



DESIGNING  
TECHNOLOGY TO  
SUPPORT SAFETY FOR  
TRANSGENDER WOMEN  
& NON-BINARY PEOPLE  
OF COLOR

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Haimson (Year of Publication - 2019)

# WHAT WE'LL BE COVERING TODAY

- Introduction
- Prior Research
- Method
- Results
- Conclusion and Future



# **FACTS OF VIOLENCE ON TRANSGENDER'S (2015 SURVEY)**



**"Now** is the time to empower trans-led organizations. **Now** is the time to join us."



-Rodrigo Heng-Lehtinen  
Executive Director at NCTE



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# HARASSMENT AND VIOLENCE

- Nearly half (46%) of respondents were verbally harassed in 2015 because of being transgender.
- Nearly one in ten (9%) respondents were physically attacked in the past year because of being transgender.
- Nearly half (47%) of respondents were sexually assaulted at some point in their lifetime and one in ten (10%) were sexually assaulted in the past year.
- More than half (54%) experienced some form of intimate partner violence, including acts involving coercive control and physical harm.

# HEALTH INSURANCE AND HEALTH CARE

- 25% respondents experienced a problem in the past year with their insurance related to being transgender, such as being denied coverage for care related to gender transition or being denied coverage for routine care because they were transgender.
- One-third (33%) of those who saw a health care provider in the past year reported having at least one negative experience related to being transgender, with higher rates for people of color and people with disabilities. This included being refused treatment, verbally harassed, or physically or sexually assaulted, or having to teach the provider about transgender people in order to get appropriate care.
- In the past year, 23% of respondents did not see a doctor when they needed to because of fear of being mistreated as a transgender person.

# POLICE INTERACTIONS AND PRISONS

- Respondents experienced high levels of mistreatment and harassment by police. In the past year, of respondents who interacted with police or law enforcement officers who thought or knew they were transgender, more than half (58%) experienced some form of mistreatment. This included being verbally harassed, repeatedly referred to as the wrong gender, physically assaulted, or sexually assaulted, including being forced by officers to engage in sexual activity to avoid arrest.
- Police frequently assumed that respondents—particularly transgender women of color— were sex workers. 30% of multiracial women said that an officer assumed they were sex workers.
- More than half (57%) of respondents said they would feel uncomfortable asking the police for help if they needed it

# INTRODUCTION

- Aim- To gain understanding of how TPOC community faces violence and manage their safety.
- TPOC community - vulnerable to racism, sexism, homophobia, and transphobia.
- They conducted nine interviews to understand how people from this group practice safety and what kind of role does technology play for them.
- The U-Signal wearable technology and smartphone application prototype send out an SOS emergency message to the user's designated contacts and it also sends audio messages and GPS locations.



# PRIOR RESEARCH

- This research is based on their prior research work which addresses how communities facing violence use social technology and trans people's technology usage.
- The first thing was to learn about communities which were facing the violence how they used the technologies for the purpose of their safety.
- Second was conducting research regarding trans people's knowledge on working with technology.

# RESEARCH ON COMMUNITIES FACING VIOLENCE AND USE OF TECHNOLOGY

- Hollaback! is a web and mobile application (a global people powered movement) which aims to end harassment and help in building the communities free from harassment.
- They used social media like twitter to share tips regarding violent local cartel activity.
- Co-design method is an approach to design solutions, in which community members were treated as equal collaborators and these methods are used to develop technology to address violence against LGBT people in Brazil.



HIDE  
PAGE

## HOLLABACK!

### To Prevent Gender-based Street Harassment

#### Medium

WCSAP Webpage

#### Topic

Strategies

#### Date of Publication

August, 2012

We've all heard the phrase "break the silence" and it has been an important part of raising awareness of sexual violence and giving survivors a chance to speak out. We must remember that if sexual violence occurs on a continuum then our prevention efforts must also. Taking a stand against gender-based street harassment is a good opportunity to reinforce the message that we are working to create social change and live in a world free of language, attitudes, and actions that support sexual violence.



**HOLLABACK!**  
**WEBSITE**

# TRANS PEOPLE'S TECHNOLOGY USAGE

- Scheuerman et al. documented trans people's experiences of safety and harm mediated by technology and how participants used technology to mitigate safety threats in the physical world.
- HCI work has examined trans people's use of social media sites and crowdfunding platforms, and reactions to automatic gender recognition systems.
- Some studies have examined how TPOC use social media for activism and advocacy and the feasibility of GPS use for measuring trans women's mobility.
- Technology is usually not designed considering trans users, leading to design decisions that disproportionately harm them.

# RESEARCH QUESTIONS

Researchers designed questions directly to address the pervasive violence and safety threats faced by TPOC:

- How can technology support TPOC in practicing safety and feeling safe?
- How can technology enable TPOC to report data related to violent incidents and hold attackers accountable?

# METHODS

- The first author recruited participants via social media and snowball sampling ( Sampling method new units are recruited by other unit to form part of the example)
- Conducted semi-structured interviews with 3 trans women, 4 non-binary, and 2 femme individuals
- Interviews lasted for 20-40 minutes through Facebook message and Face time calls.
- Later conducted seven more interviews to have a better understanding and refine the initial prototype.
- Interviewees described their experience with transphobia and trans violence, which further helped researchers find ways to support the community, along with feedback on the initial prototype.
- All interviews were audio recorded and transcribed.

# RESULT

- From the initial interview we learned that the people from TPOC group would value a Wearable technology through which they can easily notify trusted contacts during dangerous situations.
- The initial prototype consist of two primary components, viz. a smart wearable sensor (non-intrusive) and a smartphome application.
- The core functionality of the app is to create a safety feature for the user. This is achieved by enabling message sending with custom text fields to previously selected contacts. Further, the messages are enabled with features to record GPS locations and voice recording.
- This smart feature is set to be enabled on a triple screen tap. Once activated, the app continuously logs and communicates the user's GPS coordinates as and when they change.
- Similarly, this feature can also be deactivated on a triple screen tap, if no longer required.

# SITUATIONS WHERE TECHNOLOGY IS NOT USEFUL

- Interviewees reported the need to make compromises that resulted in losing access to resources or compromising their right to free gender expression.
- P5 stated that they are constantly mistreated, even at work. Further, they were kicked out of their neighborhood grocery store by a cisgender woman. As a result, they were forced the inconvenience of having to go out of their way to shop for food.
- While an app cannot solve these problems, there are continuous efforts to increase safety for TPOC and reduce cultural and systemic transphobia.

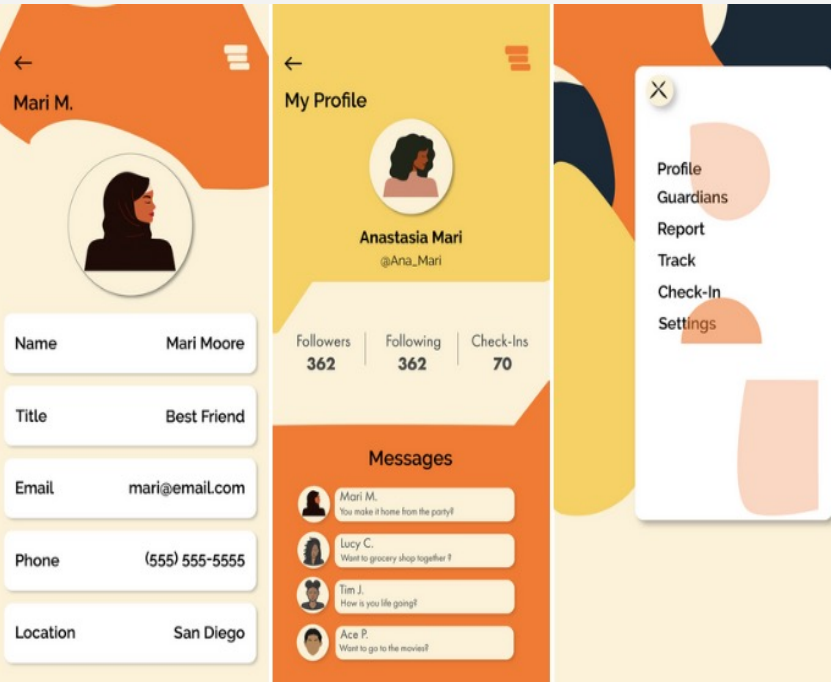
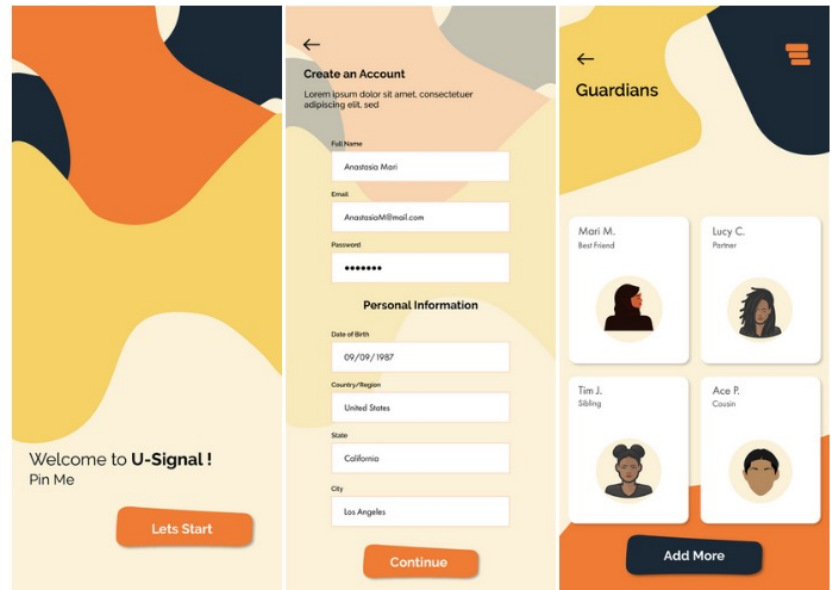


# ISSUES WITH LAW ENFORCEMENT

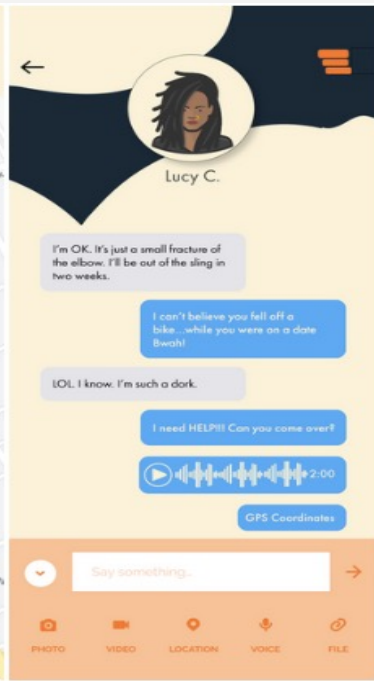
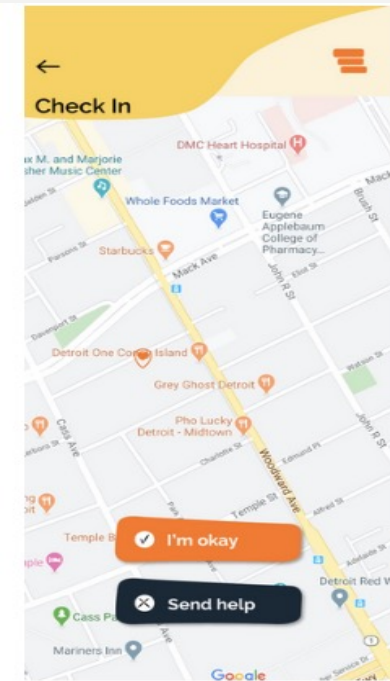
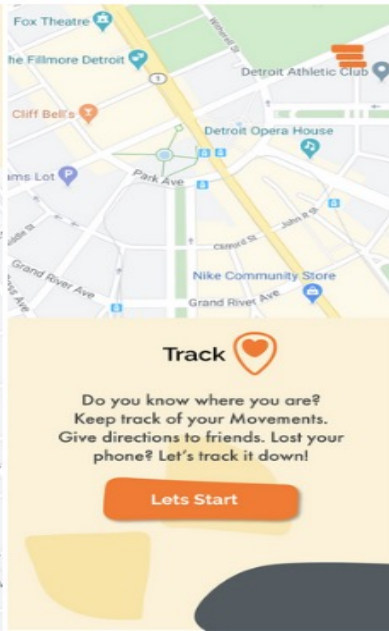
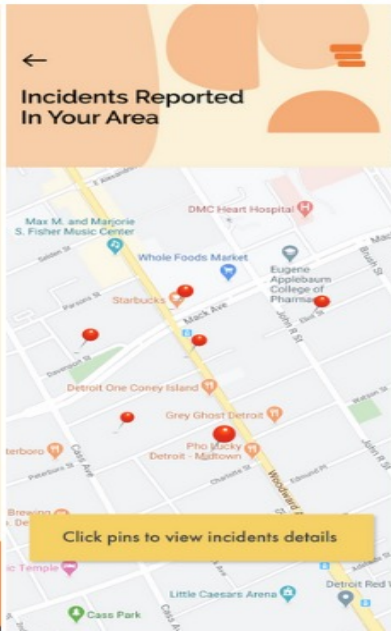
- All interviewees reported a lack of trust with law enforcement, leading to a generally poor relationship.
- A majority of the interviewees reported having felt targeted by the police in the past and chose to avoid them.
- Even upon arrest, TPOC individuals were continuously misgendered by the police, using their sex assigned at birth instead of their current name and gender.
- Due to their strained relationship with law enforcement, the prototype's design included the option for users to have trusted friends as their emergency contacts instead of the police.



# SMART-WATCH



# U-SIGNAL! APP



# USER FEED BACK

- During that time there was no similar product in the market. Participants stated that such a product would be relevant in the community and would boost safety measures.
- Participants validated the custom emergency contact functionality.
- Participant 9 appreciated the idea that emergency contacts were not the conventional police or 911. Creating a personalized list of contacts is more realistic for many people in the community.
- Participant 6 believed that the community definitely needs the app, and that the addition of the watch feature is necessary
- Participants also suggested that the design could be more accessible by adding a voice command or by providing multi-language support because not everyone in the community can speak fluent English.

# CONCLUSION

- The study presents results on how TPOC currently practice safety in physical spaces.
- U-Signal is a prototype app and smartwatch technology designed to support TPOC's safety and provide data to improve the epidemic of violence they face.
- TPOC manage safety by using digital technologies to notify friends about their location, making compromises, and avoiding law enforcement, which were incorporated into technology design.
- U-Signal brings attention to critical issues of violence against trans people while supporting users in building safety and community with each other.

# FUTURE WORK

- Designing the tracking and reporting feature for the community to identify and visualize places where the amounts of transphobia is high.
- Data from the U-Signal app can be provided to other platforms such as Anti-Violence Project which will help them to understand the violence faced by the TPOC community and can be used for education efforts.
- Examining interplays between different types of violence such as physical, psychological, structural etc.

# MY VIEWS



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**WHAT QUESTIONS WOULD  
YOU LIKE TO ASK ME?**



Thank you!