Designing Civic Technology with Trust

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ABSTRACT

As the role technology plays in relationships between people and their governments grows, developing a better understanding of how trust can inform designing civic technology with trust is urgent work for human computer-interaction researchers. This paper reports our efforts to design with trust through a two-year design-ethnography with the City of Atlanta Mayor's Office of Immigrant Affairs. We developed a sociotechnical system—Code Enforcer—to help this office guide immigrant residents through successfully engaging the city's code enforcement process. To inform the design process, we adapted our framework of trust-as-distance. While the framework was instrumental for integrating issues of trust throughout our design process, it also introduced tensions between how and by whom trust was enacted and interpreted. By reflecting on these tensions, we tease out the political and moral elements of designing with trust vital for HCI to navigate moving forward.

CCS CONCEPTS

• **Human-centered Computing** → HCI design and evaluation methods;

KEYWORDS

Trust, Democracy, Digital Civics, Civic Technology, Smart Cities

ACM Reference Format:
Eric Corbett and Christopher A. Le Dantec. 2021. Designing Civic Technology with Trust. In *CHI Conference on Human Factors in Computing Systems (CHI '21), May 08–13, 2021, Yokohama, Japan.* ACM, New York, NY, USA, 17 pages. https://doi.org/10.1145/3411764.3445341

1 INTRODUCTION

Public institutions are increasingly partnering with, and drawing from, private industry in designing civic technology platforms [41], smart city infrastructures [1], and automated decision-making systems [9] that mediate interactions between the public and their governments. A common assumption driving the pursuit of these technologies in governance is improving trust: that by making governance faster, smarter, and less-biased, trust in government can be improved [13, 14, 30]. Part of these pursuits can no doubt be attributed to technological solutionism; however, it can equally be interpreted as technological optimism in the face of political failures to address declining trust in democratic institutions [69]. Within this search for civic and political solutions to waning trust in public institutions, the systems being developed are often guided by a neoliberal design logic that narrowly frames civic interactions in terms of efficiency and transactionality [33]. As this logic proliferates in design, it sidelines use cases that involve the complex and eternally agonistic dimensions of civic life (gentrification, racism, economic inequality, police brutality) that are not reducible to clicks or swipes. Indeed, the recent racial and economic tensions throughout the U.S. in the summer of 2020 lay bare the limitations of improving trust in the existing system by making it more "efficient" through technological means.

In our previous work, we developed a conceptual framework for designing with trust centered around how people come to experience *distance* from governance [15, 17]. We view this work as contributing to the growing body of literature in HCI and digital civics, offering alternatives to the neoliberal design logic that preoccupies contemporary civic technology [59]. From years of detailed fieldwork with community members [5] and municipal officials [19], we identified the concept of *trust work*—relational work performed by officials to close distance in their civic relationships with constituents—which acts as the vehicle for developing trust [17]. By framing trust-as-distance, we expand how design should approach trust in civic technology. This reframing begins to move design from the narrow pursuit of efficiency and transactionality toward the wider pursuit of closing distance between the public and their government in civic relationships [18].

In the work we are presenting here, we applied the framework of trust-as-distance in a two-year design-ethnography with the City of Atlanta's Mayor Office of Immigrant Affairs. The result was a co-designed sociotechnical system we call "Code Enforcer" (figure 1). Code Enforcer is a tool to aid the offices' ongoing efforts to help Hispanic immigrant communities repair and maintain their living spaces by engaging with the City of Atlanta's code enforcement procedures. These communities frequently deal with code violations—including working plumbing and power, the presence of pests and unwanted wildlife, as well as mold or other health issues—due to property managers' negligence; however, immigrant households are often disempowered to confront these issues because of their distal position with the city. While focusing on closing distance was instrumental in the design of Code Enforcer, it also created tensions in the design space. Specifically, the opportunities that arose via the design process at times ran counter to the existing ways the office staff developed and maintained relationships with immigrant residents.

While our work is tightly bound to the local conditions of Atlanta, what we learned about designing with trust has two main implications for the HCI community: the politics of trust as a design value and the limitations of digital civics scholarship within public institutions. First, our work contributes to the debate on designing with trust in the civic space. Specifically, it uncovers tensions between the pursuit of efficiency in governance and the pursuit of closeness in civic relationships. These two pursuits both enact

CHI '21, May 08–13, 2021, Yokohama, Japan

ACM ISBN 978-1-4503-8096-6/21/05…$15.00
https://doi.org/10.1145/3411764.3445341

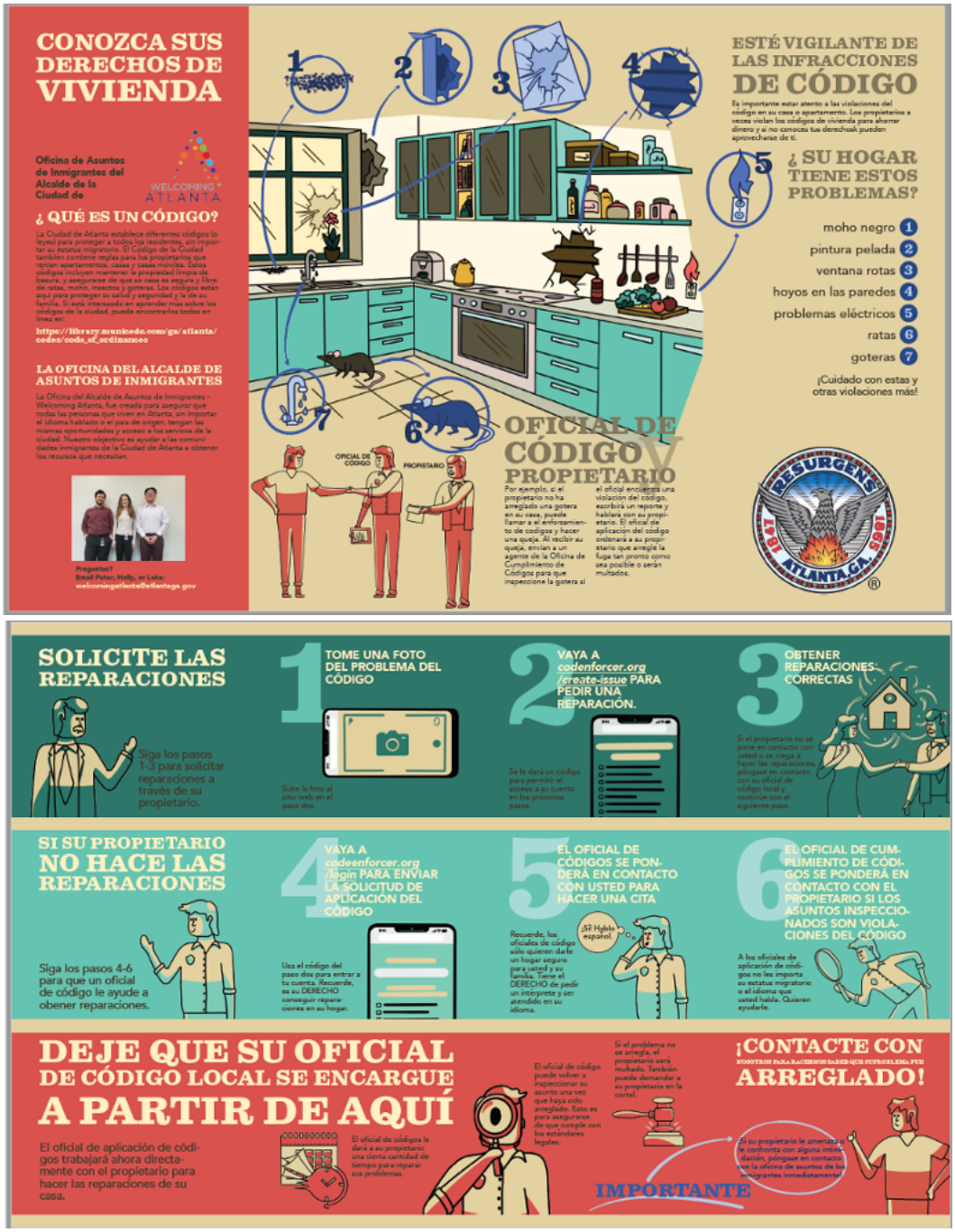

Figure 1: Front and backside of the primary component of the Code Enforcer system the Code Guide: an 11 x 17 paper pamphlet that explains code violations, the code enforcement process, and the digital features of the system. The guide is a conversation aid used by the office staff in conversations with residents during fieldwork.

trust; however, they do so through divergent and often conflicting means. While the design process of Code Enforcer was intended to pursue the latter, it often served the former. Second, our design-ethnography provides empirical insights into the constraints and opportunities for digital civics scholarship inside public institutions. Specifically, we discuss how even when public officials who work in goodwill and benevolence in their pursuits of trust are often limited by the larger neoliberal logic of governance that devalues this relational work. In all, our primary contribution is refining our previous framing of trust-as-distance by making its underlying moral

and political commitments explicit: the need for design to mediate *trust work* and the role of the designer in resisting neoliberal logic. Subsequently, we advance a concise definition of designing civic technology with trust as *an activity to discover the socio-material means of closing distance.*

2 RELATED WORK

2.1 HCI and Trust in the Civic Space

While the literature on trust is fractured across disciplinary silos [53], there is a wide consensus on the role uncertainty plays in trust [49, 50, 55]. Colloquially, trust enables a "leap of faith" over uncertainty. Depending on the discipline [65], this leap is framed either as a social process, an affective state, or cognitive-based decisions. In its various efforts to design with trust, HCI has tended to adopt the latter frame [61]—trust based on the individual processing credible information regarding the intentions or competence of a trustee. This cognitive framing of designing with trust is limited when applied to the civic space on two accounts: first, its treatment of trust as normatively optimal is problematic in the context of civic relationships wherein trust and distrust play much more nuanced and complex role in mediating power and vulnerability [39, 75]; second, it obscures the social, historical and affective contexts of trust [67].

Harding and colleagues' efforts to design a civic technology platform largely followed the cognitive framing of trust—that providing enough information and transparency—would be a sufficient design approach [40]. However, they found "*the lack of feedback and transparency was largely unrelated to the technology but instead a product of political and organizational* [factors]." Thus, while technically sound, they concluded their platform failed due to long-standing issues of distrust in civic relationships unaddressed in the systems' design. They ultimately concluded, "*designing for civic engagement requires a much more complex view of trust, including how it is manifested in everyday interaction and relationships within and between the different stakeholders as well as 'through' the technology.*" Harding's call for a much more complex, relational view of trust is almost completely lost upon contemporary civic technology in the public sector under the current neoliberal framing of trust as a product of efficient transaction.

2.2 Neoliberal Logic and Digital Civics

Neoliberal logic is foremost manifested as the perspective that government (like business) must (above all else) generate the highest value in how it operates and delivers public services [11]. This perspective is operationalized by applying market principles to public sector functions (regulations like zoning, property taxes, building codes; redistributive policy like public housing, unemployment insurance, food stamps; etc. [38]). The institutional problems that arise in these functions (even when inappropriate for market principles) are interpreted by monetary value and are solved through pursuing efficiency. As neoliberal logic is articulated through various civic design practices (see Guy Julier's "*Economies of Design*"[44] for a review), the objects, systems, and services it produces materialize the ongoing reconfiguration of government: the 'provider' (formally a servant) is reconfigured as a 'business' that delivers services; the 'user' (formally a citizen) is reconfigured as a 'customer' who consumes services. Thus, the logic presents a limited view of civic relationships, which is carried over to trust and how design should pursue trust.

According to the civic media scholar Eric Gordon [32], contemporary civic design is preoccupied with neoliberal logics' directives of making governance more "user-friendly" (311 apps), "faster" (automated decision-making systems), or "smarter" (command-and-control smart cities ecosystems). What is more, these technologies are often framed as material means to support trust in governance by improving the management and delivery of services [30, 34, 35]. Gordon takes no issue with these goals alone; rather, he warns that the underlying logic "*dangerously overtake the narrative of civic technology design*," becoming the de facto approach to mediating civic relationships. Specifically, the logic trades delivery of services and the freeing of markets to enhance those services at the cost of equity in the form of protection from free-market abuse [11]. This trade-off is problematic as the erosion of equity is often cited as the primary source of waning trust in governance [69, 71, 72]. Despite this fact, neoliberal logic continues to narrow how design envisions civic relationships and the role of trust therein. In turn, the logic feeds a cycle of distrust in, and distance from, governance, all the while making that cycle more efficient.

The growing digital civics agenda in HCI has pushed back against this neoliberal design logic by focusing design on relational rather than transactional civic interactions [59]. By attending to the relations that underpin civic lives, digital civics has created design spaces that include modes of identity- and place-making [23, 60], as well as sites of advocacy and activism [4, 20]. The focus on relational interactions reframes civic encounters such that government services are created in the doing that happens *between* officials and citizens and not merely in the delivery *to* citizens from officials. Thus, by engaging technology not as a means to perfect knowledge—via sensors, databases, and algorithms—but as interactions based on power dynamics, social and political capital, and local histories, digital civics is amenable to the more complex, relational view of trust Harding called for.

2.3 Trust-as-Distance

Trust-as-distance was developed within a broad qualitative study of civic relationships from the perspectives of public officials (city planners, council members, educators, economic developers, etc.) across the City of Atlanta [5, 19]. We wanted to understand how public officials "did" trust, how they performed trust in practice as they engage with the public. To enable trust, officials frequently described the need to close different forms of *distance* in their relationships with the public: distance of decision-making power, distance of space and social closeness, distance of time or knowledge. Metaphorically, officials felt the public's experience of these distances made trust in civic relationships "*harder to reach*." Theoretically, their assumptions reverberated with social psychology literature, which notes distance breeds uncertainty "*as something becomes increasingly distant there are more and more states in which that something will not materialize*" [51]. In this way, trust and distance are connected: as distance is extended and thus the abstraction of a desired outcome, so too is trust needed to overcome that greater uncertainty.

The primary contribution of looking at civic trust from the lens of distance is that it provides an alternative for design beyond the neoliberal logic of making governance faster, smarter, or more efficient; instead, it calls for a rethinking of how distance comes to be structured in civic relationships between the public and their government [18]. Two directives for design arise from this lens. First, design should provide tools and infrastructures within governance to mediate *trust work* performed by public officials to close distance. Second, design should seek out the most distal publics (historically oppressed and marginalized communities) by dismantling institutional structures and practices that perpetuate distance.

We developed trust-as-distance into a generative frame with prescriptive elements that guide designing with trust in a stepwise order [15]. The first two steps provide an initial analytic frame for understanding trust in the design space, then shift to a generative frame with the third step that keeps trust central in ideation. The first step calls for the designer to search for and interpret distance in the design space: *What distances exist, and what are the sources?* This step does the foundational work of framing the design space around a local understanding of distance, which is vital as trust is idiosyncratic, so how distance will manifest will vary across different relationships and contexts. Thus, distance is brought into the space by the designer and used in an etic approach [58] to construct a local view of how it is manifested in the design space.

The second step calls for the designer to take a sociotechnical perspective of the practices, social arrangements, and artifacts within the design space: *What are the relevant practices? What artifacts—digital and non-digital—are used? What are the current social arrangements—both interpersonal and institutional—in civic relationships?* By examining the interplay of these components, this step hedges against the tendency to focus exclusively on technology and the reflex to technological determinism. Instead, this sociotechnical perspective realizes that "*trust cannot be designed into a system*" as the trust HCI scholar Riegelsberger once remarked; however, "*designers can aim to create optimal environmental conditions for the emergence of trust...*" [62].

The last step calls for using four sensitizing concepts—historicizing engagement, focusing on experience, mediating expectations, and preserving institutional relationships—in generative design. We argued that each of these concepts provides the designer "*directions along which to look*" regarding the attributes a system would need to possess to develop trust as a process [16]. Our goal was to stress the importance of design to think about trust not as momentary and static but as a continuous and dynamic process. For simplicity's sake, we approximated this process view with three distinct stages: initiating, building, and retaining, which each require particular forms of work to close distances. The four concepts sensitize design practice towards addressing the particularities of trust in each of those stages.

Trust-as-distance shares several traits with existing design approaches in HCI like Value Sensitive Design [29] and Participatory Design [36]. Where these approaches broadly consider a wide range of values or an explicit goal of democratization and empowerment, the approach of understanding distance is more specialized as it focuses narrowly on one value (trust) in one context (civic interactions between public officials and their constituents). This focus on the larger civic enterprise draws on recent work in Participatory Design that unpacks the political commitments and relational emphasis that approaches technology design as the means to configure relationships around an ongoing dialogue between people, places, and evolving problems that need solving [10, 22]. Where trust-as-distance differs from these prior approaches is most clear through two accounts: first, what design spaces it is applied to and second, with whom the activity of design occurs. Trust-as-distance is applied to public institutions (i.e., planning departments, city police, infrastructure maintenance, immigrant affairs, etc.), and the interventions the framework informs are intended to be used by public officials to mediate the *trust work* they perform. Public officials are the "users" of the technology the framework informs; therefore, designing with them is vital.

In this paper, we apply and iterate trust-as-distance through a design-ethnography with the Mayor's Office of Immigrant Affairs in our municipal government. We use the design process of a sociotechnical system we co-designed with the office—Code Enforcer—as a probe to apply and evaluate how (or not) does the frame inform designing with trust. In doing so, we tease out some of the implicit but underarticulated political and moral commitments of trust-as-distance. Subsequently, we crystalize the framework by providing a concise definition of designing with trust based on our findings: *it is an activity to discover the socio-material means of closing distance.*

3 CONTEXT AND METHODOLOGY

3.1 Distance in Civic Relationships with Hispanic Immigrant Communities in the U.S.

We began working with the City of Atlanta Mayor's Office of Immigrant Affairs in early 2018. At the time of our partnership, the office was spending significant time engaging the growing Hispanic immigrant population in the city [2]. The offices' efforts to engage these communities in local governance were frequently hampered by the Trump Administration's efforts to distance immigrants from governance nationally [28]. Through his rhetoric (e.g., characterizing Mexican immigrants as rapists and drug dealers during his presidential campaign) and his policies (e.g., significantly expanding the types of noncitizens targeted for deportation, closing the Deferred Action for Childhood Arrivals program, etc.,) Trump sought to institutionalize the wave of populist anger and xenophobia that carried him to the White House.

While much of Trump's efforts are federal, his administration aggressively tested the boundaries of federal, state, and local authority on immigrant policy [52]. For instance, the 60th Mayor of Atlanta—Keisha Lance Bottoms—is engaged in a series of legal battles with the Trump Administration and the conservative governor of the state, Brian Kemp (who ran on a similar "tough on immigration" campaign [21]. The 60th Mayor has defied federal immigration policy by declaring Atlanta a Sanctuary City (a set of local laws blocking the deputization of police as immigration agents and baring local law enforcement agencies from inquiring into an individual's immigration status) [6]. Similar moral and legal battles are unfolding throughout the U.S., resulting in divergent immigrant integration contexts and deepening the sense of crisis

in many immigrant communities [52]. Nowhere is this crisis more felt than within the daily lives of the estimated 11 million undocumented immigrants in the U.S. [31]. They continue to live, work, and raise families even while decades of contentious political debate constantly shift the context of their lives [76]: their ability to access education [43], health and social services [48], their relationships with law enforcement [7], their expectation and rights within the legal system [24]. It is within this larger debate that the offices' work is situated.

Locally, one pressing issue our research came to center on was the offices' efforts to help several Hispanic communities in the northern part of the city access and use the city's Housing Code Enforcement procedures [64]. Most cities in the U.S. feature some form of housing codes (or laws) that dictate living conditions property owners must legally maintain (e.g., keeping property clean of garbage, repairing leaks, providing adequate heating and cooling, etc.). For example, if a landlord has not fixed a leak in a rental home, the renter can call Code Enforcement and submit a complaint. Once the complaint is received, the city sends out a Code Enforcement officer to inspect the leak. If the officer finds a code violation, they will write a report and speak to the landlord. Next, the Code Enforcement officer will order the landlord to fix the leak as soon as possible or be cited. Finally, the Code Enforcement officer will return in a few days to reinspect the property and make sure the landlord has fixed the issue.

While all residents (undocumented or not) are legally able to use code enforcement in the city, the office has found that many Hispanic immigrant communities are reluctant to do so as a result of the general distrust of institutional processes. Their reluctance to enact code enforcement is emblematic of the larger precarity facing these communities: many are escaping or dealing with issues of domestic [27], financial [73], and sexual abuse [63]. At the same time, they also have to navigate unfamiliar institutional mechanisms that can offer protection but operate in connection to a national narrative of governance in the U.S. that has become increasingly hostile to their very existence. Thus, even when they encounter an institutional mechanism that is neither hostile nor corrosive (such as Code Enforcement and much of the City government in Atlanta under the current pro-immigrant Mayor), their *distance* from governance remains a significant barrier [70]. In Atlanta, The Mayor's Office of Immigrant Affairs proactively works to dismantle these barriers by initiating interactions with communities—learning where and what issues create distance between the city and immigrants—and then working within government to enact change.

For the purposes of this research, we worked within the offices' existing institutional relationships with Hispanic communities rather than establishing new relationships. In this way, our design process was centered "inside-out" from within the Office of Immigrant Affairs rather than "outside-in," starting with the residents. This approach was both logistically and empirically motivated. Logistically, we had no direct access to these communities outside of the Office of Immigrant Affairs. Empirically, we wanted to understand designing with trust from the perspectives of public officials. Thus, we entered this partnership with the Office of Immigrant Affairs with a priori interest in developing a better understanding of designing *with* trust from their perspectives (i.e., how can trust inform the design of this system?), which is not the same as designing *for* trust (i.e., was trust an outcome of this system?). The former is a design-research inquiry of how trust can be drawn from to inform design processes, while the latter is an empirical inquiry that treats trust as an outcome of design. This paper concerns the former.

4 DESIGNING WITH TRUST METHODOLOGY

Our methodological approach is best described as design-ethnography [66]: we used ethnographic methods to produce a design object (the Code Enforce system) rather than writing culture. To produce the system with trust, we took the following steps outlined in our previous work [15]:

1. Finding the sources of distance in the design space.
2. Identifying the sociotechnical components of that distance.
3. Using generative design concepts to support the process of closing distance.

4.1 Step 1: Finding the Sources Of Distance

Through the first step, we used distance as an analytical lens to guide our exploratory ethnographic research within the office: attending their meetings, observing them in fieldwork, and holding informal interviews. Throughout, we took detailed field notes and, when possible, recorded audio. These notes and recordings were analyzed deductively using the dimensions of distance as high-level codes. This analysis allowed us to understand what trust means to the office, the distances in their civic relationships that make that trust harder to reach, and the *trust work* they perform to produce and reproduce the conditions necessary for closing distance. From this work, we understood how distance impacts trust in the relationships between the city, the office, and residents in the housing code issues. We used these insights to drive the initial framing of the system at a high-level.

4.2 Step 2: Identifying the Sociotechnical Components

Through the second step second, we drew from our ethnographic data to understand the design space through the interplay of *prac*tices (how the office interacts with residents, the code enforcement process, property managers negligence), *social arrangements* (residents relationships with property managers, code enforcements institutional role, the offices' internal position with the city and external relationship with residents), and *artifacts* (the city's existing code enforcement system, materials used by the office to communicate with residents, resident's existing access to technology). We used insights from this sociotechnical analysis to inform prototypes of different components of the system. We presented these prototypes to the office for critique and iteration, which lead us to identify the goals and key components the system would need to achieve those goals.

4.3 Step 3: Using Generative Design Concepts

Through the last step, we used the sensitizing concepts—*historicizing engagement, focusing on experience, mediating expectations,* and *preserving institutional relationships*—in generative design. Specifically, we put the insights developed from the previous two

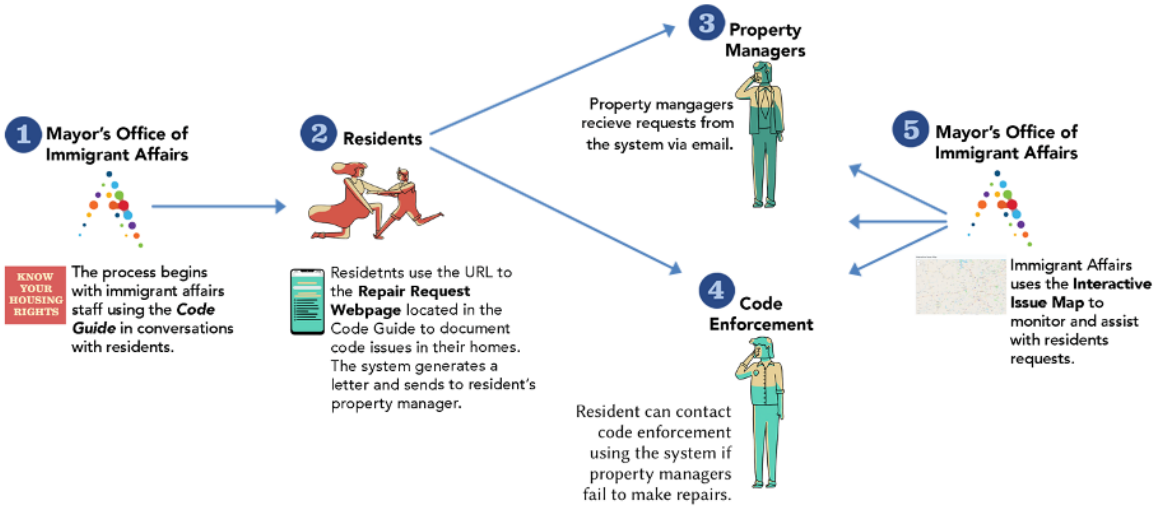

Figure 2: Main components of Code Enforcer and flow of interactions between Immigrant Affairs, Residents, Property Managers, and Code Enforcement.

steps into conversation with the design knowledge reflected by each concept. This pairing created an iterative, dialogic process where the system's specific features and affordances were generated through a series of design sessions with the office staff. Throughout the design sessions, we took reflective notes to document the rationale behind features and affordances, tensions, assumptions, and iterations of the system in conversation with the office. This generative process led to the final form of the system.

5 DESIGNING CODE ENFORCER WITH TRUST

Code Enforcer (figure 2) is a sociotechnical system designed to close distance in power and knowledge that makes segments of the Hispanic immigrant community in Atlanta especially vulnerable to housing code violation abuse. The system is intended to guide and assist residents in getting code violations resolved by generating the paperwork and tracing the process of following up on reported code violations. The office staff initiates the system's use by using the code guide in conversations during fieldwork to introduce residents to their code enforcement rights (1). Next, residents follow the link to the "Repair Request Web page" located in the code guide to document their repair requests (2). The system uses the above information to generate a form letter that is emailed to property management (3). If property management does not make repairs, the resident uses it to send their issue to code enforcement (4). Finally, the interactive issue map monitors resident's progress through the above process and updates a visual interface for the office staff to monitor and assist residents (5).

We framed Code Enforcer's purpose around experiences of distance that exacerbate housing code violation abuse against Hispanic immigrant communities. . First, there is the local distance in civic relationships between Hispanic communities and city government. This social distance at the city scale affords hyper-local distance in power between immigrant residents and property managers. Immigrant Affairs had previously found that housing complexes heavily populated with Hispanic immigrants had a history of refusing to address decrepit conditions. The managers seemed to be leveraging the resident's fearfulness of reaching out to code enforcement or other legal remedies because of their social distance from the city. This is where the Office of Immigrant Affairs' *trust work* comes into play: the staff performs *trust work* to close the social distance between these communities and the city that affords the distance in power that prevents the residents from resisting property managers' negligence.

The office works directly with residents on the ground to resolve code issues: entering residents' homes, recording code violations, and then documenting and submitting these requests to the city's code enforcement office. In these interactions, the office staff attempt to empathize with residents and reassure them of the office's goodwill and genuine desire to address the issues. The performance of trust signaled by these efforts (which the office is not obligated nor required to do) closes distance and enables enactments of trust necessary to address the issues. To illustrate, Immigrant Affairs was able to get residents to attend housing court hearings against one of the apartment owners. This was significant in that it required residents to overcome the uncertainty presented by attending a court hearing (with the police and city officials present) to speak out against the conditions of the apartment. This civic interaction between residents and the city reflects the function of trust: it enables cooperative action in situations of uncertainty to pursue a desired future [57]. The more significant point to be made here is that these enactments of trust are enabled not merely by providing residents with enough "facts" about code enforcement but rather by the closure of distance through the offices' *trust work*.

Next, the sociotechnical perspective helped us to identify the system's goals and key components. We quickly realized that while

the city maintains various digital access points residents could use to file these code violations (through the 311 website and mobile app), this technology feels distant for many communities. Indeed, the office finds that community members often described the existing system as "*not being for us*" even while they are legally able to use it. These feelings of distance are in many ways to be expected, given the current socio-political climate. Thus, without the relational scaffolding of the offices' *trust work*, which closes those feelings of distance, the digital artifacts feel "too far" to access for these communities.

The above realization lead us to determine the system's first goal: mediating the *trust work* practice' *meeting people where they are*.' This practice is essential for the offices' *trust work* generally and is especially so for the housing code issues. To support this goal in design, we sought to aid the conversations office staff has with residents about the code enforcement process. We thought a paper-based conversational aid would be a good starting point to cement the importance of face-face interactions in those encounters (figure 3). We noticed from fieldwork the office currently does not possess any materials to explain the code enforcement process, and often, residents simply had no idea what a "code" was nor what "code enforcement" was. Furthermore, even after the office would explain codes and the enforcement process to residents, residents often remained reluctant to engage because of generalized distrust of the city. Thus, we thought a paper format would help educate residents about their rights and provide them with tools and strategies for enacting said rights.

Finally, we paired initial insights developed from the previous two steps (local and hyperlocal distances, goals and components, etc.) with the sensitizing concepts to complete the system's design. This pairing enabled an ideation process where specific features and affordances of the system were generated to support the process of closing distance. Each of the concepts speaks to a specific stage of the trust development process. First, *historicizing engagement* influenced the code guide's information design to support the *initiating stage of trust*. Next, *focusing on experience* influenced the design of the user interactions to supporting the *building stage of trust*. Likewise, *mediating expectation*s further supported the *building stage of trust* by influencing the code guide's layout and structure and the system's communication features. Finally, *preserving relationships* influenced the system's issue map component design to support the *retaining stage of trust*. Taken together, the concepts help to resist the tendency of approaching trust as on-or-off or a singular decision in time but rather as a process with these stages that need to be thought through in design. In what follows, we detail this generative design process through each sensitizing concept.

5.1 Historicizing Engagement

The first sensitizing concept, *historicizing engagement*, reminds us that trust is initiated from past experiences that have to be accounted for and reflected in design. While trust is often framed around the future—as it discloses possibilities for actions towards some desired future—this concept reframes trust around the past. To illustrate, enacting trust in the present challenges of housing code issues is bound to the past experiences that have created distal institutional relationships between the city and immigrant communities. Specifically, the negative past experiences with the city police department (which code enforcement is part of) as well as the general lack of experience with the code enforcement process. Thus, this concept suggested that Code Enforcer's design should reflect awareness and respect for this history. By doing so, the system would be better able to support the initiating stage of trust process.

The code guide's information design is where the first sensitizing concept's influence is most salient (Figure 4). The guide is designed to introduce the code enforcement process and alleviate any misunderstandings of the role and intent of the Code Enforcement officers. The design tries to respect the past experiences that make people fearful of and reluctant to engage these institutional processes. For instance, the history of racist policing, xenophobia, and politicization of immigrant status that distances Hispanic communities from engaging with our institutions. From the offices' experience, fostering a sense of empowerment is the key to overcoming both fear and reluctance.

The design draws inspiration from the offices' existing techniques for fostering empowerment. For instance, the lower right panel with the city's seal was intentionally placed below the code violations list to lend institutional credibility to the document: that "*their*" government is responsible for the above issues. A staff member noted he sometimes finds that "*when people find out that you are government, people understand you have the power to help them in a way that is different than like a community group or non-profit.*" Another instance is in the top right corner: the guide's title is written as a call to action "KNOW YOUR HOUSING RIGHTS" it proclaims. We discussed these visuals and texts during a design meeting:

> ***Author #1:*** *So now on the bottom of the guide, I think what's important from what I gathered from what Peter was saying, is trying to introduce the process and the players in the process. Specifically the sort of problematic with code enforcement, the lack of trust of the officers specifically.*

Indeed, code enforcement falls under Atlanta's Police Department: an entity that does not have a good relationship with immigrant communities in the city nor internally with the Office of Immigrant Affairs. For this reason, the design would need to distinguish law enforcement from code enforcement in addition to making it clear how code officers interact with property managers. Another staff member reflected on how the visual on the bottom center of the guide (figure 4) helps to accomplish this:

> ***Staff #2:*** *Yeah, like, it just helps with overall with one of our roles in the community is just kind of differentiating, what different agencies and individuals are like, what their roles and that your landlord is not connected to code enforcement. Those are separate things like that visual is like good to just help us reinforce that.*

In sum, while the design process did not directly engage residents, by drawing from Immigrant Affairs' extensive experience of interacting with immigrant communities, we attempted to account for and reflect the history of the local distance between the city and immigrant communities. This is vital to the initiating stage of trust, which is often called "*calculus-based trust* [65]" because, without relational history in place (or adverse history), trust relies

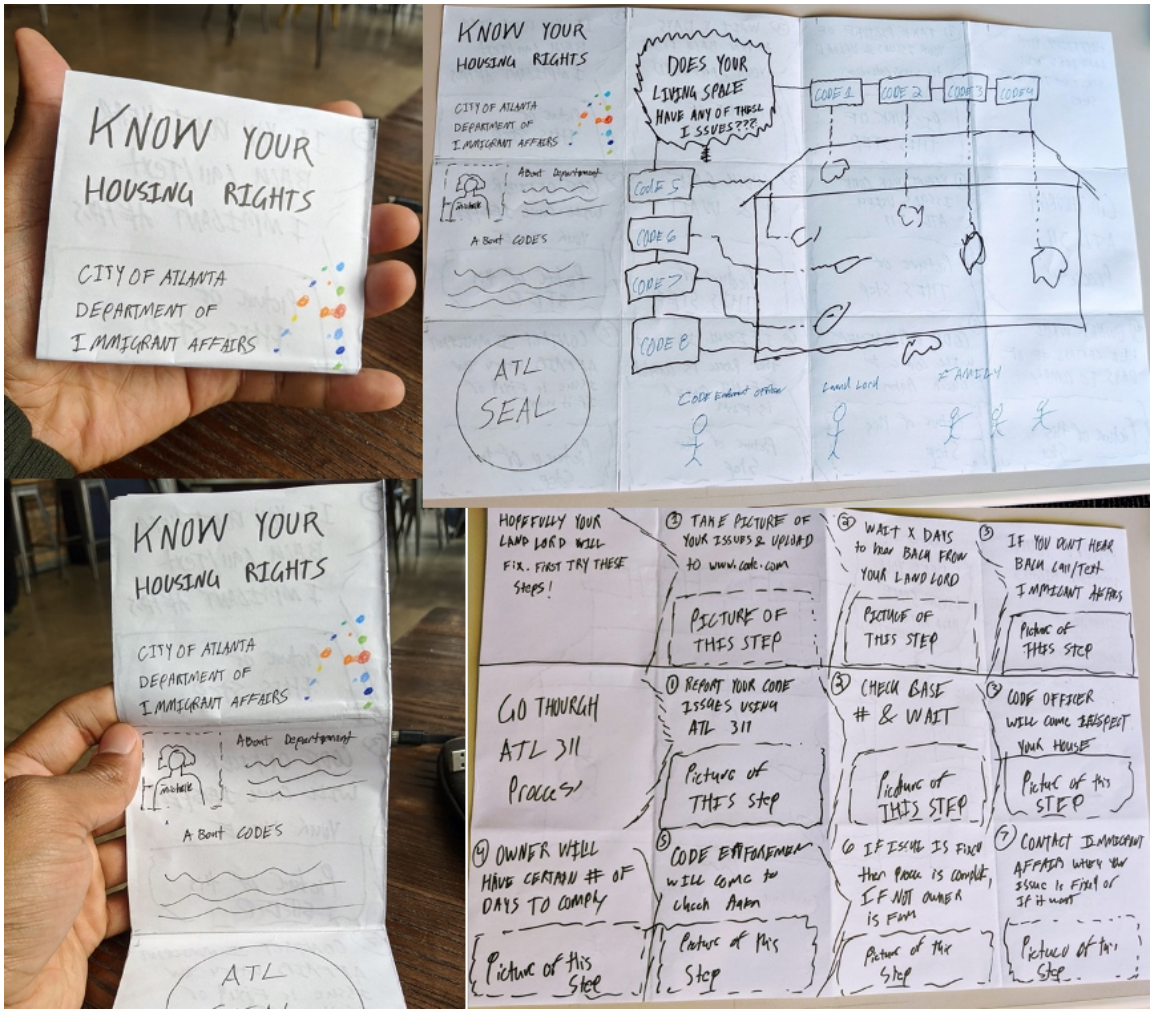

Figure 3: Early paper prototype of the Code Guide: an 11 x 17 paper pamphlet that explains code violations, the code enforcement process, and the digital features of the system. The office staff will use the guide in conversations during fieldwork with residents.

more heavily on the calculation of available information. To this end, the information design of the code guide attempts to signal the city is beginning to take ownership of this distance to initiate a civic relationship. The guide represents an invitation to these distal communities by adorning it with the city seal's and crafting messages that convey goodwill and benevolence. The office, acting as the city's representatives, hand-delivers this invitation to initiate the process of closing distance via the code guide.

5.2 Focusing on Experience

The second sensitizing concept, *focusing on experience*, reminds us that trust is built over time by accumulating experiences. It is both the opportunity for and quality of experience that reduces distances. To illustrate, it was the experiences of interacting with residents that overtime enabled the office to produce and use trust to address the housing code issues (e.g., getting residents to overcome the uncertainty of going to housing court). Specifically, the demonstration of care and goodwill in the conversations between office staff and residents develops residents' comfort and ability to navigate the barriers they face in the code enforcement process. Thus, this concept suggested the design of Code Enforcer needed to support conversation and provide a series of interactions that alleviate residents' barriers in the code enforcement process. By doing so, the system would be better able to support building the trust that has been initiated. The first part of the user experience with the system occurs within our goal of "meditating people where they are" with the code guide. The code guide was designed to support the conversations between the office and communities to accomplish this goal. The kitchen's large visual at the center of the guide (figure 4 center) is designed for the staff to show the different code violations to spark conversation rather than explain. Showing the violations visually rather than explaining the legal details or exact ordinances from the city's code manual is the design's way of reducing complexity— the primary purpose of trust [50]. Even the

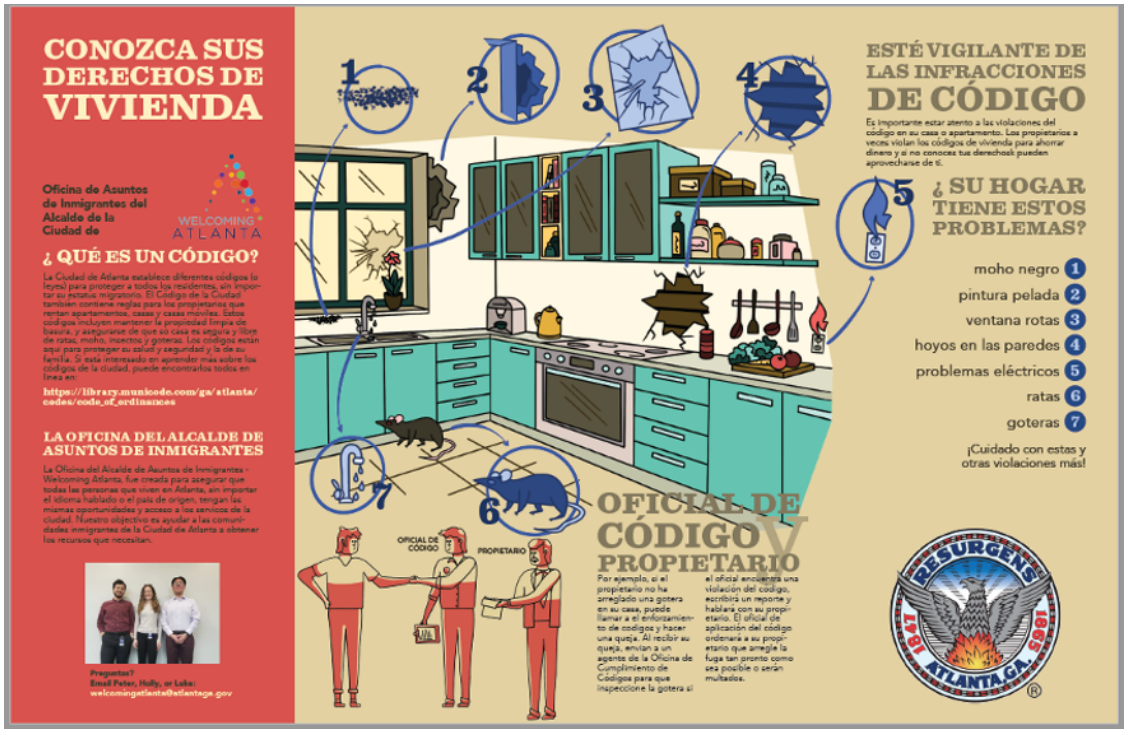

Figure 4: Front side of the Code Guide. The code guide is designed to support and enable conversations during department's fieldwork. The guide visually explains code violations and informs residents of their rights to enact the code enforcement process.

guide's form factor, being only 11*17 fully unfolded, is a conscious decision to make sure the design does not take up too much space in face-to-face encounters.

The key to closing social distance is making people feel closer to the civic system and seeing themselves in it, enabling them to engage in it. As the bridge to enabling such engagement, the design needed to speak to people and relationships, realizing that trust is a social reality as "*individuals would have no occasion or need to trust apart from social relationships*" ([49]). We attempted to speak to people and relationships through the visual of the officer shaking hands with the resident (figure 4 below kitchen). Here, we attempted to humanize the "officer" with a friendly depiction of an idealized encounter between a family and a Code Enforcement Officer. We further attempted to speak to people and relationships by including the office staff's picture on the guide's cover (figure 4 lower left). The picture affords the sense of "*we're here with you*" extending the initial encounter between the staff and residents much the same as a family picture in the living room or a gift or a physical memento.

After the conversation between the office and residents with the code guide, the next part of the user experience is the interactions with the system's digital components. The primary digital component is the issue request webpage (figure 5). We knew there would already be a great deal of reluctance for people to go through with requests, so the experience of interacting needed to be as smooth and frictionless as possible. Indeed, if the resident encountered any hardships during the process of interacting with digital components, the positive expectations necessary to go through the process might be lost to fatalistic attitudes. Keeping this in mind, we made the following design decisions.

First, we knew that many communities did not have desktops or laptops, and some do not have access to the internet. We also knew that many would be uncomfortable to download an app. Thus, we made the issue request component a simple, mobile responsive webpage. The URL to the page appears in the code guide so the staff could walk residents through making requests in real-time during fieldwork. This feature helps to capitalize on the momentum and energy of the conversation. The page does not require a login or any form of a user account to use and asks only for the bare minimum of information necessary for the request. Upon completing the form, the system sends the resident a text message with a link to the letter generated with data recorded from the issue request page (Figure 6A).

One of the most significant barriers to getting the letter sent was the use of email. It turns out that many communities the office interacts with either do not have email or are not comfortable using email. This presented a challenge for delivering the completed letter. To address this challenge, the system sends the letter on behalf of the resident via a "no-reply" email (figure 6B). The no-reply is key as property management will have to contact the resident by phone using the letter's information. Several days after the letter is sent, the system sends a text message to the resident to query if they

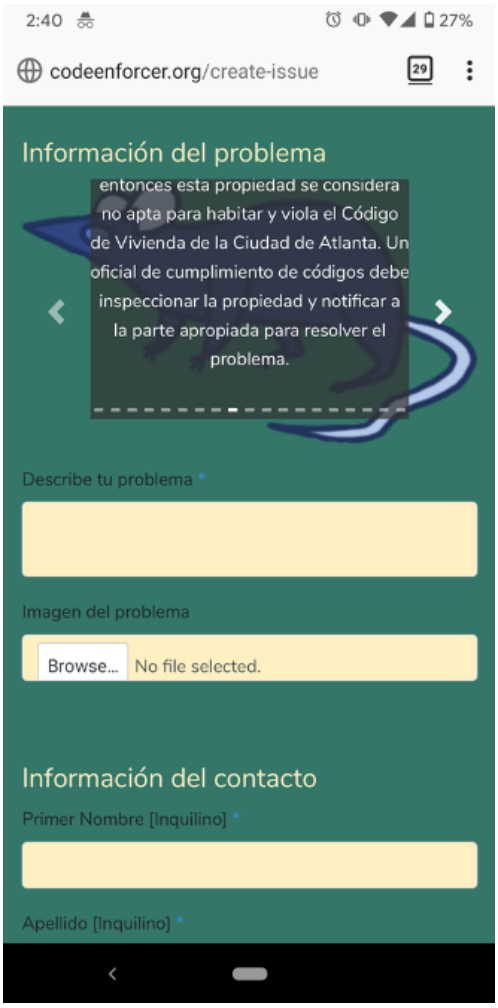

Figure 5: Issue Request Webpage: a mobile webpage for requesting repairs. The issue request page is a simple webform that takes the resident's necessary information, allows them to pick a code issue, and upload a picture and description.

have heard back from the property manager regarding the issue. The text message contains "Yes" or "No" options via URL links. If the resident selects no, the system sends the residents' repairs request letter to code enforcement via email. This interaction is a significant part of the user experience as it obviates the need for the resident to request the repairs via Atlanta's 311 system, which the office has found presents several usability challenges for residents.

In sum, by supporting the conversations with the code guide and then chaining together the digital interactions in a simple flow using mobile webpages and SMS communication, Code Enforcer seeks to provide an experience that will allow the office to build trust through these encounters. With these interactions, we removed several barriers preventing interaction with the code process: the lack of information systems for documenting repairs, obviating the need for email throughout the process, and then providing a simpler access point for code enforcement. The system is novel in that it combines digital and non-digital components to provide an experience that allows trust to be initiated interpersonally and then built into institutional interactions via the system's digital components.

5.3 Mediating Expectations

The third sensitizing concept, *mediating expectations*, reminds us of the importance of forming and maintaining expectations for building trust. Indeed, trust is fundamentally the process of how one comes to form positive expectations in the face of uncertainty. To illustrate, to progress trust in housing code issues, the office first needed to help residents form positive expectations about the code enforcement process and then follow with maintaining these expectations as the process unfolds. Undoubtedly there will be setbacks, delays, and failures that will disrupt the expectations necessary to continue. Thus, this concept suggested that Code Enforcer's design should afford the formation of expectations and provide features that support maintaining those expectations throughout the process. By doing so, the system would further support the building stage of trust.

The layout of the code guide (figure 7) and the system's communication features are where the third sensitizing concept's influence is most salient. First, we attempted to help with forming expectations through the layout of the code guide (figure 7)—the panels, the ordered list of steps, the information of what happens through each step–to help residents form expectations of this process. For instance, step 3 in the top right corner (figure 7) sets the expectation for what happens after submitting the repair request to property management:

> *HAVE REPAIRS SUCCESSFULLY*
>
> *If your landlord does not contact you or refuses to make repairs, contact your local code officer and continue to the next step. [If your issue is severe, your landlord should fix it 24 hours. If your issue is not severe you can give your landlord 2-3 business days to fix it.]*

The above passage sets expectations then follows up via text message to maintain those expectations. Seven days after the request has been submitted, the system sends the resident a reminder text message to maintain that set expectation. The bottom right corner (starting at IMPORTANTE) contains the message: *IMPORTANT: If your landlord threatens you or confronts you with any intimidation, contact Immigrant Affairs immediately!*

The ending of the process, step 7, raised some tensions about mediating expectations:

> ¡CONTACTE CON NOSOTROS PARA HACERNOS SABER QUE SU PROBLEMA FUE ARREGLADO!
>
> CONTACT US TO LET US KNOW THAT YOUR ISSUE WAS FIXED!
>
> **Staff #1:** *Yeah, because if the issue isn't fix, and they have to reach out to us, then the only option would be to like, I don't know if it's the only option but from our phone call yesterday, is like to like sue the landlord, right or to file a small claims case, right?*

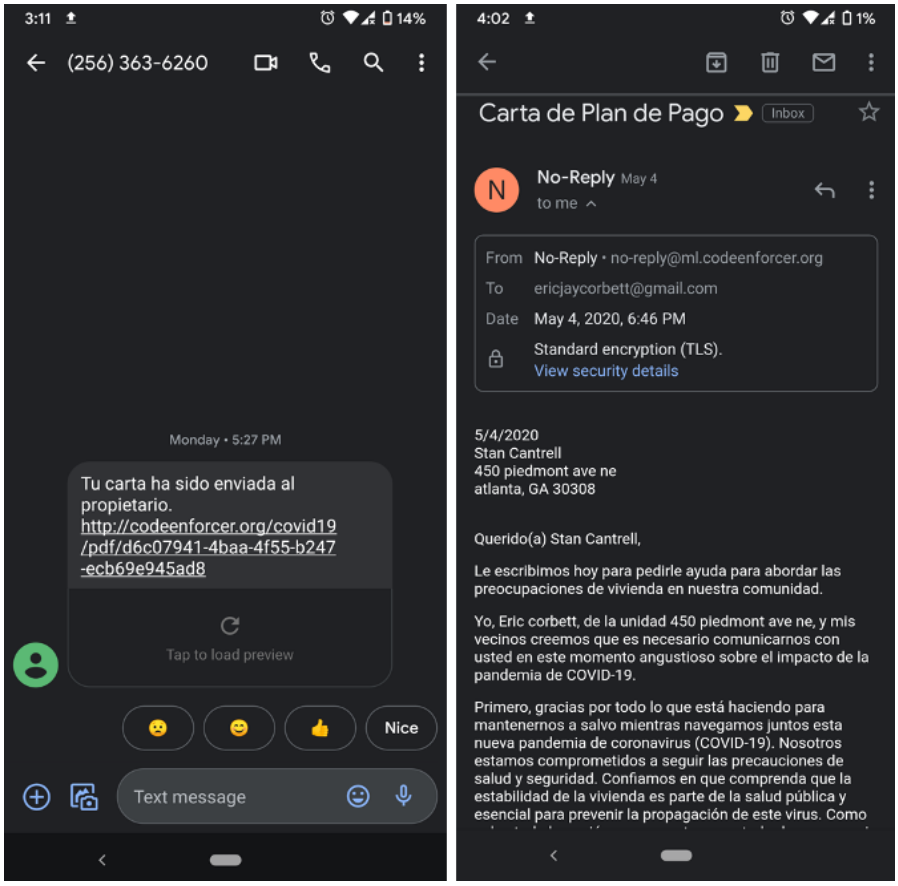

Figure 6: A-B. Text messages to residents and emails sent to property managers

> **Staff #2:** *Like if it's not fixed, what are we telling them to do? We're just telling them to call code enforcement again?* Are *we just like doing advocacy with code enforcement because they're not doing their job?*

Here, the office was concerned with making themselves accountable for situations wherein a resident might have gone through the entirety of the flow of interactions with both landlords and Code Enforcement but still did not get their issue resolved. The office was concerned about what (if any) action they could take (as the text in step 7 of the Code Guide suggests they will) when in reality, they have very little ability in those situations other than referring residents to pro-bono legal services.

Trust is a process of forming expectations—it is expectations that allow one to overcome uncertainty to take action [57]. Accountability plays a crucial role in forming expectations: *Who will be accountable if my expectations are not met?* The design's goal was explicitly about supporting expectations, but we were less explicit in how we were materializing accountability for those expectations. Indeed, throughout the design process, we had been making the office explicitly accountable for this process in ways that they are not (or have been at times but would prefer not to be). While this tension with expectations and accountability stirred up in the wording of one small portion of the guide could be resolved easily enough, it reflected a more substantial dissonance between the designers and co-designers interpretation of trust in many ways was unresolvable. We return to this dissonance in the discussion.

5.4 Preserving Relationships

The fourth sensitizing concept, *preserving relationships*, reminds us that trust is dynamic and must be preserved over time. Indeed, trust is not an end-state, but instead, it is always "in-the-making" as the trustee and trustor continuously (re)produced conditions of closeness. To illustrate, even after resolving code issues, the office visits and maintains contact with residents to preserve relationships they established along the way. By remaining close, they are able to use the trust they have developed to address a range of other civic and social concerns impacting immigrant communities. Thus, this concept suggested that Code Enforcer's design should help to support preserving the relationships developed while addressing the code enforcement issues. By doing so, the system would be better able to retain trust.

The system's issue map component is where the final sensitizing concept's influence is most salient (Figure 8). It acts as a visual interface for the office to monitor residents' interactions throughout the process. Every resident request will create a color-coded icon representing the issue's current status on the map using the address

Figure 7: Backside of the Code Guide. This portion of the Code Guide introduces residents to the Code Enforcer system's digital components and sets expectations for the code enforcement procedures with a numerated visual guide of the process.

supplied from the issue request page. These visual updates help preserve relationships by providing the office a way to monitor and track how people are (or not) going through with the process after being introduced to the system.

In the short-term, the visual monitoring attempts to help with persevering relationships by resolving individual code complaints. The map serves two purposes that both help to preserve relationships. In the long-term, it attempts to leverage the individual wins to use in more substantial political change:

> ***Author #1:*** *So then when you look at the map, like say, for over the course of a couple of weeks, you can see Oh, here's the green ones are fixed, the red ones are not fixed. Right? Just gives you an idea, right? And so when you show this, you know, if you were trying to communicate issues that are going on, you know, you can imagine being in this meeting room and connecting your laptop and showing this screen.*
>
> ***Staff #2:*** *That would be good for us if we were talking about the issues with people in City Hall: look at this apartment complex and look at all of these issues. Yeah, I think that could be a useful visual.*

Here, rather than simply ending the interactions after successfully resolving individual code issues, the system collects and represents the issues through the map to arm the office with data to make the larger argument for more robust code and housing policy. In this way, the visualization preserves the institutional relationship between the office and residents by transforming individual code violations into more significant collective civic action to advance housing justice for immigrant communities in the city. With this component, the design process consummates its original framing: Code Enforcer is not merely about transactions (getting code complaints recorded and processed), but the relations established along the way.

In sum, the sensitizing concepts informed designing with trust by putting the insights developed from the analytical findings (e.g., the local and hyper-local distances, sociotechnical components and system goals) into conversation with the design knowledge reflected by each concept. Using the concepts in this way created an iterative, dialogic process where specific features and affordances of the system were generated: the information of the code guide, the flow of the user interactions, the layout of the code guide, and the communication features of the system, and the issue map component of the system. Taken together, these features and affordances are the socio-material means of closing distance.

6 DISCUSSION

We co-designed the Code Enforcer system with the City of Atlanta Office Immigrant Affairs staff to help them address housing code issues while using the design process as a probe to better understand how to design with trust in an institutional setting through a model of treating trust-as-distance. In our case, we were distant from the communities with whom we were designing: socially distant (non-Spanish speaking African American and Caucasian natural-born citizens), spatiality distant (unfamiliar with the areas

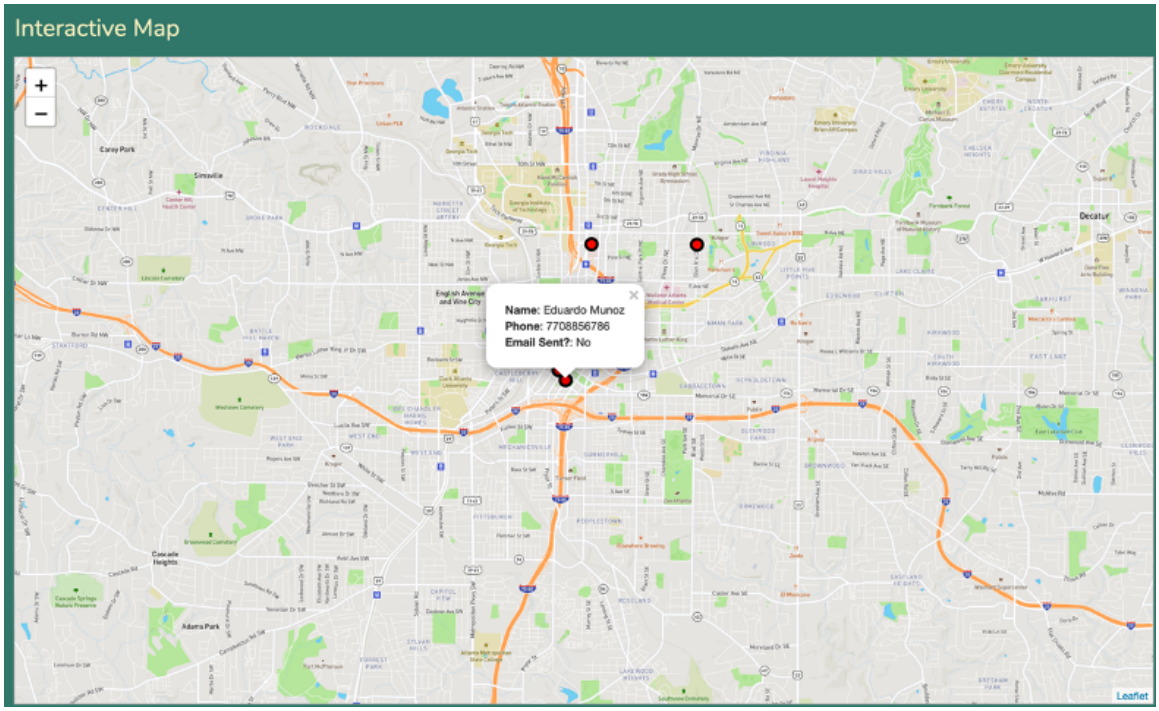

Figure 8: Issue Map: This component provides a visual interface for the department to monitor residents' interactions throughout the process. This component is ONLY visible to the department staff. It is not publicly accessible or resident facing. Access to the map is password controlled. Every resident request will create a color-coded icon that represents the current status of the issue.

of the city where these communities reside), and distant in power (education and economically advantaged by way of our professions in computing at a large engineering university). Rather than closing these distances to enable direct engagement with communities in the design process (similar to approaches of [37, 42]), we instead worked from within—from a distance—so to speak. Our decision to do so was motivated by the larger interest in understanding trust from institutional perspectives—an understudied vantage point in digital civics [16, 40]. For these empirical and logistical reasons, we believe working exclusively inside-out enabled us to engage the Immigrant Affairs staff as the system's primary end-users and eventual owners. Future efforts to design with trust-as-distance might be complemented by working outside-in, positioning the design process within communities rather than within institutional spaces (as is custom in digital civics [4, 25, 54]).

Like all ethnographic practice, our efforts were tied to the particulars of the Office of Immigrant Affairs in Atlanta; however, we believe trust-as-distance can be applicable across a range of other civic domains and contexts. To do so, there are two essential commitments designers need to navigate: *mediating trust work* and *resisting neoliberal design logic*. Both of these are moral and political commitments that designing with trust should enact. However, in practice, we found there was a conflict between our interpretation of these commitments and how our co-designers' interpreted them. Here, we found ourselves very much in the same scenario Voida et al. described [74], where our values—working in goodwill to develop trust and helping these communities achieve housing justice—were agreed upon, but the logics of how those values were enacted conflicted. While there is no direct or procedural way to resolve these conflicts, we want to foreground them as they reveal the existential mess of designing with trust.

6.1 Mediating or Delegating Trust Work?

One normative political commitment of trust-as-distance is that design interventions are intended to be used by public officials to mediate the *trust work* they perform. The emphasis on public officials reminds design to attend to the work of trust that must be taken up, in earnest, by public officials. Trust informed interventions are not intended to replace that work, but are instead positioned to mediate and amplify it. This commitment was reflected in one of the design process goals: *mediating meeting people where they are*. However, as Code Enforcer's design process progressed, and the system's functionality became more apparent, the staff began to seek out opportunities to withdraw themselves from performing *trust work*.

The Director pushed back against the goal of mediating meeting people where they are: "*the goal should be to get people to be able to do this themselves*." Another staff member concurred, saying the ultimate goal would be to get residents to interact directly with the code enforcement process. While residents might need help, and the office will assist as necessary, "*we are not code enforcement, and the goal was never to have this take over our office,*" the Director

reminded. She even suggested that they could even train a community leader to walk people through the process using the Code Guides and pay them to go out to communities in place of the office staff. Nevertheless, again, the ultimate goal is for the office is to remove themselves from this process. This raises the question: could Immigrant Affairs simply leave copies of the code guide at grocery stores, community centers, and other locations where residents frequent without doing the work of talking people through the process?

Science and technology scholar Bruno Latour coined the concept of delegation and gave an example of the speed bump acting as the security guard of the streets [47]: "*the speed bump can be understood as a complex of a number of agents ranging from police officers, engineers, politicians and construction workers to different sorts of materials taken from various places and times. The speed bump is a certain kind of 'black box' or a 'technical delegate' that redistributes the absence and presence of these various agents and interferes.*" If Code Enforcer could become "the trust-speed bump," acting as the "Office of Immigrant Affairs" in the streets, it begs the questions of what trust (if any) is earned? Distance as a frame suggests none; philosophically, it frames trust as the product of closeness in human relationships earned through *trust work*. Therefore, as a delegate, the intended use of the system to secure the outcomes of trust, without the directed work to earn that trust, creates a morally dubious claim to relational civic engagement. In other words, if residents are simply meant to engage in a technical transaction without any move by the Office of Immigrant Affairs to meet them where they are, then what claim is there to expanding the surface area of relational civic engagement? In this instance, however, delegation might be acceptable given that, in the grand scheme of things, the office is aligned to the frame's normative political commitments by striving to close distance in power by holding private entities operating in the housing market accountable to a distal public. In this regard, Immigrant Affairs represents the purest version of what government should be: public officials taking the onus to reign in private entities when they are abusing the public. Thus, designing civic technology *for them*, *with trust*, we deemed morally warranted, even if this technology delegates *trust work* rather than mediates it.

6.1.1 Resisting Neoliberal Design Logic. The larger conversation about delegating and withdrawing boils down to the philosophical conflict between neoliberal logic's interpretation of trust vs. trust-as-distance. This conflict is most evident in how the design process made the existing tensions between efficiency and *trust work* within the Office of Immigrant Affairs explicit. At times throughout the design process, the efficiency of getting residents' code issues recorded and processed via the system was emphasized at the expense of the need and value of *trust work*. At other times, efficiency was made subordinate to *trust work*; for instance, the text messaging features amplified the offices' ability to set and maintain expectations at a scale impossible for them to accomplish manually. Likewise, the issue map leveraged data and visual urban analytic techniques popular in smart cities modes of governance. Taking the map a step forward, one could imagine applying machine learning techniques to predict where and when code issues might occur in these communities and automated policy responses to those violations.

The more significant takeaway from the system's features and affordances is that efficiency and ease of use are undoubtedly paramount to enacting trust. Emphasizing *trust work* and closing distance is not inherently anti-technological nor technologically repressive. Instead, the conflict with technology occurs only when efficiency becomes the sole logic for enacting trust [33]. Throughout the design process, we had to continually return to confront efficiency as the sole measure of success. For the staff in the Office of Immigrant Affairs, the desired outcome of the design was inextricably linked to the pursuit of efficiency; by default, efficiency was viewed as an end-in-itself, rather than the means to closing distance. One of the ways we confronted this was by pushing back against the rhetoric of austerity that argued the Code Enforcer could be used without direct interaction from Immigrant Affairs staff: that it could "*empower residents to do it themselves*." We felt this perspective would lead to a trap where technical artifacts designed to *remove barriers* in civic interactions, but end up *creating distance* by replacing institutional relationships [18]. Here, the concern was that deploying a technical intervention would displace the existing practices that help people through the code enforcement process. While mundane and labor-intensive, these practices also result in developing and maintaining relationships with one of the city's marginalized and hard to reach communities. To avoid this trap, we made the design decision to center the system around a paper-based interface instead of a digital interface. By doing so, we resisted making trust efficient by seeking to leave in place the development of interpersonal relationships as the vehicle to institutional interactions.

In all, our struggles to resist neoliberal logic reflect noted design scholar Guy Juiler's assertion that we cannot understand contemporary design apart from neoliberalism; we must see how design plays an active role in "*forming socially shared adherences to certain ways of working and thinking in economic worlds*" [44]. Indeed, design practice is intimately interweaved within systems that reproduce inequality (see Sloane's "*Mapping Design Inequalities*" [68] for a review). Thus, even design pursuits undertaken in good faith often feed cycles of social inequalities they set out to solve [45]. In this light, the tensions that arose throughout the design process are not only obvious but expected: there was no escaping neoliberal design logic outright. Instead, the design process—guided by trust-as-distance—provided traction for resistance through acting as a counter logic. This logic (re)frames designing with trust in the civic space as *an activity to discover the socio-material means of closing distance*. We conclude by recounting and iterating the steps of this activity we took to design Code Enforcer.

6.2 Designing with Trust in Practice

The first step in *discovering the socio-material means of closing distance* is constructing a local view of distance in the design space. This view is significant because it frames designing with trust around closing distance rather than defaulting to neoliberal logic's interpretation of enacting trust by cutting costs or speeding up transactions. In practice, the views of distance we constructed were entirely from the perspective of immigrant affairs staff: we worked from within their existing relationships with, and knowledge of, distance with immigrant communities. While the offices' existing

relationships were strong, our limited view is problematic because trust requires active agency by the actors involved in a relationship [56]. Thus, to fully understand distance—the subjective experience of how far or how close something or someone feels to oneself—in any relationship, one must engage the trustee (Immigrant Affairs and Code Enforcement) and trustor (the immigrant communities).

The second step of d*iscovering the socio-material means of closing distance* is adapting a sociotechnical perspective of distance. In practice, this meant we looked at the system as but one component within a larger assemblage of practices, actors, and artifacts. This perspective had divergent effects on the design process. At times, it directed us to fit the system into existing practices (e.g., Immigrant Affairs fieldwork and Code Enforcement's workflow). At other times, it directed us to invite friction within institutional arrangements (e.g., encouraging residents to confront their property owners, arming Immigrant Affairs with data to lobby the mayor and improve code enforcement). This perspective also invited us to engage the implications for how residents are configured by the system and the potential harm it presents. After all, Code Enforcer is a data infrastructure: it captures demographic information, home addresses, and contact information of people for use in government procedures and legal processes.

The uncertainty the system presents to undocumented users was not lost upon us or the Office of Immigrant Affairs. Indeed, the office already delicately navigated the trade-offs presented by data centralization. For instance, even now, the office will at times avoid requesting full addresses on attendance sheets for many of their programs. Likewise, they try to avoid collecting information on documentation status unless absolutely necessary. While Code Enforcer was designed with these existing data practices in mind, it still will make these communities legible and accessible to the government in a way they may not have already been. For now, we find some certainty in the current sociopolitical climate of the city where the system is embedded: the political leanings of the 60th Mayor, Atlanta's Sanctuary city status, and the internal allegiance between Code Enforcement and Immigrant Affairs to help and protect residents. Nevertheless, these certainties are fleeting, and they are not ours to bear: the end decision to trust (or distrust) this system and the potential harm lies with the communities the system is meant to support. That being said, these uncertainties are the essence of trust—and what makes trust paradoxical—it is only ever relevant in situations where uncertainty is irreducible [57].

The final step of d*iscovering the socio-material means of closing distance* is generative ideation with the sensitizing concepts. These concepts reflect our sense of prior experience of where to start within ideation. In practice, the sensitizing concepts were instrumental in resisting neoliberal logic while simultaneously generating features and affordances that leverage the full spectrum of modern communication technology. To paraphrase Buchanan's thoughts on the role of design theory [12], the concepts informed "*a descent from chaotic environments*" of city code enforcement, landlord-tenant rights, sociopolitical climate of immigration in the U.S., and the goals and work of the Office of Immigrant Affairs "*to the unity provided by symbols and images and interactions*" represented by the system. This is where the framework shines most brightly in its ability to guide designers through generating features and affordances to support trust as a process over a series of interactions. To this end, we propose an iteration of the initial sensitizing concepts with the following declarative statements to make each more explicit and concise:

1. The designer should act on the history of those involved to initiate trust.
2. The designer should respond to the quality of the experience necessary to build trust.
3. The designer should enable the formation and maintenance of expectations necessary to further build trust.
4. The designer should preserve relationships in order to retain trust.

7 CONCLUSION

Our field is increasingly doing research in the civic space: collaborating with public officials in exploratory design research, providing analyses of public sector information systems, or partnering with community groups and activists to engage social injustice in governance. The stakes for trust are high in this work: trust is the foundation of public institutions, but it is also a grant of power and vulnerability acceptance. For this reason, as we design and deploy civic technologies, we cannot treat trust as a design value of moral import—something to be optimized linearly—as trust misplaced can help legitimize institutions perpetuating injustice. Instead, we must understand how to navigate the politics of trust as the necessary critical starting point of designing with it. To this end, we adapted and iterated our previous design framework of trust-as-distance.

Despite the conflict in logic between ourselves and our co-designers in the City of Atlanta's Office of Immigrant Affairs, we are united in our hope that successfully closing distance in this one specific area of civic life (Housing Code Enforcement) would lead to immigrant communities feeling closer to their government and more likely to engage in other aspects of civic life. Moreover, we were fortunate to partner with this particular civic entity as they were aligned with the moral and political commitments of trust-as-distance. In this regard, all we had to do was amplify what they were doing without disrupting it. This raises the question of how designing with trust would play out with civic entities that are more service orientated (i.e., Department of Public Works) or with entities that are not public-facing in their work (i.e., Watershed Management). Most of all, it raises the question of how to design with civic entities that are antithetical to the frame: entities that create distance intentionally (or unintentionally).

The quick answer is to avoid problematic entities in favor of working with entities aligned with closing distance (as we did). However, in the long run, picking the path of least resistance presents a lost opportunity to make meaningful civic changes as it is these very entities that need most to close distance in their relationships. Future work should look to combine trust-as-distance with existing frameworks around social justice and design in HCI practice [3, 26] and STS scholarship [8, 46] to build out the necessary critical perspective to design with trust in government in such a way that prevents the framework from contributing to oppression and structural inequalities.

In all, our efforts to design with trust provides a model for HCI designers working in the civic space: to seek out and amplify *trust*

work within public institutions. By focusing on this work, we can decenter attention away from *transactions* to *relations*. This in turn creates a design milieux that is committed morally, politically, and materially in the need to repair frayed civic relationships between distal publics and their institutions. Our primary contribution was teasing out the moral and political commitments—implicit—but understated in our original formulation. While we did develop a better understanding of how to design civic technology with trust, our work raised philosophical and moral questions HCI will need to engage moving forward: *How should designers understand (and when necessary) resist desires to make trust "more efficient?" How should we view the role of design interventions: as mediators or delegators of trust?*

ACKNOWLEDGMENTS

We are grateful to our partners in the City of Atlanta's Office of Immigrant Affairs. This project was supported by the NSF under Grant IIS-1524380.

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