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Beyond user centric design

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Abstract: This working paper proposes a critical re-examination of the dominant and spreading logic of user centric design (UCD). The recognition and application of UCD has reached far beyond the design realm and is spreading into business and engineering environments, as a critique towards self-centred perspectives in those areas. As such, it is justified and successful but the question rises if we have reached the limits of this perspective when used as a dominant guiding star for the development of products, services and societal expressions at large. Is it time to critically question if not such a logic comes at the expense of other ways of seeing the world? These other world views could be affected non-users, future generations, people in the production pipelines and non-human beings and systems. Such questions seems justified in the increasing environmental crises and in the emerging perspective of non-anthropocentric design.

Keywords: Systemic Design, Systems Oriented Design, User Centred Design (UCD), Human Centred Design (HCD), Non-anthropocentric design, Sustainability

Introduction

This working paper will bring forward a criticism against the dominating attention to user centric design (UCD) and discuss it from a perspective of systemic design.

User centred design has gained an important position and attention in the design world and beyond. The spread of design thinking into management and engineering as well as the public sector has contributed to this. It has been useful and appropriate to bring these fields to a better understanding of user needs and their experiences.

This development has largely been beneficial for the consumers, the users of systems and operators of machines. The attention has also been directed towards the inner life of organisations and the internal users. In addition, universal design has expanded the agenda to include all humans. The development has been driven by its obvious congruent market orientation. Being user-oriented is also good for sales. It can be coupled to branding and experience design easily. The current focus in service design on user experiences has driven this further.

User oriented or user centric design has hence become a leading beacon for many. In design practice as well as in schools user orientation is a priori, taken for ethical beneficial and a goal for achievement. Also other professions like engineering and management have adopted user orientation within the concept of Design Thinking (Boland & Collopy, 2004) (Brown & Katz, 2009).

However, there are indeed some critical voices in the design dialogue. For example, the concept of user centric design has been discussed and questioned by Restrøm (Redström, 2008) clarifying the difficulties in the concept, proposing that the user is a fiction, designed during the design process. Baumer points to the blurred division of users and non-users (Baumer, 2015) and Wagenknecht defines the role of the unwantedly affected non-users, the *affected bystanding*, who comes with marginalization and passivity (Wagenknecht, 2017). Don Norman looks at Human-Centred Design (HCD) from a critical perspective, comparing it with, what he calls, activity based design (Norman, 2005). The arguments are that improving things for one individual or group could make things worse for others. In addition, users develop over time, so what seems appropriate now might be wrong in the future as the user gains or loses proficiency over time. Norman considers Human centric design to be harmful when it detracts attention from the activities and the complexity of the design. By criticising HCD, being rooted in interaction design, he exemplifies how human centric design can make things worse by pointing at the numerous examples of software, getting more cluttered with functions for each version, while usability deteriorates. This drift into cluttered interfaces is a result of direct responses to user needs. Don Norman argues that an orientation towards action would bring a different result and give the designer a more leading role. The critique also implies that HCD does not efficiently innovate. Don Normans focus on activity and how activity changes over time by gained proficiency indicates a more systemic view.

Vanessa Thomas et.al. go right to the core of the problem, criticising how HCD is insufficient in our times and how this is framed in the ISO standard, making it difficult to pursue a more holistically sustainable design approach. They state:

These design approaches are perpetuating the trend of incremental improvements to the living standards of the already privileged and digitally connected whilst ignoring the broader environmental and socio-political effects of digital technologies. (Thomas, Remy, & Bates, 2017)

One might claim that UCD is catering for some of the weaknesses of HCD addressed by Norman and Thomas. However, in the age of the Anthropocene we need to lift the discussions to a higher level. This paper intends not to add to the discussion and refinement of UCD or HCD. Rather I want to take a step back, to a birds eye view, and raise the criticality towards the design methodologies and theories that put the idea of the human user at the centre on the costs of other concerns. The critique against a user centric design approach might contain several points addressed below. For each of them one could point to practice cases that would demonstrate e.g. sustainability etc. and more advanced approaches. However, the dominating user oriented approach in design is structurally not including these issues. It puts one aspect in the centre and this has unavoidably come at the expense of others.

What is wrong with user centred design?

In the following, I will elaborate on some of the critical points and consequences of a user centred design approach. The criticism is presented in five points.

Anthropocentric

The first criticism is about worldview. User centric perspectives applied in design are by their nature anthropocentric. This means that it is centred on the needs, perspectives and worldviews of Homo sapiens, setting humans individually and humankind in general in the centre on the cost of the rest of the living world. In times when our planet is threatened by human activity, continuing to propagate a human centric worldview is no longer adequate. It is crucial to remove ourselves from the top of the pyramid and view the world from different perspectives. We need to take on a servant perspective towards the living world we are dependent on.

Not sustainable

The second criticism of user-centred design is that it does not cater for sustainability. From the anthropocentric worldview prioritising the solving of the needs of our fellow humans over solving other pressing issues, unavoidably follows unsustainable development and a further build down of our fundament to sustain life on earth. Action for sustainability is not a naturally integrated result from the user-centred worldview but is an addition to the human centric worldview, often implying actions that are against the user's spontaneous interest.

The same argument can be valid also when it comes to social sustainability. A user / consumer centric approach tends to be synergetic with immediate commercial perspectives. This comes at the cost of other perspectives, e.g. community dominated perspectives or other societal perspectives

Not based on the role of the agent

The third criticism against user centric design is that it does not cater for the role of the agent, meaning to act on behalf of others. A human centric approach is weak when it comes to agency, other than agency for the user.¹

This type of common-sense agency in design becomes ever more important, to include secondary users, affected bystanders or non-users, or non-human beings that are affected by the design intervention often in unintended ways. Agency implies to act against one owns primary interests. The moral dilemmas of agency are described in the principal-agent model (Laffont & Martimort, 2009).

Does not care for the people in the production process

The fourth criticism against a user centred perspective is that it does not cater for the production chain. Amongst the secondary users, most often forgotten, are the people involved in the production process. Seen from a systems perspective, the purpose of a company is manifold even if it is not expressed so. One could claim, depending on the analyses, that from a systemic perspective the root purpose of companies is to create jobs.

Does not cater for unintended consequences

The fifth criticism of user centred design is that it disregards unintended consequences of the design intervention. A user centric perspective is inherently un-systemic and thereby is not able to cater for the unintended effects of our interventions. It is a well understood feature of systems that they act counter-intuitively and that solving one problem will create new ones (Forrester, 1971). Therefore, any centric perspective will run the risk of overlooking the counterintuitive kickbacks from solving singular problems according to particular perspectives.

The issue of perception

The problem with particular perspectives is that they heavily inform our perception. We see what we want to see. This comes at the cost of other aspects that might be of importance. We are globally in such a situation where we cannot ignore the unintended consequences of our action. This leads to an increased attention to how things are interlinked across fields and domains. This means a systemic

¹ The notion of agency in design is used with great confusion. We have uncritically adopted the use of the term from sociology and philosophy where it is used differently than in most other contexts, e.g. in business. Agency as used in sociology and philosophy is an individual's capacity or ability to act on one's will. This is very different from the more common-sensual notion of agency to act on behalf of others (as used in business and economic theory)

perspective. From this criticism, we can draw the conclusion that any singular perspective runs the risk of creating more problems than it can solve.

User centred design is such a strong perspective and strong filter to help us meet user's needs. Its strong position at the moment comes partly from the perspective issues of industrial development, that traditionally has been techno centred and hence has disregarded the user. Balancing the techno or economic perspectives with human perspectives seems reasonable. But replacing singular dominant perspectives with others runs the risk of creating a similar dysfunctional situation as before, only with different parameters.

Because user centred design is geared towards seeing the world through the glasses of the user, the designer is in a servant position from the outset. Such strong one-centric perspectives are guiding the perception and dominate or exclude other considerations. This indicates that any "centric" approach is self-fulfilling.

In contrast, in SOD we propose to do out-of-focus investigations in the start to try to avoid to arrive at conclusions that are coloured or even constructed around centric perspectives. Later in the process, recognising the benefit of clear perspectives we intend to apply a multi- perspectives design strategy, where the different perspectives would balance out and triangulate each other.

Beyond user centric design

Several writers in design have moved towards investigating non-anthropocentric perspectives. One of the early discussions was raised by Knappett and Malafouris when inviting writers to elaborate on the theme "material Agency" (but here the notion of agency is used as the capacity to act on one owns will)

Material and nonhuman agency – surely this is a mistake? Is not agency a solely human property? How then can we devote a whole volume to a topic with such obviously shaky foundations? Certainly, the odds seem to be stacked against us when we think of agency as not only the capacity to act, but also the capacity to reflect on this capacity. A subject may feel his or her arm moving and recognise 'ownership' of that movement, but this is not necessarily the same as being able to reflectively understand that he or she is the cause or 'agent' of that movement (Gallagher 2007, p. 2). When agency is linked strictly to consciousness and intentionality, we have very little scope for extending its reach beyond the human. (Knappett & Malafouris, 2008)

Some architects have raised that discourse on a non-anthropocentric architecture, an architecture built for not only humans, but also allowing inhabitation by other species, to synergize and synthesize the co-living of species in urban habitats. Michael Hensel spearheaded this development by pointing to historical examples where architecture built for animals was more common. These architectures where partly built separate form human dwellings and partly combined. (Hensel, 2012).

This leads obviously to a systemic view on the coexistence of humans with other species. Marie Davidova demonstrated several experimental practice cases that involve a perspective of co-creation between the architect, the building material, (wood) and primitive organisms, in this case algae. (Davidová, 2017)

In design the issues and problems of an anthropocentric design have been problematized by e.g. Jönsson (Jönsson, 2015), who also proposes a design based on event rather than object. This might resonate with Normans action based design.

The idea of user and use reduces the potential complex relationship between object and actor (Latour, 2005) to a question of the object serving the user. The roles seem to be fixed: The providers of objects (and services) to the ones that receive them (the users). The user's role in such a scenario is relatively passive. Though this notion of division of roles is challenged by service design theory, where the user is allegedly co-designing the service in the moment of consumption, and the notion of participation and co-design inherent in user oriented design methodology. Still the user in service design is normally perceived as congruent with the consumer of particular services.

Hence, while co-design is inherently portrayed as an approach that reinforces a democratic design, by listening and involving the user it might not be what it seems. One could argue that user oriented or user centric design tends to reinforce the power divide in the liberalistic market economy and is politically not on the side of the disempowered but reinforces the means of the empowerment to increase their profit. The user is defined by her power as customer.

Susan Gasson implies a critical approach to user centric design and suggests "human centred design" as a *dialectic between organizational problem inquiry and the implementation of business process change and technical solutions.* (Gasson, 2003)

This indicates a design strategy that still keeps the human in the centre but that has multiple perspectives.

We have stated how user centric design, like any other particular perspective, is filtering our perception and reducing the amount of data. What is relevant is defined in the outset. This mechanism of our perception should be challenged so to include other seemingly irrelevant information in a design process, that might turn out significant seen from a different perspective.

This leads to a design strategy based on a de-centric outset to reach beyond ones preconception and break schemata. From that, we might arrive at a multi centric approach to design.

Defying the relevance filter helps breaking schemata and preconceptions

Multi centric design process

A very de-centric approach, where, in the outset, everything is equal, is probably not possible to maintain and to operate within. Our mind and perception is geared towards application of particular perspectives to interpret the world. Our perception is an active process and is in-separately linked to our cognition (Arnheim, 1969). The good thing with particular perspectives is that it allows us to see things in clear filters, reinforcing some aspects on the costs of others. It helps us to see more clearly

what affects certain actors in a system and what their needs are. It helps us lift out certain views from the grey cloud of information. Though we cannot defy the basic conditions of our perception, we can influence it through the rigging of our processes. Such a strategic move would be to implement multiple perspectives to critically interpolate between them.

A Multi-perspective approach to design has been proposed earlier by Bela Banathy (Banathy, 1997) and Churchman (Churchman, 1971). Also it is implicit in critical systems thinking (Midgley, 2000; Ulrich, 1983). A multi perspective approach is therefore an integrated part of modern systems thinking in how this deals with multiple actors. Banathy says:

Design choices and decisions are authentic to the extent that they are made by all people who constitute the design community, namely by all those affected by the future system. (Banathy, 1997) p. 172

Yet there is a nuance in the multi centric design process, as conceptualized here. It is addressing the issue of perception and filters rather than the multi-perspectives represented by those who constitute the design community. This applies to both individuals and groups. A group of people like a design-community can also become streamed into singular perspectives, e.g. a user centric way of looking at and addressing the problems at hand.

This implies multi-centric design approaches where user centric design is one of several “lenses” through which we look at the world. In SOD we have introduced the Four Perspectives model. This model is universally applicable to any topic or situation.

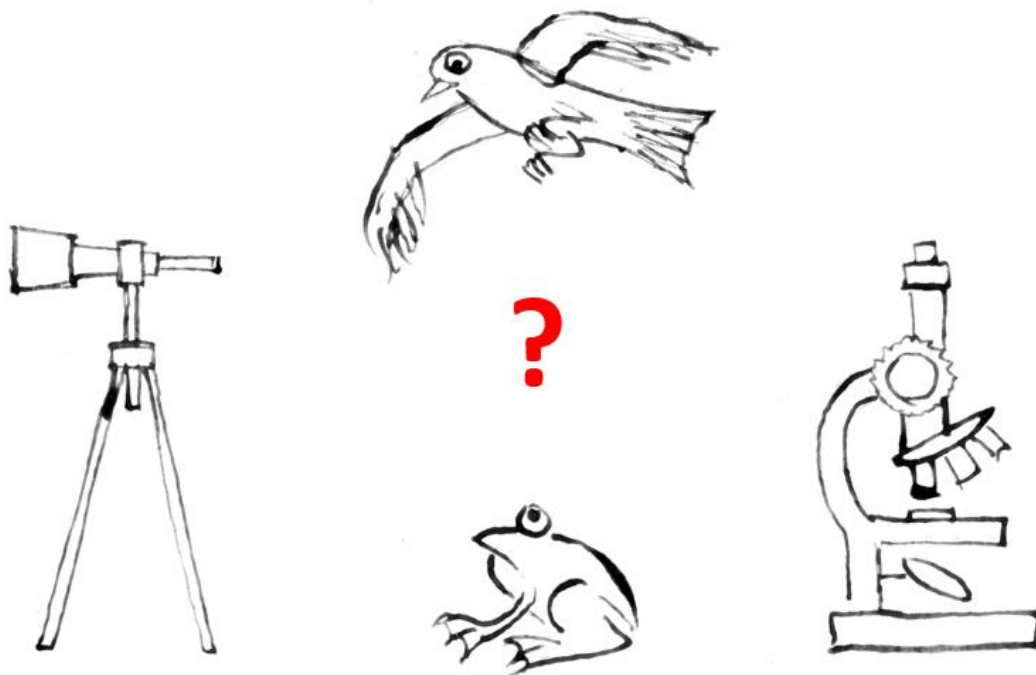


Figure 1 The Four Perspectives model: Bird, Frog, Microscope and Telescope (Birger Sevaldson 2018)

The four perspectives, the bird, the frog, the microscope and the telescope each change the mind-set of how one looks at the system or situation at hand. The Bird provides a total overview of the environment, the landscape and beyond, the frog provides a perspective from within the system or situation (could be the user), The microscope gives a view on the amount of details and microsystems at play, the telescope reaches far out to the horizon to lift out particular issues and details.

While the four perspectives is a global and generic model, perspectives could be applicable according to the actors involved in the situation. Each actor or force in the system would provide a different lens to see the system through. Such lenses would for example be the one discussed in this paper, a human centric perspective. This could be challenged by a citizen centric view, social design perspective, design ethics, sustainability, technology, politics and organizational design, economic issues, production processes and more. Each particular design process would have its own set of lenses. By applying as many of those lenses as possible to the design process, we are getting closer to a systemic interpretation of the situations we work with.

Most important we need to investigate possible side effects and unwanted outputs from the systems we design. By applying multiple perspectives, we easily can overcome the one-sided view resulting from singular perspectives. This helps us to interpolate different needs, it helps us to uncover unintended and counterintuitive effects from our interventions and it helps finding creative solutions and synergies between diverging needs.

The multi-perspective design process could benefit from being paired with the hybrid design process, that suggest that the use of multiple media and the changing between media in phases will create deeper insights and leaps in the design process (Sevaldson, 2005).

In a multi-centric design approach, some issues need particular attention:

- 1) How the perspectives are related and how they might be strategized and orchestrated. For that, we need a systemic design approach. We provide such a framework in SOD (Sevaldson, 2009, 2011) and tools to cope with it in e.g. gigamapping
- 2) The notion of agency as representative acting on behalf of others comes in the forefront.

Conclusion and further work

This is a working paper. It brings forward some of the criticism against user centered design and expands it to a more generic critique of singular perspectives. It points forward to a systemic design multi-perspective design strategy. The criticism is far from exhausted and would benefit from further development.

A step forward would be to develop design methodology and praxeology towards the use of multi-perspective design processes. This is already inherent in gigamapping as practiced in SOD. However, there seems to be a good potential in developing particular processes for the application of multi-perspective design processes.

Read more about SOD here www.systemsorienteddesign.net

Please send comments and suggestions to birger.sevaldson@aho.no

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