

Devices and Apps

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What new thing will call you today?

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It's the world we live in.

- *Technology* (from [Greek](#) τέχνη, *techne*, "art, skill, cunning of hand"; and -λογία, [-logia](#)^[1]) is the making, modification, usage, and knowledge of [tools](#), [machines](#), techniques, [crafts](#), [systems](#), and methods of organization, **in order to solve a problem, improve a preexisting solution to a problem**, achieve a goal, handle an applied input/output relation or perform a specific function.

<http://en.wikipedia.org/wiki/Technology> 8/30/13

Technology effecting 9-1-1

1968: 9-1-1 gets its start

- First call made on a wire line phone



1985: King County gets Enhanced 9-1-1

- Phone number and location delivered along with the voice call
- “Car Phones” have emerged



1990's: Usable, portable cell phones

2005: Cell phones are the most used phone to call 9-1-1



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3 “traditional phones” that can contact 9-1-1

- Wireline Phone
 - Provide ANI/ALI and people talk to us
 - TTY for the Deaf
 - Challenges with PBXs
- Wireless Phone- with voice service
 - Provide ANI/ALI and people talk to us
 - Challenges with “Name” being the provider name
 - Challenges with ALI being a “general location” or a cell tower
- VoIP Phone
 - Provide ANI/ALI and people talk to us
 - Challenges with ALI being a registered address

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Other Wireless Phones

- Non-initialized
 - No service plan for voice
 - Can only call 9-1-1
 - Challenges with no callback
 - Challenges with lots of accidental dials
- Pre-Pay
 - Challenges with these turning into non-initialized when there are no more minutes available
- Children's / Seniors
 - Usually have 4 buttons which include an emergency button
 - Challenges with some you will have ANI but the phone can not except inbound calls from phone numbers that are not preprogrammed

“Traditional” 9-1-1 Devices

- Home Intrusion Alarms
- Fire Alarms
- Medical alerts
- Telematics

This is ADT with a an audible burglar alarm at 123 Maple St.

Help I have fallen and I can't get up.

This is OnStar with an airbag deployment. We have an open line into the vehicle with no response.

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Devices

- Contacts 9-1-1 directly

Examples:

- Ford Sync
- ZOMM

- Contacts a 3rd party call center who then calls 9-1-1

Examples:

- OnStar
- Home Invasion alarms
- Life Alert

- Data may be available from the device: location, user info, reason for activation (relayed by 3rd party call center or digital voice)
- 3rd party call centers may not have correct routing tables so the call may come in on a non-9-1-1 line or to the incorrect call center
- If there is ANI/ALI it might be from the 3rd party call center (i.e.: central monitoring station)
- In some cases, like telematics, special arrangements have been made to always present the appropriate ANI/ALI for the emergency event

Apps Route to 9-1-1

- If the applications bypasses regular wireless 911 call handling procedures – ANI/ALI information will not be provided
- App users must read the “small print” to determine how the app is routing the 9-1-1 call
 - Directly to 9-1-1
 - 3rd Party Call Center
 - Alternative network routing

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9-1-1 Apps

- **Devices make it “easier to call 9-1-1” by:**

- Two clicks
- Shaking
- Panic Button

Benefits

- The 9-1-1 center shouldn't even know there is an app involved
- The call should provide ANI/ALI just like any other wireless phone

Challenges

- The 9-1-1 center may receive more accidental dials

- Cell phones used to have emergency buttons...they went away due to too many misdials and have been replaced by these types of apps.

<http://tapshield.com/features/tapshield-app/24>

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9-1-1 Apps

- **Devices to alter phone behavior when calling 9-1-1**
 - When 9-1-1 is called, the app may make the screen go black, mute the speakers and heighten the microphone to increase sensitivity

Benefits

- Attacker will not know that 9-1-1 has been called
- The call should provide ANI/ALI similar to a wireless phone

Challenges

- The 9-1-1 center may perceive the call to be accidental
- The caller must remember that the screen will go black and the caller won't be able to hear 9-1-1 calltaker. The caller will need to narrate needed information that will lead to a response

9-1-1 Apps

- Devices that call 9-1-1 AND alert “emergency contacts”(friends, family, anyone in a 5 mile radius)
 - Most provide location to friends

Benefits

- The 9-1-1 center shouldn't even know there is an app involved
- The call should provide ANI/ALI just like any other wireless phone

Challenges

- **Friends call 9-1-1 and are not in the correct jurisdiction and tie up a dispatcher**
- Friends receiving the alert that a call was made to 9-1-1 may call 9-1-1 themselves, to determine what is happening
 - Every 9-1-1 center operates autonomously, only limited information would be available to be shared
- Friends may rush to the scene putting themselves in danger or make it difficult for field responders to get to the scene

9-1-1 Apps

- **Devices that alert ONLY your “emergency contacts” (friends, family, anyone in a 5 mile radius)**
 - Most provide location to friends
 - Some include video, pictures, other data
 - Some post to social media

Benefits

- To Be Determined

Challenges

- A 9-1-1 center may never be contacted in a real emergency
- Friends calling 9-1-1 may not be in the correct jurisdiction to request help – tying up the dispatchers
- Friends calling 9-1-1 may have little to no details about the problem
- If information is coming in from a text message is the friend able to receive texts, call 9-1-1 and/or talk to the 9-1-1 calltaker while receiving text messages.
- Friends receiving the alert may call 9-1-1 to see what is happening
 - Every 9-1-1 center operates autonomously, only limited information would be available to be shared
- Friends may rush to the scene putting themselves in danger or make it difficult for field responders to get to the scene

Summary

- These are the benefits and challenges that 9-1-1 has identified with some of the current apps and devices that are developed and deployed every day.
- There are challenges with understanding how each app and device interfaces with the 9-1-1 center.
- App and device users are encouraged to research how each app contacts the 9-1-1 center and what information is provided.
- 9-1-1 centers are encouraged to stay abreast of new apps and devices that are developed daily.

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