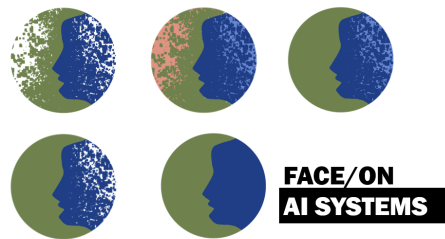# Using Design Fiction Memos to Analyze UX Professionals' Values Work Practices

A Case Study Bridging Ethnographic and Design Futuring Methods

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Figure 1: Logo for the fictional company Face/On AI Systems. Several design fictions in this paper depict the practices of this company and its workers as a way to interrogate how real-world UX professionals attend to values and ethics in their work practices. Through a case study exploring UX professionals' values work, this paper shows how design fiction methods can be used for qualitative analysis.

ABSTRACT

Multiple methods have been used to study how social values and ethics are implicated in technology design and use, including empirical qualitative studies of technologists' work. Recently, more experimental approaches such as design fiction explore these themes through fictional worldbuilding. This paper combines these approaches by adapting design fictions as a form of memoing, a qualitative analysis technique. The paper uses design fiction memos to analyze and reflect on ethnographic interviews and observational data about how user experience (UX) professionals at large technology companies engage with values and ethical issues in their work. The design fictions help explore and articulate themes about the values work practices and relationships of power that UX professionals grapple with. Through these fictions, the paper contributes a case study showing how design fiction can be used for qualitative analysis, and provides insights into the role of organizational and power dynamics in UX professionals' values work.

CCS CONCEPTS

• **Social and professional topics** → **Codes of ethics**; *Computing occupations*; • **Human-centered computing** → **Empirical studies in HCI**; *HCI design and evaluation methods*.

KEYWORDS

values work, values in design, values, ethics, design fiction, UX professionals, UX practice, ethnography

1 INTRODUCTION

Design futuring practices such as design fiction and speculative design have been used to investigate potential social values and ethical issues related to technologies, often by depicting conceptual products and artifacts that are provocatively designed or are used in potentially problematic ways. These include investigations of how technical design choices can have implications for [81], fairness [42], gender and power [23, 70], labor [79], health [55], and other issues arising from new forms of data collection and use [21, 68]. Parallel to this, a body of empirical qualitative research has studied how values

and ethics emerge as a part of technology design practice, such as studying the political and values-related practices of technology researchers and practitioners [50, 65], data scientists [57], security professionals [52], and user experience (UX) professionals [13, 34].

This paper bridges design futuring and qualitative ethnographic methods by presenting **design fiction memos**. Design fiction memos draw on practices of design fiction—conceptual designs that create, explore, and interrogate a fictional world [79]—and memoing—a practice of analyzing qualitative data through writing brief ideas and notes throughout the data collection and analysis processes [11, 49]. In this paper, design fiction memos are used in a project that is concerned with **values work**—the work practices conducted by UX professionals in the name of values and ethics, towards what they see as good, proper, important or desirable social worlds. The design fiction memos in this paper were created by drawing on qualitative data from interviews with UX professionals who work at large technology organizations and field observations of public events where UX professionals meet to discuss design, values, and ethics. Design fiction memos were used in parallel with traditional qualitative analysis techniques to find and explore new insights in the data.

This paper contributes design fiction memos as a new qualitative analysis method by showing its application in an empirical case study. First, design fiction memos show how design fiction can be adopted as an analytical practice for researchers. Building on previous discussions on the diverse set of connections between ethnography and design [19, 43], design fiction memos complement other qualitative analysis techniques and provide another way of bridging ethnographic and design work in HCI. Second, the empirical case study in this paper articulates themes about the values work that UX professionals grapple with in large organizational settings, including who in the organization should be responsible for surfacing and addressing values issues, the usefulness and roles of design interventions, the (in)visibility of values work, and other power dynamics involved.

The following sections first discuss background and related work. They then situate the design fiction memos as part of a larger project studying UX professionals' values work. The paper then outlines the process of creating the design fiction memos and presents 4 sets of design fiction memos. Each memo highlights a set of themes about UX professionals' values work practices. The paper then reflects on how design fiction memos can be useful for researchers in three ways: they can help researchers realize and extend encounters with interviewees by opening up their accounts for new forms of analysis; design fiction memos that stay close to rich qualitative data can help explore and depict complex dynamics that resist simple design solutions; and design fiction memos provide a way of circulating findings and stories from qualitative research. The paper ends by discussing the use and evaluation of design fiction memos more broadly.

2 BACKGROUND AND RELATED WORK

This paper bridges empirical studies of how technologists address values as part of their work practice, and the use of design fiction to interrogate values and ethical issues related to technology.

2.1 Studying Values in Design in UX Practice

Interdisciplinary research under the rubric of "values in design" has long been interested in how technological artifacts and the practices of production promote or embed social values, ethics, and politics, and how technology designers' practices and beliefs affect these artifacts [2, 22, 54, 77]. Related research in value sensitive design has sought to develop methods and approaches to help designers consider values during the design process [25].

Values in design research in HCI, CSCW and adjacent fields has sought to analyze how social values are implicated in practices of technology design, creation, maintenance, and repair [34, 39, 57, 66, 80]. These projects often utilize interpretative qualitative ethnographic-related methods, including participant observation and interviews. Shilton's ethnographic research studies engineers in an academic setting to understand what practices help surface values and make them salient for action [65]. A growing body of qualitative research has begun to investigate how UX designers in industry contexts view design methods and how they navigate ethical issues in their work [13, 33, 34].

In seeking to understand UX professionals' values work practices in particular, this project builds on prior research that finds that UX professionals' broad work practices are social and political (as well as technical). Research by Friess, Rose, and Tenenberg highlight designers' rhetorical and discursive strategies when presenting their arguments and design ideas to other organizational stakeholders [26, 62]. Research by Gray to identify design competencies among UX practitioners finds that practitioners have to learn how to navigate corporate cultures and bureaucracies, be able to pick up new design tools and use them to communicate ideas (rather than having technical competency in a specific set of tools), and find strategies for self-learning [32]. Prior research has also studied the politics involved in UX professionals' practices, including how they construct the category of "the user" and the politics of user centered design practices [27, 76, 82]. Nafus and Anderson discuss the politics of corporate researchers' work, such as how to frame corporate ethnographic research in a way that allows for new qualitative insights but also provides legibility within engineering and marketing frameworks of knowledge [53]. These studies show how everyday UX work is not just the "technical" work of research and design, but is also deeply social and political.

Recent research studying the values and ethical practices of UX professionals and other technologists highlights how organizational politics and power dynamics affect workers' practices. Gray et al. write that designers' ethical practices shape and are shaped by their individual practices, by organizational practices, and by the knowledge and reasoning built through education or professional societies [34]. Chivukula et al. find that the positionality of UX in an organization—such as the extent to which UX professionals are valued and what their roles are in the organization—affects the extent to which ethical issues can be surfaced and addressed [13]. Madaio et al.'s research to co-design tools for fairness with technology practitioners similarly highlights how changes in organizational culture—such as changes in organizational goals and priorities—are needed to fully address issues of fairness [50]; new tools and checklists on their own do not necessarily lead to values concerns being listened to and addressed by decision-makers.

In this paper I similarly study how UX professionals attend to social values in their work, with an emphasis on how this work is affected by organizational politics and power dynamics. However, I also use design fiction as a tool for studying these practices.

2.2 Design Fiction to Interrogate Values and Ethics

While there are many traditions of design fiction in HCI [5, 7, 8, 48, 71], this project utilizes design fiction in the frame of critical, adversarial, and speculative design [5]. In this framing, design fiction uses the creation of conceptual artifacts to create alternative worlds (not necessarily futuristic worlds) to ask questions about possible sociotechnical configurations of the world [16, 20, 58]. Through the creation of these conceptual artifacts and reflecting on them, the researcher asks what sociotechnical context surrounding the artifact would be necessary for the artifact's existence—what practices, norms, forms of social and technical organizations, infrastructures, and values would allow for this artifact to exist in the world?

Design fiction and related techniques have been used to interrogate the values and ethics implications of artifacts, allowing designers to think concurrently about issues of ethics, politics, and power [4]. These tend to present a fictional artifact or product, and use that artifact and its context to think about issues such as privacy [81], fairness [42], gender and power [23, 70], labor [79], and health [55]. While useful, these explorations tend to locate values and ethical problems as stemming from the artifact. This project instead locates values and ethical problems as stemming from designers' work and organizational practices.

My use of design fiction is inspired by Colusso et al.'s autoethnographic deployment of design fiction to probe issues around diversity and inclusion by depicting a fictional corporation's practices, rather than a set of fictional products [14]. For instance, using parody to critique corporate diversity initiatives, one of their designs depicts an email from the head of human resources of a fictional company implementing a new trademarked program to include one current diverse employee on each hiring interview panel; however these policies place the responsibility for improving corporate diversity on employees who often already do outsized (and unseen) diversity work, raising questions about whether they reflect a real or merely performative commitment to diversity [14]. These designs allowed the authors to investigate organizational power dynamics, exploring how corporate diversity and inclusion initiatives can re-inscribe the harms they are attempting to address. Drawing on and extending this form, the design fictions in this paper focus on depicting fictional corporate practices as a way of exploring power dynamics in the values work of UX professionals. These design fiction depictions were created by myself, stemming from accounts gathered in interviewees and field observations that I conducted.

2.3 Bridging Design Futuring and Ethnographic Methods

Design futuring methods (such as design fiction and speculative design) and interpretivist qualitative ethnographic methods (including participant observation, interviewing, or structured observation) have been bridged and connected in a range of ways, sometimes seen as complementary and sometimes viewed in tension with one another [19, 28, 43, 75, 83]. While design futuring is often presented through media, artifacts, or exhibitions, more recently some research has focused on using these practices as qualitative research tools. By engaging people in creating design fictions and speculative designs, or asking people to react to them, researchers learn about people and situations. These might take the forms of workshops and participatory activities [21, 64], co-designing [17, 46], presenting artifacts for people to respond to [12, 80], or games and interventions [3, 52]. Design futuring practices can also be used as way to formulate arguments: designing a conceptual artifact to critique, contest, explore or propose different arrangements of sociotechnical systems serves as a way of learning about the politics of design practices and material artifacts [18, 59, 74].

Related to values in design, design futuring practices have been proposed as tools for critical reflection and critical intervention, allowing technologists to consider the values and ethical implications of their work [69]. Design fiction interventions such as Ballard et al.'s "Judgement Call: The Game" [3] or Merrill's "Security Fictions" [52] use speculative techniques to surface discussion of values and ethics among technologists.

This paper draws a different connection between design fiction and ethnographic methods. It aims to take the critical and reflexive aspects of creating design fiction, but apply that lens to critically reflecting on ethnographic data (rather than critically reflecting on a technical product). Design here is used to ask questions and craft potential arguments about themes emerging in the data. This draws on Khovanskaya et al.'s work to bridge ethnographic and speculative design methods: designers collaborated with ethnographers by creating speculative designs inspired by early-stage ethnographic data [43]. These design collaborations allowed for new insights, sometimes by clarifying initial ethnographic ideas, other times by surfacing misunderstandings amongst collaborators. This paper takes a similar orientation to design fiction and ethnographic methods, positing that design fictions created during ethnographic data collection and analysis can help generate, clarify, or communicate ethnographic insights. However, the ethnographic and design fiction methods in this project are conducted by the same researcher (myself), rather than splitting up the methods among different research team members. This allows me to relate to the data from multiple perspectives at once (each potentially providing different types of insights)—the perspective of gathering the qualitative data, of a qualitative researcher analyzing the data, and as a designer working with and creating conceptual designs from the data.

3 METHODS AND APPROACH

This work is part of a broader set of projects studying UX professionals' values work—the tactics, practices, and experiences of how they attend to values and ethical issues in their work. I (the author) am a design researcher who uses both qualitative methods and design methods in my research. I conducted this research while working at an academic institution in Northern California, with geographic proximity to the San Francisco Bay Area and Silicon Valley. The institution is connected to the technology industry by training students and practitioners who go on to work in the technology industry, and by conducting research in collaboration with industry partners. These proximities allowed me to access multiple

entry points [9] into the networks encompassing UX professionals and their values work, such as being able to attend local events and recruit interviewees. Reflexively, doing research in this context also means that findings about how values and ethics are addressed in practice can feed back into teaching and research involving students training to work in the technology industry.

3.1 Data Collection

While prior research often focuses on studying how values come to the forefront of technologists' work, this project investigates what comes next: what do technologists do once they see their work as values-laden and political? In this project, values are conceptualized as hypotheses [41], rather than emanating from a particular ethical framework or its application. In other words, the primary concern of this project is understanding the practices conducted by UX professionals and the resources they utilize on the ground in the name of values.

Between 2018-2020, I conducted interviews with 12 UX professionals who work at large established technology companies and view attending to values as a part of their work. Of the 12 interviewees:[1] 5 work in the role of "designer", 3 work in the role of "researcher", 1 has the title of accessibility engineer and works on a UX team; 1 is now a product manager but was previously a designer at the same organization; 1 is a UX research consultant who previously worked at a large organization; and 1 is the organizer of a UX meetup. The gender diversity of interviewees includes 8 female, 3 male, and 1 non-binary participant. 8 interviewees live and work in the San Francisco Bay Area and Silicon Valley, 2 in New York City, 1 in San Antonio, Texas, and 1 in Toronto, Canada. The ages of interviewees ranged from 26 to 52, although most were in their 30s.

10 interviewees work at a large organization, including two different enterprise business software companies, a consumer-focused educational technology company, a social media platform, and a web browser. All organizations are mature beyond the startup phase, with the youngest organization represented being nine years old. Of the 10 interviewees working for large companies, their time working at their current organization ranged from as little as eight months to as much as seven years. Most (at least 7) have worked at their current organization between 1 to 4 years. Interviewees also had a range of lengths of experience working in the technology industry more broadly: Three had 10 or more years of experience, while nine had between 2 to 9 years of experience. Some interviewees drew on their past experiences as well as their current job during our conversations.

I also attended 12 meetup events related to values, ethics, and technology design in the San Francisco Bay Area to conduct participant observation. Interview transcripts and observational field notes were analyzed through processes of inductive qualitative analysis and coding. Throughout the data collection and analysis process, I created a range of written textual memos [49, pg210]. These included theoretical memos, short analytical documents exploring particular themes exploring early observed themes in the

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[1]Characteristics of the interviewees are reported holistically across the group, rather than using a table describing each individual interviewee, to respect participants' wishes regarding anonymity and re-identifiability. Numerical identifiers (e.g., P1, P2) are used when referring to individual interviewees

data (such as how people talked about who has responsibility for addressing values issues), or to summarize similarities and differences between multiple interviewees' perspectives.

Parallel to creating written textual memos, I also created a series of **design fiction memos** as a way to reflect on and analyze the qualitative data. During and after data collection, design fictions were created with the mindset of using them primarily for analytical purposes, and are thus termed "design fiction memos," to evoke the concept of memoing for qualitative analysis [11, pg348] [49, pg209]. This mindset is in contrast to generating implications for design or generating new ideas for eventual prototyping, which were not considerations during the creation of the design fiction memos. Instead, the design fictions were created in the epistemological tradition of critical and speculative design, creating conceptual designs to examine a social and cultural landscape [5]. I used the practice of creating design fictions to conduct reflexive inquiry on interview and fieldwork data, and to understand the politics of values work practices. This paper presents the design fiction memos and the insights that emerged from them.

3.2 Creating the Design Fiction Memos

Building on Khovanskaya et al.'s use of speculative design to engage ethnographic projects, I follow their methodological orientations of: (1) "engag[ing] ethnographic insights through design research as they were being formed and analyzed, prior to their encapsulation as results"; and (2) "us[ing] speculative design as a language for embodying design insights about emerging ethnographic data" [43, pg5375]. I similarly used design fiction to engage ethnographic insights during the data collection and analysis process, before final 'results' were found. The design fiction memos serve as a design-focused language for embodying insights coming from the ethnographic data. However, rather than serving as communicative artifacts between multiple researchers in different roles, the design fiction memos are based on my own empirical data collection. The insights from the designs emerge from my own reflective practice.

The design fictions themselves focus on an ecology of practices, artifacts, and stakeholders involved in the production of technologies. Overall, they follow Wong et al.'s orientation of "infrastructural speculations," which uses design futuring to focus on the background conditions and networks of relationships that enable technologies to operate [78]. The fictions also draw on Coulton et al.'s concept of design fiction as world-building by consisting of multiple entry points, allowing the world of the fiction to unfold over multiple artifacts [16]. Rather than focus on telling a narrative story, the design fictions depict a range of diegetic artifacts [44, 48] that together help create a fictional world where the artifacts exist. This fictional lifeworld can then be interrogated to probe what practices and relations of power make its existence possible.

The creation and forms of the design fiction memos vary. Temporally, most started as ideas during various points in the analysis process, such as while I was transcribing interviews, while writing textual memos, while discussing emerging themes with colleagues, or while conducting qualitative coding on the data. Some fictions depict fictional characters navigating their company's corporate structure, told through artifacts like emails and Slack conversations. Others take the form of fictional products or interfaces, such as a

fictional dashboard that tracks values work. The process of creating these design fiction memos helped deepen my thinking about potential themes and helped surface new potential ideas, which in turn iteratively influenced the qualitative coding and memoing processes. As these design fictions were developed as analytical tools, their emphasis is on the situated actions they represent and the reflections on values work that they help surface, rather than on their visual appeal.

Like other interpretive qualitative research, there were several initial design ideas that did not make it past the initial sketching and ideation phase. Some explored themes that were not supported by later qualitative data, or were not pursued in favor of analyzing different findings. The design fiction memos presented in the paper reflect the ones that went through several iterations and provided insights that led to further qualitative analysis.

4 THE DESIGN FICTION MEMOS

This section presents four sets of design fiction memos, each interrogating a different set of themes. Each fiction consists of one or more artifacts (such as an email, a company memo, or a tool found in a corporate work environment) that provides an entry point into the fictional lifeworld where the artifacts reside. These intentionally make use of mundane artifacts that might be found in the work environment of a large technology company to highlight everyday labor practices of UX professionals in these settings.

Each subsection consists of a design fiction memo containing text and images, followed by a brief commentary. Each commentary describes my intent in creating the designs, documents the qualitative data that inspired the design, and reports on the analytical insights that the design helps draw out.

While reading this paper, I invite the reader to move back and forth between the design fiction memo and the commentary sections. This moving back and forth serves as a way of understanding the process of qualitative analysis, and an invitation to the reader to: follow the linkages between the data and the design fictions, consider their own interpretations of the designs and data, and imagine alternate designs. Readers may also consider how the themes presented about values work may re-occur in a variety of settings and contexts (whether the settings described in the empirical data, in the design fictions, or a new context envisioned by the reader).

The first design fiction memo, *Face/On AI System's Headlines Activity* depicts how an ethical design activity gets used within an organization with mixed results. Second, the *Ethics Work Tracker* surfaces issues about the visibility and invisibility of doing values work. Third, *Ike the Icon*, reflects on the emotional labor conducted as part of values work. Fourth, *Anchorton Consulting* focuses on how values and ethics problems are entangled with organizational power dynamics, beyond product design decisions.

4.1 Face/On AI Systems' Headlines Activity: Failures and Successes of Design Interventions

4.1.1 Design Fiction Memo. This design fiction takes place at a fictional company, Face/On, that provides an artificial intelligence platform used for facial recognition services (Figure 1). It depicts a design activity used at the company. Joanna Olsen, a UX researcher at
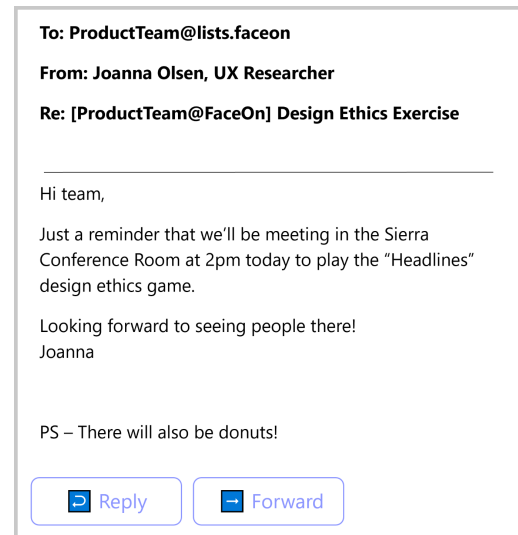
Figure 2: (Headlines Activity Fiction). Email from UX researcher Joanna to a product team reminding them about doing the headlines activity.

Figure 3: (Headlines Activity Fiction). Joanna asks the team to come up with possible stakeholders for their products as part of the activity.

Face/On has been searching online for design-based activities that help surface discussion about ethics and values. Finding one called "Headlines," she sets up a design workshop where co-workers from the product team can come participate in the activity together (Figure 2).[2] The goal of the activity is to create an assortment of positive and negative news headlines that feature different stakeholders, in order to surface potential harms from different perspectives. Joanna wants to use the workshop to focus on issues and practices related to potential biases in Face/On's facial recognition product.

In the first part of the activity, Joanna asks participants from the product team to write down potential stakeholders of Face/On's

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[2]Larger versions of the figures are available as supplementary material to the paper.
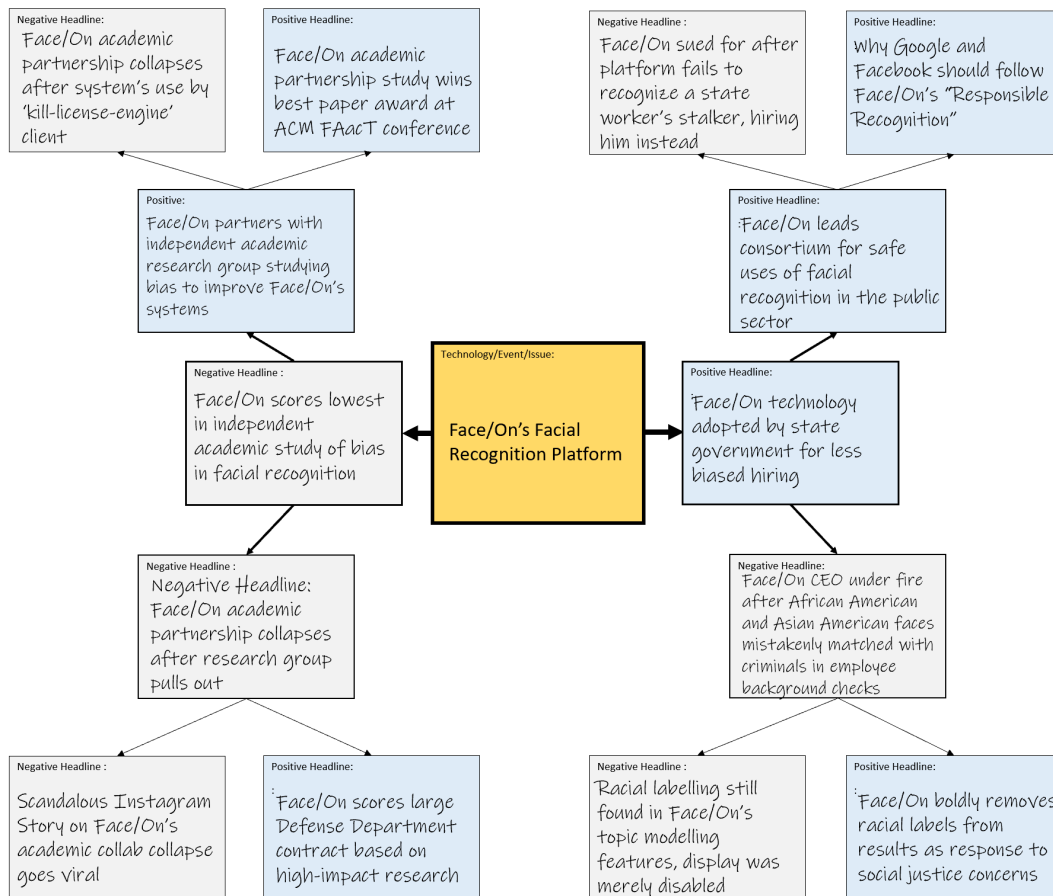
Figure 4: (Headlines Activity Fiction). Joanna has the group fill out a template of imagined positive and negative headlines. They start in the center and fill out the template moving outwards, filling out alternating positive news headlines (blue boxes) and negative news headlines (gray boxes) about the product written in the middle of the template.

platform on index cards and share them on the table. The group comes up with a variety of stakeholders (Figure 3). In the next step of the activity, Joanna has participants fill out a tree-like template, creating fictional news headlines moving from the middle of the chart outward, creating alternating positive and negative news headlines that include some of the stakeholders from the previous step (Figure 4).[3] The headlines created by the group include negative press coverage due to racial bias, discussing potential collaborations with academic researchers, having state governments adopt the facial recognition system for job hiring, and several secondary and tertiary effects of those actions.

Joanna feels like the group had a successful conversation and discussion, with one of the emerging themes being about how collaboration with external ethics experts could be beneficial for the company. Joanna likes the idea of creating a "Responsible Recognition" research group in partnership with academic researchers, inspired by some of

the headlines from the activity. It seems like a potentially constructive activity. Knowing that Face/On has an internal special projects fund for side projects like these, Joanna puts together a proposal.

However, Joanna receives an email from her immediate manager (Figure 5), who is supportive of her endeavor, but delivers the news that now is not the right time to fund a project with academic collaborators, as resources are currently being directed towards another project. Joanna is disappointed in this response from her manager. What seemed like promising changes resulting from the design activity are not coming to fruition. However, Joanna also receives a text message from Kirk, an engineer who attended the "Headlines" workshop (Figure 6). Kirk was inspired by the conversation stemming from the activity, and wants to find ways to continue having similar conversations with co-workers, suggesting starting a slack channel or book club.

4.1.2   Commentary for Face/On AI Systems' Headlines Activity. The use of a design activity in this design fiction memo is inspired by an account from P6, a lead UX designer who describes using a *Black Mirror* brainstorming design exercise at their company. The activity

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[3]The headlines in this fiction were created with the input of (non-fictional) colleagues Stuart Geiger and Jesse Josua Benjamin.
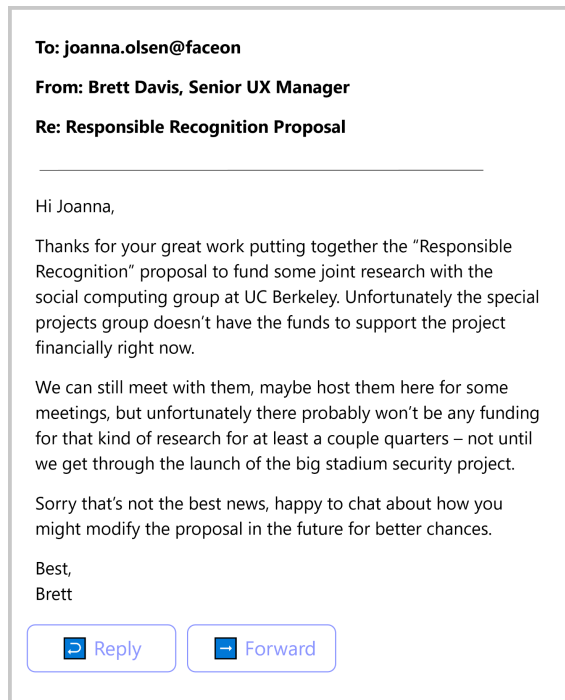
Figure 5: (Headlines Activity Fiction). An email from Joanna's manager informing her that there are not resources to support her proposed "Responsible Recognition" partnership.

Figure 6: (Headlines Activity Fiction). Text message chain with Joanna and her co-worker Kirk.

used by P6 asks participants to come up with harmful scenarios related to their products, using the dystopian anthology television series *Black Mirror* as a template. P6 notes that the activity did not lead to tangible product changes, but suggests that it can serve as a useful tactical tool for UX professionals to reach out to other organizational stakeholders:

> P6: The couple of times we've tried it, I haven't actually seen it work. Well at least [for] meeting those stated goals [of leading to product changes]. [...] I've found such exercises to be of very limited value for the actual design process. Where they *are* useful sometimes is building consensus, and I think that's exactly what the ethics conversation needs. It needs everybody, all the stakeholders on board. And designers on their own have only the power that they're able to get within their organization, which typically is not much.

As a researcher who has worked on creating design activities similar to the *Black Mirror* exercise, I was surprised to hear P6's evaluation about the lack of usefulness of these activities in the design process. At the same time, P6's argument that the designs might be useful for "building consensus" points to a different problems space where design could be useful: designing to support values advocacy and consensus building, rather than designing to integrate values into a product design process. Using the design fiction memo to depict the facilitation of a fictional design activity that results in a

failed project proposal yet changes the mind of an engineer (suggesting that the activity helped with coalition building), helped me gain some insight into what P6's experience facilitating the *Black Mirror* exercise might have been like.

In the fiction, Joanna's unsuccessful attempt to change organizational strategies and politics by proposing a "Responsible Research" initiative was influenced by interviewees' discussion of side projects and initiatives that do not end up moving forward for a variety of organizational reasons. For instance, a user researcher working for an enterprise software company (P2) described a side project trying to create personas that would foreground different types of power relationships in the workplace that might be experienced by the company's clients, in order to emphasize issues related to worker well-being. While this project had interest and support from others in the company, due to other organizational priorities, resources were focused elsewhere and the persona project went unfinished.

This fiction explores what roles that values and ethics design activities might serve in the workplace. Starting with an email helps center the mundane, everyday labor required in surfacing discussion about values, such as trying to entice co-workers with friendly reminders and donuts. The design activity artifacts (index cards and charts of stakeholders and headlines in Figures 3 and 4) at first seem to suggest a successful design intervention, while the

follow up emails and texts (Figures 5 and 6) suggest a more complex and ambivalent set of results from the design activity.

The headlines activity depicted in the fiction is based on an early version of a (nonfictional) design activity that I previously created, originally imagined a tool that product teams could use to think through potential harms when developing new product features. Creating a design fiction utilizing that activity helped me consider how it could "fail" (i.e., what if it does not directly lead to product changes or organizational changes). This fiction reflects the complexity of addressing values in design practice, and how change may require more than just the creation of new tools. However, the activity serves as a gateway for an engineer, Kirk, to work with Joanna to begin thinking more holistically about values and ethical issues, suggesting that the activity does have a positive (if unintended) effect in building shared interest and understanding around values. This suggests that design tools and interventions might be useful for education initiatives and coalition building within technology companies.

This design fiction memo also raises questions about who is and who should be responsible for surfacing and addressing values in practice. Joanna, a UX researcher, facilitates the design activity out of her own interest. Yet as the fiction shows, UX professionals working in large corporations must directly interact and contend with other organizational stakeholders and decision-makers. This draws attention to how UX work is positioned in large companies, where UX professionals often do not have the final decision-making power. Conversations between Joanna and her manager, and between Joanna and Kirk the engineer raise questions about who should be responsible for values. How much change can an individual (Joanna) or group of individuals (Joanna and Kirk) enact without organizational support? Perhaps addressing values should be re-framed as a collective or organizational responsibility, rather than an individual one.

Overall, the *Face/On AI Systems' Headlines Activity* design fiction memo sheds light on how conversation, contestation, and teaching about values and ethics can happen within technology companies in ways that go beyond making technical design choices in a product. This memo opens up interrogation into the processes, responsibilities, and practices of production. It highlights the role of organizational power and suggests new points for design intervention in advocacy and building consensus around values, not just creating new values-oriented tools for the design process.

4.2 Ethics Work Tracker: The (In)Visibility of Values Work

4.2.1 Design Fiction Memo. This design fiction memo takes the form a screenshot of an imagined ethics work tracking tool (Figure 7). Someone can use this tool to track work tasks related to raising discussion of and addressing values at the workplace. In the heatmap portion at the top of the screen, each square represents a day and darker squares indicate more "contributions" to ethics and values work.

The interface shows the details of (fictional) user researcher Jen Starr for one day. She tracks activities like attending a product meeting where she presented a set of user personas around accessibility, but she also had to explain ADA accessibility laws to co-workers. She notes that she got interrupted 3 times by Paul. Later she records tasks related to user research recruitment. Then she attends a diversity and inclusion lunch, where she tried to explain the non-neutrality of platforms multiple times, only to face rolled eyes and another interruption. At the end of the day she spends time talking to a woman of color who has been offered a job at Face/On but is undecided about joining a technology company. Jen shares her experiences and challenges, and offers to mentor the new worker if she chooses to work at Face/On.
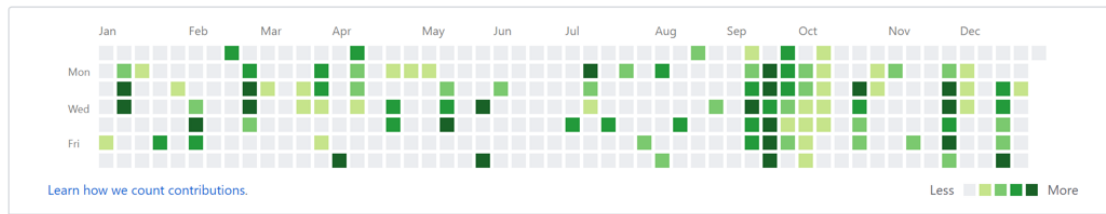
4.2.2 Commentary for the Ethics Work Tracker. The *Ethics Work Tracker* helps explore the visibility and invisibility of the labor involved in doing values work. The idea of a tracker was inspired by P10, a senior UX researcher who talked about creating an "ethical debt tracker" using bug tracking tools. She keeps a list of the times she wanted to add or change a feature that had some values implication, but was told that it could not be incorporated in the current release. She wants to have this record so that she can bring up those issues again in the future, trying to make the conversation visible and remembered over time. P12, a senior designer, discussed how they consider their involvement in organizational diversity and inclusion initiatives as part of their values work, but that work is voluntary and unpaid. P12 also expressed frustration at being the person on their team who repeatedly asks others on the team to consider how changes to an enterprise product might create harms for end users:

> P12: My product manager was like "thank you so much for bringing that up. I just hadn't thought about how end-users would be affected by this." It's nice they're thanking me because it's often a thankless job. But I also just want to bang my head against something hard. Cause every single effing conversation is like this. Where it's "oh yeah I hadn't thought of it that way." And like, *I have been telling you.*

Like P12, many interviewees discussed the ongoing and repetitive labor they do in meetings, internal discussion forums, and other contexts to try to raise questions about values and ethics, and educate their co-workers about why these considerations are important. Through these practices, UX professionals conduct labor in ways that are often unrecognized or invisible to their managers and companies.

The design of the *Ethics Work Tracker* fiction initially stemmed from interviewees' accounts of trying to integrate thinking about values into organizational metrics and using bug tracking technology to make values issues legible. Thus, I tried to adapt a GitHub-like visualization for project management and apply it to values work. However, it was when trying to create detailed copy for the UI and trying to decide what types of activities might get recorded by this tracker, that the importance of the emotional aspects of this labor became clearer to me, such as conducting repetitive interventions or receiving micro-aggressions. This insight from the design fiction memo suggested a new theme for my qualitative data analysis about UX professionals' emotional labor when conducting values work.

Creating this design fiction memo helped me understand how invisible work, emotional labor, and gendered labor are intertwined. These are in part highlighted in the interruptions and negative reactions that the fictional user, Jen Starr, notes in her log. In response

Figure 7: (Ethics Work Tracker Fiction). This screenshot shows a profile page for a user, Jen Starr, who works at the company Face/On, which creates an online platform that provides data processing services for facial recognition services.

to these reactions, Jen has to conduct emotional labor [38], regulating her emotions in order to maintain social relationships with other organizational stakeholders. This performing of niceness is described by Hochschild as "shadow labor," or unseen efforts that do not formally count as labor but are crucial to getting other things done [38, pg167]. Niceness is also gendered as feminine, viewed as being deferent to male-coded practices. Values work involves practices of emotional labor and shadow labor, and responsibility for these often fall on female and non-male technology professionals to conduct. These qualities are reflected in many of the fictions within this paper, as (often female and non-male) UX professionals conduct emotional labor to try to bring up values and ethics issues in "nice" ways through emails, Slack messages, and conversations, being cognizant that they do not have the most power within the organizational structure.

The *Ethics Work Tracker* asks what it might look like if values work and forms of emotional labor were explicitly tracked and recognized. At first glance, the design offers what might seem like an appealing alternative way to practice values work in a more

visible way. But with further reflection, the design fiction memo also prompts questions about what additional undesired politics might get embedded if values work was made visible and measured in this way. With this form of tracking, values work may become just another metric to optimize or become a mere performative act, without deeper consideration of the political issues at play.

4.3 Ike the Icon: Being "In the Room" and Re-Distributing Emotional Labor

4.3.1 Design Fiction Memo. Ike the Icon is an animated hamburger-style menu icon, who sits in the bottom corner of a desktop window (Figure 8). Similar to other conversational agents, Ike uses pattern recognition to recognize when users conduct certain actions in order to try to assist them. However, instead of detecting things like someone writing a letter, Ike monitors a series of software programs (such as emails, product management software, and prototyping tools) to detect when people might be making problematic design decisions,

and provides links to resources (either internal or external to the organization) to help address those issues.
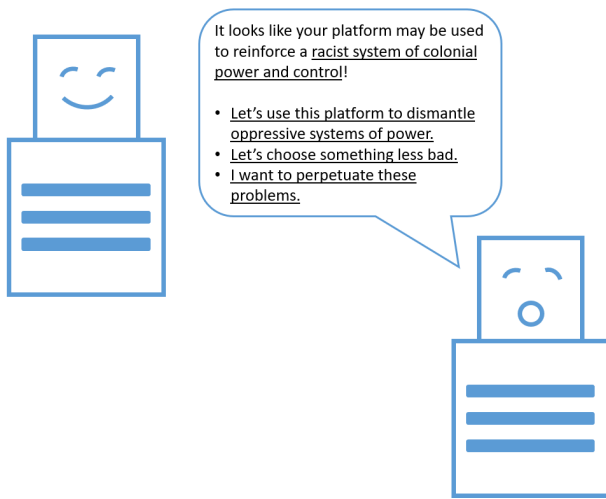

Figure 8: (Ike the Icon Fiction). The icon in a passive state (left), and an active one (right).

4.3.2 Commentary for Ike the Icon. Ike the Icon reflects a seeming paradox about conducting values work that surfaced in multiple discussions with interviewees: the need to be "in the room" when decisions are made so that they can surface concerns about values and ethical issues; but once in the room, they need to manage social relationships so that they are not viewed as just the person who raises problems. For instance, at a meetup event with user researchers, attendees discussed how work at their organizations is organized around sets of Objectives and Key Results (OKRs). One attendee suggested that they need to find ways to "be in the room" when decisions are being made around defining the OKRs and other metrics in order to incorporate thinking about values and ethics as part of an organization's OKRs. What was left unstated in this conversation were the lack of compensation, energy and time costs incurred, and the emotional labor required when being the individual in the room doing this work.

Furthermore, P7, a UX consultant who used to work as a user researcher at an ecommerce company, described how she found that being the person who surfaces problems can hurt one's reputation:

> P7: I think as a researcher you sometimes get the reputation for being a Debbie Downer or negative because you're usually bringing problems to the team. You know you're there to point out issues, and figure out how users are interacting with something, and the ways in which that could not be working very well. And so everyone I've worked with always says they love research and they love the researchers, but then when it actually comes to giving the bad news it's not always so great.

P7's experiences of being labelled a "Debbie Downer" for surfacing potential problems found in her user research draws similarities to Ahmed's research on the politics of complaint. In part, Ahmed argues that speaking up to ask for changes can be labelled by listeners as complaint and dismissed, as listeners focus their attention on the speaker as problematic, rather than attending to the problems the speaker describes [1].

Ike the Icon may seem ludic or even appear as an appealing solution at first, as it tries to relieve some of the pressure for the right person to be "in the room" and tries to help alleviate some of the emotional labor required of UX professionals and values advocates so as not to be labelled a "Debbie Downer" when bringing up issues. Ike not only draws inspiration from Microsoft's Clippy, but a range of chatbots, such as the "hey guys" Slackbot, a custom program that can be installed in Slack to automatically suggest gender-inclusive language whenever someone sends a message with the term "hey guys" in it [37]. How Ike works is left ambiguous so that the viewer can speculate on the implications of the different possible ways Ike could be implemented [29]. Perhaps Ike is limited to trying to find dark patterns in written code, or Ike might monitor and respond to messages that people send in emails or chat channels, or perhaps Ike is a relatively simple chatbot like the Slack "hey guys" bot. Ike the Icon is not necessarily a fully automated solution; it is possible that clicking on the links connect the user to another human to engage in a conversation or consultation. It is worth noting that Clippy was often viewed by users as frustrating and was often ignored. Similar to the P7's fears of being viewed as a "Debbie Downer," Ike's well-intentioned prompts and interruptions may come to be perceived as annoying, intrusive, or negative, and may end up being ignored.

Juxtaposing the (at least partially) automated work of Ike with accounts of UX professionals' difficulties in trying to surface values issues helped draw my attention to the forms of voluntary and emotional labor done by the human UX professionals. Ike also raised questions for me about the implications of re-configuring values work in this (semi)automated way. What are the boundaries of UX professionals' values work, and how are those maintained and changed? Is Ike able to do the same type of values work that UX professionals do? Since automation tends to re-configure work, rather than replace it [84], what is the role of a UX professional in this new configuration of values work? How can forms of values work be articulated [47] via Ike? On one hand, handing off some of the tasks that require emotional labor to Ike might be welcome by some UX professionals. Ike could help triage certain problems, perhaps directing workers to design patterns for common problems, and escalating to a human values expert for more complex problems. However, this might make it more difficult for UX professionals to do the social and political work of values advocacy, finding organizational allies, and getting buy-in from other organizational stakeholders. An automated tool may not address some of these social and organizational practices of values work.

4.4 Anchorton Consulting: Locating the Values Problem in the Organization

4.4.1 Design Fiction Memo. This fiction involves 3 different companies that exist in the same fictional world:

- *InnerCube Sensing: InnerCube creates data analytics platforms for offices and workplaces with embedded IoT sensors. Inner-Cube's clients are other companies who want to instrument their offices. The end users of InnerCube's systems are the clients' employees.*
- *BiggeCon: A company that operates customer service call centers and is one of InnerCube's clients*
- *Anchorton Consulting: A consulting company that provides "human management solutions"*

On an internal forum at InnerCube, a UX team discusses potential concerns about implementing new personally-identifying data analytics features for their client BiggeCon (Figure 9). The discussion shows a variety of viewpoints, including OliviaL who feels hesitant about starting the conversation, but wants to surface concerns about the privacy and well-being of BiggeCon's workers. Another worker, AidenF, agrees with the sentiment but wonders if it is their responsibility to address these, or if the client can do whatever they want with the software. JPMason cites InnerCube's corporate values (Figure 10) as a reason for resisting implementing the new data analytic features. Their manager, Josh Pollock, notes that he will raise these concerns with InnerCube's senior management.

Gary Green, InnerCube Vice President of Diversity, Inclusion, and Risk, emails a response to Josh Pollock about his team's concerns (Figure 11). Green interprets the corporate values in a different way. While the UX team felt that the corporate values of "Human empathy" and "Create trust" applied primarily to end users, Green argues that they also need to find "Human empathy" and "Create trust" with corporate clients. Green suggests what he feels like is an adequate compromise, they can utilize two services from a services contractor, Anchorton Consulting, to address the situation.

Anchorton is a company that specializes in "Human Management Solutions." (Figure 12) Anchorton highlights two services that would nominally solve VP Gary Green's problem: that some of InnerCube's employees object to implementing a solution for their client, BiggeCon. If InnerCube utilizes eTask auctions, employees could bid on what tasks they want or do not want to work on, so that those without ethical qualms could work on the BiggeCon project. With eStaff Contractors, InnerCube would completely contract out the BiggeCon project to Anchorton to complete. While these services address VP Gary Green's view of the problem, that some workers do not want to work on the project due to personal objections (Figure 11), these "solutions" do not address the original values concerns about privacy and BiggeCon worker conditions raised by the UX team (Figure 9).

4.4.2 Commentary for Anchorton Consulting. The *Anchorton* fiction reflects the frustrations—and sometimes failures—that interviewees experienced when trying to surface values or ethics implications with management. P4, who works at an enterprise software company, began to discuss an incident where she and other co-workers learned that one of their company's client organizations was involved in perpetuating harms against migrant family populations. The client organization reached out to ask for help to improve their installation of the software made by P4's company. P4 and a co-worker had strong feelings against helping this client, drafting a letter that they planned to circulate within their company, noting how this violated their personal values. When I asked why

InnerCubeSensing: #UXTeam

JoshPollock 09:20

@channel – Hi InnerCube UXers! We just got a request by BiggeCon to customize their installation of their InnerCube Sense platform. Their headquarters already have the physical sensors installed, but they want to add on some new features:

- Connect badge IDs with SmartStall analytics for automatic in-toilet drug testing
- Connect individual IDs with in-wall heartrate monitors to capture productivity metrics.
- Create a dashboard to show managers individual employee productivity statistics with the drug-testing and heartrate productivity metrics.

OliviaL 09:34

I hesitate a bit to bring this up, but I'm not fully comfortable implementing these features. Most of our installations provide aggregate office statistics. In the past we've only used individually identifiable dashboards for security-based features. Providing these individualized data to managers to use in any way they want seems to hurt workers' privacy.

Also BiggeCon operates contracts for customer service call centers – they're known for high worker turnover, and these features seem to increase the potential harm to workers.

😮 1   👍 1

AidenF 09:37

I don't particularly like BiggeCon either, but isnt how people use our products beyond our control? Plus employees consent to "identifiable uses" when they register with InnerCube

OliviaL 09:38

Is that really "consent"? Also don't we have contract language or something in our Terms of Service about "reasonable expectations" of privacy?

JPMason 09:41

I concur, I don't feel comfortable designing these things for BiggeCon. Aren't our company values posted on those big posters on the wall? "Human Empathy," and "Creating Trust"? For BiggeCon's employees, we seem to be violating those if we go forward.

JoshPollock 09:53

I appreciate the honest feedback all. Let me send these concerns up the chain.

Figure 9: (Anchorton Fiction). A conversation on an internal forum among the UX team, and their manager, Josh Pollock.

they framed it this way, P4 noted that they were unsure "how empowered" they were when doing this. She noted some co-workers pushed back, saying that by not helping this client, they might be harming workers using the software. While P4 felt that her immediate manager was supportive, the issue got raised to upper management. She recounted the response back from a chief officer
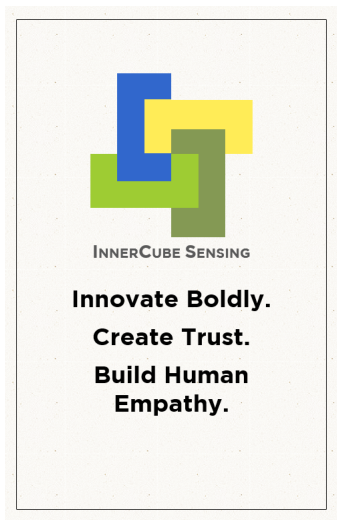
Figure 10: (Anchorton Fiction). A poster of InnerCube's 3 corporate values.

of the company as basically "do your job," and that not working for this client would "open a can of worms" – what if anyone could stop work based on their personal values? In the end, management hired an outside contractor to help this particular client. P4 had mixed feelings: on one hand she was glad she did not personally have to help this client; but at the same time, she was frustrated that the outcome silenced any acknowledgement of the problems that she and her co-workers saw. Their goal was not solely about not working for the client, but also to communicate the concerns they had around human rights violations, which got silenced.

These stories inspired Anchorton, which takes the contracting-out solution a step further. In the fiction, Anchorton frames concerns about technology values and ethics as a problem of individual technologists' personal values and beliefs, rather than social or collective ones. By doing so, Anchorton's solution to addressing technology ethics problems is simply to find another technologist who has different personal values to do the work. This undermines potential collective understandings of values and ethical issues related to technology development. Yet this framing reflects common individualistic accounts of values work, such as P6's statement that "I think one of the most important ethical calls that you can make as a designer is where to work." On one hand, this works well for individual UX professionals who can work at companies whose corporate values align with their individual values. On the other hand, this statement implies a labor marketplace for ethics, where a company can conduct unethical behavior as long as there are designers willing to work there.

While I did not have observational access to P4 and P6's experiences, this design fiction memo acts as a realization and extension of my exchanges with interviewees, taking the form of diegetic artifacts. The situation depicted in the *Anchorton* fiction represents a realization of P4's experience. The fictional company Anchorton extends P6's belief that choosing where to work is an important individual ethical decision by formalizing this belief as an ethical

Figure 11: (Anchorton Fiction). Email response from Gary Green, an InnerCube Vice President, to Josh Pollock and the UX team.

labor market offered as a contracting service, matching individuals' ethical beliefs with projects.

Recent real-world worker-led actions such as letter-writing and walkouts suggest forms of collective refusal against corporate actions [6, 15, 24]. Anchorton acts as what I might term an "ethics strikebreaker," making collective action approaches to values and ethics difficult by pitting individuals against each other.[4] Anchorton also promises public discretion, inspired by interviewees discussing how ethics in their companies are often addressed through a public relations lens. The use of a consulting company in the fiction also reflects business relationships in the technology industry, where parts

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[4]Anchorton is also meant to aurally sound similar to Pinkerton, a private security agency which conducted strikebreaking and anti-union efforts in the U.S. in the 19th century.
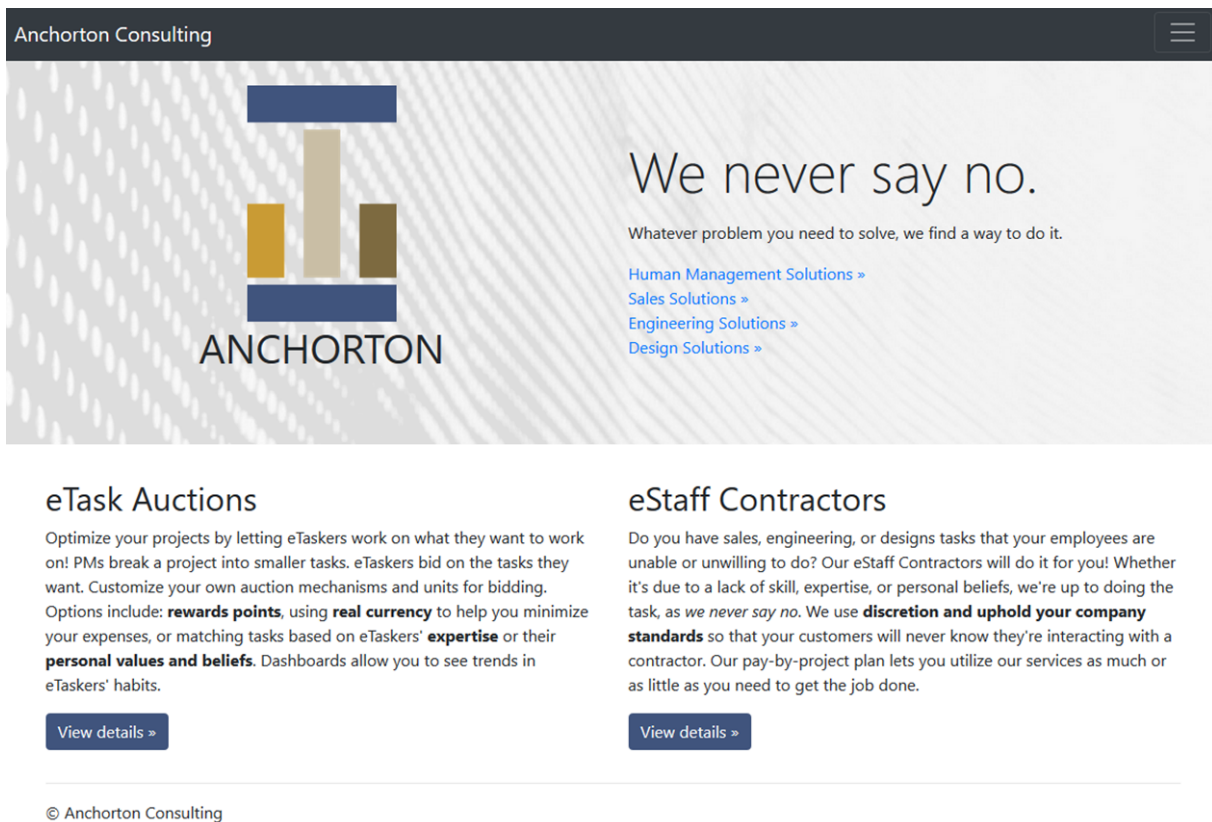
Figure 12: (Anchorton Fiction). Anchorton Consulting's website.

of a company's function (such as content moderation) becomes outsourced, and questions of responsibility over decision-making face opacity [35, 60, 61].

The *Anchorton* design fiction memo locates values problems as stemming from organizational arrangements of power and the industrial structures of capital and financial reward, rather than stemming from defective product design. An alternative fiction focusing on InnerCube's sensing products might locate the values issues of privacy and worker well-being as stemming from the technical design of the system. Instead, the *Anchorton* fiction highlights a moment of values contestation that may not be apparent when looking at a system from an end user's perspective: designers who speak out against a problematic use of their product, but their concerns get dismissed and obfuscated by corporate management. This highlights the realm of corporate politics and organization as potential sites for ethical intervention.

5 DISCUSSION

This paper uses design fiction memos as a way to surface new insights from a researcher's own qualitative data. This section reflect one three particular uses of design fiction memos. First, creating design fiction memos helps researchers *realize* and *extend* encounters with subjects, by opening up their accounts and descriptions for new forms of analysis. Second, design fiction memos that stay close to rich qualitative data can "stay with the trouble," [36] and explore

a complex set of dynamics that resist simple design solutions. When doing this with values work, it opens up a new set of questions for values in design researchers that center on organizational practices and arrangements of power, rather than on questions related to the direct use of technology products. Third, design fiction memos provide researchers a useful way of circulating findings and stories, particularly in a research context of corporate secrecy and concerns about anonymity. The discussion section ends with reflections on using and evaluating design fiction memos more broadly.

5.1 Design Fiction Memos as Realizations and Extensions of Interviewee Encounters

Design fiction memos serve as ways to realize and extend the rich interview encounters with research subjects. While one way of realizing an interviewee's experience might be to provide extensive quotations, design fiction memos provide an opportunity to create a design **realization** of interviewees' practices by depicting events and experiences similar to those described by interviewees. These realizations provided a window into practices that I could not directly observe. For instance, the *Face/On Headline Activity* and *Anchorton Consulting* fictions depict events directly inspired by interviewees' accounts. In developing artifacts to realize these stories, such as email and Slack message threads, I had to consider how UX professionals might frame their statements to other organizational stakeholders, and consider how managers or others in

the organization would respond. These are not meant to be caricatures or idealized personas, but are rather informed by the spoken experiences of interviewees. Having to create my own messages that attempt to surface values concerns while not appearing to be a "Debbie Downer" provided me with a form of experiential and visceral knowledge about the emotional aspects of values work. The process of creating these realizations helped surface new insights and themes for further analysis. While I am differently situated from the interviewees—I have the power to control how managers and UX professionals interact with one another within the worlds of the design fictions—it made me more carefully consider the different types of relationships UX professionals have with other organizational stakeholders, and the tactics they utilize when interacting with one another.

Design fiction memos also serve as **extensions** to interviewee encounters. Fictions like the *Ethics Work Tracker* and *Ike the Icon* do not directly attempt to depict experiences described by interviewees. Instead, these design fiction memos take initial insights or ideas (such as the invisibility of values work, or the politics of surfacing values issues), and extend them by creating a fictional artifact that embodies, critiques, or parodies those ideas. In doing so, researchers can reflect on and develop early ideas and insights. For instance, the *Ethics Work Tracker* was initially designed to extend the idea of the invisibility of values work into a fictional work-tracking product. However, creating this extension helped me consider the relationship between invisible and emotional labor. Using design to do this extension work helps researchers explore new questions and connections that might not be immediately obvious through other qualitative analysis techniques.

Realizing and extending are not fully separate modes of designing and analyzing; all the design fiction memos contain some aspects of both realizing and extending. But creating design fiction memos that attempt to *realize* interviewees' reported experiences can help researchers surface new themes and insights for further investigation. Creating design fiction memos that attempt to *extend* can help researchers more deeply explore insights into more fully developed findings. Both modes can help researchers approach and relate to their qualitative data in new ways.

5.2 Staying with the Trouble: Reflecting the Complexities of Values Work in Corporate Settings

In this project, design fiction was deployed as a method of data analysis. The goal in its use was to help surface insights arising from qualitative ethnographic data, rather than to explore potential design ideas for prototyping or development. While some of the design fiction memos take the form of product-like artifacts, such as the *Ethics Work Tracker* and *Ike the Icon*, these designs serve to trouble [36, 70] what could be seen as easy design solutions to the challenges that arise in doing values work. Similar to Colusso et al.'s speculative designs about corporate diversity and inclusion efforts that end up re-inscribing the harms they are meant to address [14], these design fiction memos suggest that addressing the complexities of values work—including recognizing invisible labor, emotional labor, and workplace power dynamics—requires doing

more than creating simple design solutions, and needs to include considerations of organizational power and culture.

This points to the need for values-oriented design interventions that explicitly take organizational power dynamics into account. Existing values-centered design methods often tend to try to improve aspects of the design process. This assumes that if designers have tools to agree on the "right" set of values, then they can create systems that adhere to those values. However, organizational and power dynamics can be vital to enacting values-centered design, such as the need to convince key decision-makers, education and coalition building to help others recognize values as relevant, and recognizing the emotional and invisible aspects of values work. Values in design researchers and designers should take these organizational and power dynamics into greater account when developing new values-oriented design interventions.

Prior work has discussed how design futuring practices come from a particular "somewhere" [45], often from the perspectives of the designers [58]. Design futuring practices have been critiqued for coming from the perspectives of privileged authors: Cameron Tonkinwise critiques speculative design for lacking discussion of race, class, and power [72]; Luiza Prado de O. Martins and Pedro Vieira de Oliveira argue that speculative practices should better represent how differences and power discrepancies appear [51, 56]. Creating design fictions based on interview and fieldwork data allows a broader set of empirical experiences and viewpoints to be expressed in the designs, rather than coming solely from the designer's perspective and imagination. One way to create design fictions that resist simple design solutions and embody perspectives beyond the designer's is to allow the empirical experiences of interviewees and informants to directly influence the design of the fictions. This helps provide the designs with rich detail and gives more analytical depth to the themes present in the fictions. The design fiction memos' focus on communications dialogs such as Slack, email, and chat messages center polyvocality, reflecting the multiple perspectives, concerns, and tactics discussed by interviewees. However this polyvocality was mediated through my perspectives as a researcher; future work might investigate how interviewees and informants can play roles in co-designing or providing feedback in the creation of design fiction memos.

Furthermore, creating design fictions that depict organizational practices and relations allows for the exploration of different phenomena than creating design fictions that depict a speculative product. Designing a speculative product foregrounds questions of direct use—how might someone use and interact with that product? Depicting organizational practices and relations through design fiction surfaces questions about: the social and technical practices of design and production, navigating organizational power dynamics, and the ongoing maintenance work that are needed for products to function [78].

The design fiction memos help explore how the practices of addressing values are not just technical, but deeply social. Values work requires UX professionals to maintain of social relationships, find allies, and conduct emotional and invisible labor while navigating the political and power dynamics of their organizations. Because of the positionality of UX within the organization, these efforts to address values are not always successful either.

5.3 Design Fiction Memos to Circulate Sensitive Stories

Design fiction memos can act as a communicative set of artifacts to circulate stories, convey research findings, and portray experiences in rich detail while maintaining anonymity. Design fiction memos that explore themes which are triangulated through qualitative analysis can communicate research findings. Artifacts like emails and memos provide a way to show UX professionals' work practices in potentially more visceral ways than text descriptions, evoking the tensions and politics that interviewees and informants discussed.

Furthermore, this paper's research project takes place against a backdrop of a culture of secrecy among technology companies. This may be in part due to companies having policies in place to guard against corporate espionage, a desire to maintain a competitive advantage using proprietary information, or wariness of having negative press coverage about their products. Nevertheless, this culture was visible in the research. For instance, I had to check-in with an assigned escort and sign non-disclosure agreements in order to enter several technology company offices where some meetup events were held. In addition, while there are growing examples of worker activism at technology companies, employee activists have also been fired from their companies, suggesting professional risks to contesting corporate practices [10]. Several interviewees obfuscated details about products, or asked that certain company- or personally-identifying details not be reported on. Using design fiction memos provided a way for me to stay close to interviewees' data during the analysis process, but also offer a way for me as a researcher to circulate those stories and experiences, while maintaining anonymity of interviewees and their work contexts.

While design fiction memos can help communicate findings to other researchers, they also potentially serve as artifacts that can be shared with other UX professionals as a way to start conversations about values work practices. The culture of secrecy and the possibility of legal or professional ramifications can make it difficult for UX professionals to share specific details about their work experiences with each other. Often at meetup events about values, ethics, and design, I observed that speakers tended to share their experiences through case studies. The case studies were often presented at a level of abstraction that focused on design principles or general patterns, without discussing specific product details or the social and organizational labor needed to achieve those outcomes. In this context, design fiction memos may usefully complement the forms of knowledge shared in case studies.

In future work, design fiction memos can serve as artifacts to take back to interviewees and field sites, as a way to communicate research findings and as a way to elicit further discussion to deepen interrogation into the issues raised. Future work may also explore how design fiction memos can circulate stories in and among other communities, such as policymakers or researchers in adjacent fields like science and technology studies.

5.4 Using and Evaluating Design Fiction Memos

By reflectively engaging in design futuring practices, this paper uses design fiction as a lever to open up and explore the politics of UX professionals' values work practices, complementing the knowledge gained through textual analysis of interviews and observations.[5]

Design fiction memos share some qualities with textual memoing practices. Creating textual memos provides a step in between collecting or coding data, and formal written analysis. Memoing helps the researcher reflect on and make sense of large amounts of qualitative data. Charmaz writes that memoing "should free you to explore your ideas about your categories" and "helps you to direct the shape and form of your emergent analysis" [11, pg348]. Memos allow a researcher to start closely in their data, move away from it (to abstract, analyze, or theorize), and then reflexively come back to their data or collect new data with theoretical sampling.

Design fiction memos similarly prompt a researcher to start close to the data and be inspired by it, move away from it by creating and exploring a fictional world inspired by the data, then reflexively come back to the data or theoretically sample and collect new data. Incorporating design fiction into this qualitative analysis process utilizes its ability to generate and explore possible worlds, and to ask questions and articulate arguments.

Textual memos can change over the course of analysis, being re-written, split, merged and iterated. Design fiction memos are malleable in different ways than text, but nevertheless can still change. Creating initial design fiction memos through sketches or wireframes allow them to be redesigned and iterated on. For example, an early sketched version of the *Ethics Work Tracker* focused on quantifying values work practices. Moving between the initial sketch and new data helped me surface themes about emotional and gendered labor. This led me to create a new version (Figure 7), adding details such as Jen facing hostile reactions from co-workers and volunteering free labor to mentor other women in the company.

Using design fiction in this way raises the question of whether design fiction memos follow the epistemological commitments of qualitative research or design research. This paper proposes evaluating design fiction memos in the paradigm of qualitative interpretivist research; however this is not completely opposed to how critically oriented design fiction is evaluated. Ethnographic texts often make use of authenticity, plausibly, and criticality to convincingly convey their research accounts [31]; design fiction memos make use of these qualities as well.

Authenticity of qualitative research is shown by paying attention to reflexivity and positionality—the ways of seeing the world that the researcher brings to the work [73, pg3-4]. In design fiction memos, this can be shown by stating the researcher's intent in the meta-textual commentary, similar to a design fiction's author's statement. This might include discussion of the themes, reflections, and questions that the design fictions raise for the researcher. It could also explicitly include discussion of the critical and analytical intent of the designs. Overall, the commentary is an opportunity to reflect on the researcher's positionality in creating the design fiction memos, noting "from where" the work is situated [45].

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[5]In moving to use design fiction as a method to analyze qualitative data, I recognize that the term "design" is often vested with rhetorical power that makes it seem inherently novel or valuable while overlooking its own histories and politics [40, 63, 67]. This paper is not advocating normatively that all qualitative and ethnographic HCI research should be analyzed with design fiction; nor that all design fiction needs to be created as a response to qualitative empirical data. However, the reasons outlined above suggest that in this project, there is a utility for combining qualitative and design research methods.

Plausibility of qualitative work is shown through thick description, quotations, or contextual understandings of a research site [30, 31]. In design fiction memos, this can be done in the commentary by documenting the connections and linkages between the data and the design fiction memo. This differs from the documentation of most other design fictions in design research, which do not need to have their basis in empirical data. While the themes and arguments in design fiction memos should have a connection to or basis in empirical data, the lifeworlds they depict can be fictional or speculative (differing from the realism of traditional UX scenarios).

Criticality and room for the reader to reflect is also a part of presenting and evaluating qualitative work. Presenting design fiction memos and their linkages to qualitative data allows the reader to reflect on the researcher's analysis, consider their own interpretations of the designs and data, or imagine alternate designs. This shares some similarity with analyzing a design fiction's argument from a critical or speculative frame [5] but again differs in that the design fiction memo's arguments are grounded in data.

Through the case study of values work, this paper models a way to report on and present design fiction memos. Each design fiction memo is accompanied by a commentary that describes the researcher's intent, documents linkages between the design fiction and qualitative data, and invites readers to reflect on their own interpretations of the designs and the data that inspired them.

6 CONCLUSION

This paper contributes *design fiction memos*, a method to analyze qualitative ethnographic data. Design fiction memos help researchers generate, reflect on, and develop insights and themes from their data and also help present these themes to a broader audience. This was shown through a case study using design fiction memos to analyze UX professionals' values work in large technology companies. The paper's design fiction memos surface themes that include: who in the organization should be responsible for surfacing and addressing values and ethical issues; interrogating the potential roles of design futuring interventions in the workplace; recognizing forms of invisible and emotional labor involved in doing values work; and recognizing how harms to end users can emerge from organizational processes, not just through design choices. By centering multiple everyday perspectives and voices, the design fiction memos highlight how UX professionals' values work is not only technical, but deeply social and affected by organizational power dynamics. These insights, yielded through the use of design fiction as a method of qualitative analysis, illustrate how design fiction memos can: help researchers analyze and reflect on qualitative data in new ways; enable the exploration of a complex and rich set of practices and issues that resist simple design solutions; and provide a new way to circulate ethnographic accounts and stories.

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