

Part Science Part Magic: Analysing the OWL Outcomes

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“How will you go about finding that thing the nature of which is totally unknown to you?”
- meno, from Plato's dialogue (in Solnit, 2005)

“Ah! It's like if we ask someone 200 years ago and they describe a vacuum cleaner.”
- OWL participant

ABSTRACT

Art and Science, just like Science and Magic are seen as distinct practices, requiring distinct world views. In the OWL project we call on, cross-fertilise and blur boundaries between all three. The project is predicated on Clarke's third rule of technology prediction, that “any sufficiently advanced technology is indistinguishable from magic” (Clarke, 1984). From this standpoint we are developing rigorous processes to support magical thinking, with the aim of understanding how to support the conception and development of technologies that we can't yet imagine, to the point where they can be evaluated. We are approaching our problem from a number of perspectives, including the development and use of placebo objects and devices, probe-like enquiry through one on one interviews and workshops where we encourage people to make their own exploratory devices, and thereby extend and challenge the way we, as design researchers, are thinking about technology conception and design. We present here our burgeoning approach to analysing the OWL interview outcomes. New processes demand new techniques. We draw on well established methods and consider how they might be subverted to support our needs.

Author Keywords

magical thinking, card sorting, participatory design, embodied inquiry

ACM Classification Keywords

H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

INTRODUCTION

The OWL project is an ongoing process of which the OWL Bodyprops form a part (Wilde and Anderson, 2009). The bodyprops are a series of open and speculative body-devices designed without a predefined function and tested as design 'probes' in order to ascertain their functionality. Instead of beginning with a design brief or a particular set of technologies, we created a small series of upholstered fabric dummies that could operate like 'placebos'. (Dunne and Raby, 2002) These props are designed to be worn on the body in such a way that they

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would challenge the wearer and might provoke or support a strong emotional reaction. The bodyprops are exposed and evaluated through a fitting and interviewing process that is designed to encourage and record elements of lateral thinking and subconscious associations. The interviews have been undertaken in Europe, Australia, North America and Japan with participants from a range of backgrounds, lifestyles and age groups. In each case participants have been fitted with a set of 6 bodyprops, and asked questions about what each device might be called, what it might do if it contained yet-to-be-imagined technology, and what desire might correspond with it (Reiss, 2000). The open format of the interviews has resulted in responses that are open-ended and idiosyncratic, difficult to collate, group and analyse. Yet cultural tendencies, and unexpected synergies also seem to emerge. We discuss here our approach to analysing such unconventional material, using card sorting as a starting point, from which we are attempting to move towards a unique methodology. We discuss our blending of art, science and design techniques in the pursuit of new outcomes. We lay out our interview process, and, using clear examples from the data collected, walk through our first attempts at analysing the data.

ART, SCIENCE, MAGIC

Art and Science can be seen as two different approaches to the unknown. Both are searching the unknown, with art aiming to immerse itself and science engaged in a highly formalised process of making the unknown “known”. When it comes to artefacts, art is engaged in the production of meaningful artefacts and science, represented here by ethnography, is concerned with collecting artefacts to document their meaning. Of course this kind of meaning making is offered up from a particular cultural perspective. As Dourish (2006) explains, ethnography is not only “about” the culture under study, but equally, implicitly or explicitly, “about” the cultural perspective from which it is written and that of the audience to whom it is presented. Clifford Geertz famously described culture – the object of anthropological ethnographic inquiry – as “stories that people tell themselves about themselves,” and, by the same token, by telling an ethnographic story about some Other, the ethnographer also tells a story about ourselves.

Defamiliarisation

Defamiliarisation is common to ethnography and art, and is also in use in systems design. The idea of treating the familiar as ‘anthropologically strange’ was introduced to ethnographic fieldwork practices in 1965 “By according the most extraordinary attention to people's ordinary

actions ethnographers can explicate how the familiar structures of everyday life are routinely produced and sustained” (Crabtree, 2009). In systems design, defamiliarisation has been used in much the same way, to render the familiar strange so that designers might appreciate the ways in which people ordinarily or ‘naturally’ understand social or cultural life and the various objects and implements employed therein. (ibid) More recently it is being used in design to defamiliarise through narrative to “provide alternative viewpoints on assumptions in the design process itself.” (Bell, in Crabtree, 2009).

Our use of defamiliarisation is informed by both of these approaches, yet our process leans more directly on the artistic (as opposed to ethnographic) technique of defamiliarisation, where the audience (in the case of the OWL interviews, the participants) are forced to see what might at first seem to be a common thing in an unfamiliar or strange way. The intention remains to enhance perception of the familiar, but rather than rendering common everyday practices strange, we propose ‘already-strange’ objects and then render their imagined use strange. By doing this, we disrupt assumptions on the part of the participants, and thereby short circuit their usual reactions, habits and tendencies. This in turn disrupts assumptions that we, as designers, may have – it becomes a tiered process. It is easy to be vague and wistful when discussing the unknown, we are using these techniques in order to have very precise and detailed conversations about objects and possibilities that do not exist.

Defamiliarisation (Shklovsky, 1965) is a basic artistic and satirical strategy central to both Surrealism and Dada. It is based on the idea that the act of experiencing something occurs inside the moment of perceiving it and that the further you confuse or otherwise prolong the moment of arriving at an understanding, the deeper or more detailed that understanding will be. Hence the interest for both ethnography and design. Defamiliarisation is epitomized in the surrealist slogan "making the ordinary extra ordinary". (Lefebvre, 1991) Using defamiliarisation as an artistic, rather than ethnographic technique, means we remove the need for impartial observation and are free to turn the technique onto the participants instead. By shifting the way people think about technologies, we hope to ‘socially transform or emancipate’ these technologies (see Crabtree, 2009). More importantly though, we are trying to develop clear frameworks and techniques for the development of new kinds of technologies, so that the new and previously unimaginable can be developed deliberately.

THE INTERVIEWS

The OWL interviews are a three part process: participants are fitted with a bodyprop and asked to reflect on their inner experience, then to articulate how it feels, what it’s called and what it does. They then are asked to match a desire with the device. This brings their focus in relation to the external world. Finally, each participant sets up a self-portrait to formalise their relationship to the bodyprop and confront the notion of an external gaze. The entire process is quite formal to highlight the ambiguous nature of what we are requesting, as well as of the devices themselves. At the same time it remains open, to shift in response to participants reactions and needs. The aim is to create an emergent, imaginative space where people will both discover and articulate what each body-device is. We ask simple questions like: What is it? What does it do? How does it feel? When would you wear it? We attempt a shift from the banality of everyday to a more fantastical mindset where our subjects can give



Fig.1: OWL bodyprops

themselves extra ordinary powers in response to what they imagine the body-devices might allow them to do.

To date 25 interviews have taken place. Many of the responses are fantastical and it’s difficult to know how to correlate the data into material that might be useful for design. In this way the interview response data is not dissimilar to Cultural Probes returns that are meant as inspiration for design rather than hard ethnographic materials. According to Gaver et al,

The Probes simultaneously make the strange familiar and the familiar strange, creating a kind of intimate distance that can be a fruitful standpoint for new design ideas. They produce a dialectic between the volunteers and ourselves. On the one hand, the returns are inescapably the products of people different from us, constantly confronting us with other physical, conceptual and emotional realities. On the other hand the returns are layered with influence, ambiguity and indirection, demanding that we see the volunteers through ourselves to make any sense. This tension creates exactly the situation we believe is valuable for design, providing new perspectives that can constrain and open design ideas, while explicitly maintaining room for our own interests, understandings, and preferences (Gaver et al., 2004)

Yet our concern in the OWL project is to arrive at a clear methodology for supporting design processes, not simply to gain inspiration for design.

DEALING WITH UNCONVENTIONAL DATA

When confronted with outcomes that resist categorisation, existing methodologies can be employed as a starting point, or scaffold from which to develop a viable, custom approach. Card sorting is a technique used to understand how people think about content and categories. (Nielsen, 1995, Spencer, 2009) As a process, it seems to parallel many aspects of the OWL interview process. It is a low-tech method for finding solutions in the design of technological systems. It is an embodied process that supports instinctive, tangential responses that need not adhere to a clearly articulated logic. The logic, rather, is extrapolated from the final results in any way that is useful. Card sorting is applied when the variety in the items to be organised is so great that no existing taxonomy is accepted as organizing the items; when the similarities among the items make them difficult to divide clearly into categories; and when members of the audience that use the environment being designed may differ significantly in how they view the similarities among items and the appropriate groupings of items. (Spencer and Warfel, 2007) Many aspects of card sorting resonate well with the OWL interviews. The bodyprops are technology-free, and are used as a mode of enquiry about the conception and design of body-worn

technologies. We employ disruptive techniques to destabilise logical systems that may be overlaid on the process, and thereby support the imagination of unfamiliar and, as yet, unknown solutions and responses. There are also clear parallels in when card sorting is used, and the kind of data we have for OWL.

It is natural to draw on experience and interpret the world based on what we know. The OWL project intentionally disrupts this instinct. It is both action and process, just as card sorting is both action and process. Such embodied techniques support lateral, instinctive connections. By looking at card sorting as an analysis method (rather than as a tool with which to interrogate user groups), we can support an instinctive analysis of the interview data.

A case study analysis

When we began our analysis we had 22 completed interviews with specific responses to the 6 different OWL objects. Each response consists of a photo and a written description in the format: Name, function and associated desire. Faced with this odd set of data we decided to print each response out on paper and hand sort them (Fig. 2).



Figure 2. Hand-sorted and marked-up data

We outlined above how card sorting appears to be a fitting action within the OWL process and there was something about the manual handling of these little slips of paper that appealed to us. One could venture that the OWL process to such a high degree started as a hand crafted experience that the manual handling of the data seemed a logical choice. We sorted each response by device grouping them clearly by continent: Europe, Australia, North America and Japan. We then stuck them together physically and started reading each set separately. It quickly became clear that while the data was all over the place, there were certain things we could say about the responses. Inspired by traditional statistical terms such as mean, mode and standard deviation, or outlier,¹ we decided to identify the following:

tendency A and B: Most devices have one or two interpretations that reoccur and can be grouped into two tendencies.

outlier: the significantly different response

desires: simple count of which desires were chosen

consensus: the general direction of the interpretation.

If we take the example of “the hand”, we can see how this plays out. “The hand” is in many ways the simplest of the body devices, a long narrow padding that fits inside the palm of the hand. It buffers the hand from touched objects and it encourages closing the hand into a fist. Visually it references bandaging and protective work and sports gear. Like all the devices “the hand” generated 22 interview written responses in the format: Name, function and associated desire as well as 22 photos. When

analysed as described above “the hand” yields the following terms:

tendency A: Care. Defensive.

Sensitive Memory [Brings forth sensitive memories, long forgotten, and inspire activity]

Protection [I feel like my entire life is consumed by the protection of Kayla]

tendency B: Action. Offensive.

Fist [Configures hand as a fist]

Strike [Enhances my ability to strike at injustice. Gives me power - secret power.]

outlier: Emits ultrasonic disorientation ray

desires: Power [7], Tranquility [5], Physical activity [3],

Independence [3], Family [2], Curiosity [2],

Acceptance [1], Order [1], Idealism [1]

consensus: Force and protection

most striking name: Stone Hand

Where “the hand” is maybe the least challenging of the devices there is no question that “the Owl” is the hardest one to wear and come to terms with. The owl sits on the shoulder, tightly attached to the chest with straps, it is touching the side of the neck, forcing the wearer to slightly crook their head. It is deliberately designed to be uncomfortable. The data for “the owl” reads:

tendency A: Support

advisor [ever present personal advisor consistent and confident]

tendency B: destruction

Sucks blood [Sucks blood and makes me disappear]

Self hate [Makes you see and feel all your weakness and darkness - can see and feel the murky self hate of others as well]

outlier: Allows you to hear long distance as well as various pitches.

desires: Social Contact [4], Tranquility [4], Independence

[3], Idealism [3], Power [2], Order [2], Vengeance [2],

Curiosity [2], Status [2], Romance [1]

consensus: comfort and destruction

most striking name: Human Wart, Octopus Arma

If we allow ourselves to think like designers for a moment, data sets like these gives us very clear directions. The Function of “the hand” is very clearly going to be centered on notions of Force and Power. Its functionality will be that of facilitating an active channeling of energy outwards as action or inwards as protection. The device will probably “push back” inside the hand and its identity will be close to that of a weapon or an amulet. The owl is a much darker object, and it remains much harder to “design”. The owl hates you. It is an invasion, a burden and a hindrance. So how will it advise and give you new abilities [such as hearing long distances, etc]? Can we re-design it so that it stays negative but, through giving body to that negativity, allows for some release? Or is the release of taking it off sufficient? How do we design objects that are hard to use? Many everyday tools and devices are hard on the user, and many need to be. Some things should only be used for a very short time, as they expose the wearer to harmful environments or activities. Can we look at “the owl” as a possible HazMat device? To us, this is indeed an interesting avenue to explore.

DISCUSSION

Bell, Blythe and Sengers (2005) suggest that the power of defamiliarisation is as a means of understanding. As can be seen in the extended quote from Gaver et al., above, cultural probes make strange as a way to support empathic engagement between designers and users. The aim is not to become the other but to make sense of the other through oneself. This resonates strongly with aesthetic seeing and creative understanding discussed in (Bakhtin, 1986, Hicks, 2000, Wright and McCarthy, 2008), and is a clear aim shared by the OWL process. The

¹ <http://www.ltcconline.net/greenl/courses/201/descstat/mean.htm>

interviews provide a setting for people to provide highly intimate information about how they see and experience the world, yet they are never asked any of these things directly. By defamiliarising the way we think about technologies we open up an intimate space between the participant and the interviewer that naturally lends itself to an empathic connection, without which the interview itself stalls. A natural result of this is that the interview responses are highly personal and idiosyncratic.

Our decision to use card sorting as a basis from which to design our own methodology was instinctive, and founded on the reasoning provided above. Crabtree et al. (2009), discuss some dangers in reappropriation and partial or selective use of ethnomethodologies in design. They caution that it can result in “little more than ‘scenic features’ of action and interaction” and “sensitizing designers to little more than the grossly observable features of a setting or culture” (citing Button, 2000).

The OWL project exists to examine and question the methodologies we use to develop technologies, and to create new methods that can support a move towards the creation of non-incremental outcomes. From the outset we have been cautious about (a) preempting our development process, making gratuitous decisions in order to find ways to move forward, and (b) doing what we know. While new settings don’t necessarily require new methods (Crabtree et al., 2009, in response to Bell et al, 2003), it is clear to us that if we want to shift the kind of outcomes we are getting from exploratory research, then we will need to shift our approach. If for nothing else to keep our minds open to outcomes that are maybe not even just unexpected but even un-sortable.

Card sorting and basic statistics were inspirations and instinctive starting points for our process, but in a sense any other method may have worked. What was important in our process was finding a way to move forward, so that we could understand what choices might be appropriate - this knowledge needed to emerge from an embodied process, in accord with the way the OWL project has been supported to evolve from the outset. By “doing it wrong” we are able to turn the process inside-out and allow results to emerge from this oddly shaped data. We could not in good faith have conducted a real card sorting much less a statistical analysis on the interview results. Too much poetry and variation would have been lost. Our next step will be to invite colleagues from different fields to participate in our search for appropriate methodologies by sorting and re-sorting the OWL material.

FUTURE DIRECTIONS

The OWL project is a multi-faceted project that includes the interviews we discuss here and also a new series of workshop formats. The interviews are stage 2 within a four stage process, the design of the next two stages is being influenced by two processes that are currently ongoing: a workshop format, in which we open the actual design and shaping of the objects to a group of participants, and a new workshop format that will be used to look at alternative methods for sorting and interpreting the data. We expect that these two movements will significantly influence how we progress from this point forward. In this sense we see our role as supporting this work to emerge from the broad base of our reflective process, the participants and the design community.

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