

# A Short Note on Design Troubles & Enlisting Critical Reflection

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## INTRODUCTION

In this paper, we examine the use of *lists* in mothers' work. Drawing on an ongoing ethnographic study of mothers' work in the home, we reveal how the list is occasioned as a resource to order domestic life. Despite its seemingly mundane character, the list is shown to be one of the assemblage of *socially accountable artifacts* through which the order of the home is routinely accomplished [2]. Specifically, we demonstrate how mothers mobilize lists to organize the multiple and disjointed activities and events involved in home- and child-care; how this organizational work serves to configure the moral order of the home; and how this (re)configuration conceals the considerable demands involved in the 'smooth' running of the home.

Viewed in this light, the use of lists in the home foregrounds a concern that is of direct relevance to both designers and practitioners in HCI. Because artifacts such as lists are immediately implicated in the business of producing social order, designers and practitioners find themselves in a position where they are directly accountable for their participation in building technological alternatives. That is, in designing solutions, designers and practitioners cannot help but have a say in how people order their lives. Using our presented findings as a rhetorical tool, in the latter stages of this paper we examine this concern and question whether HCI is, unavoidably, a 'critical practice', at once caught up in promulgating particular social orders and subjugating others.

## STUDYING MOTHERS' WORK

The data presented in this paper are drawn from ongoing interviews and field observations with five mothers from middle- to high-income families in London. The women, all 'full-time' mothers, form a close network of friends. All the mothers have at least two young children, and all have a four to five-year-old child in the same nursery class. The women and families were chosen because the aim was not only to investigate the independent work of mothers in the home, but also to examine if and how women work collectively in the domestic context. Notably, the focus on the middle- to high-income socio-economic group is recognized as one limitation of this study—clearly they are not representative of the large number of women that work in the home. It is hoped that this project will be a part of a growing body of research on this broad topic by investigators in the fields of HCI, CSCW and elsewhere.

## Lists in the Home

On close inspection, it would seem that what lists provide is a way for mothers to negotiate a complex and often competing litany of demands. For mothers, the running of the home is achieved through the careful orchestration of the fragmented worlds of family members, activities, events, household chores, etc. Lists offer a means of marshalling these people and things so that they can 'neatly' operate within the established order of the home.

A serious hurdle to what is ostensibly the organizational component of mothers' work is the divide between the demands of childcare and the myriad of other activities that make up domestic life. What is sometimes overlooked, or possibly unapparent to non-parents, is that children do not fully understand the social rules that govern ordinary behavior and/or are not altogether willing to conform to the established social order of home (and adult) life. Thus, there is sometimes an element of chaos that can make the accomplishment of routine tasks and activities a serious challenge. For example, most mothers will think twice about a grocery-shopping trip with a two year old who is near to either a nap or meal time. In this context, lists act as a repository, a means of catching and fielding the various bits and pieces of information that go into the running of the home. They also function as markers, bridging the divide between the 'outside', adult world and the chaotic world of children. This subtle but crucial role of the list and its relationship with the arrangements of home life is what we now turn to.

## Form and Content of Lists

All the mothers in the study relied on some type of list, but the forms varied considerably. Anya (six months pregnant and the mother of a son of 4 and daughter of 2), for example, has several legal pads and a diary, which she places strategically within her home, forcing her to walk by them several times a day depending on her activity, to act as constant reminders. Carrie (with a son of 1 and daughter of 4), on the other hand, rarely uses paper and instead relies on calling her home phone from her mobile (cell) phone and leaving herself messages on the answering machine. Kate (eight months pregnant and the mother of two daughters, 2 and 5), scribbles notes down on to the backs of envelopes, which she explains invariably disappear. She finds the act of making lists, however, helps her remember what needs to be done.

As for the content of lists, the ways in which items are recorded and arranged can appear, at first sight, muddled. We find, for instance, that household chores are clumped together with doctor's addresses, reminders for husbands, phone numbers, shopping lists, and arrangements for children's birthday parties. Indeed, it appears to be one big collection of miscellany. There can be method to this apparent disorder however. To examine this further, let us consider the use of notebooks by Amanda, the mother of two girls.

Amanda typically has several notebooks at any given time dedicated to a variety of activities. The determining factors for whether an activity warrants a separate notebook seems to be how much information is being generated on the particular subject. For example, her house is being renovated, and she has a notebook dedicated solely to that project. She also runs the parents association at her daughters' school and is involved in fundraising and has a separate notebook relating to that. However, in the interests of compactness, portability and convenience, she deliberately limits the number of notebooks she has at any one time. Through this use of notebooks, we see a simple means of categorizing or dividing up some of the activities which Amanda engages in as a mother, one that relies on the material features of paper and specifically notebooks [see 7].

In a page from the notebook Amanda carries with her when she is out and about—her daily, catch-all notebook for jotting things down that come to mind during the day—there is a mixture of items, beginning with “Sort out summer clothes” and ending with “read menopause info”. Apparent from this list is that the categorization system Amanda uses by having separate notebooks does not apply. Rather than categorizing by activity, she uses a chronological means to group items—items get clumped together on the basis of being important for that day or the moment-in-time in which they are written. Through this we catch a glimpse of how the methods employed to categorize items are open to change and are situationally dependent; categories can be *produced*, if you like, on the fly and to suit the occasion.

### Categories and the Moral Order of the Home

In itself, this way in which lists are ‘occasioned’ for the situation at hand is not news. Numerous other researchers examining systems design have made similar observations [most notably 9]. Specific to mothers’ work are the ways in which items are divided (either into separate diaries or sometimes into groups within lists) and how this does a special sort of ‘reconfiguration work’ through which a *morally implicative order* to home life begins to emerge. In illustration, let us turn to an excerpt taken from a discussion with Anya.

I tend to have one big page, a column on the left, a column on the right. There's what you might call the kind of financial and administrative stuff, and that's usually the main column, pay x bill, sort out car insurance, the sort of stuff which really matters if you don't do. And then I would probably lower down the page have the kind of ‘where are Tom's socks?’ I kid you not.

For Anya, we see how the list can be used to classify particular types of tasks and activities. By separating out household finances from mundane chores like finding her son's socks, Anya is quite deliberately carving-up and configuring home life. Dividing the page into columns and rows, she sections out home-work into orderly slices, a broad collection of tasks and activities that get done in the home, grouped and ordered into things that ‘really matter’ and those less important ‘to-be-dones’. The list then serves as a helpful delegation device, configuring home-work and transforming it in to its right and proper order.

Through this prioritization of listed items, a moral order of the home emerges. From Anya's description we hear that socks get placed lower down on the page than “financial and administrative stuff”—a clear reminder of their status. Anya's last four words in the excerpt above, “I kid you not”, do quite a bit to show where things stand in this hierarchy and go some way to explaining why. By using this phrase, Anya confirms that she is well aware of what we all know to be true (i.e., common sense)—that socks come after bills and insurance. The list then, in being used to prioritize work, reaffirms the moral character of the things that need to get done in the home.

### The Merging of Worlds

The trouble with this reconfiguration and ordering is that it by no means emerges as a natural consequence of combining the various activities, events and people that are a part of home life. On the contrary, the work of mothers does not only demand the coordination of multiple and disjointed activities, but also the fusing of what are, for all intents and purposes, ‘worlds’ operating in stark opposition to one another. We get a sense of this in a conversation with Claire (mother to children of 8, 4 and 2):

I find switching between child time and normal time the worst. The days I just do children, and can just slow down... do things the way they do instead of rushing around, getting things done... Sometimes it's better if I just have child time, or just have normal time. I have the least patience when I've had a day when I've been getting things done and then I have to switch back to their time.

Claire invokes a palpable division between the world inhabited by children and that of “normal time”—the world where things get done. We can glean from this that there is no simple fit between the demands of childcare and the rest of domestic life, and that a considerable amount of work is demanded of mothers to coordinate the two. In a sense, we might see lists as a reification of this achievement, embodying the substantial mental thought and physical effort that mothers must put into planning, arranging and pulling off the running of the home and the care of children.

### The Hidden Work of Mothers

A final line of reasoning that emerges from the argument we have presented is that through employing the organizational systems and methods we have so far discussed (as well as many others), mothers can obscure the complexity of their own work. That is, by rendering the chaotic worlds

that revolve around family life in the form of lists, mothers conceal the considerable undertaking that is needed in the smooth running of the home. To unpack this possibly controversial point, let us take a look at an excerpt from an interview with Kate.

Asked whether her husband transfers the content of her written lists to his PDA, Kate replies: “No, not really. Often they’re quite domestic lists which I have. If I involve him in the list, it’s because I’m expecting him to do something, *effectively*. And which sometimes works quite well, if he’s in the mood. Umm, or sometimes it’s because I’ve been asking Nick to do things, certain things, and I’ve given up and I’ve decided that I’ll have to do them. I mean, on our kitchen table at the moment, there is a humungous list which I wrote when I got bored with cleaning cupboards this morning. I’ve got a feeling this is going to metamorphose into a bigger list that’s got something to do with feeling a baby coming and wanting to make sure that you’ve done a whole load of filing, paid bills, you know, make sure that everything’s up to date and being scared that you’ll forget things because I know, if the baby turned up tomorrow, um you know, 90% of my lists would be erased from my brain because I couldn’t help it because that’s what happens. So you know, thinking actually I need to keep it all down somewhere. It’s funny, lists. The world feels better when I have a list, maybe just because I don’t have to remember it all but the world feels... the same way the world feels better when the house is tidy and all the toys are in the right place.

What we see in this excerpt is that for Kate, like Anya above, lists are delegated the job of making the world orderly. Kate, of course, is well aware that ‘chaos’ is an ordinary feature of the home. In composing lists, not only does she make the world feel “better”, she tidies up the chaos by putting things in their “right place”. However, what she also does is diminish the efforts of her own labor, sanitizing the real messiness of her work behind the supposedly ‘*natural*’ rhythms of home life. This is apparent not only in the carrying out of *her* duties but also in the delegation of work to other family members. In talking of how her lists “come out” to alleviate the stress of having so much to arrange, Kate explains that lists also provide a means of communicating the orderliness of the home to her husband:

Something often gets put onto a list by the end of the weekend cause nothing’s got done and I’ve got stressed about it. And then, eventually, a list comes out. So generally speaking, the lists come out when I’m with Nick. It’s also a way of communicating to him what needs to be done cause he hasn’t got a clue.

Describing how a list can be used to delegate “something”, presumably some task or activity, Kate reveals that the list is more than a mere itinerary of what must be done, but also serves as an implicit reminder of *who* has got to do *what*. Kate though, in both her excerpts, is doing more than merely describing how lists can be used to assign duties. In her first excerpt, notice how she assigns certain sorts of lists to the “domestic” world and, within the same turn, depicts this world as under her authority. Kate takes possession of lists of the *domestic* variety and places herself in the position of managing who has access to the tasks and activities they refer to. Similarly, in the second excerpt, but in a more emphatic manner, Kate implies it is she, and not Nick, that

has a “clue” on the matters that lists pertain to—on domestic matters.

The point here is not whether Kate is right or wrong in her delegation of domestic-work, nor whether she is right to assign herself as an authority on such matters. What is revealing is that she is quite specifically delegating the right and proper place for this work and that, in this case, it is the list that is mobilized to do this delegation. What is central is that Kate’s carving up of the home’s activities into manageable lists and her subsequent division of labor to undertake those activities sequentially transform what was once chaos into the taken-for-granted arrangements of the home. By invoking these taken-for-granted arrangements, home life is seen to have always been orderly and, thus, the (mothers’) work needed to achieve that order is rendered inconsequential, quite simply *invisible* [see 6].

### IMPLICATIONS FOR HCI

Thus far we have built up an impression of how mothers’ work is supported, in part, by the use of lists. Through these artifacts, a disparate assemblage of things and people, operating in different renditions of time and place, are transformed into compartmentalized collections of tasks and activities ready to be resolutely crossed out once completed. In essence, what we see is how artifacts become bound up in everyday life, how they interleave with ongoing trajectories to (re)produce, (re)configure and render particular social orderings.

### The ‘Critical’ Artifact

Important for HCI, this reveals that the technological artifacts that are designed to support ‘work’ are unavoidably ‘*critical*’. Critical, not in the sense that they articulate explicit commentaries, but rather, through their intended design and immersion in everyday life, they immediately conspire to make the world intelligible under certain terms [1]. For example, one might imagine how organizational tools such as Personal Information Managers (PIMs), designed to carve up time and categorize activities into the discrete worlds of leisure, work, domestic life, etc. (as they often do), enmesh with the routine practices of the home to cement, or in some cases contest, the established order. Through their use, PIMs, in this sense, sanction a moral order that privileges a particular division of labor, etc.

The trouble with HCI is that it has yet to recognize or consider this account of technology. It would seem that the emergence of the HCI project has occurred in such a way that it lacks the analytical resources to reflect on its practice and, as such, has sidestepped any obligation it may have to critically examine or be accountable for technology’s role in privileging versions—or even visions—of social order.

From its inception, HCI has been closely aligned with the modernist program, whereby technology has been objectified, reduced, and ‘black-boxed’ [4, 5]. This essentialist turn has served to isolate social action/order by first creating a division between society and technology and then

authorizing technology's authority. The constructed divide has allowed HCI to comfortably focus on the localized and discrete arrangements of human-computer interaction whilst *camouflaging* the complex ways in which humans and (technological) artifacts intermingle to make the world intelligible (and ordered).

It is our contention that it is this ontology that has been the main stumbling block in recognizing the 'critical' role technology has in the wider social context and consequently incorporating a reflexive position in HCI. The teasing apart of technology from society has left little room for examining how the two interweave to produce social order and, in doing so, has prevented a thorough understanding of the interactions humans have with computers.

### Reflexivity in Design

In our opinion, HCI must overcome this position in order to reflect on the inherent critical nature of the artifacts it produces. Not only would this broaden the scope of HCI to restore "authorship and thereby accountability to our relations with artifacts" [8], it would also directly contribute to the understanding of the situated *use* of artifacts and, specifically, how they might be best designed *vis-à-vis* the constituted social/moral order.

Different disciplines, ranging from the arts to the social sciences have been shown to provide various routes through which to achieve this reflection. Whatever the route, a key element of reflection is to contest the division between technology and social life, and, at least in part, to recover the complex interplays between humans and artifacts that serve to produce taken-for-granted social orders. In short, it is to provide a corrective to the modernist view of humans and artifacts as autonomous [8]. The recent designs of public benches presented by the Royal College of Art offer an example of such a corrective [3]. Displaying juxtaposed, digital renditions of older people's handwritten slogans on street-side benches, they contest the ordinary by breathing life into what might be considered a symbol of urban decay. Whereas graffiti is usually a manifestation of youth culture, this legitimizes it as a form of public expression and places the authorship in the hands of a population that is usually disenfranchised in urban life.

To conclude, and consider what this might mean in practical terms, we return to the body of empirical research presented in this paper. By attending to the interplay between people, artifacts and social life, our presented findings reveal a tension between what mothers do to successfully accomplish their work and how their work is made (in)visible. On the one hand, we find mothers coming up with a collection of resources and methods to make their work manageable amongst their mass of interleaving and competing demands. On the other hand, we find mothers 'producing' their work as an unremarkable and seemingly natural feature of home life. This is the stuff of being a 'good' mother, but it also serves to disguise or hide the hard work that goes in to juggling multiple tasks, activities, peo-

ple, times, places, worlds, etc. What is apparent is that there is something of a moral order being preserved here, something that is partially achieved and sustained through the routine use of lists.

As well as providing a practical tool for organizing home life, lists are shown to serve some 'critical' function. They grant a privileged status to the established moral order of the home by contributing to what Maushart [6] and others have referred to as the "invisibility" of women's work, where the caring and home-related activities, performed in large part by women, have been arguably marginalized because they are simply taken for granted.

This raises a specific problem for HCI practitioners and designers that might have been overlooked without the recognition and reflection of the critical role of artifacts. The problem that arises is that the optimization of the organizational work involved in mothering does not do away with the inevitable hard work of running a home and taking care of children, it simply eases the management and integration of the multiple activities. Crucially, it can also mask the hard work itself.

Designers and practitioners who wish to take on the challenge of building technological artifacts in this context are faced with having to reflect on the critical nature of their own solutions. They are confronted with the difficult task of deciding how their solutions might conform to an established moral order that serves to obfuscate the work performed by mothers' in and around the home. In practical terms, they must aim to provide a solution that at one and the same time eases the efforts needed in organizing the arrangements of home life, but that does not conceal the numerous and substantial demands placed on mothers.

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