

Codesigning Visions, Uses, and Applications

Andrea Botero Cabrera (abotero@uiah.fi)
Kari-Hans Kommonen (khk@uiah.fi)
Iina Oilinki (iina.oilinki@helsinki.fi)
Maria Koskijoki (maria.koskijoki@uiah.fi)
University of Art and Design Helsinki UIAH / Media Lab /
<http://arki.uiah.fi>

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Abstract

An emergent idea in contemporary design discourse is that of users becoming actors in the design processes, especially those of ICT's and digital applications. It is clear however that users, or their wishes or needs, seldom initiate developments, nor are they in a position to suggest design or development processes. Our work concentrates on exploring ways in which the emerging possibilities of digitalization could be discussed, informed and envisioned with non-experts, before concrete product and business plans enter the stage. We will like to argue that it is possible to envision ways in which design research can give people tools to become more proactive rather than just reactive towards technological development. The paper illustrates some of our work in progress in order to understand this challenges, the work done with different communities, and the lessons learned along the way, in the context of co-designing visions for everyday life applications.

The position of the "users"

Contemporary design discourse has put forward the idea of users becoming more recognized actors in the design processes, especially of ICT's and digital applications. The emergence of diverse user-centred design approaches, the increasing use of ethnographically informed studies of people and their activities to inform R&D, and the growing bibliography and dissemination of cases testifies for this interest.

From these experiences one can point out the diverse assumptions that are involved, different disciplines have different answers, and the approaches are of various kinds. As a result, the information society becomes one of the frameworks in which the position and the role that users play in the design process are being negotiated. For the diverse fields of design the implications are crucial.

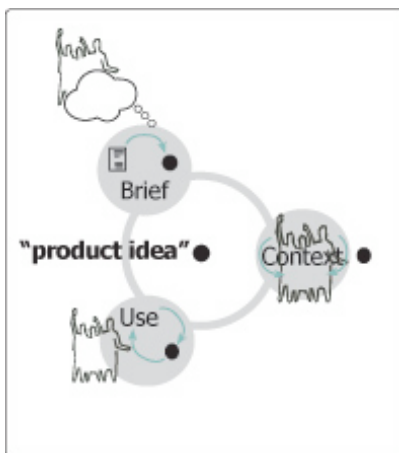
However, It seems to us that the practice of certain kind of technological determinism is still at the centre of the 'Information Society' project. The majority ICT developments start from an idea of a potential technology or a product, which then, in a design process, finds a form and a set of functions that appeal (or not) to its future users. The role of a well-defined product as the ultimate outcome of a "design process" still dominates the discussions, even if it is done from a "user centred perspective.

The concept of strategies and tactics, elaborated by De Certeau has been analysed by Andrew Feenberg, in his search for alternative ways to conceptualize and question technological development (Feenberg 1999). This analysis might help to shed some light in to the development of alternatives for our current deterministic situation. As De Certeau frames them, the concepts of tactics and strategies are helpful to understand games as a model for society. In a Game the range of actions of the actors is defined, but their moves are not determined. Feenberg argues, that conversely in technological development, by understanding the presence of both strategically and tactical positions, technological determinism might be challenged. We can see the development insted as negotiation process that is framed in a Game like situation.

What the Game really means and what are the components? De Certeau refers to strategies as *“the calculation (or manipulation) of the balance of forces which becomes possible once a subject of power (a firm, an army, a city, a scientific institution) is isolatable. Strategy presupposes a place that can be circumscribed as one’s own (un propre) and that can serve as the base from which to direct relations with an exteriority consisting of targets or threads (clients, competitors, enemies...)”* (Feenberg 1999:112).

From the current “product” driven perspective, to which we refer previously, we can then find 3 general strategies from where Designers and Producers act: **Brief, Use and Context**. These strategies do not exclude each other; they might be combined and presented in the same project at different stages, both in rhetorics and in practice.

(Fig 1 different bases from which to direct a strategy from the point of view of designers and producers.)



1. “Brief” oriented approaches– Hold the idea that the brief talks about the product, constitute its prerequisite and is mostly independent from the design (and even from the designers). With such an approach the success of the end result was (is) always measured against the presumable fit with that brief and/or to the apriori requirements. In one hand Design could be the solely responsibility of one person or even a team, more depending on the complexity of the project, its size and cost. In the other hand, end users are mostly represented by abstractions during the process and perceived as marketing constraints. There is usually poor communication between these actors

2. “Use” oriented approaches –become visible with an increased concern for the human aspects of product use

(heavily influenced by more traditional ergonomics and later on by disciplines such as Human Computer Interaction -HCI). The very basic level dealt mainly with “human factors” or the adaptation of technology to general constrains (Shneiderman 1980) The higher level shifts also to include the situation of use (Norman 1986) and lately the “product” as a constituent of whole experience (Norman 2002). In these cases end users start to appear as more concrete factors, that can be then called to validate, test and inform during certain faces of the project. Following this strategy it is possible to construct an idea of what type of user is being constructed for a commodity (Pantzar 1996). Users are called in to the laboratories and designers mostly, remain in them.

3. “Context” design approaches refer more or less to the interests in social structures and their interplay with the product design situation and the expected context of use. At the basic level it is claimed that “social factors” will adapt (try) and appropriate computer-created environments (or other products) to social –group- needs. However some critical approaches to technology development recognized that the survival and shift of agency in the decision making process of technology development, is not only contested in the social process, but can also be affected in the design process (Sclove 1995, Feenberg 1999). The higher level then pursues the alteration of both the social and the technical (Suchmann 1986, Winograd and Florez 1987, Weiser 1991), including the future situation of “use” as a premise for reflection and consideration of the interaction possibilities and the user involvement. Users do not appear working or doing things in isolation, but embedded in practices and communities, which need to be understood and embraced in order to design successfully [1].

Borrowing from De Certau’s analysis and making a parallel to the design process circumstances we can say that, depending on the point of view of those subjects of power (designers and

producers), the emphasis on why users are interesting shifts. Users might be framed as market constraints, content of focus groups, testers, subjects for observation, informants in an interview, etc. In some cases they even could be considered as active designers. For the “Brief oriented approach” the usual strategy for design is based on introspection. Likewise common sense understanding and a high level of quick and dirty heuristics play a big role. The “use” oriented strategy goes one step further: iterative design and extensive testing of features are at the core, since good design can only be found in its use. Guidelines and standards complement the landscape of this strategy. For the “context” oriented approach, design is understood in a more contextual way, conversely it requires the explicit participation of a variety of actors. There is more reflection around the user’s involvement and the qualities expected from the solutions.

In all these approaches users may be regarded as actors, and may be empowered, but their agency is still dependent on how ‘useful’ they are for a design process of a certain kind of ‘product’ they are not necessarily able to initiate themselves. Nor they are usually in a position to suggest design or development processes. Even the term ‘user’ suggests that people do not elicit interest unless they ‘use’ the ‘products and services’ we want to design for them.

However, if designers-producers (the subjects of power) seem to employ strategies, or let’s say, act strategically, then people (users) in their everyday life seem to act tactically. People remain more or less within the framework of the dominant strategy (designs offered to them), to keep on borrowing De Certau’s concept. However they will respond with subtle deviations when implementing, appropriating and reinterpreting what was put forward for them. In Feenberg's terms this is “the margin of manoeuvre” that exists when implementing a supposedly rigid plan (Feenberg 1999). People will rely on their own understanding of things, they will search for help, improvise solutions and misuse the technology in all kinds of possible ways. In such environment marginal practices give new twist to preconceived solutions, generating what comes to be known as social innovation.

Social Innovation and the ways people appropriate and reinterpret the possibilities that are given to them is still very little understood, and while studied extensively in the social sciences, is seldom appreciated as something worth understanding and supporting in the pragmatic and focused product development process. In there ‘strategies’ are the dominant focus and tactics are left to be taken care by people themselves.

The current ecosystem and the need for codesign:

The ecosystem of digital products is more complicated and flexible than that one of traditional products in the industrial society. It is also a crucial issue since it becomes clear that our everyday life – and probably most people’s life all over the world eventually – will be affected by the digital “systems” that are being designed at the moment. More than centring a product design process in the abstract figure of the user, we would like to explore the idea of driving it by the capabilities of appropriation and reinterpretation of real people in their everyday lives, and trying to make social innovation a pivotal point.

From this point of view we claim that this approach requires a more radical codesign process, one that could take advantage of both strategical and tactical positions. We see it as a complementary starting point for constructing an alternative view to technological determinism. In such codesign process the emerging possibilities and limitations should become visible to both “users” and designers-producers in a dialogical way.

The ideal stage to influence a new solution, a new direction, is before it is out there, when things are in the making. As we have learned from studies of social construction of technology (Bijker et al. 1999: 39) this is also the most difficult, because none of us has much experience or opinions on that yet. For example some new modes of action, even quite radical, have been adopted quickly; one being the invasion of the mobile phones into everyday life in some parts of the world, and the new ways of socialising and taking care of things this has brought about (Mäenpää 2001)

for instance: it is possible that if people had been asked a few years ago whether they would like to be always available while moving around, they had answered negatively. How does one ask the right questions? And how could users of today give answers to questions about future situations, when they have not yet experienced them?

Can design produce only products? Or can we understand the outcomes of design differently? Do designers and producers engage with 'users' and 'products', or rather could the design process engage with 'people' and their contexts and practices to understand the different 'applications' they might want to create?

Taking the user's reality seriously

People have problems with products that user centered design cannot easily solve. One class of such problems is ecosystemic in nature: some problems are the result of existing or missing interactions and/or compatibilities between products. These problems usually, cannot be adequately addressed by the design of a single product. Regardless of how well a single product is designed, people will use the product in a unique context, in interaction with several other products and services, and will therefore always end up as the "system integrators" that have to fit the pieces of the puzzle together.

Another class of problems result from the fact that the design is usually created with the producer's interest, not the users', as first priority. Although business success depends on the producer's ability to satisfy the users' needs, in most cases the producers accommodate the users interest to the extent that their sales figures and their competition force them to do so. In many cases all the producers' interests are so close to each other that from a customer's point of view they form a cartel [2]

The fact that certain concerns, such as the ecosystemic issues and the users interests, are not represented enough in the design of new products, is in our opinion a major hurdle for the adoption of the new technologies. It is also a major structural problem in the current R&D system. There are possible and feasible uses and applications for those technologies that would most likely appeal to people, but the players who are in the position to develop them do not have the means to come up with the appropriate designs, and do not have the collaborative practices or strategies that could facilitate the emergence of the necessary ecosystemic conditions for the success of those applications.

To address this, we propose that the current R&D activities should be complemented with design that addresses the ecosystemic concerns and users' interests. Our work attempts to develop such design approaches. We believe that this can be done by developing sensitivity to everyday life as an organic, individual whole, by focusing on applications rather than products, and by involving the users, the experts of their own lives, as codesigners.

Explorations: understanding everyday life

Changing the focus from "products" into practices and applications present at least two immediate practical challenges:

1. How to shift the focus from discussing in terms of people just as "users" into new kinds of roles? Technology development comes to us not only as users or clients but also as citizens, family members, residents etc. Since the main objective is to enable people, our starting point tries to be aware of their roles as planners, actors, creators, decision makers, responsible citizens or prosumers in their own circumstances.

2. How to make sense about the future? For the purposes of envisioning possible futures, and design concepts, designers and developers have traditionally relied in their own intuition for the situation and the use of diverse representational objects. More structured approaches like trend analysis and so on have also entered in the design toolkit. Recently and due to the influence of diverse user-centred approaches and marketing analysis, this activity is also backed up with empirical data. Data is gathered through interaction with “test users”, leading trendsetters, or early adopters (if using typical segmentations). Another common strategy is that of facilitating a technology immersion experience for a controlled group. With such approaches, it is possible that the design team gains a better understanding of the users. However, the possibilities, limitations and problematic that the technology development might cause are usually not discussed and communicated in interaction with the ones that will eventually be affected by it – A probable exception might be in the ‘classical Scandinavian’ participatory design approach which has a more political agenda (Bratteig 1995)

In our efforts to engage and enable discussion about the design needs of non-experts of ICT's or rather, experts of everyday life and address this challenges, we have chosen to approach the issue by:

- Firstly, we work with several ‘communities of interest’ instead of isolated users or user groups. The term ‘community’ is used in a very pragmatic meaning in this paper. We use the term ‘communities of interest’ to refer to these groups of people that share a common interest and are committed to grow as a functional community, even if they do not necessarily “share” the same space. The communities with whom we have developed a more sustained collaboration are: An association of active seniors (<http://arki.uiah.fi/loppukiri>) engaged on designing their future communal home and in a sense the rules and structure of their future local community. The second one is a multicultural kindergarten (children, teachers, parents and friends) that is directed by the parent’s association (<http://www.micasita.fi>).

As more or less structured communities, they have developed a clear motivation towards developing a new way of doing something (securing a more nurturing third age, raising children in a multicultural bilingual environment, etc). They also have some experience in articulating their interests and needs in order to negotiate them with-in the community, which makes them interesting codesigners, fruitful design partners in future oriented work- based on long term engagement and sustainable collaboration.

- Secondly, we have tried to come closer to an approach that would engage both the informants and the research team in a shared project. With this we hope to create a more reflective atmosphere and a shared goal. The communities join our discussions having already spent sometime thinking about their own future and the kinds of things they need to consider. Which is something not very common. At the same time their expectations and experience do not involve any particular technology, solution or direction. In a sense one can call them lead users. But then again, users of what? They are not particularly using “something” but rather engaged in designing new practices, while doing them.

- Thirdly, we try to actively facilitate the discussion of future possibilities by developing appropriate tools, concepts and language. We realize that in order for people to design, they must be given materials and tools that inspire and communicate new possibilities with their affordances. These affordances can be both visual and tangible or rather more intellectual, at the level of appropriate use of concepts and understanding of their implications.. By providing such new tools and materials, for example in the form of illustrative textual and visual descriptions and narratives of new ways of doing something (scenarios), it is possible to assist these ‘experts of everyday life’ to see also new personal possibilities for alternative practices that rely on new technology, and in the process, explain new uses and needs for it.

The approach:

A starting point of our research and design is to consciously focus on the things people want to do, achieve or change with the technology – the “application” – after that on what kinds of designs and ecosystems of designs can help in realizing these needs. We use the term “application” to refer to this focus of interest, because we feel it is understood reasonably well by the technology development community, which can easily see that “buying tickets through a web service”, to give a blunt example, is an application of specific information technologies. At the same time, we acknowledge that the term is obscure for many other communities, for example to end users or social scientists. Other terms that we have seen used in a fairly similar sense, and that we have also used instead of ‘application’ are ‘use’, ‘activity’ or ‘practice’. We hope that further work helps us to develop a better term.

By identifying interesting applications with the communities, we would like to understand which components and aspects they find important. What other ways of doing the same thing could they use and how? These aspects are important for us because we would like to find ways to separate the more general “application” from the tactics someone employs to achieve it. Lets say someone wants to be informed about the latest news, but she also wants to hear more opinions about them. In order to achieve this, the person can watch the 8 p.m. news at home, with her family, or call her friends who she knows have read the same article as her. For performing this tactics she makes use of different solutions and tools (watching news from TV or reading a newspaper, or hearing the radio and then calling or discussing face to face, maybe sharing notes, what ever). Its important to understand that there are different solutions and tools available for the same application.

This distinction might help us to distance the discussion from the specific features of the technology or tools to a slightly more abstracted and thus higher level, and focus more on the reasons and qualities that relate to choosing between alternative possibilities. Another benefit we hope to achieve with this is to make space in the discussion for the new features and characteristics of future tools that we cannot show or experience yet. As one of our goals, we hope that this approach can take us beyond tactics and enable and empower the development of new strategies.

An important part of the research is to explore different methods that could work for this kind of codesign activities, which are not centered in product as an outcome and that try to combine both strategical and tactical conditions. Here we will explain the main 3 activities we have engaged with these communities in order to make visible the possibilities and explore new ways of doing things.



(Fig 2 interplay of different activities)

a) Shared dialogue evolves through diverse excuses to talk about everyday life with the communities, in order to contextualize their particular circumstances, as well as to convey our interests and focus. The basic level includes semi-structured interviews with the members and observation sessions that are videotaped or at least audio recorded. Clips of them are produced, and analyzed afterwards, to gain a common understanding within the group. The material is afterwards shared with the

communities, and has proven to be an interesting communicational resource [3].

We concentrate generally on finding connections and identifying relevant applications. One example found in the case of the active seniors emerged from the need to know how their

community works, but also the planning of how it will interact once in their new home. They had a keen interests on knowing what kinds of things they were willing to share with each other (ranging from opinions about the media, to memories, personal information and objects). Such information will let them understand better the challenges ahead while presenting to us an interesting opportunity to chart some of their current practices. Through this we could then generate new scenarios of how such practices could evolve, if for example they had new tools and ways to produce more media by them selves.

To start interacting with as many members of the community as possible, and make them feel part of the process we begun to play with the idea of an action pack to hunt for applications. Inspired in particular by the cultural probes approach developed in the Presence project (Gaver 2001 Hofmeester 1999). In order to test this approach and adapt it to our idea of applications, we developed a series of action packs and activities that involved the communities more actively in the gathering of data (Botero et al.2002). We gave them a package with a camera, envelopes, notebooks, maps and other "probes" as these purposefully designed materials are called (Gaver. 2001, Mätelmäkki. 2002).

These packs try to shade light in to the tactics people employ when doing certain things. The topics were decided following the interviews and initial exchange of ideas with the community. Since they are already familiar with a particular area they want to explore, contrary to other probes approaches, the communities actively suggest the context and practices they want to explore.

The tasks to be performed using the action packs ranged from documenting the use of different media during a particular day, collecting articles and intangible things worth to share, specially with their close networks of people, etc. We aim to identify the qualities and nuances that make something important and worth of noticing for someone and then chart the ecosystemic relation and practices that need to be supported. The results of the experience have been compiled in a catalogue of possible applications, descriptions of interesting potentials, which are being translated in the form of scenarios for validation and recreation.

b) Since with both of these communities the starting point for the project has been to engage in a **common short term project** (as opposed the more vision oriented goals of the other 2 activities). The project involves the design and development of a community website for them. This activity started parallel to the previous one, and both have influenced each other in very interesting ways.

The sites host information they produce and want to provide for the outside world. More importantly they provide a closed (members only) space. This member's only community area contains a set of tools for content creation and exchange. It is also intended to hold a shared memory of the communities, works as a communication media, while aiding up in the process of building community. This concrete design activity has helped to create rapport and partnership and to test some methods through a very concrete project, addressing the community as a whole.

The community web sites are important end products for the communities, however we feel they are essential tools for research, as a sort of codesign research environments, that bring new vocabulary and understanding for the group. The design of these spaces enables them and us, to elaborate future directions, since new vocabulary and new sets of problematics, relevant for other applications and scenarios started to emerge from them.

A clear example is represented in issues like accessing and joining the community, having different rights to see and change things; privacy, etc. These issues were not seen as crucial concerns for them before the implementation and design of the websites. However in exploring the possibilities they could have of producing more media by themselves, in defining the porblematics and implications, their previous experience with the sites affected their understanding and concerns about this. It was clear that this issue had relevance for them in the

context of future developments (for example: keeping a communal memory with different levels of access, defining priorities for friends and family in a flexible way, been able to generate content from different devices, etc)

One could make a parallel to a technology immersion kind of experience, anyway this do have a concrete purpose, a need that was identified before, and involve a spontaneous willingness to explore and through exploration discovery of new issues with out inventing a need.

c) We try to generate **spaces for reflection** and discussion, which are usually shaped in the form of workshops. In this stage is where we come together and find ways of processing and discussing together the information we have, and the scenarios that have been emerging. The idea is to work on both the shared concrete design problem (online email interactions, training sessions, workshops) and a more vision and ideation oriented process. We go through the material, present ideas and short demos, video clips, and try to start controversial discussions.

Conclusion: Designing influence networks?

In current conditions it is clear that design work portrayed as the crusade of the solo artist gets recasted as “negotiation” and multidisciplinary exchange. Even with free lancers or powerful teams, contemporary design happens in loosely structured networks of actors. However the case, it requires commitment from the part of the initiators to bring and empower more points of view and influences (possibilities for better tactical positions) into the process by using more shared resources, understandable by more people. As Suchman points it out “... persons are just those actants that conceive and initiate technological projects and configure material semiotic networks, however much we might be simultaneously interpolated into and through them” (Suchmann 2000).

Our purpose is to generate design visions within collaborative work with communities, codesign, through long-term relationships and mutual commitments. This creates a need for developing methods that support and produce mutual understanding and co-discovery of ideas, practices and how they can be evolved if new Information and Communication Technologies will be thought from the communities (and their individual members) point of view.

The challenges of digital technology design needs to be addressed with transdisciplinary competences that include that of the practice of everyday life. By discussing and generating visions and applications rather than end products, by designing communicational tools and experimental prototypes rather than strict methods, in close collaboration with different communities of interest, we hope to contribute to the ongoing debate of what can be fruitful design research activities.

In our position outside the R&D companies producing digital applications as well as outside the government policies we are able to conduct applied research and consider an approach that would not cross the threshold of importance in other circumstances. The real challenge will be to try to make the need for these kinds of dialogues visible in the society at large, as well as in specific design contexts.

Footnotes.

1- Represented mostly by work in the areas of Computer Supported Collaborative Work (CSCW) and Discussions in the “Collaborative Design” conferences

2- This is the case for example in the area of media technology, where recording and playback equipment is consistently purposefully designed and priced to make it artificially hard and expensive for users to record, manipulate, manage and share media compared to the capabilities

and prices of available technology, because the entertainment publishing industry wants to keep a tight control on the way how the media they own is used in the marketplace. Even if this concern is legitimate, this way of addressing it does not serve user interests, as it also makes it hard and expensive for people to create media of their own and share it – an activity that the big entertainment industry should have no control over.

3- It seems that richer video and audio material involved in design research help to keep the voices and ideas of people closer and develops reflection

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