Accelerating Adoption and Use of Emerging Location Based Services by Public Safety

July 9th, 2019

National Alliance for Public Safety GIS (NAPSG) Foundation

napsgfoundation.org | @napsgfoundation
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Accelerating Adoption and Use of Emerging Location Based Services by Public Safety

Great Lakes AB from 3:15 to 4:00 PM

3:15 Introduction & Who is the NAPSG Foundation?
3:20 **Project Overview** – Mapping, Tracking, and Navigation
3:30 **Pre-plan Demonstration**
3:35 **Hands-on Exercise** – Put Yourself on the Map!
3:50 Discussion
4:00 Adjourned
About NAPSG Foundation

**Our Vision**
A Nation of emergency responders and leaders equipped with the knowledge and skills in applying technology and data to change the outcome for survivors.

- 501(c)(3) Non-profit organization established in 2005
- +20,000 member network: Public Safety leaders, first responders, and GIS practitioners
- Board of Directors comprised of public safety & emergency management industry leaders
From Preparedness through Response and into Recovery

First Responders, Operators, and Decision Makers have access to and know how to use the right actionable information at the right time.
How Do We Do It

Defining and promulgating consistent best practices

Fostering regional collaboration through implementation

Building capacity in using innovative technology

Transferring knowledge and skills

National Guidelines and Standards

Exercises & Simulations

Education & Training

Tech Assistance
Welcome to NAPSG's Resource Library. Here you can access all of the key resources that NAPSG makes available to the community at no cost, to support you and your agency in advancing the use of location-enabled decision support tools.

The Resource Library is organized by resource category. Simply click on the category of interest and begin exploring available resources. You can also search for resources by entering in a keyword into the search box in the upper right hand side.
Guidelines and Standards

First Responder Core Information Guideline

Resource Management Dashboard Guidance

Standardized Incident Symbology
i-Axis Project Overview

Paul Doherty, PhD - NAPSG Foundation
1) First responders are not rapidly adopting and using the existing Location-based solutions and capabilities available today.

2) Therefore, the research and development teams do not have actionable input from first responders to develop the practical solutions of tomorrow.
What are location-based services (LBS)?

“provisioning of customized information, features, or services based on a user’s current or projected location”
When you think of Location-Based Services in public safety, what capabilities come to mind?
Describe in 3 words or less.

Go to www.menti.com
Enter code 14 58 43
Focus on Indoor:
• Mapping
• Tracking
• Navigation

This figure references the well-known “diffusion of innovation”, which represents market share / adoption over time.
Firefighter down
115 MT 81890 68580
3rd Floor
### Identify best practices

<table>
<thead>
<tr>
<th>Daily Problem</th>
<th>Significant Event</th>
<th>Audience</th>
<th>Best Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finding a single patient in an indoor mall</td>
<td>Mass Casualty Incident in a sports stadium</td>
<td>EMS</td>
<td>Utilize common 2D and 3D Incident Symbology.</td>
</tr>
<tr>
<td>Welfare check in an apartment building</td>
<td>Active shooter in an educational complex</td>
<td>Law Enforcement</td>
<td>Standardized approach to the frequency of tracking location updates to optimize situational awareness.</td>
</tr>
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<td>Building and smoke alarm inspections</td>
<td>“Mayday” response in a burning skyscraper</td>
<td>Structural Firefighters</td>
<td>Consistent approach to visual cues provided by heads up displays.</td>
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## Identify and test potential solutions

<table>
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<tr>
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<th>Best Practice</th>
<th>Solution</th>
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<td>Finding a single patient in an indoor mall</td>
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<td>EMS</td>
<td>Utilize common 2D and 3D Incident Symbology.</td>
<td>Location from e911 phone call(s) plotted on an indoor navigation map for EMS personnel.</td>
</tr>
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<td>Active shooter in an educational complex</td>
<td>Law Enforcement</td>
<td>Standardized approach to the frequency of tracking location updates to optimize situational awareness.</td>
<td>Live tracking of law enforcement officer(s) on a 3D viewer.</td>
</tr>
<tr>
<td>Building and smoke alarm inspections</td>
<td>“Mayday” response in a burning skyscraper</td>
<td>Structural Firefighters</td>
<td>Consistent approach to visual cues provided by heads up displays.</td>
<td>Detailed turn by turn instructions (audio / visual) for firefighters to a known location in a building.</td>
</tr>
</tbody>
</table>
Goals

• Create a **community** of Innovators and Early Adopters using existing solutions (indoor and/or outdoor).
• Identify existing and proposed **best practices**.
• Accelerate the **adoption** of new and emerging LBS into public safety daily operations.
Want to join the quest?

In Search of the Holy Grail: Indoor Tracking for First Responders

The ability to locate and track first responders operating indoors under difficult conditions remains a "Holy Grail" sought by the public safety community. Every year, firefighters die or are seriously injured because they become lost, separated, or difficult to locate inside buildings or houses. Every day, law enforcement officers enter buildings, often alone, with their precise whereabouts unknown.

At the National Institute of Standards and Technology, the Public Safety Communications Research program is on the hunt for a solution to this extremely difficult problem. Follow the rest of this story to learn more about this complex issue, how PSCR is driving research and innovation in this area, and providing opportunities to get involved.
External Considerations

**External Sources**
Open source, commercial data, etc.

**Building Information Systems**
Modern building systems to monitor systems

**Location Services (LBS)**
Features all exist based on “geography”

**NG 911**
GIS Oriented Next Generation 911

**Existing GIS**
GIS systems that exist within a jurisdiction
Balancing Act

Access to a Large Amount of Data

The need to aggregate the data for the user
Demonstration

Geospatial Pre-plans

Chris Rogers
Map of Location-Based Services Innovation

Hands-On Exercise
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Add your department to the map and share how you are using:

• Mapping
• Tracking
• Navigation

bit.ly/20190709_iAxis

1. Open Camera
2. Point at QR Code*
3. Open the link

*Some phones require that you hold the “home” button
How does it work?

1. Fill-out the form.
2. Add yourself to the map.
3. Submit the form.
4. See your department on the map.

You can also open this on your PC [https://bit.ly/20190709_iAxis](https://bit.ly/20190709_iAxis)
Next Steps

2019
InSPIRE
LBS Innovation Outreach Toolkit
LBS First Responders Working Group

2020
Regional Workshops
Best Practice Guide

2021
Virtual Trainings
LBS Public Safety Technology Gap Priority List

Galveston, TX November 12th – 14th
Questions and Discussion
Thank you!

Paul Doherty * pdoherty@publicsafetygis.org
Jared Doke* jdoke@publicsafetygis.org
Get your hands on the tech!

Demos

BACK TOMORROW
Open 8:00 AM

#PSCR2019