

# History and Precedent in Interaction, Technology, and Experience Context

Jon Kolko

The logo for ac4d, featuring the letters 'a', 'c', '4', and 'd' in a bold, lowercase, sans-serif font. The 'a' is red, the 'c' is purple, the '4' is grey, and the 'd' is green.

ac4d

1B

Context



## Paul Dourish

What we talk about when we talk about context



“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?

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“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?

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“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?

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“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?

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“Four assumptions seem to underlie the notion of “context” as it operates in these systems.

– Firstly, context is a form of information. It is something that can be known (and hence encoded and represented much as other information is encoded and represented in software systems).”

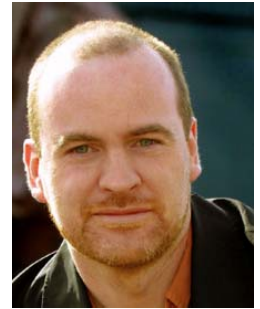
This alternative view takes a different stance of each of the four assumptions mentioned above:

– Firstly, rather than considering context to be information, it instead argues that contextuality is a relational property that holds between objects or activities. It is not simply the case that something is or is not context; rather, it may or may not be contextually relevant to some particular activity.

Explain the distinction.

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“Four assumptions seem to underlie the notion of “context” as it operates in these systems.

– Secondly, context is delineable. We can, for some set of applications or application requirements, define what counts as the context of activities that the application supports, and do so in advance.

This alternative view takes a different stance of each of the four assumptions mentioned above:

– Secondly, rather than considering that context can be delineated and defined in advance, the alternative view argues that *the scope of contextual features is defined dynamically.*

Explain the distinction.

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“Four assumptions seem to underlie the notion of “context” as it operates in these systems.

– Thirdly, context is stable. Although the precise elements of a context representation might vary from application to application, they do not vary from instance to instance of an activity or an event. The determination of the relevance of any potential contextual element can be made once and for all.

This alternative view takes a different stance of each of the four assumptions mentioned above:

– Thirdly, rather than considering that context is stable, it instead argues that context is particular to each occasion of activity or action. *Context is an occasioned property*, relevant to particular settings, particular instances of action and particular parties to that action.

Explain the distinction.

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“Four assumptions seem to underlie the notion of “context” as it operates in these systems.

– Fourthly, and most importantly, context and activity are separable. Activity happens “within” a context. The context describes features of the environment within which the activity takes place, but which are separate from the activity itself.

This alternative view takes a different stance of each of the four assumptions mentioned above:

– Fourthly, rather than taking context and content to be two separable entities, it instead argues that *context arises from the activity*. Context isn’t just “there”, but is actively produced, maintained and enacted in the course of the activity at hand.

Explain the distinction.

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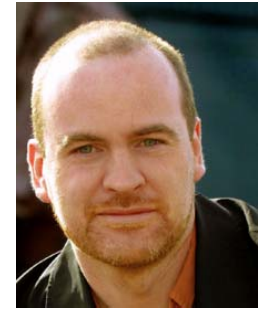
“Context isn’t something that describes a setting; it’s something that people do. It is an achievement, rather than an observation; an outcome, rather than a premise.”



Do you agree? Why or why not?

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“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 from last quarter.

## Genevieve Bell

### Making by Making Strange: Defamiliarization and the Design of Domestic Technologies



“The challenge for researchers and designers is to see beyond the naturalizing of devices and experiences to their cultural roots. In this article, we argue that “defamiliarization” is a useful tool for creating space for critical reflection and thereby for opening up new possibilities for the design of domestic technologies. Making domestic life and technologies strange provides designers with the opportunity to actively reflect on, rather than passively propagate, the existing politics and culture of home life and to develop new alternatives for design.”

What happens when something becomes familiar?

What happens when something becomes strange?

## Genevieve Bell

Making by Making Strange: Defamiliarization and the Design of Domestic Technologies



“Certain themes keep recurring; for example, the Microsoft Kitchen of the Future [Microsoft 2004], MIT Media Lab’s CounterActive, [Kaye et al 2000] and Sunbeam’s mixer all track and support users in following recipes. Yet despite ongoing industrial interest, none of the new domestic appliances seem to catch on. Even in the absence of cultural concerns, we need to find strategies to identify and break out of the central metaphors dominating current domestic information appliance design.”

Where do these themes come from?  
Why?

## Genevieve Bell

Making by Making Strange: Defamiliarization and the Design of Domestic Technologies



The statements are intended to defamiliarize some of the more standard HCI design goals:

Efficiency is overrated.

All tomatoes are not alike (and neither are users).

I am not my wallet.

Technology or user: Who's in charge?

No Home is an Island.

Homes are in communities; homes resist communities.

The user is plural.

Not everyone has broadband.

There is an elephant in the room.

There is a ghost in the machine.

Play is not the same as entertainment.

Where do these themes come from?  
Why?

## Genevieve Bell

Making by Making Strange: Defamiliarization and the Design of Domestic Technologies



“Making domestic life and technologies strange provides technology designers with the opportunity to actively reflect on, rather than passively propagate, the existing politics and culture of home life.”

What do you think of this as a design technique? When is it most useful? When is it least useful?

# 1B

## Context



What is Context? Why is it important?

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