Interaction Design, Society and the Public Sector

The Role of Research: *Participatory Design*

Jon Kolko

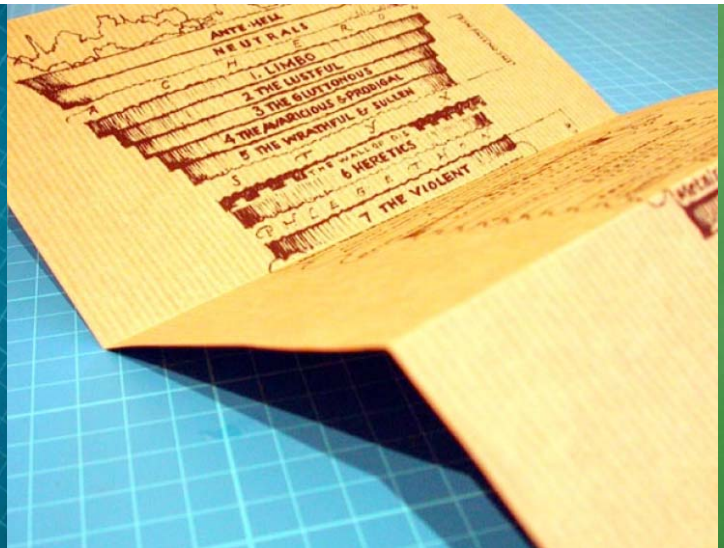
2B

Participatory Design

[2B] Bill Gaver

Bill's group has been previously responsible for describing a method for capturing unique, qualitative, and highly personal material from users – called Cultural Probes.

- Designers create incomplete artifacts; the user completes them
- Tasks are focused on culture, and much less goal directed than CI
- Embeds creativity in the hands of "non-designers"
- Fosters a dialogue between designer and "non-designers"



[2B] Bill Gaver

"As with many Probe or probe-inspired studies, we included a disposable camera with our packages, repackaged and labelled with requests for particular pictures. Many of ours were extremely open-ended or even absurd: "something you'd like to get rid of," "the spiritual centre of your home," and "something red."

On the one hand, we found it interesting to see how people dealt with these problematic requests. On the other, accidental glimpses of the home's atmosphere were as informative to us as more purposeful presentations made by the volunteers: if nothing else, the requests provided a structuring technique that encouraged people to take pictures of their homes that they might not normally do.?"

[2B] Bill Gaver

"Our Probe results are impossible to analyze or even interpret clearly because they reflect too many layers of influence and constraint. Of course, any user-testing involves a cycle of expression and interpretation. Researchers express their interest through questionnaires, experimental tasks, or the focus of their ethnographic observations; volunteers interpret researchers' motivations and interests and express themselves in response; and researchers interpret the results.

But whereas most research techniques seek to minimize or disguise the subjectivity of this process through controlled procedures or the appearance of impersonality, the Probes purposely seek to embrace it."

[2B] Bill Gaver

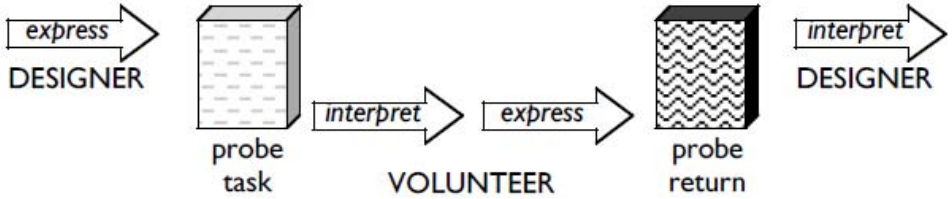
"None of these tasks (or any of the others we used) produced returns that were easy to interpret, much less analyze. How could you compare two photographs, even if you knew both were meant to show "the spiritual centre of the home?" It would be difficult to know for certain what the photographer had meant to highlight, and impossible to know its exact significance. Similarly, it is tricky to analyze friends' and family maps, knowing that they've been shaped and constrained by an arbitrary visual metaphor. How can you extract user requirements from dreams?"

What is Bill's point, regarding interpretation and user requirements?

Do you agree?

[2B] Bill Gaver

"What is the point of deliberately confusing our volunteers and ourselves? Most fundamentally, it is to prevent ourselves from believing that we can look into their heads. By producing returns that reverberate with mutual influence, it is impossible to arrive at comfortable conclusions about our volunteers' lives or to stand back and regard them dispassionately. Instead, we are forced into a situation that calls for our own subjective interpretations."



Describe the legitimacy of this approach.

[2B] Bill Gaver

“Over time, the stories that emerge from the Probes are rich and multilayered, integrating routines with aspirations, appearances with deeper truths. They give us a feel for people, mingling observable facts with emotional reactions.”

[2B] Bill Gaver

- *Asking unambiguous questions tends to give you what you already know, at least to the extent of reifying the ontology behind the questions. Posing open or absurd tasks, in contrast, ensures that the results will be surprising.*
- *Summarizing returns tends to produce an "average" picture that may not reflect any individual well, and that filters out the unusual items that can be most inspiring.*
- *Analyses are often used as mediating representations for raw data: they blunt the contact that designers can have with users through Probe returns.*
- *Seeking for justifiable accounts of Probe returns constrains the imaginative engagement and story-telling which can be most useful for design.*

Relate cultural probes to contextual inquiry.

[2B] Liz Sanders

Liz's research has been dedicated to bringing users into the creative process – to help balance the push towards consumption with the push towards creativity:

Consume

Everyone else

Create

Designers

[2B] Liz Sanders

"We define co-creation as any act of collective creativity that is experienced jointly by two or more people. How is co-creation different from collaboration? It is a special case of collaboration where the intent is to create something that is not known in advance. The concept of co-design is directly related to co-creation. By co-design we refer to collective creativity as it is applied across the whole span of a design process. By these definitions, co-design is a specific instance of co-creation."

[2B] Liz Sanders

"Value is a multidimensional concept with a range of meanings. Value can refer to rank, importance, material or monetary worth, power, or usefulness. Values also refer to one's judgment of what is important in life. From a business perspective, a value chain refers to all the functions and activities an organization needs to undertake in order to create or add value to its products or services. Value co-creation refers to one or more form(s) of value(s) produced through the collective creativity of people.."

[2B] Liz Sanders

Liz describes four levels of creativity:

1. Doing – accomplishing something through productive activity
2. Adapting – make something one's own by changing it in some way
3. Making – using one's hands and mind to create something that didn't exist before
4. Creating – to express oneself or innovate

Is this framework valid?

[2B] Liz Sanders

Liz describes three levels of value:

1. Monetary value – the desire to make money in new ways, more efficient ways, or ways to provide revenue over long periods of time
2. Use of Experience value – transform consumers into users to better meet people's wants and needs
3. Social value – aspirations for long term, humanistic, and more sustainable ways of living.

CO-CREATION OF VALUE	Objectives	Mindset	How people are seen	Deliverables	Timeframe
Monetary	Production Consumption Maximization of shareholder wealth	Business Commercial Economic	Customers Consumers	Marketplace results Business advancement Products that sell	Short-term
Use/Experience	Positive experiences Personalization Customization	Experience-driven Service orientation	End-users Empowered consumers	Products and services that people need and want	From life-stage to lifetime Long-term
Societal	Improve quality of life Sustainability	Human-centered Ecological	Partners Participants Owners	Transformation Ownership Learning Behavior change Happiness Survival	Over many generations Longer-term

[2B] Liz Sanders

"In the fuzzy front end, it is often not known whether the deliverable of the design process will be a product, a service, an interface, or something else. The goal of this exploration is to define the fundamental problems and opportunities and to determine what is to be, or should not be, designed and manufactured."

[2B] Paul Dourish

"Extrapolating from current trends in the development of low-cost and low-power devices, ubiquitous computing proposes a digital future in which computation is embedded into the fabric of the world around us.

In this world, our primary experience of computation is not with a traditional desktop computer, but rather with a range of computationally-enhanced devices—pieces of paper, pens, walls, books, hammers, etc.

The opportunity implied by this ubiquitous computing vision is to capitalise on our familiarity, skill and experience in dealing with the everyday world around us. The world can become an interface to computation, and computation can become an adjunct to everyday interaction."

Where do you experience this idea of context-aware computing today?

[2B] Paul Dourish

"Uses of context vary. Broadly, context is used in two ways in ubiquitous computing systems. In the first category, some systems encode context along with information so that it can later be used as a retrieval cue.

A second, more common approach is to use context dynamically to tailor the behaviour of the system or its response to patterns of use."

[2B] Paul Dourish

Positivist theories derive from the rational, empirical, scientific tradition. By analogy with the way that physical scientific theories seek to reduce complex observable phenomena to underlying idealised mathematical descriptions, positivist theories seek to reduce social phenomena to essences or simplified models that capture underlying patterns.

Accordingly, positivist theories seek objective, independent descriptions of social phenomena, abstracting from the detail of particular occasions or settings, often in favour of broad statistical trends and idealised models. Positivist theories are often (although not always) quantitative or mathematical in nature.

What does it mean to reduce a social phenomena to essences?

[2B] Paul Dourish

*In contrast to the objective and quantitative nature of positivist theories, **phenomenological** theories are subjective and qualitative in orientation. By "subjective" I mean that they regard social facts as having no objective reality beyond the ability of individuals and groups to recognise and orient towards them; in this view, social facts are emergent properties of interactions, not pregiven or absolute but negotiated, contested and subject to continual processes of interpretation and reinterpretation.*

Phenomenology turns analytic attention away from the idea of a stable external world that is unproblematically recognised by all, and towards the idea of that the world, as we perceive it, is essentially a consensus of interpretation.

How can the world, as we perceive it, be a consensus of interpretation?

[2B] Paul Dourish

The relevance of this distinction is that engineering approaches—including those that tend to dominate discourse about ubiquitous computing—inherit a positivist tradition, while many approaches to social analysis relevant to HCI design... are heir to a phenomenological legacy. Where positivist approaches posit accounts of social life that are independent of the observer, phenomenological theories note that agency and interpretation are the central facets of all social action—including the social action of theorising about social action.

What does this mean?

[2B] Paul Dourish

Context isn't something that describes a setting; it's something that people do. It is an achievement, rather than an observation; an outcome, rather than a premise.

[2B] Paul Dourish

The major design opportunity concerns not use of predefined context within a ubiquitous computing system, but rather how can ubiquitous computing support the process by which context is continually manifest, defined, negotiated and shared?

... Looking at everyday action, then, pays off in two ways. Firstly, it brings to our attention a set of problems about the ways in which context is conceived of in current design practice.

Secondly, it provides us with a potential solution by furnishing us with the means to understand where our attention might instead be directed. The problem is not that context does not matter; it matters a great deal. Rather, the problem is that context is being continually renegotiated and defined in the course of action, and through this negotiation, the actions that individuals undertake can become intelligible and meaningful to each other.

React to this based on your research.

[2B] Paul Dourish

What this suggests, then, is that the major design opportunity concerns not use of predefined context within a ubiquitous computing system, but rather how can ubiquitous computing support the process by which context is continually manifest, defined, negotiated and shared?

2B

Participatory Design

In groups of two or three, synthesize these three readings into a single cogent argument of no more than five sentences. [Fifteen Minutes]