

Please contact AppComm@apcointl.org if you'd like further guidance from public safety experts, and let us know if you turn any of these ideas into apps!

Public Safety Basics

9-1-1

- 9-1-1 call centers receive calls from the public and communicate by radio with first responders out in the field.
- For the most part, you can only communicate with 9-1-1 by making a voice call.
 - There are apps that send data (medical history, pictures, etc.) to 9-1-1 call takers over the Internet, but these raise several issues:
 - Cost: 9-1-1 center budgets are already stretched, with little room to purchase add-ons to the current 9-1-1 call delivery system.
 - Reliability: today's 9-1-1 system, while dated, is very reliable, and app and web-based solutions will be measured against this current standard.
 - Split attention: call takers already monitor 2-6 computer screens, and they will give priority to dealing with voice calls.
- Texting 9-1-1
 - Right now texting 9-1-1 is only possible for certain areas and carriers. It's also limited to Short Message Service (SMS) messages, which means you can't include pictures, multiple recipients, or location information.

Field Operations

- Operations vary greatly both within and across departments (i.e. Police, Fire, and EMS). Within each department, an incident commander or chief might be more likely to use a tablet or web-based app because he or she isn't performing as many hands-on tasks.
- Many responders use their personal smartphones on the job, but mission-critical communications are done via traditional radio.
- Police
 - Keep in mind that officers will not be able to look at a cell phone in many situations. (Think: guns drawn.)
- Fire
 - Keep in mind that smoke and engine fluids can ruin a device so firefighters may not get much mileage out of a touchscreen. Additionally, the thickness of the gloves, pants, and jacket could make interacting with a device difficult.
- EMS
 - Keep in mind that EMTs might need their hands for patient care, and hands-free operation would minimize contamination.

Sources of Inspiration

- www.AppComm.org – a list of 180+ apps for public safety and emergency response that you can sort by category (Alerts, Fire, etc.) or function (situational awareness, educational tools, disasters, etc.)
- Live 9-1-1 feeds
 - City of Seattle - <http://www2.seattle.gov/fire/realTime911/getRecsForDatePub.asp?action=Today&incDate=&rad1=des>
 - Kanawha County, WV - <http://www.metro911.org/webcad/webcad.htm>
- www.safety.data.gov – Copious amounts of safety-related data

App Ideas

- Situational awareness for wildland firefighting
 - Show locations of equipment, fire lines, staging areas, residences, and other resources, integrated with weather data in real time to assist incident commanders with managing resources.
- Safer driving
 - Routing and a heads-up for dangerous intersections
 - Crimes, traffic accidents, and other location-based data can help drivers find safe routes and provide warnings about what lies ahead.
 - Leverage open data on crash locations, crime, gas station locations, police department locations, etc.
 - Safe following distance guides based on weather, road, speed, vehicle type, driver behavior, etc.
 - Incorporate biometric data and driver behavior to predict sleepiness
 - Alerts made audible
 - There are several sources of public safety alerts: wireless alerts; weather feeds; AMBER Alerts; and push notifications from alerting apps. The problem is, they all require reading. An app that translates alerts into audible messages would help drivers benefit from the information without taking their eyes off the road. (And consider the additional challenge of taking in information while driving with lights and sirens on.)
- Treating patients
 - Automobile accidents are a common source of trauma. Treatment and the hospital choice could be guided by information obtained from the vehicle such as speed, intrusion into the passenger compartment, and whether airbags deployed. It would also be helpful for dispatchers to have information from the vehicle such as: number of passengers, whether they were wearing seatbelts, whether airbags deployed, passenger ejections, and whether anyone is trapped inside.
- Working around damaged vehicles

- First responders rescuing accident victims have to watch out for fuel leaks, undeployed airbags, reinforced metal posts, and hybrid auto hazards like high voltage lines and battery banks. Some apps help by providing auto schematics, and Mercedes recently began providing them via QR codes on vehicles: http://www.mbusa.com/mercedes/service_and_parts/first_responders. Getting information to responders before they arrive would be even more helpful.
- Reducing duplicative 9-1-1 calls
 - When emergencies happen in public, it's common for 9-1-1 centers to receive multiple calls for the same incident. For example, a car accident on the highway might generate dozens of 9-1-1 calls. While it's important for call takers to have updated and complete information about an emergency, duplicative calls can clog up the system and delay the response to other emergencies. APCO challenges you to build an app that reduces duplicative 9-1-1 calls. Using public 9-1-1 feeds, notify drivers of incidents that are likely to be within eyesight or coming up on their routes with messages like, "Accident ahead. 9-1-1 notified."
- Public alerts made audible
 - There are several sources of public safety alerts: CMAS; weather feeds; AMBER Alert; and push notifications from alerting apps. The problem is, they all require reading. An app that translated a variety of alerts into an audible message would help drivers benefit from the information without taking their eyes off the road.
- Trusted Caller 9-1-1
 - An app for public safety personnel that gives them the opportunity to report incidents through a process that authenticates their identity as reliable and informed by operational expertise. Ex: a firefighter comes across a blocked road. He sends his GPS info to the local PSAP and indicate the resources needed. The agency can verify that this is a reliable source and have the option to share information such as the ETA of responding units.
- Targeted fire prevention
 - Leverage data about smoke detectors, delinquent utility bills, foreclosure proceedings, 9-1-1 calls, weather, and other risk factors for residential fires to assist departments with developing targeted fire prevention plans.
- Assistance for Difficult Calls
 - There should be an app that new public safety telecommunicators can access to help with difficult calls. They could ask other telecommunicators for advice anonymously to avoid breaking privacy rules. The app could provide specific operational advice for rare scenarios, as well as guidance for public safety professionals considering their career paths and dealing with stress.
- Reliable Mapping
 - First responders need access to authoritative map data which has been or is in the process of being developed by 9-1-1 authorities or other sources that are more reliable than what's available to the general public. Many responders are utilizing agency issued or personal devices to access commercially-maintained and often inaccurate mapping applications to locate the address of an emergency call. This app could benefit general operations of emergency



Public Safety Guidance for App Developers

response agencies and could also provide a common operating picture when mutual aid deploys for larger catastrophic events.