



Help by Any Means: Sociotechnical Protocols for Multimedia Requests for Assistance to Next-Generation 911 Services

1951917

Jess Kropczynski, University of Cincinnati
PG, FY2020

Principal Research Investigators (Name, Institution)

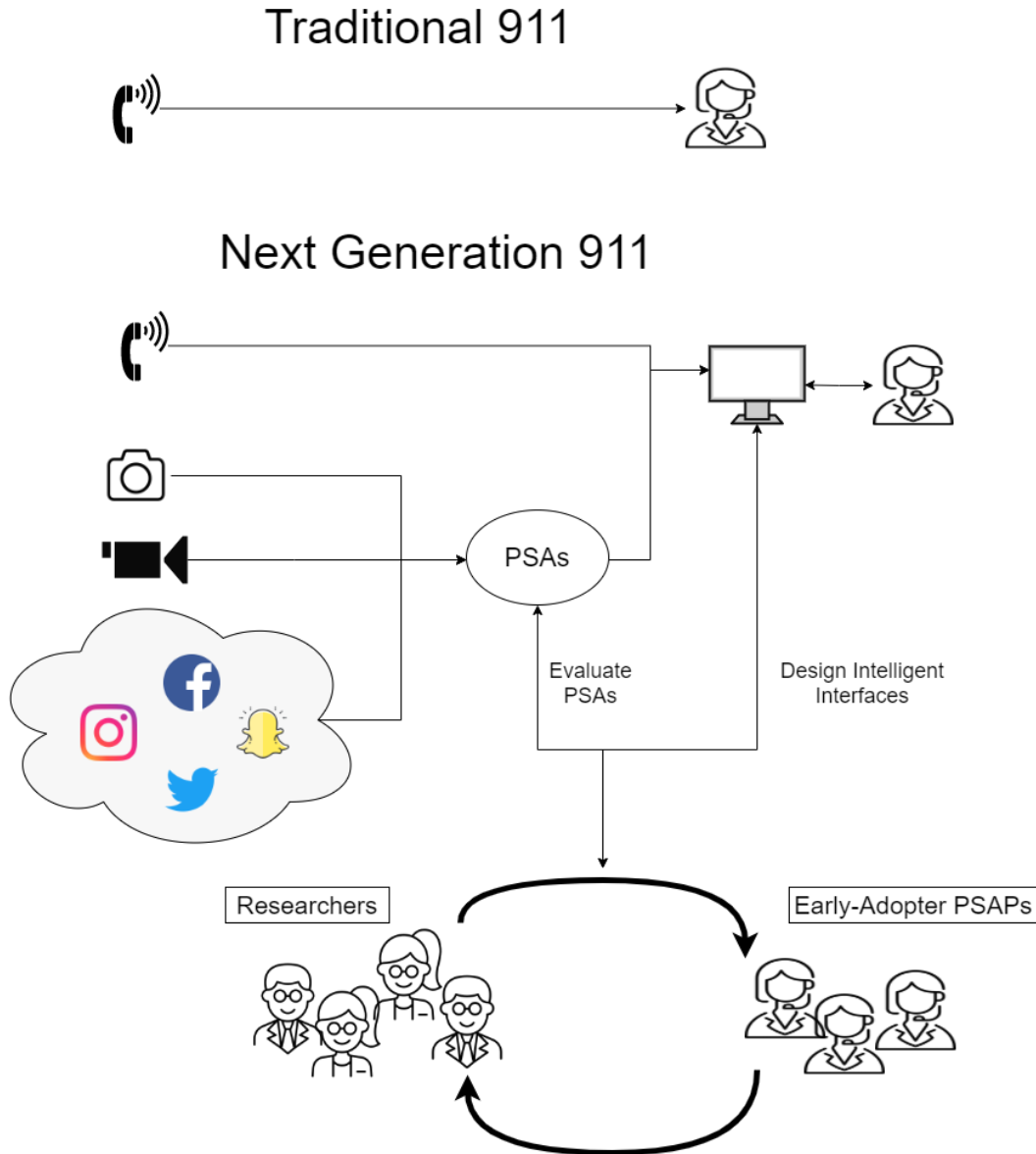
- Jess Kropczynski, *University of Cincinnati*
- Andrea Tapia, *Pennsylvania State University*
- Shane Halse, *University of Cincinnati*
- Rob Grace, *Texas Tech University*

Community Partners (Name, Institution)

- Jim Lake, *Charleston County Consolidated 9-1-1 Center*
- Kristy Williams, *The North Central Texas Emergency Communications District (NCT9-1-1)*
- Dave Sehnert, *Mission Critical Partners*

Our project brings together **researchers in crisis informatics** and **practitioners in public-safety communications**

Project Overview



Project Vision

- Design intelligent interfaces for 911 dispatchers to aggregate, visualize, and analyze text, image, and video data communicated by citizens during a crisis.
- Reimagine PSAs for multimodal/channel communications by examining citizen information behavior during simulated crises to design interactive PSAs that explain when and how to contact 911 during an emergency.

Project Overview

Use-Inspired Research

- Citizens often don't know when or how to request help using multimodal communications, e.g., text-to-911.
- Outside early adopters, most PSAPs don't know how they will process/integrate multimodal with voice communications.
- These needs are observed by our community partners in **Charleston County, South Carolina** (Charleston County Consolidated 911 Center) the **Dallas-Fort Worth Metroplex** (NCT 9-1-1).

PG Activities

- Virtual meetings/interviews with stakeholders to examine community needs
- Content analysis of PSAs to understand existing protocols for requesting help via multimodal 911 channels (e.g., text-to-911).
- Design/conduct scenario-based study to evaluate PSAs with citizen audiences.
- Share preliminary framework for protocols and intelligent interfaces with partner PSAPs for review.
- Receive feedback from PSAPs and plan future participatory design workshops/Table-Top Exercises to refine protocols to process/integrate multimodal requests for assistance
- Engage in development of IRG Proposal

Project Update

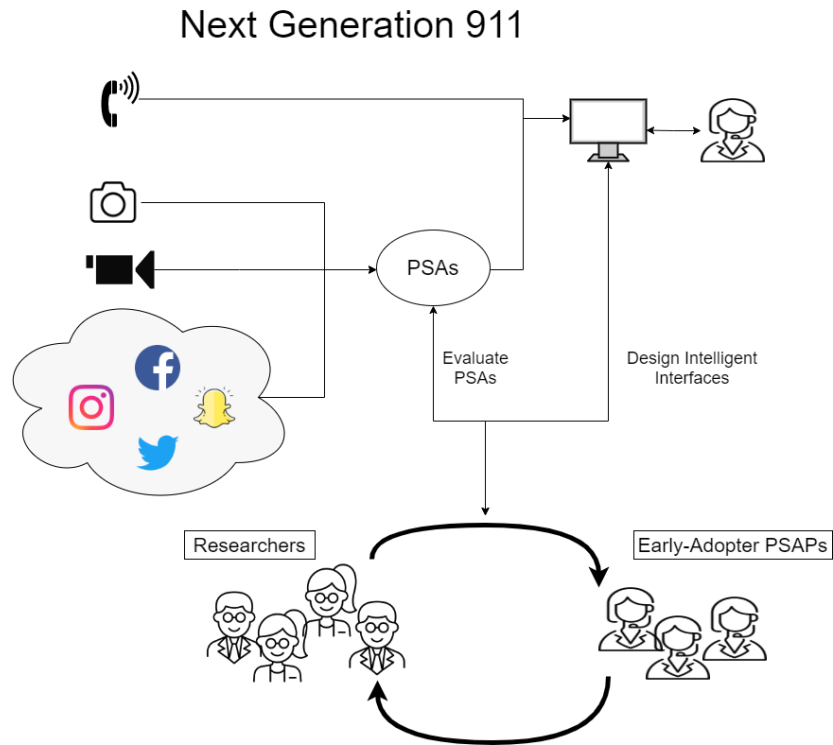
- Virtual meetings/interviews with community partners to identify needs of i) citizens requesting help using alternative, multimodal 911 channels and ii) PSAPs processing/integrating multimodal requests for assistance.
- Conduct content analysis of public education information/PSAs understand existing protocols for requesting help via multimodal 911 channels (e.g., text-to-911).
- Design/conduct scenario-based study to evaluate PSAs with citizen audiences.
- Create a preliminary framework for protocols and intelligent interfaces to share with partner organizations for review.
- Receive feedback from PSAP stakeholders and plan future participatory design workshops/Table-Top Exercises to refine protocols to process/integrate multimodal requests for assistance.
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Project Evolution

- First, we have learned that shifts in operations in response to the COVID-19 pandemic have motivated PSAPs to explore opportunities for remote dispatch work and, in turn, trials of cloud-based dispatch applications. These technologies and the companies that create them are, at the same time, exploring ways to incorporate multimodal emergency communications.
 - *Consequently, we have modified our workshop planning to explore collaborations involving early adopter PSAPs, industry developers, and researchers.*
- Second, we have learned that a handful of early adopter PSAPs are beginning to include communications specialists alongside traditional call takers and dispatchers in dispatch operations.
 - *Consequently, we are planning work that will explore the trial-by-fire experiences of these communications specialists to understand the protocols and requirements for processing and integrating multimodal emergency communications within PSAP operations.*

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