YEAR'S COUNT DOWN

PREPARATION

Triangle SportsPlex
What's more fun than swimming and ice skating? When you bring a friend!
2 for price of 1 to Swim or Ice Skate

It ain't over 'til it's over
-
and when it starts, it's
long begun

refs   Lugt, R van der, Janssen, S, & Stappers, PJ (2005). Enhancing involvement: explorations with use of place and time in creative group processes. In Fischer, O. & Weerd Nederhof, P. (Ed.), *The 1st creativity and innovation community workshop* (pp. 157-173).