Differences in Technology Use to Support Community Crime Prevention

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Abstract
This paper describes how three Chicago communities that vary by socio-economic status, race, and crime rate appropriate information and communication technologies (ICTs) to aid in grassroots, community-based crime prevention efforts. Using interviews, observations, and online content analysis, we found three major differences in how ICTs were appropriated: 1) the formats of the technologies, 2) the selection of the online leaders, and 3) the type of information shared. We describe how historical relationships between communities and government officials may impact digital organizing.

Author Keywords
social computing; community informatics; crime

ACM Classification Keywords
H.5.m [Information interfaces and presentation (e.g., HCI)]: Miscellaneous.

Introduction
Collective action has been extensively studied in HCI. Much of the research regarding collective action has focused on understanding online interactions and engagement [3]. Less is known about how geographically bound communities digitally organize around local concerns. How do neighborhood characteristics affect

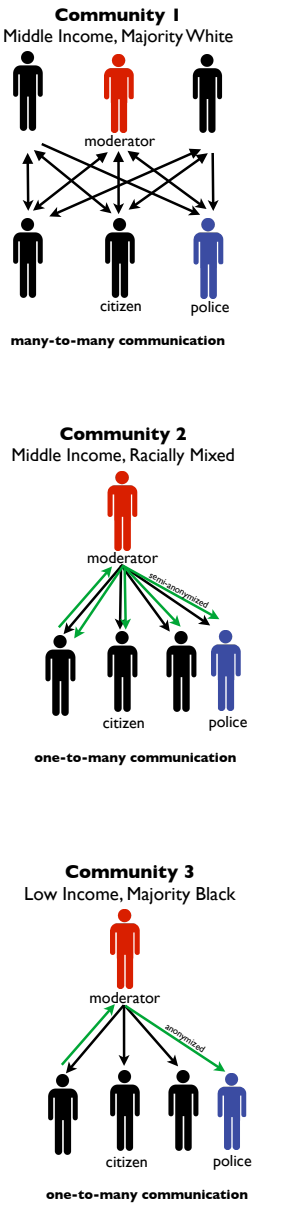

Figure 1: Discussion Formats

online collective action? This paper describes differences in how three neighborhoods use ICTs to support *grassroots* community crime prevention efforts.

This work is a part of a larger study, in which the objective was to examine how five racially diverse Chicago neighborhoods with varying levels of crime used technology to support community crime prevention. Toward this objective, we observed 60 community-police meetings over two years, conducted 45 interviews with local residents, and performed content analysis on over 10,000 online messages posted on community-created "grassroots" websites. In this paper, we focus on the three communities that identified an online method of communication that was prominently used and available to the public. Each community is defined as one police beat or roughly 20 blocks of the city. Though the geographic boundaries of a beat are defined by the police, residents often used the terms "beat" and "community" interchangeably. To select the communities, we first ordered the beats by crime rate; we then randomly selected a community from the 10 highest crime areas in each major racial group (i.e., Caucasian, African American, and Latino.). We chose race as a factor to compare our results to traditional crime literature [1, 2, 5].

Three Different Communities, Three Different Technologies
The technologies studied in each of these communities were grassroots in nature, meaning that citizens selected the technologies as opposed to being created by the Chicago police or other government agencies.

Community 1 is a majority white, middle income area with a relatively low crime rate. The main method of online communication was a Yahoo! Group that was created in April 2004. Roughly 250 users signed up using their real names, email addresses, and home addresses.

Community 2 is a racially-mixed, middle income area with a medium level of crime. From January 2008 - March 2011, Community 2 used an open discussion board. The posts to the discussion board were publicly accessible, because logins were not required to read messages. To post to the board, real names and home addresses were required. As of March 2011, over 350 residents primarily used a private email list, where members could not see other recipients' email addresses.

Community 3 is a majority black, low income neighborhood with a high level of crime. Since May 2011, residents in Community 3 used a private email list to distribute information related to crime. All emails were sent out "blind copy" from the moderator so there was no information about who was on the email list. People signed up at the community-police meetings, ward (i.e., alderman's) meetings, or by contacting the moderator.

Format of the Discussions

The format of the online discussions differed per community (as illustrated in Figure 1). In Community 1, each message sent to the group was received by every member of the discussion board. Thus, there was a many-to-many relationship in how messages were sent. The format of Community 1's online communication was classified as many-to-many, because the identity of the sender of the messages was public and all responses were sent to everyone. Included in the "many" were the police, who had access to Community 1's discussion board but did not send messages to the group. None of the interviewees mentioned privacy or retaliation as concerns though the discussion board displayed users' real names.

The method of communication in Community 2 changed multiple times over the years. In January 2008, neighbors

began using a discussion board to openly discuss what was happening in the community. In March 2011, the community transitioned into using a private email list as a result of numerous negative conversations about race. One moderator sent out emails to everyone, and people responded back directly to him to share information or to ask questions. Though the initial format of Community 2's discussion board was a many-to-many relationship, it later transitioned to a one-to-many relationship.

Community 3 also used a private email list to communicate so there was a one-to-many relationship in how information flowed. The moderator sent information out, and citizens would send him private emails about what was happening in the neighborhood. The moderator then anonymized the information before sending it to the police sergeant, differing from Community 2 who sent the anonymized information to both the police and citizens.

Based on the observations and interviews, it seems that the format of the community-based ICTs provides insight into community characteristics, heavily highlighting fear of retaliation and lack of trust with the police. Among the 11 interviewees from Community 3, the average trust rating of the police was 2.7 out of 5 (with 5 being high trust), while police trust was 3.9 in Community 1 (n=7). The format of the online communication in Communities 2 & 3 for sensitive information was one-to-one, while residents in Community 1 openly voiced their grievances about local officials and observations of crime and disorder.

Online Leaders and Moderators

We also found that the method in which moderators were selected differed by community. In Community 1, moderators of the online discussions were self appointed. Five (out of 7) interviewees did not personally know the online leaders, and four criticized the moderators' online behavior. There was only one moderator in Communities 2 & 3, and both moderators were referred to as leaders in the community. People stated that they trusted the moderators during the interviews. One man from Community 3 said, *"He's definitely on his job at notifying us about what's going on in the community."* There seemed to be a genuine trust for the moderators. The response to the moderators was drastically different when comparing Community 1 with the other two communities.

Information Sharing

Another major difference was the type of information that was shared. Almost half (45%) of information shared on Community 1's discussion board was information about local crime and disorder from citizens. None of the forum posts were anonymous; yet, people posted very descriptive messages about what they witnessed from their homes, businesses, etc. One man from Community 1, for example, posted *"Saw drug dealing on Saturday afternoon @ 2:30 while having late lunch on my front porch. I can identify the car and will look for it now."* He proceeded to describe the car, the passengers, and the incident in detail including addresses.

This differed from Communities 2 & 3 where residents did not share as many personal narratives. In Community 2, the information was anonymized by the moderator and then forwarded to residents and the police. In Community 3, information about crime and disorder was not sent out to the community; instead, the moderator only sent the information to the police sergeant, careful not to include information about the message's originator.

Residents from Community 2 & 3 both cited fear of retaliation as the main concern that impacted how

information was shared. The moderator from Community 2 said, *"[It's] retaliation, right? That is people's biggest concern [..] There's a lot of black on black shooting, right? And the bottom line reality is, is that tends to get a great deal less attention than if I were to get shot."* In this statement the moderator implies that minorities being retaliated against would receive less scrutiny than if he were retaliated against because he was white. This quote illustrates how fear of retaliation may vary from person-to-person in the same community. Furthermore, this sentiment was shared throughout the community. As technologies, we must consider the variation of fear of retaliation within a community.

In Community 3, the majority of the emails were news articles about the neighborhood and community resources for local residents. The moderator said during the interview that many of the articles that he forwarded referred to incidents that residents asked him about. During the interviews, residents from Community 3 stated that it was difficult to find information about their community because of the biases of the media. One woman expressed her frustration with the media saying, *"The news really doesn't focus on our community much. [..] They don't inform us like they do in certain areas, you know, like they do in the white neighborhoods."* Interviewees from Community 3 praised the moderator's efforts to "inform the community" using the email list.

Discussion and Future Work

While residents in the three neighborhoods used a *grassroots* approach to communicate online about crime, there were major differences in their communication styles that aligned with prior literature of historical attitudes towards government. Minority communities have traditionally felt distrust towards law enforcement and other government organizations [4], which was also revealed in their methods of online communication and digital organizing. During the interviews, residents from Communities 2 & 3 stated that distrust of government officials and fear of retaliation were reasons why they preferred to have a trusted local resident as the liaison between themselves and the police. Participants from Community 1 had high trust in the police as evidenced in their open discussion boards. These differences provide insight into future technology design. Specifically, we must consider the importance of communities' attitudes towards trust and fear of retaliation.

In future work, we will describe how online communication about crime influences in-person behavior, both in the home and at community-police meetings. We also plan to focus on the impact that the online communication about crime had on relationships between local residents and government officials, specifically focusing on the shifts in power dynamics as a result of community technology use.

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