

Careful Data Tinkering

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In this paper, we describe and analyze the data practices of an activist non-profit, the Housing Justice League. We focus on their Tenant Power Hotline, a community outreach tool for tenants facing eviction and seeking organizing support. This research contributes to existing scholarship that examines data practices and the use of information and communication technologies in non-profit and grassroots organizations. To this existing scholarship, we share the structure of a counter-institution: an organization that strives to operate outside the non-profit industrial complex. We then interpret the work of Housing Justice League through the lens of care, identifying homebrewed databases and data fragmentations as negotiations between care and efficiency. We argue that care is enacted through the assemblage of the technical systems, and present tinkering as an alternative approach to developing data practices.

CCS Concepts: • **Human-centered computing** → **Empirical Studies in HCI**;

Additional Key Words and Phrases: Care, Data Practices, Non-Profits, Grassroots Organizations

ACM Reference format:

Anh-Ton Tran, Ashley Boone, Christopher A. Le Dantec, Carl DiSalvo. 2022. Careful Data Tinkering. *Proc. ACM Hum.-Comput. Interact.*, 6, CSCW2, Article 431 (November 2022), 29 pages, <https://doi.org/10.1145/3555532>

1 INTRODUCTION

The phone lights up with an incoming call from “HJL Hotline.” A volunteer picks up to a catalog of concerns from a tenant in fear of their landlord. The volunteer listens while they find the 3 to 4 tabs needed to address the call and collect information. Unable to find it across their windows, they head to Slack, look at the pinned messages in the volunteer channel, and pull up a long Google Doc with a table of contents. They quickly scribble bullet points in their Notes app while an Airtable intake form loads a series of questions. This is the typical routine of a volunteer working the Tenant Power Hotline, a community outreach tool that provides eviction defense information and organizing resources. A complex practice of collecting intake information is built upon a bricolage of technical arrangements tinkered together under the evolving eviction crisis - exacerbated by the ongoing Covid-19 pandemic.

The information systems of non-profits involved in addressing these issues are an ongoing context of research for CSCW. This work ranges from examining volunteer coordinators to monitoring and evaluation initiatives, amongst many other topics [11,32,57,70,71]. Adjacentlly,



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2573-0142/2022/11 – Art 431. <https://doi.org/10.1145/3555532>

several research endeavors aim to understand the ICT usage and implications for grassroots social movements [2,4,24,25,62,73]. Our work contributes to the ongoing scholarship, particularly to research on data practices in the contexts of non-profits, social movements, and digital civics. This paper revisits previous work examining the intricacy of ICTs involved in adversarial civic engagements of a housing rights non-profit, Housing Justice League (HJL)[4]. We describe the development of HJL's data practices during the pandemic through their Tenant Power Hotline. HJL's mission is to organize and build a social movement for housing as a human right, and this mission is stitched together in the technical work of the hotline. Our contribution aims to center care in these practices, and the notion of tinkering as an effective form of data practice and technical work, particularly in the context of housing and social justice.

Data-driven organizations are becoming more common, even amongst non-profits. Volda et al. describe the assemblages of data systems required for volunteer coordinators at non-profits as "homebrew databases" [70]. Bopp et al. examine the development of data-driven practices at these organizations, describing how a cycle of "data disempowerment" occurs through data fragmentation due to funder obligations [11]. Meanwhile, Ghoshal et al. focus on the misalignment of the political values inscribed into technical tools with the political values of grassroots social movements [24,25]. They also observe how individuals with technical expertise can drive the actions of a social movement organization, which can lead to potential mission drift. These analyses reflect an underlying deficit-based approach to understanding data practices in the context of non-profits and social movements. However, HJL is a different kind of organization that falls between a traditional non-profit that offers direct services and a social movement fighting to change the status quo, best described as a "counter-institution" within a new category of activist non-profits [31]. These groups aim to operate outside the non-profit industrial complex, are member-led, and focus on political organizing.

At HJL, we observe the homebrewedness of their ICT assemblages. We also see data fragmentation occur as the organization develops its data practices. The technical infrastructure comprises accessible software like Google Drive, Slack, Zoom, and more. This echoes other observations of what ICT usage looks like in other social movement organizations [24,25]. The various technological tools used by HJL create a messy technical infrastructure that is adapted circumstantially to provide care, illustrating a tinkering practice. We frame these findings by applying care literature as a lens to analyze HJL's data practices. While the intake forms and databases of the hotline seem tangled and ad-hoc, our observations while volunteering and stewarding the hotline provide context to a practice of care that reflects the organization's ethos. Specifically, we utilize Joan Tronto's notion of a Caring Democracy and Mol's notion of care as tinkering to frame how data is collected, analyzed, and developed to enact care under the erratic and ever-changing context of evictions in the U.S. during the pandemic.

Many of these observations are often understood as challenges or deficits to the technical work of non-profits and social movements. However, the organizational structure and context of HJL's hotline reframe the implications of data fragmentation, values, and technical constraints. Instead of idealizing data-driven practices for their precision and efficiency, we argue that the homebrewed, messy assemblage can instead reflect a careful data practice. The implications of care as a lens in this organizational context ask us to question the dichotomy of care and efficiency and study how these various ways to optimize data work are negotiations of multiple goods and values. It also forces us to consider if the design or redesign of tools used by grassroots organizations and non-profits are the only means to attenuate the challenges these types of organizations face. As a particular practice of care, tinkering directs our attention to the ongoing work of making, use, and

maintenance in these settings. Tinkering, as a caring approach to data, contrasts with familiar approaches to design [17]. Our work challenges scholars to consider the enactment of values versus the inherent values in tools and organizations.

2 RELATED WORK

In this section, we will outline related works. First, we will frame eviction and its historical roots of racial dispossession in the U.S. Situating eviction in the commodification of housing is necessary to understand the movement HJL is building. We will also connect this literature to work in CSCW and HCI. Second, we outline Care literature from the theoretical works to their applications in our field, providing a lens for analysis. Finally, we outline relevant works within computing that study the ICT work of the non-profit sector and grassroots movements. These works help us identify key observations in our fieldwork.

2.1 The Commodification of Housing and Evictions

Eviction is often conceived as a punitive action: removing a “bad” tenant and marking it on record. While this describes the act, context is necessary to adequately represent the role eviction plays in housing. There are two articulations of how housing is studied: a commodity and a right. Housing-as-a-commodity views shelter as a financial asset with exchange value. Freedom is realized through increased market choice [50]. Housing-as-a-right argues that housing inequality stems from the commodification of land and property. These manifest in the sense of insecurity, alienation, objectification, and contingent living. Freedom is realized through the reduction of these inequalities[50]. Fighting against the commodification of housing is integral to HJL's mission.

Computing has grappled with some of the material outcomes of housing commodification. Corbett and Loukissas call on our field to address issues of gentrification, “a collection process of settlement by high-income people in a low-income area, resulting in the forced class and race-based displacement of existing residents” [14]. Our work extends this area of interest and answers calls in our field to take a critical race perspective. Ogbonnaya-Ogburu et al. challenge us to contend with the pervasiveness of racism in our systems [49]. Housing is one area where this pervasiveness cannot be ignored. The notion of property has long been an instrument to subordinate non-white bodies, dating back to the settlement of Indigenous land in the U.S.[10]. We can trace redlining to these roots. While the Fair Housing Act outlawed this form of explicit racial discrimination, the U.S. transitioned to a system of financial “predatory inclusion” marked by different credit markets offered to minoritized communities [34,60,61]. This culminated in the subprime mortgage crisis, supported by a technical infrastructure of credit score standardization, automated underwriting, and risk-based pricing [33,60,61]. These facets point to the financialization of the housing market, whereby markets and financial institutions exact undue influence. Commoditizing land into bundled investment products requires utilizing a seemingly neutral lexicon of numbers and counting, erasing histories of inequity. Fields & Raymond trace these underpinning logics of the housing market to race and capitalism, shedding light on the current racialized geography of housing: the corporate landlord [21]. Since the subprime mortgage crisis, private equity firms have acquired foreclosed properties to become landlords. They package these properties into financial products like mortgage-backed securities, reinscribing the same inequity cycle. Most of these homes are in racially diverse neighborhoods [21,34,52]. Studies find that corporate landlords are more likely to evict and use the threat of eviction [35,56].

Given this context, we must revisit the premise of eviction as a punitive action against a “bad” tenant. This view is rooted in housing-as-a-commodity. Instead, housing-as-a-human-right forces

us to interrogate the conditions and inequalities that commodification creates. High eviction rates are an ongoing problem that the pandemic exacerbated, especially since the Supreme Court struck down the CDC Eviction Moratorium in August of 2021. Research has shown the negative impacts on mental and physical health and the risk of homelessness for families and children when an eviction is on a parent or guardian's record [13,15]. Eviction is often considered a feature of lower housing submarkets; however, recent research suggests otherwise. Landlords utilize eviction as a means to extract more financial capital from tenants trapped in the lowest submarket, often engaged in a practice of serial evicting [23,35]. Housing scholars Teresa and Howell posit that evictions are not a feature but a “critical mechanism serving to create and maintain class-monopoly submarkets” [63]. Their analysis of submarkets in Virginia finds that evictions are common practice. This damages credit scores and brands evictions onto tenants until forced into last resort housing submarkets where they have no leverage. In short, eviction is a form of power a landlord exacts on a tenant, particularly in low-income housing neighborhoods and markets where black and brown communities are overrepresented. Tracing the commodification of housing to histories of racialization and capitalism [21] requires us to connect practices and mechanisms of this market - eviction - to these histories [1].

Our work focuses on the operational context of anti-eviction work and the data collected and used in such context. We take a localized approach to studying data [42], engaging with data settings. The landscape of eviction data warrants such an approach. A national study of eviction data found inconsistent reporting and ambiguities in 22% of eviction records [53]. This data only captures legal evictions or ones filed in the court system. Informal evictions are ones where tenants receive an initial notice and leave prior to the landlord filing in the court system. This is common since evictions on record heavily affect tenants' access to housing. Illegal evictions are when landlords engage in prohibited activities to evict their tenants, such as cutting utilities and power, without going through the legal process. Given the various forms of eviction and the issues with legal eviction datasets, we take a local approach to data to study eviction defense through a tenant hotline. This work captures data that institutional data sets do not collect: informal and illegal evictions.

2.2 Care Literature and Care in CSCW

Theories of care have been used for quite some time throughout research into CSCW, design, and related areas. Care offers an orientation to practice that shifts our focus beyond rote instrumentality and productivity to consider how we attend to, nurture, and sustain one another. Commonly, theories of care are traced to feminism and the work of Carol Gilligan [26]. In contrast to the hypotheticals of so many ethical traditions, Carol Gilligan's care ethics are grounded in lived experience. An ethics of care is relational and responsive rather than rule-driven [26]. Of particular importance to our research is the work of Joan Tronto, who puts care in conversation with democracy [66,67]. For Tronto, care, rather than markets, should be the foundation of contemporary democracy [67], echoing the movement against the commodification of housing. Tronto is one anchor we use to frame our findings and analysis. Care has also featured prominently in Science and Technology Studies. Maria Puig de la Bellacasa offers another perspective on care. For her, care moves us beyond matters of concern [6] and brings us together in more-than-human worlds to attend to and sustain our co-existence [54]. Annmarie Mol contrasts the logics of care with the logics of choice in contemporary medicine. For Mol, care is an ongoing collaborative attunement between people and technologies [46].

Together with Ingunn Moser and Jeannette Pols, Mol develops this idea of collaborative attunement further through the notion of tinkering [47]. Mol's work and the notion of tinkering is the second anchor we orient our findings around. As a care practice, we engage in tinkering because we believe that conditions can always be a bit better, so we work towards that bit better. Tinkering, then, is a kind of material attentiveness, always responding to conditions and people's experiences in those conditions. Importantly, tinkering is different from how we often think of design or prototyping. There is no end to the work of tinkering; it is not a step towards a final product, service, or data set. Tinkering is indefinite as a practice of care [17]. Tinkering as care draws our attention to the perennial work of adapting and adjusting data and data practices to better meet the needs and aspirations of the activists we partner with in our research. Seen as part of a practice of care, this tinkering does not reflect some limitation in skills or resources. It is a necessary part of attending to one's community and their well-being.

Care prioritizes a quality of relations that is attentive and concerned. It's not surprising, then, that care has been used as a theoretical orientation for the interpretation of a range of design and computing contexts and activities that elude mere productivity, including maker culture and makerspaces [65,72], assistive technologies[7], precarious work [58], and philanthropy [32]. Within Participatory Design, scholars use care to re-think and re-frame the relationship between the designer and participants and give a distinctive purpose to designing together. Akama and Light use care to talk of the work of participatory design in attending to futures [40], while Ståhl and Lindstrøm talk of participatory design as a practice of caring experiments [41]. Closely related to the context presented in this paper, Mugar and Gordon use care, specifically Joan Tronto's work, as a motivating theme in their discussion of civic media [28]. For Mugar and Gordon, care is the purpose of civic media; it gives publics coherence [28].

Our work is situated in community-led work. Most recently, Rossito et al. unpack care in community-led initiatives and the trade-offs between efficiency and care when utilizing digital technologies [57]. Our work similarly surfaces negotiations of care and efficiency in community-led efforts. Zegura et al. analyze how care logics can inform data science, working with a community land trust organization [74]. Our work similarly characterizes what a data practice centering care looks like in the context of eviction. Meng et al. use Tronto's care qualities with a citizen to collect code violation data and address neighborhood neglect [44]. This research informed how we utilized Tronto's theory to apply to data work in our civic context. We aim to build on these works that address neighborhood and place, focusing on care provided during high-stress times: evictions during the Covid-19 pandemic.

2.3 Non-Profit Sector & Grassroots Movements in CSCW & HCI

2.3.1 Non-Profits and Community Organizations. There has been a considerable body of research in CSCW and HCI in non-profit and community contexts. This work examines how they use social media to share information [39], recruit, train, and manage volunteers [68,71], coordinate participation [38], manage internal processes [5], facilitate donations [8,27,37], and collect/analyze data [11,19,59,70]. Data work in non-profits and community organizations often occur in a context of tight constraints, including limitations on staff time [45,71], funding [11,71], technology budget [45], and technical expertise [45,71]. While data can help non-profit organizations build narratives that encourage support from stakeholders [19], resource constraints present challenges to these organizations, making it difficult to take advantage of the potential benefits of data. Scholars raise concerns that the current emphasis on Big Data could create new divides between organizations

due to access[12]. While some organizations can collect large quantities of data, they may struggle to use that data effectively [43].

Much of this body of work sheds light on the challenges non-profits face. Our work focuses on two challenges: “homebrewed” databases and data fragmentation. Volda et al. conducted a qualitative study of volunteer coordinators at non-profit organizations, identifying the use of “homebrewed databases” or bespoke information arrangements that span digital and physical components. These homebrewed databases emerge from resource constraints and a lack of access to technology that can centralize information in the unique configurations required [70]. Bopp et al. describe the disempowerment of data when community organizations adopt data-driven practices. They conduct a qualitative survey of Monitoring and Evaluation work, identifying three negative outcomes: erosion of autonomy, data drift, and data fragmentation[11]. These issues stem from funders and boards dictating data collection and analysis that deviate from the mission, eroding autonomy, and creating mission drift from data. Data fragmentations are the manifestations of autonomy erosion and data drift. Data can be fragmented locationally (multiple databases), logically (different data schemas), and longitudinally (inconsistencies that do not allow analysis across time)[11]. Homebrewed databases set the conditions for data fragmentation to occur. We took note of these when examining the data practices and work at Housing Justice.

2.3.2 Grassroots Organizing and Activism. Grassroots activism and organizing is a growing context of study for CSCW. Dimond provides an example of designing communication technologies to support social movements through collective storytelling to stop street harassment [16]. Our work revisits the site studied by Asad and Le Dantec. At that time, HJL was known as Occupy Our Homes Atlanta. Asad and Le Dantec investigate how ICTs can play a role in augmenting civic engagement that challenges institutional authority through alternative information practices, an “illegitimate” form of participation [4]. In terms of data, work has shown that these organizations sometimes face challenges in access; for example, non-government organizations may struggle to access government data [18]. Alvarado Garcia et al. find activists using data to implement social change by informing citizens, requesting action, and building capacity. However, these organizations face the challenge of missing or conflicting data [2].

The ICTs used by activists and grassroots organizations are often appropriated by the movement in ways that go beyond the original design context of the tools [38,62]. ICTs can conflict with the social movement’s values of inclusion and participation, allowing people with technical skills to gain more power in the organization [25]. Existing technological tools do not live up to the grassroots values of inclusivity and social translucence [20] and may not be able to support security and privacy [24]. The tension between technological affordances and the values of grassroots organizations creates a gap that can result in more work for certain groups, which are not necessarily the users benefiting from that labor [30]. Ghoshal’s work suggests that sensitivity to stakeholder values, building on the work of Value Sensitive Design [22], could be an impactful approach to designing for social movements [24,25]. These works unpacking value misalignment between ICTs and grassroots activist organizations drew warranted concerns as to how we approached our research in solidarity with HJL. Whitney et al. argue that beyond designing new tools for social movements, HCI researchers can use their expertise to aid coalitions organizing from the bottom-up as a method for countering top-down governance. They suggest HCI researchers use their ability to analyze technology and practice to hold accountable existing systems of power [73].

HJL is addressing housing issues in a non-normative way for both grassroots organizations and non-profits, lying somewhere in between these two forms of organizations. In the next section, we will go into the details of their form.

3 ORGANIZATIONAL CONTEXT: HJL AS A COUNTER-INSTITUTION

For simplicity, we frame the work of social movement organizations and non-profits broadly as mission-driven organizations (MDO). The trajectory of MDOs and non-profits in the U.S. has moved through different forms over time. HJL's structure reflects a new typology, an "activist non-profit." HJL operates as a "counter-institution," one permutation of an activist non-profit [31]. This is a crucial distinction, and our contribution in this paper is to expand on prior CSCW scholarship that examines ICT and data practices in MDOs to account for these types of activist-nonprofit organizations. This section will trace the history of counter-institutions back to the mid-20th century, describe the features of a counter institution, and illustrate these features within HJL.

3.1 A Brief History of Mission Driven Organizations and the Non-Profit Sector in the U.S.

In the U.S. in the 1950s and '60s, most MDOs were member-led organizations that did not clearly distinguish between charity, political activities, and other aspects of mission-based work. Most recognizable were civil rights groups that engaged in a range of activities from community organizing to mutual aid, political alliances, and religious services. This form of MDO declined in the 1970s due to various reasons, such as suburbanization, the decline of labor unions, women moving into the workforce, and a generational culture shift away from civic organizations [31,55]. MDOs shifted from member-led structures to a centrally organized hierarchical model. Hierarchy diminished the role of members, opting for a small group to lead the organization's direction, typically as a Board of Directors and executive team. Non-profits employed professionalized staff to carry out their functions, focused on offering direct services and engaging in advocacy instead of broadening civic participation and mutual aid [31]. This professionalized model has driven a boom in non-profits. The Urban Institute reported over 1.5 million non-profits registered in 2016, an increase of 6% since 2006. As a sector, non-profits contributed an estimated \$1.047.2 trillion to the U.S. economy in 2016 [64]. These figures illustrate the dominance of the professionalized non-profit model in the U.S. that continues to today.

There has been considerable critique and skepticism of this model, getting more widespread attention by the 2000s. Most notably, in 2004 a national conference was organized by INCITE! entitled "The Revolution Will Not Be Funded: Beyond the Non-Profit Industrial Complex." INCITE! is a grassroots organization that broke off from the violence against women campaign, centering intersectional approaches of women of color [36]. These critiques argue that the professionalized model cannot fully address social change while complying with government regulations and appeasing funders. These issues surface in CSCW literature, most notably Bopp et al.'s examination of "data disempowerment" at MDOs [11]. Proposals for new models emerged: activist non-profits. This model is rooted in three anti-authoritarian beliefs: autonomy, horizontalism, and prefiguration[31]. Autonomy refers to opposition to co-option and extraction from market forces and authoritarian government power. Horizontalism is an inclusive approach for marginalized populations through a non-hierarchical organization. Finally, prefiguration refers to a desire that the process and structure reflect the image of the new world they wish to see. Examples of this new model tactically seek 501c3 non-profit status when it can benefit their social movement, negotiating

their values with the current system through their operation. The permutation of the activist non-profit we will focus on is the counter-institution.

3.2 Counter-Institutions

Counter-institutions emerged from radical activism, describing organizations aspiring for permanence in their protests and impacts through community-based projects that challenge the status quo. Typically, counter-institutions operate through a hub-spoke, affinity group structure. These are decentralized, small groups (5-20 members) that operate semi-autonomously without direct oversight of a higher body in the organization. Affinity groups make decisions through a consensus process. They then report back to other affinity groups through a general assembly or a meeting with all members or representatives from all affinity groups. While there may be a Board or Executive, this committee is commonly tasked with the administrative/legal functions of their non-profit status with the regulatory system and may help set the overall organizational mission with input from all members. Thus, the structure resembles a hub (the general assembly) and spoke (the individual affinity groups). Unlike a professionalized non-profit, counter-institutions are primarily unpaid, volunteer members. This model has existed in several organizations through recent history, from nonviolent activist collectives in the 1970s, radical LGBTQ groups like ACT UP in the 1980s, radical environmental justice and anti-globalization movements in the 90s like Earth Liberation Front, to most recently the Occupy Movement in the 2000s [31]. Not all these examples are non-profits, and 501c3 status is not a prerequisite.

The structure of a counter-institution aims to maximize autonomy, horizontalism, and prefiguration. Scholars debate if overemphasizing these principles impedes the capacity to address the current unjust material conditions. These debates focus on the prefigurative aspect, most often in the context of the Occupy movement that grew out of the subprime mortgage crisis [48]. There are two schools of thought. Graeber, an early Occupy founder, explains prefiguration as “the idea that the organizational form that an activist group takes should prefigure the kind of society we wish to create” [29]. This articulation centers the process and structure of the organization as the primary site of the movement. This school of thought argues that participating in the movement and its prefigured form provides a pedagogical moment for self-realization. Critiques of this understanding of prefiguration argue that overvaluing the process shifts attention and resources away from the social conditions the group wants to change in the world [48].

One of the earlier theorists on prefiguration, Carl Boggs, applies prefiguration to contexts beyond conventional activism, such as factory councils and neighborhood assemblies [9]. These are grounded contexts where the organization has an instrumental purpose that provides control to community members to change their material conditions. An example of a Boggs-style prefiguration is the Occupy the Farm movement. Out of the Occupy movement, activists reclaimed land owned by the University of California under the threat of commercial development. They farmed the land to turn it into an agricultural commons, operating under a similar hub/spoke model and decision-making process learned from the broader Occupy movement [48]. However, their organizing work materially affects the conditions of their members, not only within the organization but also immediately outside of it.

3.3 Housing Justice League as a Counter-Institution

Our organizational context echoes Boggs' prefiguration. Prior to HJL, the organization was known as Occupy Our Homes Atlanta (OOHA). OOHA spun out of the Occupy movement, focused on

fighting home foreclosures through home occupations, eviction blockades, and other tactics targeting predatory financial institutions [4]. Their work responded to the subprime mortgage crisis, which heavily affected Black and minority communities. By 2014, the work began to shift. OOHA connected with long-term residents of the Peoplestown neighborhood of Atlanta and conducted a “listening project.” Peoplestown faced and still faces threats from undemocratic development and gentrification. That campaign resulted in the organization of a tenant’s association at Boynton Village, a government subsidized apartment complex that was considering not renewing its contract with the U.S. Department of Housing and Urban Development (HUD), which maintains affordability for residents. This organizing effort secured an agreement from the landlord to renew their contract and secure affordability for the next 20 years [3].

In 2016, HJL emerged from that partnership and project, registering as a 501c3 non-profit. The work shifted to working with renters in multifamily HUD properties to self-organize and defend their right to remain. HJL’s broad mission reads as follows: “We work with renters and homeowners to self-organize and defend their right to remain. We fight to preserve affordable housing, for just living conditions, to prevent gentrification, and to build community power for an Atlanta-wide housing justice movement.” Their objectives are the following: Housing as a Human Right, Oppose Displacement, Decommodify Land, Equity for Residents, Livable Wages, Solidarity in Motion, and Solidarity Across Movements. These objectives are prefigured in opposition to the current system of housing and the material conditions of tenants, following a Boggs-like model of a counter-institution. Additionally, their status as a 501c3 non-profit imbricates them to actively engage with the system instead of only considering the organization as the site of their politics, further underlining Boggs’s notion of prefiguration.

HJL is organized around the hub/spoke affinity group model of a counter-institution, primarily composed of volunteers and members. Membership requires paying monthly, adjustable dues. Membership can be for individuals or tenant associations, and volunteers may be members but are not obliged. The affinity groups are called “working groups.” Currently, the most active working groups are the Tenant Working Group (TWG), Beltline4All (B4A), and the Eviction Defense Working Group (EDWG). There is a Board of Directors and Executive Director; however, each working group is semi-autonomous and has its own operations. Every month, there is a general assembly referred to as the “Mass Meeting.” All member-volunteers and prospective members get to hear about current campaigns and projects of each working group to learn more about the organization and find ways to volunteer. The following section describes our work within HJL, located in the EDWG.

4 BACKGROUND & METHODS

Our work focuses on the Eviction Defense Working Group during the pandemic. This group meets twice weekly via Zoom to coordinate and organize. One paid employee of HJL primarily works in EDWG, and two other paid employees often move in and out of the working group. Volunteers round out the rest of the group. EDWG members are volunteers who get involved and wish to further contribute to the broader goals of EDWG and HJL. The line between an EDWG member and a volunteer is not formalized, and often members of EDWG actively volunteer for the hotline in various capacities. Generally, EDWG has a stable cohort of 7-15 members that consistently show up, and this is whom we refer to when we reference EDWG. Further in this section, we will walk through the broader network of volunteers that operate the hotline.

EDWG had been active for a few years before Covid-19, publishing an Eviction Defense manual as a free resource for tenants. EDWG developed the manual to build inroads to organizing in areas

with high eviction rates. The manual provides education to support tenants through the eviction process. This work highlights the initiatives of the Eviction Defense Working Group, which focuses on educating and fostering the self-actualization of tenant rights. This initiative couples with providing support for building collective tenant power through tenant associations. Georgia provides minimal protection to tenants and advantages landlords in the legal process [1]. This legal system illustrates the significant power differential between tenants and landlords and necessitates building collective power. Next, we will provide an overview of the Tenant Power Hotline, a technical outreach operation designed to build collective power. We then conclude this section with a description of our methods and positionality.

4.1 The Tenant Power Hotline

Due to concerns of eviction leaving tenants more vulnerable during a global pandemic, EDWG created the Tenant Power Hotline. The hotline operates seven days a week from 9 AM - 6 PM in English and Spanish. It was a way to organize remotely around eviction defense since in-person engagements weren't feasible. Tenants facing eviction can call the hotline to receive education and support to fight them. Tenants who face other forms of harassment or issues with their landlord can also call the hotline for assistance. This initiative serves as a community outreach tool to support tenants during vulnerable moments and help them self-organize and build power to fight for their right to remain. Recent HCI work has studied technical hotline labor in the context of mental health [51]. Our work adds to this area of interest but in the context of eviction and community organizing.

The hotline consists of three sets of volunteers. The first set of volunteers is the "hotline volunteers," volunteering in weekly one-hour shifts to answer calls. Hotline volunteers can sign up for more than one shift per week. During a shift, the hotline volunteer will listen to the tenants' situation and collect information via an online intake form, a voluntary form volunteers fill out during the call. Based on the intake information, hotline volunteers will mark a caller down for a follow-up conversation if the caller is facing a crisis, such as an illegal self-help eviction, or if the caller expresses interest in organizing. Hotline volunteers can also provide other forms of assistance, such as resource referrals, digital copies of the manual, or information on other interventions like the CDC Eviction Moratorium Declaration form.

The second type of volunteer is the callback volunteer, who oversees the follow-up conversation. These conversations require more knowledge of the eviction process to aid them in handling their eviction. The goal of the follow-up conversation is to steer the caller towards self-organizing and provide support in that endeavor. Callback volunteers may file court answers for tenants facing a legal eviction since that process is unclear to many renters. EDWG considers filing answers for tenants as a bridge to organizing, providing some stability so tenants can lead an organizing effort with their neighbors. As a caller becomes an organizer, HJL will provide resources, and the callback volunteer will continue to support these efforts. That may be strategizing with the tenant, creating/printing flyers for canvassing, or crafting a petition. As a tenant gets closer to being an organizer, the callback volunteer will coordinate with the rest of EDWG to provide support since there is a lot more involved at this stage.

Finally, some volunteers help with the hotline's operations. Typically, more seasoned volunteers or EDWG members will rotate to run hotline training. Training is required to onboard new volunteers and fill shifts for the hotline. A logistics coordinator generates hotline schedules published weekly via email and Slack. Some volunteers assist with data cleaning and management. Usually, work around data is led by a data subgroup within EDWG, and other volunteers will help with the data work. Analyzing data collected from the tenant hotline allows HJL to assess

community needs, understand the eviction crisis in Atlanta, and provide transparency to residents calling into the hotline.

One can view the hotline as a form of direct service, similar to a professionalized non-profit. Providing information about tenant rights is not outside the typical work convention in the non-profit sector. Filing court eviction answers for tenants also fits this notion of direct service. However, these activities are considered a means to spark self-led organization. This framing highlights the blend of social movement and professionalized non-profit work characteristic of the activist non-profit. Filing eviction answers or CDC declaration forms actively engages with the current system, but only to the extent to which the work does not impede the movement for housing as a human right. Thus, the line between long-term organizing in social movements and direct services in non-profits can be blurry and complexly negotiated.

4.2 Author Positionality and Methods

The first author of this paper is a member of HJL and EDWG, initially volunteering as a hotline volunteer. As a computing academic, the first author focused their organizing work in the data subgroup of EDWG, contributing to the technical aspects of the hotline and other data needs during the second and third iteration. The other authors are members of the academic community who collaborated in the writing of this paper and are involved in other grassroots organizing but do not directly work with HJL.

To study the data practices, we first analyzed the meeting minutes. EDWG holds two weekly 1.5-hour meetings. The first involves overall planning, and the second is set aside for general updates and breaks out into project subgroups. At each meeting, there is a rotating facilitator and note-taker. Meeting minutes are written ethnographically (Name: transcription) and are captured within an open-access Google document for other HJL members to reference. We analyzed 283 pages of minutes across a period of 16 months, conducting a grounded analysis to develop thematic categories. Our first pass of coding took note of conversations that described the organizational structure, data considerations, and technical tools used. We then looked at care literature, specifically recent work on care and efficiency [57], which informed our second analysis, noting when logics of care or efficiency drove decisions while noting when data fragmentation occurred. Coding for these themes drew out nuances in the practices of EDWG that differed from how other scholars described technical work at nonprofits.

Our second source of data is from what EDWG calls Strategic Planning. Strategic Planning are sessions that extend across multiple organizing meetings. These often involve revamping some structure of EDWG's work, captured into separate Google Docs. These documents consist of ethnographically written notes and the documentation of new structures and procedures. Later, EDWG captures these on Miro boards through post-it brainstorming sessions. We analyzed these other documents based on the themes we produced from the meeting minutes and noted when new procedures created data fragmentation.

Our third data set comes from a close reading of the resources and technical infrastructure that EDWG and HJL produce. These include the Tenant Hotline Protocol (an instruction manual for hotline volunteers), Hotline Data Records, Resource Referral Guides, Facilitator Guides, and the HJL Bylaws. We conducted a document analysis on these items to understand when a logic of care or efficiency informed a practice or value and how practices created fragmentation in the data. Finally, we cross-referenced our field notes and observations with the other data. Analysis was traded off between authors working directly with HJL and authors who have no direct ties to mitigate bias.

5 FINDINGS

In this section, we outline findings from our analysis. We situate them through the Care literature in two ways. First, we use Mol's care in practice to identify the relevant parts of the hotline. This requires us to closely read into the localized data management practices for the hotline and how the various ICTs' arrangement is negotiated and changed. Mol et al. articulate that care cannot be examined or put into practice from a locus of control. If anything, care attends to the erratic, constantly tinkering to meet local needs [47]. We draw a parallel between this notion and previous CSCW scholars' observations of homebrewed-ness and data fragmentation as potential sites of care to examine [11,70].

We situate these sites around Tronto's qualities of a caring democracy: attentiveness, responsibility, competence, responsiveness, and solidarity [67]. Attentiveness is a form of collective noticing and documentation of unmet needs. Responsibility ensures no one goes without care, making it a shared burden. However, that shared burden is not the same as the enactment of care. Competence refers to knowing how to best care and enacting it. Responsiveness is a reflexive quality; care must assess if it is adequate, and there must be some form of feedback. Finally, Tronto refers to solidarity as caring with, which shifts away from the notion of individual responsibility and requires embracement of plurality. These qualities act as windows of insight into the hotline's localized and ever-evolving care practice. Echoing previous work from Volda et al., we present our findings to interrogate what values drive design and how values are operationalized and negotiated, read from the technical infrastructure[69].

This work helps us conceptualize a care logic in a counter-institution's data practices, which we argue is an alternative data practice. We will walk through these caring facets of each iteration of the hotline, jumping back and forth between the technical infrastructure and the data management while contextualizing each with the decision-making involved. While we organize the findings around three iterations for clarity, we want to call attention to how these did not develop as three discrete efforts. Instead, these changes developed over many discussions and tinkering.

5.1 The First Hotline Iteration

5.1.1 Sacrificing Simplicity to Prioritize Care through Live Shifts. At the onset of the pandemic, a flood of volunteers joined due to a concern about maintaining housing stability during a public health crisis. EDWG had the staffing to run a live hotline, and the demand for one was apparent when it launched. However, operating the hotline via live shifts creates a messy, homebrewed assortment of technical tools and data. We see this in the onboarding process. EDWG uses a Google Form to keep a database of current and prospective hotline volunteers. This form captures basic contact information and solicits scheduling information. For instance, do volunteers want their shifts blocked together, or do they want their shifts spread throughout the week if they volunteer for more than one shift? These preferences are required for the logistics coordinator to schedule correctly. Training happens via Zoom. Thus, contact information is needed for trainers to send out Zoom invites managed on the separate Zoom platform. After a prospective volunteer finishes training, they must complete a few final tasks, which the volunteer trainers oversee:

- Hotline volunteers must fill out a confidentiality agreement, a separate Google Form since the design of Google Forms does not allow a user to re-access the first form.
- Trainers will have the newly trained volunteers complete a When2Meet, a scheduling tool, to identify availability throughout the week for shifts.
- Trainers will add volunteers to Slack, the primary communication platform.

- In the volunteer database, trainers record the completion of all these activities.

Multiple forms and platforms create locational data fragmentation, or data stored in different places [11]. This makes scheduling the live shifts complex work. The trainer must first notify the logistics coordinator of fully onboarded volunteers. The logistics coordinator must then refer to the first form's responses and the When2Meet to schedule volunteers. A volunteer may have a four-hour window of availability on a particular day; however, they may prefer to spread out their shifts. Thus, referring to both systems is necessary. Once scheduled, the coordinator can finally set up a shift by routing the hotline's cloud-based number housed on AVOXI to the appropriate volunteer at the appropriate time.

The When2Meet presents additional challenges. This free tool makes it simple for users to plug in their availability because they do not need to create an account, just a name. A password is optional. If a user does not add a password, it is easy to re-sign in and update the information by using the same name. If a user does create a password, then the schedule cannot be updated without it to sign in. When hotline volunteers decide to stop volunteering, this becomes a problem. If volunteers set up a password and want their shifts taken off, the logistics coordinator cannot remove them from the When2Meet without the password. Password aside, some volunteers will not use their full name or a name that matches their original volunteer form when filling out the When2Meet. It is impossible to clean the calendar if there is an "Alexander" and "Alexandra," but they both go by "Alex" on the When2Meet. The work of scheduling and running live hotline shifts creates a very homebrewed assemblage of different tools and systems.

It would be easier to route calls to voicemail instead of operating live shifts, given the messy, homebrewed tool assemblage. This might seem to be the product of ad-hoc decision-making, but this choice is deliberate given the technical constraints. Mol describes how care is best understood through bodies. Instead of a body being a prerequisite for the mind, it is itself an active entity [47]. We see such consideration in discussions around operating live shifts. The voicemail approach has been considered several times. These conversations tend to emerge when there are lulls of active volunteers and when new technical implementations occur. These discussions re-circle around how actively engaging with tenants is a critical aspect of building tenant power. Particularly in the context of a global pandemic where in-person engagement is challenging, voice conversations are a more bodily mode of engagement. Trainers for the hotline also argue that having hotline volunteers speak with tenants live serves as a critical pedagogy in understanding community organizing work. Volunteers who do not come from a background of housing insecurity can understand the housing crisis in real terms instead of in the abstract.

The technical infrastructure for live shifts reflects qualities of responsibility and solidarity. Operating live allows hotline volunteers to feel the shared burden of the housing crisis corporeally, fostering responsibility since they pay live witness to unmet housing needs. It is also a means to feel vulnerable in a visceral way by including the body in this remote form of care. Tronto explains how *caring with* others is different from *caring for* or *caring about* others because it forces one to recognize vulnerability [67]. This begins by recognizing vulnerability within oneself. Recognizing vulnerabilities in oneself and in others is a way to form solidarity. Solidarity shifts care from a space of altruism to a feminist care logic based on the human capacity to relate [67]. A portion of the hotline training centers on active listening and mirroring. Hotline volunteers must recognize that callers are often reaching out in moments of distress. Actively listening and validating a caller's experience is a form of care. We see this evidenced in the training protocol documents, which have a section that outlines best practices around emotional labor, such as mirroring/paraphrasing the caller's situation to humanize rather than "belittle their experience to statistics."

Continuing to operate live shifts is a conscious, collective choice within EDWG. While homebrewed, the work and system are complex, and its longevity thus far points to a care logic that has sustained this operation. **A data practice and technology assemblage based on care and tinkering attends to maintenance that prioritizes bodily understanding of the issues it aims to address.** Conversations on how to streamline continue, particularly to better support the logistics coordinator's work. Nevertheless, valuing the human component of anti-eviction work includes as much of the body as possible in remote tenant organizing. How the system evolves will require attending to these values. The messy logic to schedule shifts reflects the care logic of using our bodies to be attentive to others' circumstances, to feel the **responsibility** when we engage our bodies in emotional labor, however much we can during a pandemic.

5.1.2 The First Intake Form: Free Field Tinkering Affordances and Multi-Lingual Data. When a caller dials in, the hotline volunteer fills out a voluntary intake form to collect information. Initially, this information was collected via a Google Form that created a Google Sheet database. Callback volunteers use this information to assess organizing potential and next steps. This first iteration collected basic contact information and qualitative data through free-response questions. Out of 14 questions, only three were not free responses. However, of the three multiple-choice questions, an option for "other" was included that allowed it to be answered as a free-response question. For example, a question asks about a tenant's housing situation with the following options: Tenant Multifamily, Tenant Single Family, Homeowner, Staying with a friend/relative, Houseless/Homeless, and Other.

This intake form is where we see an instance of data fragmentation. Logical data fragmentation occurs when data cannot collate to other data sets because of their logical structure [11]. Using the "Other" option on a Google Form allows a user to write in a customized response stored in the same cell and column of a Google Sheet. Thus, cells can have either standardized or custom responses. There are thus two data types within the same column in the Google Sheet. While that presented challenges, it also had benefits. For example, an "Other" response recorded extensively through this form was "Extended Stay" or "Extended Stay Hotel" for the question on housing situation. **Allowing logical fragmentation allowed hotline volunteers to tinker with the data schema on behalf of the tenants to capture a form of housing missed in the original design.** We will explain later how this extra data contributed to the next iteration of the form, which we argue allows HJL to care better.

Aside from this data fragmentation, the data gets difficult to analyze at scale because of its qualitative nature, exacerbated by the parallel Spanish line. EDWG designed the intake forms to be multi-language, with longer question headlines. This kept all the data in one spreadsheet, which can be useful for Callback volunteers who work on both the Spanish and English hotlines. For instance, the question asking how Covid-19 has affected a tenant's housing situation reads as follows:

"How has COVID-19 affected you and your housing? / Como el COVID-19 ha afectado usted y su vivienda?"

While there is a benefit to keeping data together, having intake data in English and Spanish presents another logical data fragmentation challenge. First, there are some epistemic question marks since how eviction is described in one language may differ based on different cultural models. Additionally, collection processes for each hotline volunteer may differ, and each volunteer may have their own process in recording information. We see this when some Spanish hotline volunteers

recorded intake information in Spanish, and others recorded it in English despite working the Spanish line.

Multi-language data management is a difficult challenge for any organization. EDWG worked within the constraints of Google Forms/Sheets by creating a multi-language form that collected thick, qualitative data in two languages. This fragments the data analytically, in terms of who can analyze it, and operationally in terms of who can follow-up and assist the caller. **While the fragmentation makes the data unwieldy, it does not necessarily disempower HJL's work. Instead, it highlights a care logic and quality of attentiveness.** EDWG did not want to exclude tenants based on language or their immigration status; in fact, they understood that these communities typically face more vulnerabilities in the eviction process. Despite the difficulty in managing the data, providing a Spanish hotline includes more tenants and increases the amount of data and noticing. Because of its qualitative nature, this data has a much higher resolution of tenant situations and unmet needs. The hotline captures information on issues like harassment and maintenance that are not available in institutional data sets like court records. We see that the data collection contributes to collective noticing amongst HJL volunteers. Simultaneously, the collected information is dense, which helps assess unmet needs.

There is another reason for having data in two languages in the same database. Callback volunteers use the Google Sheet to inform the follow-up and log the progress of a tenant in this database. This information was stored in a column called "Follow-Up Notes." Qualitative data was the format collected. How each volunteer records and track is not standardized, and we have two different volunteers (hotline & callback) inputting data into the same record. While messy and inefficient, this didn't mean it was not effective. Storing call records with follow-up notes was expedient; everything was in one place. It also makes sense because the actions callback volunteers make should be based on the tenant's situation. Thus, this Google Sheet is a homebrewed amalgamation of a workspace and archive with logically fragmented data since it records collections at different times for different reasons. Collectively noticing and acting fosters this sense of a shared burden across volunteers and doesn't silo tenants based on language. Each callback volunteer gets a sense of how much need is out there that the hotline volunteer collects. We would argue that this is a design choice driven by a care logic, despite the data fragmentation it causes.

5.2 The Second Hotline Iteration

5.2.1 Responsiveness through Data Analysis. After receiving over 1000 calls, EDWG wanted to analyze the data. If HJL was collecting this information from tenants, they wanted to be able to communicate what they were learning with the community to share and maintain transparency. This was particularly pressing since the group heard tenants describe the exhaustion of providing a litany of information to other non-profits to receive care, often resulting in no response. To protect the sensitive information of callers, HJL conducted an aggregate analysis that anonymized personal information. This process allowed HJL to take inventory of the hotline and ultimately facilitated the new hotline protocol and intake form design reflecting a care quality of responsiveness. Being responsive allows for reflection on caregiving and requires some response from the receiver of care [67]. We see that in the desire to be transparent and publish the data results. In this section, we will describe this process of analysis.

The volume of qualitative data the hotline collected was going to be very difficult to parse. A few data volunteers were tasked with reading and qualitatively coding all the responses. This coding happened in a separate tab of the Google Sheet. In the analysis tab, columns were made for the data volunteers to mark each record. They first filtered each response on if it could be analyzed or not.

They tagged responses that were unanalyzable for either having insufficient data, a duplicate entry, a call from a non-tenant, or “Other.” If a record was analyzable, data volunteers answered two sets of questions to code. One set was based on the content of the intake form responses. The other focused on actions volunteers, primarily callback volunteers, took. These were yes/no questions with the option of “unknown” if there was insufficient information to answer them. The assessment questions regarding the intake form ranged from if the tenant was served an eviction notice to habitability issues. For example, if a volunteer identified any reference to habitability issues, they would answer “Y” in the column titled “Habitability Issues?” These questions were conceived based on common concerns and complaints of tenants that threatened their well-being. The second set of questions that analyzed actions was also in the same format. These questions were specific to organizing actions, like “Distributed Flyers” or “Referred to Legal Aid?”

Because the spreadsheet contained different data for different reasons, the analysis inherited this fragmentation and necessitated two sets of questions. We want to highlight how this data fragmentation was handled, which did not mean it was disempowering. Tronto states that the feedback needed for a caring democracy to be responsive does not need to directly come from the care receiver [67]. The analysis can be considered a practice of responsiveness. The fragmentation adds complexity to the analysis, but this bolsters competence: knowing how to best care and using that knowledge to enact it [67]. Because of the data fragmentation, the analysis tackles both competence concerns. Analyzing the intake data provides a broad picture of needs, which gives insight into how to best care. Analyzing the callback data is a way to assess the enactment of care and if it was adequate. **These fragmentations to support tenant organizing during a pandemic are driven by care logics** and accommodated the tinkering during data collection. This, however, does not mean they cannot be improved.

The analysis revealed a few things. In terms of understanding the eviction situation of a tenant, the hotline and callback volunteers recorded enough information. The data subgroup and data volunteers were able to identify if a conversation involved a tenant facing a court eviction, an illegal self-help eviction, and the eviction fears of the tenant. Only 18% of the records were marked as “Unknown” regarding these matters. However, in terms of capturing landlord harassment, abuse, and habitability issues, over 50% of the records had insufficient information. Additionally, the analysis on the follow-up actions identified if an organizing action occurred, but not the type of action. Roughly 75% of the records indicated if callback volunteers took an action. In terms of specific actions, though, 54.1% of call records were marked as unknown regarding whether a volunteer assisted a caller with their CDC declaration form to prevent eviction. These ratios are similar for other analysis questions that assessed specific actions. The intake form needed to be more thorough in tracking critical data. Informed by the analysis, EDWG decided to redesign their data practices.

5.2.2 The New Form Design. In early 2021 the hotline switched to a new intake Google Form. The form continued to be bilingual but shifted from a free response to a multiple-choice/multiple-select form, expanding from 14 to 31 questions. These changes reflect the need to ensure EDWG captures key information that the previous form inconsistently gathered. EDWG split the new form into two sections. The first page of the form collected basic contact information that resembled the first intake form, but it added in a new multiple-select question:

“What is your reason for calling? (check all that apply) / ¿Cuál es la razón de su llamada? (marque todo lo que corresponda)”

These had standardized choices based on common issues that surfaced from the first iteration and general knowledge of landlord harassment and tenant issues. They also guide what actions are needed to support the tenant. For example, the “Threat of Illegal Self-Help Eviction” option would constitute a follow-up since these evictions violate the rights tenants have, warranting quick intervention. Other options like “Legal Assistance” or “Financial Assistance” signal that this tenant might be more focused on addressing their immediate situation than long-term organizing. The first form produced qualitative data, which allowed EDWG to identify patterns appearing in their conversations with tenants to provide responsive care. The second iteration of the form formalized these patterns into standardized choices, responding to the narratives and specific histories of tenants who called the hotline during the first iteration. One option that best reflects this was “Maintenance Issues” added to this question. While assessing habitability was not designed into the first form, the qualitative data collected captured many instances of poor maintenance. We note this because while the hotline outgrew its old data practices, the design features of that old process (the free responses) helped identify other tenant issues that HJL should gather information on to inform organizing work. **In other words, the allowances for tinkering were practices that afforded better care to reflect HJL's mission to fight for just living conditions.**

The second page of the form is called the “Intake Survey.” While the whole intake form is voluntary and has a general disclaimer, this section had an added disclaimer since it would ask personal questions. These questions ranged from providing a checkbox list of types of harassment to questions about the amount of rent debt a tenant had. A question we mentioned earlier transferred from the old form:

“What is your current housing situation? / Cual es su situación de vivienda?”

In this iteration, EDWG added new options, like “Extended Stay or Hotel/ Estadía prolongada o alojamiento,” after receiving calls from residents at these places. EDWG organized a campaign at an Extended Stay and collaborated with an ongoing court case to adjust Georgia's legal definition of Extended Stays to provide basic tenant protections, requiring a formal eviction process. Currently, the state does not recognize these residents as tenants despite the fact that they use them as housing like other rentals. Therefore, they can be evicted without due process. Lawyers from the Atlanta Legal Aid Society are now working on this case to advocate for increased rights after HJL's organizing campaigns.

In this simple addition of an option in a question, we see a technical manifestation of care. The process leading up to the addition of this option demonstrates Tronto's attentiveness since this category of a tenant became visible and noticed through the hotline data collected. Once learning about this context, EDWG added them as a category that demonstrates the analysis's responsiveness. With the inclusion, HJL and EDWG further developed their sense of responsibility to ensure Extended Stay residents don't go without care. The inclusion expands the solidarity HJL has by caring with Extended Stay residents in this ongoing legal campaign. This brought in a legal aid organization, who escalated the legal battle to the county's superior court to secure those tenants legal protections. **All of this outlines the tinkering at the technical level, which sharpens HJL's competence to care.** This is just one of many ways we see HJL negotiate and inscribe care into these free ICTs to construct a data system that meets their needs and goals.

5.2.3 Negotiating Non-Reductive Standardization to Uphold Values. The new form design captures more thorough information about a tenant's situation to inform how to care. This new design also standardized how a caller's responses were recorded and asked. Hotline volunteers were encouraged

to read out the options to the caller and check off what applied. While volunteers now captured more data, this new design could also change how tenant precarity is conceptualized within the organization.

Throughout the development of these new data practices, conversations in strategic planning sessions emphasized the value of qualitative data and not to be reductive of a tenant's experience of harassment and injustice. Many conversations reiterated HJL is not a direct service non-profit. This is evident in the hotline's name, "The Tenant Power Hotline." Even though the hotline is often perceived as an eviction hotline and does the work of providing eviction defense education, the name "Tenant Power Hotline" is meant to convey the purpose of building collective tenant power. The desire to disassociate from direct service echoes the counter-institutional desire to not participate in the non-profit industrial complex. Many conversations archived in the meeting minutes delve into the dehumanizing aspect of direct services like applying for rental aid. These services are built on standardized data systems, requiring a tenant to jump through many forms, hoops, and questions. There was a concern that asking more questions and collecting non-qualitative data would replicate these systems, conflicting with the values of HJL's mission. These concerns echo the impetus to analyze data collected in the first form.

Having qualitative data was valued as a non-reductive way of understanding tenant needs, informed by a care logic of competence. Tronto expands on the notion of competence by drawing a juxtaposition to non-nurturant and dysfunctional care [66,67]. To HJL, direct services are a form of care that is non-nurturant, built off the presumption that the current system can be improved instead of needing radical change. The current system views housing as a commodity, not a right. Thus, it is antithetical to HJL's mission. Direct services are non-nurturant in that they only alleviate the symptom instead of addressing the problem. Providing financial assistance to cover rent for a month can be helpful, but it does not do anything about the power asymmetry between tenants and landlords.

Tronto argues that there need to be conditions for caregivers and care receivers to communicate their perspectives to each other for competency to occur. This condition manifests in the "Other" option, a practice carried over from the first form. Nearly every question has an option of "Other," which is a free response field. This allows a hotline volunteer to customize responses on the intake form to best reflect the caller's needs. As we went through the data, we found that most volunteers opted for the "Other" category in addition to standardized responses. EDWG also added a general free-response question:

"What should the topic of the callback conversation be?"

This highly used field provided hotline volunteers with an opportunity to fully explain the caller's circumstances. The "Other" option and free-response question demonstrate a technical negotiation between HJL's values, and the constraints of the software used for the hotline. It creates technical accommodations for a caller to communicate their perspective fully but still captures the relevant information needed for the hotline to work effectively.

These "Other" options were a localized way of negotiating care and efficiency, but they also created more data fragmentation in the intake spreadsheet. Columns that captured fields for multiple-select questions would have a mixture of standardized responses and paragraphs of data. For example, the question: "What is your reason for calling?" has seven possible standardized options that range from "Served an Eviction Notice" to "Facing Harassment from Landlord." This question had high usage of the "Other" option. Volunteers would select some standardized responses in addition to writing out the details of the tenant's reason for calling since it was a checkbox field.

As a result, data collected in these questions had a logical fragmentation issue since there are two data types.

Despite the fragmentation, this data practice was still useful in providing care. For instance, if a volunteer marked “Served an Eviction Notice” as a reason for calling, the volunteer might also include all the details of that notice in “Other.” Was it a first-time notice or a dispossessionary warrant? When and how was it received? These details are crucial for the tenant to fight their eviction. Landlords must issue a proper notice prior to filing an eviction in the court system. Filing in the court will trigger a marshal to serve a dispossessionary warrant, a court-issued notice. If a landlord files without providing a written notice prior, the tenant has grounds to throw out the case, forcing the landlord to repeat the process. This buys more time, which is critical if HJL supports a tenant into becoming an organizer—capturing these details informs how to best provide care. While this fragments a column in the Google Sheet and makes it less readable, it also helps callback volunteers be more responsive and competent. This alludes to care logics that drive the design of this data practice, echoing what Mol describes as localized and erratic practices since negotiating values through the technical infrastructure in one area can affect other parts of the work [47]. **However, the point is not to fully optimize a system since that is not feasible. Instead, coding care into the technical setup of the hotline is a constant practice of tinkering and adjustment.**

5.3 The Third Hotline Iteration

5.3.1 More Data More Readability Problems Across Volunteers. EDWG kept the practice of callback volunteers logging their information in the same record a hotline volunteer creates during intake. The new Google Sheet would have a separate section from the intake responses for callback volunteers to fill out. In addition to the “Follow-Up Notes” field, Callback volunteers also recorded the completion of certain organizing actions in eight new checkbox columns. These tracked what forms of support had already been provided as an organizing campaign grew. However, this data of what actions have been completed is fragmented. Hotline volunteers are trained to do many of the initial actions such as Resource Referrals, Legal Aid Referrals, and CDC Declaration Forms. Because both hotline and callback volunteers could do these actions, there were two separate sections in each record for both to record their work. Hotline volunteers filled out actions they completed on the intake form in the question:

“What follow-up have you already done? / ¿Qué seguimiento ha hecho ya?”

This question limited its options to just actions that provide initial support. The data it collects populates in the section of the Google Sheet for the intake responses. Callback team members mark what they complete in the Google Sheet itself instead of the intake form. This creates locational data fragmentation within the database. A callback volunteer should not mark the completion of an action if a hotline volunteer already did it. However, where a hotline volunteer records an action is stored in a separate section than where a callback volunteer tracks the progress of organizing support. Thus, duplicate information and repeat tasks might occur.

This fragmentation problem highlights a more significant issue with the transition to the new form. Because the form expanded from 14 to 31 questions, the Google Sheet had more columns of information to scroll through horizontally (See Fig. 1). Furthermore, EDWG added nine additional columns for callback volunteers to use. Therefore, where a hotline volunteer marks actions is far from where a callback volunteer logs their work. Also, because most questions were multiple select and “Other” was an option, cell size isn't standardized. Records had different row heights, creating vertical readability issues. By about 300 records, this impeded the hotline's care because callback

volunteers could not keep track of active and closed records. **Google Sheets could not accommodate the data and its fragmentation, making it difficult to identify who needed care.** EDWG decided the hotline data needed to migrate to a new platform.

5.3.2 Easy to Read, Easy to Reveal Capacity Issues. As EDWG tinkered the data collection practices to optimize understanding unmet needs, readability and workability became an issue. After consulting other tenant rights organizations, EDWG decided to store their work on a platform that could accommodate the idiosyncrasies of the hotline work: *Airtable*. Transitioning over meant migrating data and revisiting the design of the hotline's ICT arrangement to determine how they would be affected, adapted, and improved. This transition occurred over a few months.

The transition to *Airtable* resolved many data fragmentation issues and refined the hotline's data collection and practices. The data migration process provided time for volunteers to dive into the data collected thus far, which was another moment of responsiveness to understand the current needs of tenants. Exploring the collected data helped to reveal common entries in the "Other" option for many questions, prompting EDWG to add new standardized options. Patterns and new issues emerged. Reports of maintenance problems were more prevalent, coupled with increased rent despite property neglect. Focusing canvassing and organizing efforts at neglected complexes became a new care focus for EDWG.

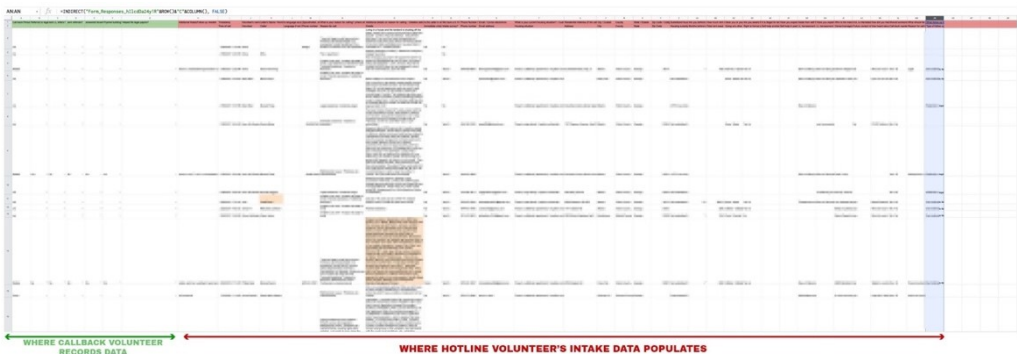


Fig. 1. This is a screenshot of the second intake form's Google Sheet. The left columns under the green header is where Callback volunteers record actions they have taken. Each column in this area contains a yes/no cell to mark the completion of an organizing action. The 31 columns to the right under the red header are where the data collected by the hotline volunteers populate. Note how each rows' height is different because the spreadsheet accommodates the data fragmentation allowed in the intake form. The very last column is where a hotline volunteer records actions they have taken. Note how far it is horizontally from where Callback volunteers record their work. Image is blurred to preserve data privacy.

Airtable's forms made it easier to do conditional formatting smartly. EDWG could separate entries in the "Other" option from the standardized ones into two separate columns. For example, if a volunteer were providing more context for the question, "What is the reason for calling?" in the "Other" option, this qualitative data would be stored in an adjacent column labeled "Other Reason for Calling." This question would appear as a separate free response field only if a volunteer selected "Other" as an option. All of this conditional formatting resolved these fragmentations and made the form appear simpler and easier to use for hotline volunteers.

Airtable could also address the data fragmentation issue when the two types of volunteers tracked their actions. EDWG standardized all organizing actions taken into a single column. Because Airtable allows answer choices to be customized on a question, EDWG limited the options for “Actions Taken” on the form to only the relevant ones for hotline volunteers. Callback volunteers share that column, and have their actions listed but not shown on the form. Thus, EDWG could combine everything. Fewer columns made the database easier to read and resolved the locational fragmentation and duplicate action issue.

Perhaps the most valuable design feature of Airtable is that it allows one to produce different “views.” These are different organizations of the database that a user could set through filters and sorting. EDWG created a “Status” column in the database to capitalize on this feature. Working with the hotline trainers, the data subgroup devised a journey map of organizing support for a tenant, outlining four stages:

- Referred for Callback
- Initial Support
- Involved Support
- Deep Organizing Support.

Hotline volunteers would mark a record as either “Closed” or “Referred for Callback” during intake. From here, callback volunteers could track the stage of a tenant and filter out closed records, allowing more efficient attentiveness. Records could be viewed based on the needed care from the status, which kept callback work organized.

Airtable made everything more readable, but it also revealed another issue. There was burnout amongst callback volunteers, particularly those juggling multiple campaigns. Often, this work would become like casework. Callback volunteers act as proxies between the tenant and landlord, fill out eviction answers, and follow up on legal paperwork. All this work is considered a bridge to organizing, exhibiting care to ensure needs get met. However, it was also not sustainable for a few volunteers to take on campaigns individually. Thus, there were fewer callback volunteers as individuals became overwhelmed. On Google Sheets, the data fragmentation and readability issues created a buffer that blurred the capacity shortage. While callback capacity was an ongoing agenda item at many meetings, creating a callback view on Airtable crystallized this realization. At the time of writing this paper, EDWG is engaged in a series of strategic planning sessions to address these issues. **Instead of considering the newly revealed issues as a setback, we instead see how this underlines the indefiniteness of a tinkering practice.**

6 DISCUSSION

6.1 Careful Data Tinkering

The hotline's data is messy and unruly due to the complexities of eviction. This data must attune with the care that the hotline aims to distribute. This operation seems tenuously taped together, given the array of software rife with technical constraints and unique dependencies. This is the work of tinkering as a practice of care. As one part of the hotline is tinkered with, a new issue arises that manifests technically and socially. This tinkering is what contours a caring approach to data development and practice, which sheds light on the intersection of care and data. As an organization, HJL lies somewhere in-between a social movement and a service-providing non-profit. Like Meng et al.'s work with a resident [44], a counter-institution, is also a different context for community work in CSCW. We must take account of these contexts.

Like other organizations studied in the non-profit sector, we see homebrewed systems and data fragmentation throughout the work of the hotline. But how we understand these challenges and their implications differ. The messy, homebrewed arrangement of the ICTs of the hotline enacts the care that EDWG provides. The hotline is complexly woven together by different systems, bringing together several sets of volunteers. This complexity facilitates a caring practice by allowing live shifts. There are more efficient ways to run a hotline, but not one that wants its work to prefigure a new housing paradigm. This is evident in the care value EDWG sees to build solidarity between volunteers and tenants. In terms of data fragmentation, we argue that prioritizing care necessitated the fragmentation given the technical constraints of the tools used before Airtable. Google Forms/Sheets did not allow the same conditional formatting of forms and spreadsheets. EDWG found the trade-off of logical and locational fragmentation to preserve care tenable, at least for a time. And while this did get resolved when the data migrated, what we want to highlight is how it happened. This was a slow yet diligent process to optimizing data, a careful approach of recurring response and adjustment.

These challenges are conditions for the development of a careful data practice. Volda argues that we should accept and expect homebrewedness. No perfect solution exists, and instead, there is a cycle of reconfiguration [70]. This is what we see in the hotline. Volda continues by arguing for the design of human-centered databases driven by the user's model of the data, rather than forcing the data to fit a particular framework [70]. We argue that the homebrewed arrangement of the various systems used for the hotline is an example of designing a human-centered data system. It may appear ad hoc, but it is also a careful negotiation between the constraints of the system and the care of HJL. Seen in this way, we connect Volda's cycle of reconfiguration to Mol's framing of care as persistent tinkering. Mol argues that in the inevitability that care fails, it "tr[ies] again, tr[ies] something a bit different, be attentive [47]" – this trying again and again is the work of tinkering. As one part of the hotline was optimized, another was impeding. Enacting care requires realizing that these trade-offs are ever-present, and the state of care is the constant tinkering to optimize the values and mitigate the costs when something breaks.

Tinkering, though, is not a zero-sum game. There were instances where efficiency and care could be addressed at the same time. For example, the new intake form made data collection more thorough, efficient, and it enacted care in the way the form changed. This differs from the findings of Rossito et al., who warn about the risk of anti-designs or designs that hinder care [56]. We turn back to Mol et al.'s framing of care as a negotiation of more than one good. Efficiency and care should not be assumed as outrightly incompatible; instead, care should be viewed as a practice of tinkering with these goods [46].

Data fragmentation is also an expected facet of care work. The implications of fragmentation for the hotline differ from what Bopp et al. found [11]. Because HJL is not beholden to funders, they have a different set of externalities that create data fragmentation: volunteers and tenants. The data did shift over time, similar to how Bopp noticed data drift when non-profits collected other data [11]. However, instead of the data driving mission drift, or when an organization moves away from its mission, the data fragmentations were the negotiations between HJL's values to the technical constraints. Over time, the data became more thorough, specific, and efficiently managed. It never exchanged the care the hotline sought to provide with the schemas the systems preferred.

What may seem like naive data decisions, like an entirely free-response form, revealed many important insights that might have been overlooked otherwise. These decisions created locational and logical data fragmentation, but they also better represented the tenant's situation. The collection process mitigated a sense of extraction by following a model that prioritized the tenant's situation.

It also put EDWG in solidarity with other residents, like the Extended Stay residents. Fragmentations in this scenario were thoughtful and intentional compromises with the technology to continue and refine the work that EDWG has set out to do. Thus, they too can be seen as evidence of tinkering.

While the Tenant Power Hotline provides care, its primary goal is to foster long-term organizing. In other words, the hotline is a means of building tenants' capacity to reclaim their power and care for themselves since their landlords refuse to do so, and the government does so in non-nurturant ways. Care literature should consider these contexts of counter-institutions and activist non-profits. While Tronto mainly explains what a caring democracy is in concept [66,67], the name caring democracy alludes to a form of government that implies a prototype of an institution. Counter-institutions re-imagine how institutions should care, and from our findings, we would argue these are worthy sites to apply Tronto's principles. One way to articulate the hotline's bridge to organizing is to ask: if the current system is broken, how might we care what else might exist in its place?

6.2 Technical Agency Despite Value Misalignments

Just as our findings expand care literature and CSCW work on the non-profit sector, we argue it also does so to previous work identifying misalignment between ICTs and grassroots organizing work. Ghoshal et al. identified how these free cloud-based tools, such as Facebook, Slack, and Google, do not hold the same values that social movements strive for, like participation and inclusion [25]. We find that the values of HJL are formulated through the arrangement of the ICTs. While each ICT is not necessarily directly aligned with the mission of HJL, the homebrewed arrangement and data fragmentation reinscribe the values despite the misalignment. Localized practices and usage are important research sites to consider besides the design of any single ICT.

It's also important to consider the organizational structure of HJL. Decision-making happens via consensus within semi-autonomous working groups. This structure makes it difficult for individuals with technical expertise to override the organizing process, as Ghoshal et al. warn [25]. For instance, the focus to keep data qualitative and non-reductive demonstrates EDWG negotiating standardizing data with fully hearing tenants. There are clear ways to improve EDWG's data work from a technical perspective, and these concerns are important. However, they are in conversation with other values, which get brought up in conversation by EDWG. Counter-institutions are prefigurative to varying degrees. While the movement HJL builds is not centered on the internal structure, mirroring more of a Boggs-like counter institution[9], it still prefigures how it wants the world to be in how it operates [29]. A world where there is a flattened, collective, and collaborative democracy. This cannot be easily overridden by a technical expert when tinkering the data practices.

However, the hotline is only one tech assemblage of HJL. Examining the ICT usage overall may present a different story, especially given the affinity group structure. How EDWG operates may have its own social nuances other working groups don't have. An important factor to consider is that EDWG mostly comprises volunteers who aren't facing imminent threats to their housing. Thus, our findings do not necessarily counter current claims[25,62]. Continued studies to identify technical expertise and value misalignment are still relevant and critical. Particularly in counter-institutions, what happens in one working group should not be expected to seamlessly transfer to others in the organization. That aside, aiming for a perfect alignment of values between tools and people still may not yield the results that one is seeking. In other work with e-government social welfare services, Volda notes how there was value alignment between the users of the services' platform and the stakeholders. However, values are not concrete, open to multiple interpretations in how they are enacted socio-technically. The different interpretations of values were the source

of tension in this context instead of value misalignment [69]. Therefore, designing tools with aligned values may only address so much of the issue. Attention towards how values are enacted, which we argue is through the homebrewed arrangement, is another area of consideration for scholars and designers working in this space.

The design and operation of the hotline demonstrate the technical agency an under-resourced organization can have. EDWG built a critically needed technical operation. Eviction exacerbates the public health crisis since tenants can't self-quarantine without shelter. For many tenants, there was an insufficient safety net provided during this time. The moratorium itself was a confusing policy measure, as the hotline identified assisting tenants through the process. Evictions in the city of Atlanta persisted, and to date, there have been over 120,000 evictions filed during the pandemic, including the duration of the eviction moratorium [75]. Providing direct services in the way other professionalized non-profits do would not be sufficient either. This was underlined by the conversations around framing the hotline away from direct service—these conventional ways of addressing the eviction crisis predicate themselves on the existence of the current system. For HJL, that system is broken, marginalizing people based on race and class. Dismantling and imagining a new one might not happen in one fell swoop but through a series of tinkering. How computing scholars stand in solidarity with a counter-institution may not look like designing a whole new tool tailored to their values. Perhaps we can draw on tactics from below, where the consideration isn't on design fixes, but matters of interpretation, maintenance, and configuration of technologies as Whitney et. al state.[73]. Instead of design or redesign, refuse to impose our go-to models of data. For example, attending to the specific histories and relationships marginalized tenants have to direct services made EDWG prioritize qualitative data over easily analyzable metrics. Understanding the data work as a careful tinkering forces us to consider how organizations like HJL are already configuring technologies to their values, and such configurations should be studied beyond the values of any tool alone. In fact, can the unique arrangement of ICTs subvert the values inherent in these tools? We would argue yes.

7 NEXT STEPS AND CONCLUSION

In this paper, we described the data work of an activist non-profit—Housing Justice League—as it strives towards a just model of housing as a right. Data supports direct action in the local eviction crisis and informs strategy and tactics for ongoing organizing. Prior research helps us understand and interpret this work. In particular, our interpretation is informed by research into non-profits and grassroots organizations and their use of data and information and communications technologies [11,24,25,70].

HJL is a counter-institution, a distinct kind of organization. One contribution of this paper, then, is a discussion of counter-organizations. Regarding data and the use of ICTs, counter-institutions do not necessarily emulate standard or efficient practices. Counter-institutions such as HJL may purposefully eschew standard data practices in pursuit of other values. What is important to HJL is not data itself but housing and those affected by predatory housing models. Care characterizes their data practices[44,74]. One characteristic of a careful approach to data is that data work is characterized by tinkering [47]. Rather than presuming there is a fixed and final version of good data, HJL is constantly making do, altering, and adjusting the data they collect and use. Through tinkering, they constantly negotiate their values with the structures and capacities of the data sets and tools they use. The perspective of care and the practices of tinkering as care are important for researchers and designers studying data in non-profits and social movements. Care directs us to uses of data and data practices that may include, but are not limited to, rote instrumentalism and

productivity. Tinkering attunes us to practices of making and making-do that are ongoing, indeed indefinite, in contrast to many of the discourses of design that presume some final and stable product or service [17].

Although our engagement and this paper focuses on a particular organization and is highly situated in the context of the eviction crisis in the United States, we believe this work provides themes and insights relevant to other organizations and contexts. Counter-institutions comprise a vital part of the civic ecology. Data continues to be a medium and means of politics. Although the particulars of the hotline may be unique to HJL, and the structure and content of eviction data differ from other issues, the situation of advocacy and activists organizations working with data to enact change is common.

We plan to continue following along and work in solidarity with HJL. Strategic planning is underway for the next stage of eviction response. The members of EDWG continue to tinker, considering what to do about capacity gaps. The hotline is expanding in scope and will add a new platform and procedures soon. These technical infrastructures will bring together affinity groups within the same counter-institution. How care and data are reconfigured in this iteration and its implications remains to be seen. Our future work will remain committed to the ongoing mission of the HJL, as we work together with and through data, informing both practice and scholarship

ACKNOWLEDGMENTS

We are grateful to the Eviction Defense Working Group for allowing us to accompany, support, steward, and ruminate on this work. Thank you to Natalie McLaughlin and Dani Aiello who took the time to read this work and provide guidance and Alison Johnson for your support. We would like to acknowledge Elora Raymond, who has brought us into the fold on housing and data. Finally, Thank you to the greater Housing Justice League organization for their ongoing fight for homes for all.

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Received: January 2022, Revised: April 2022, Accepted: May 2022.