

CREATING ENGAGING INPUT FOR DESIGN TEAMS

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ABSTRACT

This paper focus on how to create engaging content for design teams based on user research and video.

Based on the work done by Blauhut and Buur a new camera style: the Cyclops camera is suggested. This style is placed in extension of the engaging camera style. The style allows more physical interaction, frees the observer from the hassle of operating the camera and allows for a more engaging first person view.

Some guidance on what makes content engaging is suggested relating both to the process of capturing video to the process of editing and refining the output.

Considerations on who to follow and how to maximize face time with scarce resources are given. Practical tips on where set up camp and where to linger to get insights from behind the scenes when doing field work in a medical setting.

INTRODUCTION

Today there is the notion that understanding the consumers is the key to designing desirable products.

How can this be obtained? Unlike tailor made items most products have a range of end users, often spanning age groups, income levels and geographic locations. Furthermore they are all individuals and it is not possible to know more than a fraction of the users.

In this paper I shall discuss some of the methods that the use of video recordings can facilitate, asking how to convey enough information without overwhelming the designers, revealing underlying patterns and how to make the experience rich and intense enough to make it stick?

ENGAGING WITH THE USERS

To know about users, data material must be collected. A number of different methods exist for this, each having different focus and outcomes.

In this paper I will focus on how to bring user research into the design process through the use of video.

I will try to use the level of engagement to characterize and segment the differ-



Figure 1 Engaging with user in rural area USA

ent formats in which video are used during early product development, while also explaining why I think it is important.

Engaging with the users can be done at many different levels. It is hard to observe without affecting those observed. At least one should then be aware how you affect the results. The differentiating factor in my interpretation is the level of engagement.

FILMING AND GATHERING OF DATA
Video style as a way of describing the staging of the observer the camera and the observed in a context has been suggested by Blauhut and Buur.

Before proceeding to the 3 styles described by Blauhut and Buur, I would like to briefly discuss one of the methods where staying unengaged is key. This method is also widely used in product development.

USABILITY TESTING

Usability testing claims to be an objective method for evaluating user interfaces and for finding problem areas. In usability testing real users are brought into a lab setting to interact with products there is a list of tasks to perform and metrics are measured. (Nodder 2006).

When I conducted some of my first us-



Figure 2 Usability testing



Figure 3 First tries with video

ability tests, we were two moderators splitting the participants between us. Facts were, that although I felt, I had not helped the participants, my batch out performed that of my colleague. Furthermore the preference rate for my favourite solution was up 10% in comparison with my colleagues' results. Need I say that I designed the system whereas she was only helping out testing the system. So even though usability testing as a method is claimed to be objective, it is my experience that it is highly dependant on the moderator. Video styles is a way of characterizing the way that the camera interacts with the user while the recording is taking place, Blauhut and Buur suggests that 3 different styles exist. (Blauhut and Buur 2009).

THE SURVEYING CAMERA

Like a nosy stranger, the camera scans the space and provides an overview of environment and people in it. It may follow people, but only at a respectful distance (Blauhut & Buur)

I could recognize this video style from my first attempts with video in this course. Reluctant to engage and overly polite I hardly dare to speak to the persons I observe.

THE COMPOSING CAMERA

The camera paints considerate, well-

composed pictures of how people move and act in context. It also is a talented listener, but does not mix interviews with action.

A lot of material in this style exists. It is often the preferred style of people experienced with making video recordings.

THE ENGAGING CAMERA

This camera takes on a role of its own. Like an eager partner it moves close to understand, to become part of the atmosphere. It likes to see other people's perspectives and join in conversations. People even address it and invite it to come closer.

The style seems to work well in the few examples I have witnessed. Having the camera as a third participant, makes the observed more aware about showing what they do.

It seems there is a tight connection between the video style and how the observer and the camera stages themselves in relation to the observed.

Lastly I would like to present my own contribution to the styles suggested by Blauhut and Buur. The Cyclops camera: **THE CYCLOPS CAMERA**

This camera is an extension of the interviewer. It engages with the others and challenges them. Fused together with the interviewer it is conceived as a part of him. The Cyclops camera plays a part and engages fully in the activity at hand.

The Cyclops camera style is based on a body mounted camera, allowing the observer to move freely with both hands free. It is ideal for sports or labour where physical activity is involved. I would consider it well suited for capturing high intensity activities like rescue missions, fire fighting and extreme sports. It's should however not be limited to this only. Wearing the



Figure 5 Helmet mounted video camera

camera gives less limitation in what kind activities the interviewer can engage in. Furthermore I found that this style allows for closer social interaction, as you are less occupied with operating the camera.

ARRANGING THE STYLES

As I have watched the different video styles, it became clear to me that they could be arranged according to level of engagement.

I have taken the liberty to add on the left hand side of the figure to add Usability testing though it is not part of the framework suggested by Blauhut and Buur.

In the centre I have ordered the three styles suggested by Blauhut and Buur. The 3 styles are arranged by increasing interaction as described in the paper, and thereby also by an increasing level of engagement I argue.

In the far right side I have added my contribution to the framework of video styles. In this style it is my argument that there is the highest level of interaction and participation in the activities being recorded. Though you could argue that The Engaging Camera shares similarities with the Cyclops Camera, There is the important distinction that the operator of the camera is not busy checking the picture or setting the zoom level during the interaction. Also it is seems that the camera is seen more as an extension of the interviewer and you therefore get in more close social contact with the ones you interview. So from being a third party in the

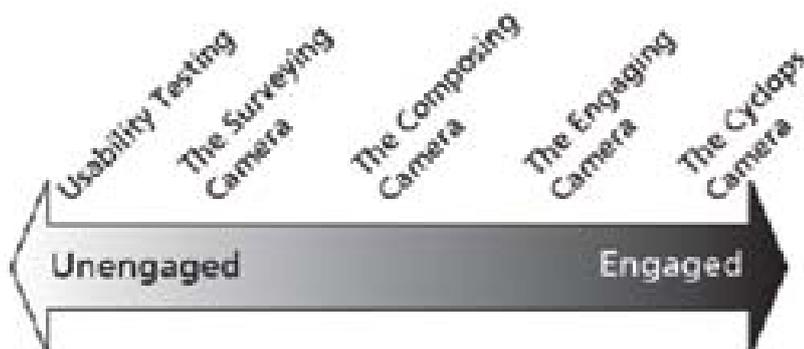


Figure 4 Video styles arranged by level of engagement



Figure 6 Off the shelf HD splash proof camera

engaged camera, the camera is now linked directly to the person observing and is more an extension of the actor than a participant.

TECHNICAL SETUP OF THE CYCLOPS CAMERA

In my experiments I have used a rather crude setup mounting the camera to my regular helmet using a sponge for padding between helmet and camera and a standard cargo strap.

I have used an attached wide angle lens. Though adding substantially to weight I chose to use it as it gives steadier images. On top I have a stereo microphone set to shotgun mode. The adding of a wind jammer proved to be a good choice sound quality wise, though it gave the whole contraption an even more curious look.

Several off-the-shelf-products that support this style are available. The cameras for this kind of use are primarily designed for and used in extreme sports.

Several mounting options are available. Helmet or head strap mount is ideal for the Cyclops camera style. A wrist mount type exists, that is suitable for the engaging or the composing camera.

IMPLEMENTING THE MATERIAL

While doing field work the team members who are actually doing the observation receive a lot of input and there exist a number of ways to convey the

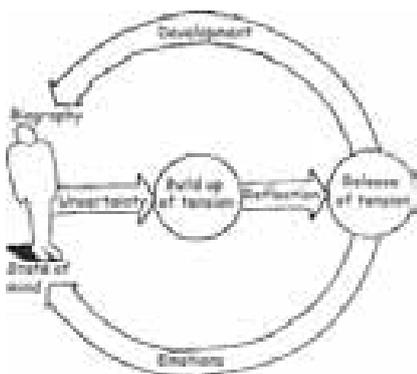


Figure 7 Model of reflective learning (McKay & Panduro)

findings to other team members who are not directly involved. Raijmakers, Gaver and Bishay tell us how they use film to replace posters of personas.

“The posters did a good job in conveying information but were not effective at offering inspiration to the team – an experience they had had in previous projects”.

“The films did not give clear requirements to the team; rather they provided the team with a context of stories, objects, situations and above all people that supported them with inspiration and information during the design process.”

“Getting in touch so closely with the daily life of the people for whom they were designing was clearly appreciated by the team”

(Raijmakers, Gaver and Bishay)

User portraits are meant to inspire and to fuse the development process. But what does it really mean?

In my opinion one of the prime goals is to inspire and direct the ideation process. In short we want the audience to learn from the material.

ABOUT LEARNING

In order to survive you need to some extent to believe in the immutability of the world, at the same time adjusting your model of the world, to learn, and thereby accepting that the world is changeable. This is the paradox suggested by Jarvis.

Learning is the process, that transforms experience into knowledge, skills, attitudes and values. Learning occurs when the experience fundamentally differs from what has previously been experienced, what Jarvis calls disjuncture. The disjuncture is what starts reflection.

In conjunction with my master thesis I worked on creating an exhibition piece for a science centre. We came up with the following model for reflective learning through play. The model's basis is the state of the user: His or her biography and state of mind. The user is then presented with something that challenges him or her, something that induces uncertainty. The uncertainty causes a build up of emotional tension and through reflection the uncertainty is eliminated causing release of tension. There is development in biography by learning a skill or understanding cause



Figure 8 Observing a consultation with nurse practitioner and person with type 2 diabetes.

and effect; but just as important there is joy, relief and excitement that add to the user's state of mind. If reflection is not able to remove the uncertainty the results are frustration and anger on the emotional side and that you are unapt for the task at hand on the development side.

If we apply this model to the task of inspiring the design team, we first have to establish uncertainty. Uncertainty can be derived from the context or from what people say or do. The level of uncertainty must be high enough to build up emotional tension. This is actually a measure of how captivating watching the film is. Thriller movies excel in this.

For the team members to learn anything they need to reflect and the higher the tension the more motivated they will feel to figure out what is going on. If they are able to make sense of what they see they will experience they will add this knowledge to their biography. The positive emotions derived from mastering or understanding is what motivates and helps us remember, but just as important this is why we develop empathy and relate to the people on the film.

So what it means for the material is:

- That it must induce uncertainty into its audience.
- Emotional tension must be raised to a level high enough that the audience is engaged with what is going on.
- The material must allow the audience to reflect and make sense of what is going on.
- It must be possible to get a sense of the subjects feelings to help build empathy and emotional engagement.

CASES

In the following I will discuss some of the cases I have been a part of. All are field work and user research.

BEING A PART OR OBSERVING

In September I did a field study in the



Figure 9 Shadowing nurses at a clinic. Hanging around in the back office

US. The study combined sitting in on consultations in clinics, shadowing of the staff and follow up interviews with patients and staff.

Sitting in on a consultation clearly is observational focusing on what people do. It would be highly inappropriate to interfere with the consultation unless invited to.

SHADOWING

When shadowing you are still observing what people do, but you might very well do so while having a conversation with them. The combination of what they say and do allows you to pin point areas where there is a conflict in what they do and say. In order to find the unarticulated needs this is a very good place to look.

It is important to note that even though you have just arranged to sit in on consultations, you still need to hang around, so very often unique opportunities to see what happens backstage appear. So though shadowing was not agreed on or intended, intriguing information surfaces.

FOLLOW UP INTERVIEWS

When doing a follow up interview you have the opportunity to reflect on the observations together with the person you have previously observed. It shares the features of focus groups or regular interviews, but combined with previous observations it has the potential to unveil new understandings.

CHOOSING WHO TO FOLLOW AND WHERE TO SET UP BASE

When doing research in a medical clinic access to the staff is limited, so



Figure 11 Field work in Chennai



Figure 10 Follow up interview with person with type 2 diabetes in his trailer home.

setting up camp in the lunch room or the back office is a good idea. Any place where casual conversation between staff takes place is a great place to hover as staff will hang around there if there are cancellations.

Staying in the consultation room while the health care prepares for the next patient you can often get interesting remarks widening the understanding of the consultation.

Who is hardest to get access to – most reluctant or the scarce resource? Setting up base and hanging around the right material makes a huge difference in how much data you get, but also the depth of the material is affected.

CASE VISIT IN SLUM IN INDIA

In 2008 I was doing field work in Chennai in India. We wanted to know more about the emerging market of India and we were especially interested in what has been known as the base of the pyramid (London and Hart 2004). We were visiting a community centre in the slum in the city of Chennai.

We were to meet up with a group of women, who used to assemble once a week. Next to the patio where the women assembled was a small room, where the men where lifting weights.

While waiting for the women to arrive, I entered the gym and compelled to try to lift some of the weights.

When I started lifting some of the weights they had lined up it became clear to me that not only was I studying them and trying to build rapport, but they were most certainly also studying me and building rapport. The

experiment was interrupted when the women we had been waiting for finally arrived. At this point they had sent for the strongest man of the community. It became clear to me that though I was studying them they where most certainly also studying me.

The stills I took during the session were closest to the composing camera style, and as you can see from the pictures there was a feeling of “white men meeting the natives” during the talk with the women.

My meeting with the men was more engaging because I was not busy taking photographs or scribbling down notes. Using a Cyclops camera style could have captured the moment. By engaging in their activity on equal terms I was taken into their private circle. None of the other camera styles would have allowed this.

CASE: USERS IN THE FOREST, THE FOREST IN USE

This study was conducted as part of this course. The general idea was that the forest can be used as a metaphor for many types of systems. The forest has different users with varying access rights, Users have different interests and goals sometimes they are overlapping sometimes conflicting. I chose to investigate a small group of people who visits the forest on their mountain bikes.

The following is examples of what kind of analysis could be derived from a 2 hour trip using the cyclops camera style.

THE GROUP

The group is a loose network of family fathers and friends. The group assembles maximum once weekly, but often more seldom. The sessions are organised by either SMS or mails. Participants often first giving a noncommittal reply referring to the need to have the appointment endorsed at home. Sessions are often of 2 hour length.

THE RITUALS

The trips originates from Bentsens



Figure 12 Interview - we are rolling





Figure 13 Bentsen

home if he is on board. Often trips end on Fruebjerg – the highest point in Gribskov. During the trips there are high intensity sections and low intensity sections. During low intensity sections a lot of different topics come up including both family and work life. As such it is similar to many other networks. Of course there is also time to talk about equipment. In this little group all have medium priced models non of them carbon. I have noticed that as soon a bike passes the 10K price tag, it has an official price and a real price. The official price is what is told to your spouse while the real price is only revealed to people with a shared interest.

BENTSEN

Bentsen is the initiator of the group. He acts as tour guide often leading the way. His social position in the group originates from his vast knowledge of good tracks in the forest. His desire to lead the way causes exhaustion towards the end of the trips. After 1½ hour he feels cramps. He believes this to be caused by genetic misfortune rather than excessive exercise. Bentsen enjoys the tutor role, and luckily he is able to extend this to his work life as a teacher in 10th grade sports classes.

JC

JC is new in the game. He bought his bike only this winter and this is his first trip with the boys. JC is a sporty fellow who uses sport as a field of articulation. JC does not just run, he trains for the Berlin Marathon.

Keeping face and performing a “Bella figura” is key. JC performs wheelies and skidding for the camera.

RENE

René is also in for his first run with the boys. He is eager to learn, and has many questions during the ride. René has made a faux pas of cycling. He is wearing his padded shorts on the outside, revealing that he is new to the cy-



Figure 14 JC

cling sport.

ME – THE SELF PORTRAIT

It was most surprising to me that one of the best portrayed persons on the video material is actually not on any of the footage. I am the camera. When I make a move the camera is there. All my comments are captured.

Though new to cross country cycling, he has a long track record of long distance commuting on road bike and occasional races. He is highly competitive. He likes to underplay rather than to boast. Winning on inferior equipment is the best. The climbs are where he makes his moves and uses this to establish his social position in the group. He is willing to absorb a lot of pain to remain undefeated on Fruebjerg. He enjoys the psychological power play and makes casual remarks to test the others during what he sees as partly a trip partly a race.

CREATING CAPTIVATING MATERIAL

There is an ongoing discussion if such a thing as objective data in video material actually exists. In documentary film Aufderheide –gives the answer that a documentary is a movie about real life. But it is about real life and not real life in itself as it is constructed by a filmmaker to convey a certain story. (Aufderheide 2007).

EDITING A FILM OR USING SNIPPETS IN POWER POINT

In my professional work I have previously used movie clips to illustrate points and strengthen the message. We all know how captivating a slideshow is if read through after the actual presen-



Figure 15 The apprentice

tation has taken place. In my experience the extra effort put into creating a storyboard and editing the film is often worth it as you mostly do not have the presenter available to bring the presentation back to live.

I still have not created film or documentaries based on the field work I have done. I guess that the notion of keeping the data neutral and true plays a role although no such thing may actually exist.

I have done screenplays to demonstrate use and context of projects done at Novo Nordisk. It is my experience that bringing the emotional side into play creates a more convincing presentation, but also placing the product in a convincing context works well.

When the film is edited a lot of choices have to be made. In this discussion I will focus on the choices that affect how captivating and engaging a film you create.

FOLLOWING OR TAKING PART

It is easier to demonstrate true interest in what people do if you are actually willing to participate. Also a video camera can be perceived as a symbol of power and again taking part in the activities puts you on even grounds with the ones you film.

Taking part gives the interviewer a better understanding of what goes on and enables him to ask better questions. It also gives those he follows the opportunity to reveal tips and tricks on what you are doing. In the portrait of the apprentice it is however me the interviewer that gives tips and tricks to the apprentice. Just the same it reveals rules and standards that otherwise would not be mentioned, such as that cycling shorts goes on the inside.

When we shadow staff at clinics, we are able to ask questions but often we are prohibited from taken the role as an apprentice. Even with patients we are not allowed to for instance measure our blood sugar, so in my particular field this technique has its limitations.



Figure 16 Me -ready to mount the camera

CHRONOLOGIC OR THEMATIC

I tried cutting 2 of the portraits in a chronological order to stay as true as possible to the material. The 2 others of Bentsen and the Apprentice were made with a thematic storyboard to enhance the message. Especially in the video portrait of Bentsen I have deliberately rearranged the scenes to create a better flow in the story. In this way the questions and points are kept closer together making the link clearer to the observer.

I actually also mostly use the thematic approach when creating slide shows too.

VIDEO STYLE

I have previously talked about how the video style affects what kind of material you obtain. From the limited material I have been able to create, it seems that the first person perspective has an engaging element to it as the movement of the camera reveals what kind of accelerations the rider is subject to. Likewise you can hear the breathing getting heavier uphill and the wind turbulence downhill. In this way I think that it is more like being there than if it was shot from a moving car or steady cam along the route. For the portraits of the mountain bikers I think that the use of the Cyclops camera style has provided more engaging footage than the engaging camera style would be able to. It became clear to me that when filming using the engaging camera style things are shown to the camera, whereas when using the cyclops style it is more a person to person interaction.

I would like to point out that the user portraits still contains clips that convey context like what is dominating in the composing camera style, that is necessary for the sense making.

Likewise there are clips that have the quality of the engaging camera with the important distinction, that it is me as a person and not the camera that is invited closer to for instance have a look at the gear changer.

I have actually considered bringing a smaller portable for the field study in US mentioned in this article. I refrained from doing so, as I feared that strapping gear onto nurses, doctors and patients would jeopardize the relation. It could however be interesting to do so to illustrate workflows and inter-

action between staff.

CONCLUSIONS

Video is a helpful tool in capturing and analysing user research, but it is much more than that. Edited video is powerful tool to convey the findings to others that has not participated in the field work.

Video styles is an interesting way to talk about how the staging of the interviewer, the camera and the observed affects the resulting footage, but also how the video style defines the roles of the implicated persons.

A new camera style the Cyclops Camera is added: From being a third party in the engaged camera, the camera is now linked directly to the person observing and is seen more an extension of the actor than a participant. It became clear to me that this also facilitates a closer social interaction as the observer is to a less degree occupied with operating the camera.

To bring the cyclops style into action in a Novo Nordisk context, it would be interesting to have staff in clinics wearing a cyclops camera for a day.

For video to guide a design team in a design process the team must learn from the material. From the model of reflective learning some guidance on how to arrange the material can be derived.

- That it must induce uncertainty into its audience.
 - Emotional tension must be raised to a level high enough that the audience is engaged with what is going on.
 - The material must allow the audience to reflect and make sense of what is going on.
 - It must be possible to get a sense of the subjects feelings to help build empathy and emotional engagement
- To create engaging material the following became clear to me that:
- Taking part in the activities studied creates more engaging situations and thus is better than just following and observing.
 - Creating a thematic storyboard linking questions points closer helps reflection and is therefore better than the chronological approach.

Planning for the unexpected gives you unique insights on what goes on behind the scenes. Hang around in the back office or set up camp in the din-

ning area of the clinic to capture informal conversation or interesting work patterns to shadow.

And finally the content of a video recording is often surprising even to the one who shot it.

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REFERENCES

- [1] Aufderheide, P. 2007. *Documentary Film: A Very Short Introduction*, Oxford University Press.
- [2] Ylirisku, S. and Buur, J. 2007. *Designing with Video. Focusing the user-centred design process*. Springer.
- [3] Blauhut, D. and Buur, J.. *What video styles can do for user research. Engaging Artifacts 2009 Oslo*.
- [4] Nodder, C. *Introduction to User Testing*, London 2006.
- [5] Rajimakers, B., Graver, W. and Bishay, J. 2006. *Design documentaries: Inspiring design research through documentary film.*, Presented at DIS2006 conference in State College, Pennsylvania.
- [6] London, T., Hart, S. *Reinventing strategies for emerging markets: beyond the transnational model*, *Journal of International Business Studies* (2004) 35, 350-370.
- [7] McKay, M. and Panduro, R. *Interaktiv opstilling til science center*, Master thesis, Institute of design and control, DTU 1996.