

Making Problems in Design Research: The Case of Teen Shoplifters on Tumblr

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ABSTRACT

HCI draws on a variety of traditions but recently there have been calls to consolidate contributions around the problems researchers set out to solve. However, with this comes the assumption that problems are tractable and certain, rather than constructed and framed by researchers. We take as a case study a Tumblr community of teen shoplifters who post on how to steal from stores, discuss shoplifting as political resistance, and share jokes and stories about the practice. We construct three different “problems” and imagine studies that might result from applying different design approaches: Design Against Crime; Critical Design and Value Sensitive Design. Through these studies we highlight how interpretations of the same data can lead to radically different design responses. We conclude by discussing problem making as a historically and politically contingent process that allow researchers to connect data and design according to certain moral and ethical principles.

Author Keywords

Tumblr; shoplifting; teens; social media; problem solving; research through design; design fiction.

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous;

INTRODUCTION

Recently, there have been calls to make the goals of HCI research clearer, partly driven by a concern to ensure research contributions to the field are coherent, incremental and generalizable [39,41,49,48]. Papers in CHI and related conferences [5,38,45] have questioned the value in design-led HCI research, with some researchers being asked to place

more emphasis on the ‘problem-solving capacity’ of their research [41]. In our work we have set out to examine such debates in the context of a provocative online community.

LiftBlr is an online community of shoplifters who share tips about the best ways to steal, exchange pictures of ‘hauls’ and engage in the storytelling and ‘banter’ of any socially marginal group. We came across this group quite by accident, but found it provocative for a number of reasons, raising a number of questions: how should a data trove like this be treated by HCI researchers? What are the ethical problems associated with mining the contributions of this particular group? How might we make a design response to the existence of such a community? In this paper we consider a range of possible research-led design responses to LiftBlr data, which comprises over one thousand posts collected from blogs on the Tumblr platform. Following a thematic analysis of the content of posts from members of this community, we create a set of “imaginary abstracts” [7] to exemplify three ways in which different approaches to design research might use this same data to frame “issues”, which might then be addressed through technology design.

By implementing this process we set out to illustrate several key aspects of design research as it is delivered in HCI: (i) that socially engaged HCI problems are intractable and uncertain; (ii) that the purpose of much design research is not to solve a problem, but to understand the problem; and (iii) that problems themselves are constructed and framed by researchers and so necessarily reflect the specific values, interests and the analytic tools available to them. In doing so we connect with wider debates around how technology designers might contemplate their responses to complex and wicked problems.

BACKGROUND

Here we provide an overview of efforts made by the HCI community to understand the nature of their own contributions to the field, followed by an overview of ongoing debates around the role of design research. After this, we go on to consider the very specific case of the LiftBlr community.

Cohesion in HCI

In the mid 1990s, William Newman published an influential report on the nature of HCI research [39]. He examined a sizeable sample of research papers from 1989 to 1993 in order to compare HCI to other engineering disciplines such as electronics and nuclear technology. He found that only 30% of HCI papers fell under engineering categories. The other 70% were classified under the category of “radical solutions”: new artefacts, paradigms, conceptual frameworks for design and so on. Newman concluded with a warning that a research discipline based on “radical solutions” is *‘inherently handicapped by virtue of their radical nature’*. A few years later, Steve Whitaker and colleagues argued for achieving a “common research focus” within the HCI community [49] to *‘build on previous work, to compare different interaction techniques objectively, and to make progress in developing theory’*. Building on Newman’s work, they expanded on the problems associated with a focus on “radical solutions” and proposed to set “reference tasks” – common tasks that facilitate cross comparison of systems and techniques – as the fulcrum upon which HCI should build generalizable knowledge.

Most recently, in 2016 Oulasvirta and Hornbaek proposed a vision of HCI as problem solving [41] that bears some similarity to the arguments of Whitaker et al. Their concern comes in the form of this question: *‘Lacking a coherent view of what HCI is, and what good research in HCI is, how can we communicate results to others, assess research, co-ordinate efforts, or compete?’*. They draw upon the work of science philosopher Larry Laudan and introduce *problem-solving capacity* as a parameter to evaluate all HCI research outcomes. The quality of HCI research, they argue, can be judged by its problem-solving capacity. Consequently, rather than evaluating HCI research methods, theories or approaches, one should ask *‘how it advances our ability to solve important problems relevant to human use of computers’*. The authors claim that Laudan’s problem-solving view *“offers a useful, timeless, and actionable non-disciplinary stance to HCI”*.

Note that such arguments are not without opposition. Indeed, many contest the need for a common ‘ground’ or ‘rationale’ for HCI research [26,5,45]. At the heart of such critiques lies the notion of discipline and the consideration that HCI is a multi-disciplinary endeavor and is necessarily complex. In particular, design-led work in HCI research has a rich tradition of critical analysis that acknowledges the complexity within valuing, framing, posing and solving problems [24,19,18,17].

Problems in Design Research

In many occasions, design research has confronted the nature of its enquiry in an attempt to clarify the value of its contribution as a field of knowledge [e.g 23]. However, a continual issue of debate in the field of design research has been the ways in which to define ‘design problems’, or

indeed the nature of the problem that a design process might engage with and respond to. Kees Doorst, for example, highlighted the problematic nature of problems in design—that they are at the same time determined, under-determined, and undetermined. He showed how in the early stages of design processes many designers engage in practices and techniques to shift between these in order to redefine problems based on the material, resources and data they have gathered [19].

In the field of HCI, while there are multiple stances on what ‘design’ may or may not be, a common thread is that problems are not tractable, certain and cannot be taken for granted. Design research in HCI might not just be about problem solving but indeed problem-setting or simply problematizing; from the ethics of crowdsourcing [28] to the implications of an Internet for and by dogs [34], these research projects are intended to challenge common understandings, raise doubt and elicit responses. Work under the rubric of Critical design [21], Speculative design [22] and especially Adversarial Design [17] sets out to articulate political issues that underlie problems rather than simply trying “solve” them. Relatedly, design fiction [46] has come to popularity in HCI as a means of exploring the wider social and political implications of imagined technologies. It works by situating them in realistic contexts so an audience can suspend their disbelief and engage in a reflective assessment (e.g. [35,36]).

Solutions as much as problems have been thoroughly critiqued too [37,8]. Indeed, the purpose of much of design research lies not in a problem’s solution but in its characterization. Research through Design (RtD), for example, seeks to better understand problems in order to question them. Rather than timeless, objective science, design is seen as likely to produce provisional, contingent and aspirational theories [26]. In RtD processes, we see that framing a problem is not a natural consequence of working with data but rather an act of creative making that shapes design outcomes. Problems are constructed and framed—or made—by researchers and so reflect their specific values, interests and the analytic tools available to them. Only by reflecting on such values can we bring matters of ethical import to the heart of research and practice. Furthermore, given all of this, much design research highlights how challenging it is, given the contextual factors that drive design, to be generalizable and incremental.

LiftBlr: The Teen Shoplifting Community

To illustrate the multitude of ways in which problems might be constructed, made and responded to in design research we use the example of an online community of teenagers sharing experiences of shoplifting. We specially focus on ‘LiftBlr’: a collection of blogs on the Tumblr online platform (#LiftBlr being a regularly used hashtag by these bloggers).

We first discovered the teen shoplifting community through an offbeat technology-related newsletter [9] and decided to

investigate further. For the purposes of this paper, we focus on LiftBlr for two main reasons. First, research on such a unique and controversial online community might be a topic of interest for a wide audience of HCI researchers. Projects that focus on the characteristics of social communities online are abundant in HCI and often included in the “social computing” [42] category. A study of such a community can offer valuable insights into the social implications of interactive computing systems and the ways that systems can be appropriated in unexpected ways.

A study of LiftBlr is also interesting because it allows us to observe and interpret the ethically charged responses typically made by mainstream media towards such communities. We wondered whether a comprehensive examination of data from LiftBlr would reinforce portraits of this community as the “Tumblr Bling Ring” [6], teenagers obsessed with shoplifting so as to escape boredom and taste luxury just as the characters in Sofia Coppola’s film with the same name [15]. We considered LiftBlr a potentially highly contested and politicised community, with implications for a wide-range of stakeholders and actors, where design-led enquiries may lead to taking an implicit position on this community’s “problems”. Also, we were interested in presenting “found public data” that had not been filtered by a pre-existing research lens (e.g., through being archived as a dataset, being published in a paper, or structured in relation to questions from specific research). As such, this community makes an ideal candidate for considering the ways in which HCI researchers might bring assumptions and predetermined motivations to frame the ‘problems’ associated with shoplifting from different stakeholders’ points of view.

DATA GATHERING AND ANALYSIS

The social media platform Tumblr is a blog-like website where users build profiles and publish content in the form of posts. Other users can follow content of interest by clicking on hashtags, labels that identify and relate posts. LiftBlr is a Tumblr community in permanent flux with its participants creating and deleting profiles continuously while posting under a plethora of different hashtags. Posts labeled #LiftBlr or #Shoplifting, for example, do not automatically qualify them as belonging to the teen shoplifting community because many Tumblr users post content under these hashtags to address other audiences (e.g. weightlifting posts appear under #LiftBlr and anti-shoplifting rants under #shoplifting).

To form our corpus of data we turned our attention to posts from Tumblr participants in the blog @liftermeetup entitled “Find a partner near you” which cheerily encouraged “Happy lifting!” The blog provides a forum where shoplifters can get in touch and arrange a meeting offline. We selected all Tumblr users that publicly advertised themselves in @liftermeetup during July 2016 and built a corpus of data with posts from their open profiles on the same month. In total, we generated a corpus of 1025 posts from 15 Tumblr profiles. On this corpus we conducted an inductive thematic

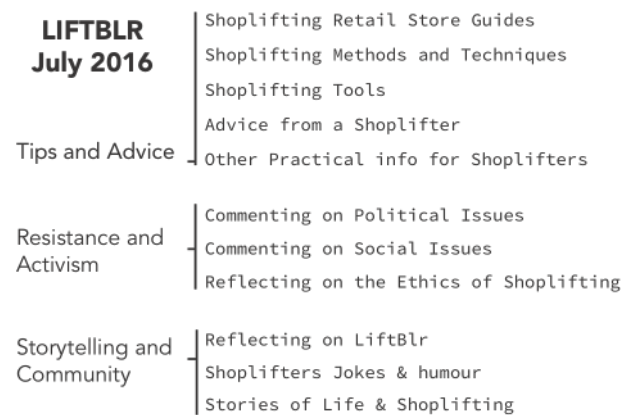


Figure 1. Emerging themes and subthemes resulting from thematic analysis.

analysis approach [11]. Codes were assigned to each post according to content. Once all posts were coded these were grouped to form sub-themes and themes. The overall structure was graphically represented in a map to facilitate content navigation, review and discussion among the authors (Figure 1). Finally, each of the identified themes served as inspiration for an “imaginary abstract” (explained below).

It is of course important to note the limitations of studies derived from “found data” [2]. Therefore we proceeded with caution not to generalize beyond the boundaries delimited by the data gathered from posts. For example, we excluded commentary on the offline characteristics of the LiftBlr community regarding race, gender, nationality or occupation. We seek qualitative insights from these data and make no claims to generalization.

We also considered the ethical and legal implications of the use and presentation of data for our study, regarding both the members of the LiftBlr community and us as researchers. We feel that the anonymity of the people behind the profiles is not compromised because there is no information of any sort linking the online profiles with their offline counterparts. Also, we have deleted all metadata in the published images and ensured that their content does not violate any copyright laws or otherwise. In general, we have followed the recently produced British Psychological Association (BPS) Guidelines on the Ethics for Internet Mediated Research.

It is commonly understood in social science that any given data set can be interpreted in multiple ways [13]. The multiple uses of data is even more clear in an applied discipline like HCI which seeks not just to understand a given phenomena but to design for it. The following sections present the three major themes of the thematic analysis (i. tips and advice, ii. resistance and activism, and iii. storytelling and community) followed by applied uses of these data in imagined design work. Following a brief description of the theme with data excerpts, we describe an “imaginary abstract” for each theme which seek to make use



Figure 2. Shoe with hidden magnet for removing security tags.

of the data through designing according to three very different understandings of design research in HCI.

Theme 1: Tips and Advice

Many of the posts formed a rich catalog of shoplifting know-how explained by shoplifters. Posts frequently dealt with topics related to the strengths and weaknesses of security policies and the camera locations of retail stores from 27 different multinational brands. Examples of stores include Target, Victoria's Secret, Lush, Macy, Walmart, Sephora or Whole Foods. For example, this description of one shop's security weaknesses was continuously reblogged by the community:

***"The Body Shop/Lush.** These stores are easy to lift from due to their lack of cameras (they literally don't have any), so you just have to watch out for employees! The Body Shop is usually a very small store so I would recommend having a partner to act as a shield to conceal behind. You don't have to worry about tags or cameras in either store, so be very cautious of the SA and other customers! Not sure about The Body Shop's chase policy, but Lush is no chase!"*

[lifting-madjick.tumblr.com]

Other posts were more concerned with specific shoplifting tactics. They mostly describe behavioral courses of action that improve the chances of successful theft:

***"Ticket Switching.** You find an item on clearance and remove the clearance tag. You then find a similar high dollar item and apply the clearance tag to it. You then bring the high dollar item to an unsuspecting cashier and pay for it at a clearance price. Unfortunately most retailers today now utilize electronic barcodes that when scanned will ring up the correct price".*

[pale-history.tumblr.com]

Tools for shoplifting were also discussed, often with accompanying images. Examples of DIY shoplifting tools

include clothing that camouflages stolen goods, or tools for detaching security tags such as magnets hidden in the soles of shoes (Figure 2). This post was a response to a question about what tools were useful for shoplifting besides hooks and magnets:

"[...]scissors to cut off tags, tissues to throw away rfids in, hair ties for gator tags, as well as credit cards split down the middle for gators, reusable bags for grocery hauls, big bags from stores for mall shopping, things to disguise yourself (hair ties to put your hair up, a shirt to change into, a jacket to remove or put on, wigs, root concealer to change the color of your hair), pads for concealing in the bathroom for those who have periods, opaque coffee or soda cups to put tags in and throw away in store."

[glittrrrrrl.tumblr.com]

Dozens of posts dealt with social strategies to avoid getting caught, with posters drawing on personal experiences of "lifting". Sometimes, bloggers would draw on mainstream technologies and appropriate them for shoplifting purposes. For example, one post discussed how they left the shop in a hurry claiming to chase a Pokémon on Pokémon Go. Common issues detailed and reblogged included selecting the perfect shoplifting outfit, or ways of avoiding suspecting parents when returning home after a successful day at the mall. LiftBlrs also discussed strategies like "scoping" (scanning a shop to identify threats and opportunities), "boosting" (selling stolen merchandise online) or identifying "blind spots" (i.e. a location within a store out of view of cameras, shop assistants or other customers). These posts were often written in simple terms for a "beginner lifter" audience:

"Make sure your blind-spot is not under surveillance. Never do anything where someone else may see you, even a customer. You can make your own spot inside a shopping cart with large packages to conceal your movements or use display units to your advantage. Also a friends body can be used to block viewing. You will always want to act quickly once you have entered your blind spot and never grab an item and walk straight to your area."

[yeahlift.tumblr.com]

Other posts aimed at foregrounding knowledge that, while not directly related to shoplifting, might be interesting or even necessary for members of the LiftBlr community. For example, makeup tips or self-defense tactics.

"Make a fist with your thumb outside, not tucked inside. If it's tucked inside your fist, when you punch someone, you might break your thumb. The thumb goes across your fingers, not on the side."

[liftyhippy.tumblr.com]

The data we've classified under this theme shows that LiftBlr functions as a resource of practical knowledge regarding an activity that is central to the community itself: shoplifting.

Theme 2: Resistance and Activism

Many of the posts in the LiftBlr community explicitly address the social, political and ethical aspects of the crime. The LiftBlrs discussed a very broad range of political topics with varying degrees of seriousness. They posted about civil disobedience, anti-war manifestos, communism and capitalism, biases in media production and representation and the electoral campaigns of Clinton, Obama and Trump. This post parodies an episode of the TV show Mythbusters:

“Adam: Hey I’m Adam and this is my friend Jaime and you’re watching Mythbusters.

Jaime: How’s this for a myth, Adam? “Shoplifting hurts workers”

Adam: We don’t even need to go down to the bomb range to answer that question! Marx busted that myth one hundred and fifty years ago! The root of proletarian suffering is the bourgeoisie!

The Narrator (Over footage of Adam and Jaime burning American flags at the bomb range): Next time on Mythbusters: “Can you peacefully abolish capitalism?”

[lifting-madjick.tumblr.com]

The following post focuses on capitalism too but from a different perspective:

“Me: people are inherently deserving of things we need to survive like food and water.

Capitalists: okay... That sounds fake but okay”

[lifting-madjick.tumblr.com]

Members of LiftBlr show concern for a broad range of social matters. Racism is among the topics they address (mostly #blackLivesMatter):

“Unfollow me if you don’t believe black lives matter.”

[Lifting-madjick.tumblr.com]

Issues related to gender like feminism, homophobia, abortion or romantic relationships are also frequently discussed and interwoven with issues of shoplifting. Here shoplifting is defended in terms of resisting gender oppression:

“I 100% support women stealing beauty products instead of throwing every spare penny she has away chasing after an impossible pipedream sold to her since the moment she was born. “

[lo-lolifting.tumblr.com]

Some posts were not necessarily related to shoplifting however:

“Funny how men only care about woman’s choice when it comes to defending porn and prostitution.”

[Lifting-madjick.tumblr.com]

Other topics discussed relate to health, environmental practices, animal rights or celebrate practices condemning discrimination in various forms:

“If you’re a pro eating disorder blog/post pro eating disorder content tag your fucking posts because some of us are easily triggered by your self destructive bullshit :) also unfollow me please and thanks”

[haulleyse.tumblr.com]

This post was written in response to another about the Westboro Baptist Church “getting owned” by people playing Pokémon Go:

“Generally I agree with the sentiment that we’re living in the worst possible iteration of a cyberpunk dystopia but honestly, pokemon fans using augmented reality to AR-tag a notoriously homophobic hate group’s building by having it controlled by a pink fairy videogame monster called “loveislove” that’s only visible to other people playing the same AR game is some Shadowrun shit and I love it. I hope loveislove makes their jigglypuff eat shit”

[lo-lolifting.tumblr.com]

The LiftBlrs often linked their political and ethical stances to the morals of shoplifting. Shoplifting from large multi national corporations was seen as either morally neutral or a virtuous act of political activism. Stealing from small businesses was viewed very differently as this list of commandments illustrates:

“The lifter’s commandments: 1. Thou shalt not judge other’s hauls or techniques. 2. Thou shalt not be a snitch. 3. Thou shalt support fellow lifter’s endeavors and answer questions when possible. 4. Thou shalt not steal from small businesses. 5. Thou shalt not get caught. 6. thou shalt be a bad bitch.”

[britishlifting.tumblr.com]

For some LiftBlrs there was a moral hierarch within shoplifting. Stealing food to survive or feed children was perhaps the purest motive and was generally considered an ethical act in an unethical society:

“Friendly reminder that the human race currently has the technological capacity to eradicate poverty and secure a safe existence for every person but that doesn’t happen because capitalists limit production so they can make money and live in comparative luxury to the rest of us”

[glitchylifting.tumblr.com]

But stealing less obviously essential items was also fitted to a moral order:

“I’m not going to get too deep into the Shoplifting Discourse but I will say that “stealing for survival” encompasses a lot more than just food. You could be stealing makeup (which is already always absurdly expensive) so strangers read you as a woman, or stealing a toy so your kid doesn’t feel like she’s a bad person because Santa didn’t bring her anything, or

stealing tampons or toilet paper because everybody deserves basic hygiene, or stealing nice clothes for a job interview, or stealing school supplies so you can study, or stealing any other number of things that are truly necessary but you won't immediately die if you don't get them. “

[lifting-madjick.tumblr.com]

The existence of #Liftermeetup shows that LiftBlrs were willing to take the risk and share their resistance practices offline. However, they were aware of the dangers of exposure to non-LiftBlrs. This following illustrates a hurdle to overcome so members of the community can organize themselves offline:

“Let's come up with some kind of secret code to say to someone that we meet in person, if we want to know if they're a lifter and if they know what we're talking about, they'll answer our question with a specific answer.”

[civildishoebedience.tumblr.com]

The posts in this section show how shoplifting is seen by the members of LiftBlr as something other than illegal consumerism. Shoplifting is performed as a resistance to an unethical system that foments difference according to financial status. For them, their practice undermines difference and constitutes a legitimate form of activism.

Theme 3: Storytelling and Community

The third theme from our analysis of the data was storytelling and community, which related to idiosyncratic accounts of shoplifters' lives. The LiftBlr community is continuously under attack from the law so unsurprisingly a lot of posts address issues to protect the community. These include how to remain anonymous:

“HOW TO STAY SAFE DURING THIS PERIOD OF ANTI-LIFTERS' ATTEMPTED 'EXPOSÉ. 1.USE AN EXIF DATA REMOVER-MOST IMPORTANT - always use an exif data remover when posting ANY kinds of photos. i use Metadata Remover on ios. it is the white icon with blue aperture lens and a small red dash sign”

[glitchylifting.tumblr.com]

There were celebrations of LiftBlr community and the feeling of belonging that the posters found:

“I am so impressed with the lifting community, seriously. I see SO MUCH diversity, and SO MUCH support for POC, sex workers, body positivity, LGBTQ, religious tolerance, disabilities and mental health, income levels... Seriously you are all just the absolute best. In the fucking SHOPLIFTING community. We're supposed to be some sort of detriment to society, but I have never felt so comfortable and safe in a ~community before. You have all exceeded my expectations and restored a little bit of my faith in humanity. Thanks.”

[lo-lolifting.tumblr.com]

Some posts jokily describe common situations among the members of the community. There are humorous stories but also pictures, comics and videos.

Girl next to me in class: *I stole these pens I'm using lol.*

Me: *I stole this outfit I'm wearing lol”*

[lifting-madjick.tumblr.com]

This is clearly important work in Goffman's [27] sense of the presentation of self:

“Friend: *Your stuff is so cute! I wish I could afford all this.*

Me: *Same*

Friend: *What?*

Me: *Nothing.”*

[sad-lifts.tumblr.com]

Both of these examples are interesting because they present the LiftBlrs being envied. They own or wear status symbols that people comment on. The dialogue presents a moment where material culture is at once celebrated and undercut.

“Me last year: *yah that's nice but idk [I don't know] if I wanna pay \$75 for it.*

Me now: *yah that's nice but idk if that will fit in my purse”*

[britishlifting.tumblr.com]

In sociological terms they are performing multiple identities. They are simultaneously savvy consumers and active resisters. When Londoners rioted in 2011, smashing shop windows and looting goods, the sociologist Zygmunt Bauman pointed out that these were not bread riots or riots focused solely on a political issues. They were riots of failed consumers stealing televisions they could not afford [3]. From cradle to grave young people are instructed to define themselves by what they own. As global inequality increases the pain of the have nots becomes a serious problem that this community effectively solves:

“Babe: *tell me something sexy*

Me: *no cams, unattentive SAs, fitting rooms are unlocked and unattended, no sensors.”*

[wouldntitbesweet.tumblr.com]

The success of particular “hauls” was perhaps the most frequent topic of the stories told within the community. “Hauls” are stories of success usually in the form of photographic collections of purloined merchandise (like clothes, make-up or food) (Figure 3).

Other posts articulate (sometimes in multi-page accounts) the emotional excitement of overcoming the fear of getting



Figure 3. Image of a "haul" of stolen items.

caught or celebrate why it is worth being a LiftBlr. The following is an account that described the pictures in Figure 4 in a post entitled “benefits of lifting”:

Figure 4 (left) - “These were the type of underwear i used to wear on a daily basis before i started lifting — overstretched, bleached, discolored, old, wrinkly, disgusting. i was always super embarrassed when my LDR(Long Distant Relationship) boyfriend asked for panties pics because these were the only panties i have and obviously they looked like shit in real life and will look even worse in photos.

Figure 4 (right) - “and these are the types of panties i get to wear now — cute, sexy, clean, colorful; every positive adjective you can think of to describe panties. i’m so glad i have these now because i feel super confident in them. that’s all. :)”

[lifting-madjick.tumblr.com]

The lifestyle and experience of shoplifting is exuberantly celebrated in posts such as these. But accounts of dramatic failures are also common:

“Hey guys, taking a break from liftblr for a few weeks, maybe months, idk. I got caught at Walmart of all places. I’m sorry for anyone who asked me stuff or messaged me recently, I need to get away from liftblr because I feel very bitter and sad and stupid and I don’t want to talk about my experience. I love you all, I wish everyone good luck with lifting and life in general, please be very careful out there for me”

[civildishoebedience.tumblr.com]



Figure 4. Underwear before (left) and after (right) becoming a member of LiftBlr. This image appeared in a post entitled “the benefits of lifting” where the author claimed that shoplifting improved her self confidence by allowing her to wear new underwear.

There are also memes, poems and references to the mysterious and instinctive nature of shoplifting; the following poem was intended to be sung to the tune of Jingle Bells:

“Dashing through the mall / with tons of stolen shit / under the cams i go / dont give these hoes a hint / (GO GO GO) / lp’s dont even know / sa’s are far behind / what fun it is to grab / some shit while they pay you no mind / OH / lift that dress / lift that dress / this whole store could be yours / if you dont get caught / or have second thoughts / then bitch head out the door!”

[liftingparadise.tumblr.com]

LiftBlrs life stories go beyond the superficial accomplishment of material goods and dwell with complex issues like identity, freedom and structuring the social environment. Not everything is about the “swagger of looting” and a set of hidden values of ethical import seem to inform the rationale behind their shoplifting practices.

These stories are clearly an important reason for the existence of the LiftBlr blogs. Through sharing these stories LiftBlrs engage in a celebration of their community and values. However, what this values are exactly is not clear.

PROBLEM FRAMING VIA IMAGINARY ABSTRACTS

In the 1990s, William Newman used a creative version of abstract writing, “pro forma abstracts”, to evaluate HCI research [39]. Here we employ a similar technique – “imaginary abstracts” – not solely for their historical resonance but to “provide a space for research focused critique and development” [7]. We invite the reader to reflect upon a series of “imaginary abstracts” representing fictional but plausible HCI papers.

In the following sections we first consider the ways that the themes in these data might be related to different design perspectives: design against crime, critical design and value sensitive design. We choose these three approaches because they differ greatly in their goals and how they might approach research data. Furthermore, the dependency between purpose and approach of a design endeavour serves as a link to other design disciplines within HCI seeking to move away from identifying goals with solutions. After introducing each approach and how it resonates with the data, we present the imaginary abstract. The development of each abstract was guided by the design approach taken with reference to our analysis of the LiftBlr data. The imaginary abstracts were developed collaboratively among the authors by first discussing relevant existing paper abstracts from each design perspective, and then emulating their form and content based on speculated design responses.

1. Design Against Crime

In 1999 a group of governmental and academic institutions in the UK jointly created a practice-led research program to envision ways to “design out” crime[16]. It was entitled Design Against Crime (DAC) and since its inception it was “linked to the understanding that design should address security issues without compromising functionality, aesthetics or other forms of performance i.e. that secure design doesn’t have to look criminal or ugly” [25]. In most cases, DAC’s design outcomes are related to the built environment (e.g urbanism) but there were also community-focused initiatives and celebrated design products (e.g. those exhibited at New York’s Moma “Safe:design takes on risk”). Much of the LiftBlr data under the theme Tips and Advice would be useful for planning loss prevention policies. This way of framing problems might result in interventions that would facilitate law enforcement somehow as in the first imaginary abstract below.

LightSpot: Challenging Shoplifting Practices Through Increased Situated Awareness

Shoplifting in retail stores is a widespread criminal offence that damages businesses, employees and consumers in general. In this paper we propose a novel solution to prevent theft in “blind spots” - unsupervised spaces - of any business establishment selling goods. Using thematic analysis on online data detailing shoplifter’s practices, we focus on how shoplifters identify “blind spots”. We highlighted the kind of activities they perform once their anonymity is ensured, including using strong neodymium magnets as a tool to remove security tags. We introduce LightSpot: an inconspicuous device that combines a powerful source of light with a magnet detector. Carefully positioned in a blind spot it will respond to the presence of any itinerant magnetic source with gentle glowing patterns noticeable by both shop assistants and potential shoplifters. Our initial field trials suggest that LightSpot might support a reduction in

shoplifting behavior due to increased situated awareness and exposure to shopping assistants, lost prevention officers and other customers.

The object of our imaginary abstract, LightSpot, would belong to DAC as far as it is considered an artefact that draws from the theory of situational Crime prevention[12]. This theory suggests, in a nutshell, that “*crime is significantly about opportunity, and that if we can design out opportunity for crimes to occur in the first place, we can reduce crime, and perhaps also the number of people who become criminalized*”[25]. Our abstract does not belong to a neutral ethical design space and involves taking sides and designing against shoplifting and shoplifters by reducing a shop’s vulnerability to this crime.

2. Critical Design

The last decade has witnessed the publication in HCI of a great many research projects with outcomes that don’t reify solutions but rather challenge assumptions. Studies of this sort bring research concerns to the spotlight to initiate thought and debate about familiar topics addressed from unfamiliar perspectives. They dispute common conceptions of how technology and humans bond together and deliberately instigate controversy to surface ideas silenced by the sociopolitical frame under which research is carried out. This research is aimed at agonism (a fundamentally democratic condition of disagreement aimed at constructive dialogue) [17], critique [21] or speculation [22] framed as explicitly provocative designs. The second imaginary abstract takes the standpoint of designing to support the LiftBlr community by facilitating offline recognition of community members as part of a subversive act.

“Capitalism scammed me first”: Designing to offer offline support to the teen shoplifting community online.

In this paper we design to support the agonistic work of members of LiftBlr, the online teen shoplifting community. A thematic analysis of online posts indicated the ways in which LiftBlr members see shoplifting as a form of civil disobedience and resistance to consumer culture. The posts also show the difficulties faced by members when trying to meet offline, in particular how to effectively recognize each other. We designed a peripheral device and a smartphone application that denote membership of this community when two LiftBlr members meet offline. Specifically, the peripheral device comprises an array of sensors capturing physiological measurements (heart rate and sweat production) worn secretly inside a bra. The smartphone app reads biometrics and builds a correlation identifying whether the person was shoplifting or not. The result is an identity data trail that serves to authenticate a member as an actual shoplifter. Our aim is to provide shoplifters with the means to meet offline with the assurance of belonging to the

shoplifting community and believe that in this way we are supporting their agonistic efforts against capitalism and social inequality.

The abstract is inspired by related civil disobedience initiatives like YoMango [1], a Spanish movement that celebrated and lectured on the practice of shoplifting. YoMango claims that, regardless of its naivety, this community foments agonism by openly criticizing the status quo in a wide range of contemporary matters hotly disputed in mass media and public parliaments. This abstract illustrates the notion that we are not simply choosing from certain, clear and coherent problems that are “out there” waiting to be discovered but actively constructing problems to address.

3. Value Sensitive Design

Value Sensitive Design has played an important role in HCI [24,32]. It has influenced the design of computer systems by emphasizing the need for engagement with values of individuals and communities alike. This abstract resonates with the empirical dimension of its methodology - situating technical artefacts that allow the emergence of knowledge about values. Such an approach might as well be understood as Research Through Design because it seeks neither to provide solutions nor does it explicitly appeal to controversy in order to spark debate [50]. Research outcomes in this category embody researchers understanding of research topics in order to explore and expand a design space. They intend not to resolve with static answers but to generate new venues for inquiry involving audiences in the research process. This research practice usually rests on idiosyncratic accounts in similar ways to user-centered design approaches to HCI. Our third imaginary abstract therefore attempts to raise the question: how does it feel to belong to the teen shoplifting community?

“No One Ever Saw The Greatest Moment Of My Life”: embodying the life of a member of LiftBlr, the teen shoplifting community online.

Social media platforms allow exceptional communities to overcome offline obstacles and flourish online. In this paper we take a value-centered research agenda to ask: how does it feel to belong to the teen shoplifting community? In order to discover what are the values that propel young adults to engage in the risky practice of shoplifting. A thematic analysis was carried out on a corpus of data consisting of posts from LiftBlr, an online teen shoplifting community. Analysis of personal narratives of teen shoplifters served to inspire the design of a “research product” [40]: the UnderSwitcher. The UnderSwitcher is a drawer in a wardrobe that, unbeknown to the user, shifts between two sets of underwear, a worn-out unattractive set and a new colorful fashionable one. This allows the user to hide stolen goods from family members and experience a glimpse of a

reality before and after becoming a member of LiftBlr. We discuss the Value Sensitive Design research process involving design for ambiguity, risk and controversy and hope to stimulate conversations regarding community formation, teen lifestyle or the meaning of law in personal contexts.

Such a study might seek to surface the values shared by its members and use this knowledge to develop systems that place matters of ethical importance at its core. We imagine the artefact generating diverse idiosyncratic answers and further questions relative to issues like identity construction, consumerism, education, crime or entertainment among those interacting with it.

DISCUSSION

We have illustrated three ways in which the data from the LiftBlr online community may be used to frame specific problems of the community and lead to different types of design responses. It is important to note that through doing this we are not attempting to dictate the value of different research approaches. Neither is our intention to judge which of the approaches outlined would be the best response to these data. There are many interesting papers that could be written beyond the ones imagined in our imaginary abstracts, which might lead to radically different views of the data we collected and of course different interpretations of the problems (if any) that may need to be responded to. Social computing attempts at investigating the strategies teen shoplifters use to deal with hate online might be an example. Our example abstracts serve to illustrate the point that we have not *identified* problems and chosen amongst them; we have *actively made problems* by drawing on different traditions of design research in HCI, and the particular values and positions these approaches bring with them. Furthermore, we aimed to underline how disciplinary consensus and the priorities of research funders and collaborative stakeholders not only identify problems, but also define those user groups and communities we work with and give voice.

Problem as Process

The ways in which problems are framed have immediate consequences for design. Designers often speak of the “co-evolution” of the problem space and the solution. But this is not a matter of empiricism. As Dourish pointed out (in 2006) there are not necessarily any obvious “implications for design” derived from data in any ethnographic study. Dourish argued that ethnography in HCI “*has often been aligned with the requirements gathering phase of a traditional software development model*” [20]. He problematized this notion arguing that we need “*a deeper, more foundational connection between ethnography and design*” (ibid). For Dourish, ethnography does not necessarily provide empirical data on problems to be solved in design. Indeed, following this work, over the last ten years

the notion that design can or should provide neat “solutions” has been increasingly challenged.

In recent years many of the products of Silicon Valley and HCI research have been described as “solutionist” [30] providing “*quick technological fixes to solve complex problems or problems that might not be considered problems at all*”. Part of the problem with problem solving is practical. The problems we frame are that which we are able to solve in some sense.

There is, however, a larger problem with problem solving: the question of perspective and politics. Shoplifting can certainly be framed as a problem for the owners of shops. But conversely shoplifting is a problem for shoplifters because they may end up in jail. Design might equally well address either problem: how to stop people from shoplifting, how to help shoplifters avoid being caught. Our imaginary abstracts indicate, we hope, that this is not a neutral question and involves taking sides. The construction of a problem in design research then is a matter of selection not just observation and often the two activities are inextricably linked [44].

Few would contest the utilitarian advantage that “problem-solving” affords some research. There are certainly important problems to be solved that call for an effective and straightforward solution. However, defining a problem implies direct and transparent access to a certain reality without carefully considering the assumptions such access demands or imposes. Furthermore, once an issue becomes defined as a problem, it closes down other opportunities for engagement with that same issue. If the value of research on shoplifters assembling online is assessed in terms of the problem it solves, which problem is more valuable?

In the design domain, this is a particularly thorny issue. Defining a problem based on a set of data might provide a shortcut to a preferred state of affairs (a design solution) without critically questioning the political, moral and ethical context in which problem and solution are defined. There is no doubt that there might be scenarios in which a shortcut that evades context might be preferred, however, if would be unfair to emphasize the value of research that solves over that which problematizes. It is precisely in this sense that problems are a research process with particular characteristics, tendencies and implications

Problems as Perspective

As we have tried to illustrate with the example of LiftBlr, problems are not “out there” waiting to be discovered in sets of data. Problems are constructed from particular angles (in terms of who has a problem) and perspectives (in terms of why this is a problem at all). Each of our imaginary abstracts has been developed after asking “who are we designing for? and why are we designing for them?”. Much of the job of researchers is preconfigured by the partners or sponsors (e.g retailers or tech companies), by the funding bodies (e.g a research council with a specific remit) and of course by

government policy (e.g a particular research over a different research). For a researcher, then, framing a problem is not a natural consequence of working with data but rather an act of creative making that shapes design outcomes and satisfies expectations.

Acknowledging the huge systemic factors at play when defining a problem raises doubts on research that is evaluated on “problem-solving” capacity precisely because it takes clearly defined problems as a starting point. A problem solving approach asks HCI to consider the world as an experiment and prioritize the enquiry onto those aspects that can be clearly and succinctly formulated as problems. Certain matters of interface design and engineering might profit from this, however in design we can (and should) be more cautious and critical of such endeavors.

CONCLUSION

We have argued that framing a problem is not a natural consequence of working with data but rather an act of creative making that shapes design outcomes and satisfies expectations. Whether a particular perspective is explicitly stated or not there are no neutral design responses to data. We have illustrated this argument with three different constructions of “problems” relating to the same data from an online community of teen shoplifters. Our examples are not intended to cover the whole HCI research field but rather, provide a glimpse into the potential to generate diversity in response to data and to acknowledge the specific interests and assumptions of any particular research audience. Problems and solutions are not “out there” waiting to be identified but are rather the product of particular analytical lenses that foreground certain connections between data and design. In turn, there are no inherent or inevitable relationships between data and design but rather historically and politically informed choices.

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