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THE DIGITAL EXPERIENCE

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What if IoT Data Were Accessible to Public Safety?

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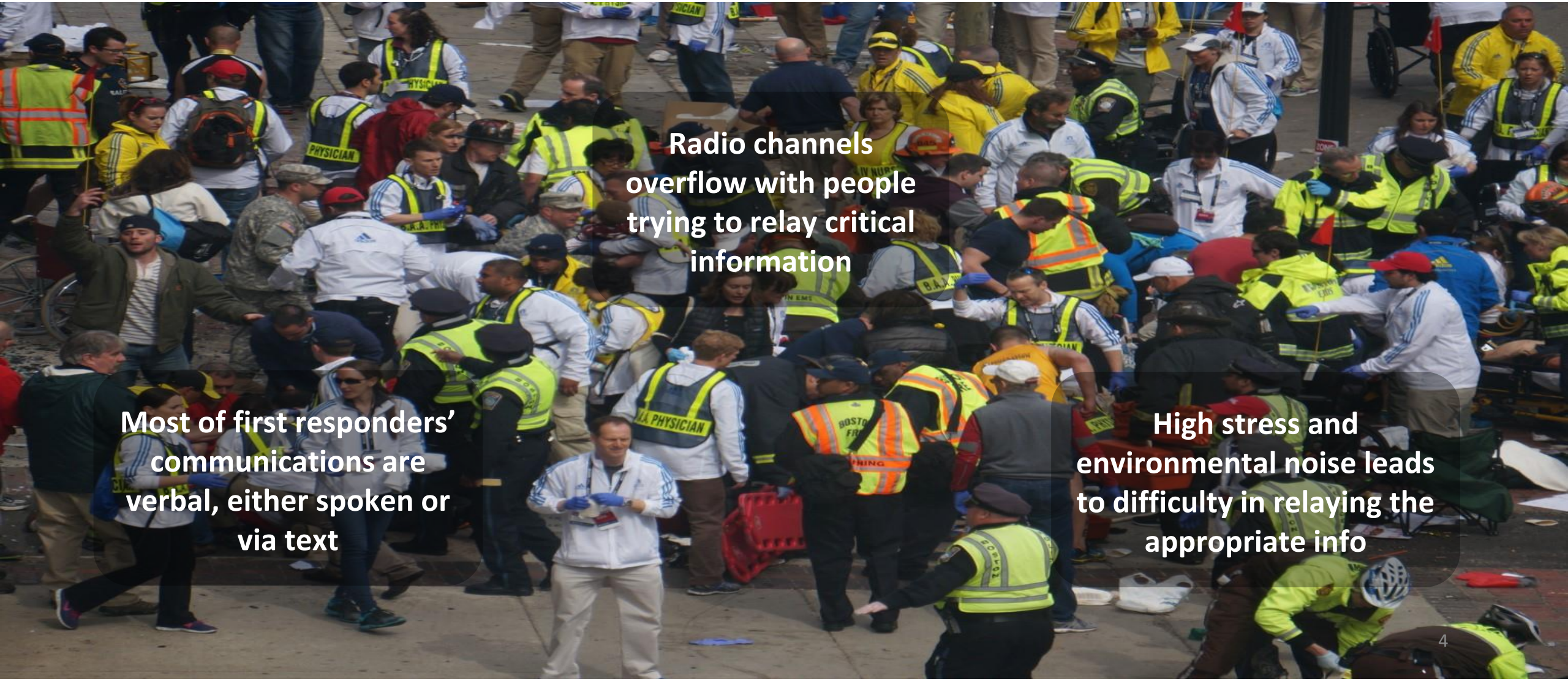
*** Please note, unless mentioned in reference to a NIST Publication, all information and data presented is preliminary/in-progress and subject to change.**

“EVERYONE HAS SOMETHING TO SAY”

Common Issues With Today’s First Responder Communications



SUPPLEMENTAL DATA CAN:

IoT FUTURE PROJECTIONS

It is projected that more than 70 billion Internet of Things (IoT) devices will be connected by 2025. Imagine that this data could be captured and transmitted to public safety. These systems would allow our public safety community to optimize resource deployment and decrease the time it takes to make lifesaving decisions during emergency disasters.

ISSUES THAT REMAIN FOR IoT

- Integrating devices so that first responders have access to necessary data
- Obtaining access from data owners
- Hardware that can withstand operating conditions
- Unified interface that can display information without impeding mission


CHARIoT CHALLENGE
Advancing First Responder Communications
HOSTED BY NIST
PUBLIC SAFETY COMMUNICATIONS RESEARCH
PSCR
Build Augmented Reality Interfaces for First Responders
Emulate Smart City Data for Disaster Scenarios

DONALD HARRISS

Donald Harriss is a Senior Network Engineer for PSCR and is currently researching first responder access to IoT.

SCOTT TURNBULL

CEO of Firefighting

Scott Turnbull is the Director of Technology for US Ignite and is a key member of the Smart Gigabit Communities team.

ALISON KAHN

Alison Kahn is an Electronics Engineer for PSCR and project lead for First Responder Personal Area Networks research.

DISCUSSION TOPICS

Topic 1:

For the four emergency scenarios,
what sensors were included, and
what was the motivation for including those sensors?

DISCUSSION TOPICS

Topic 2:

For the live evaluation, how will the individual data locations feed into the augmented reality (AR) interfaces?

DISCUSSION TOPICS

Topic 3:

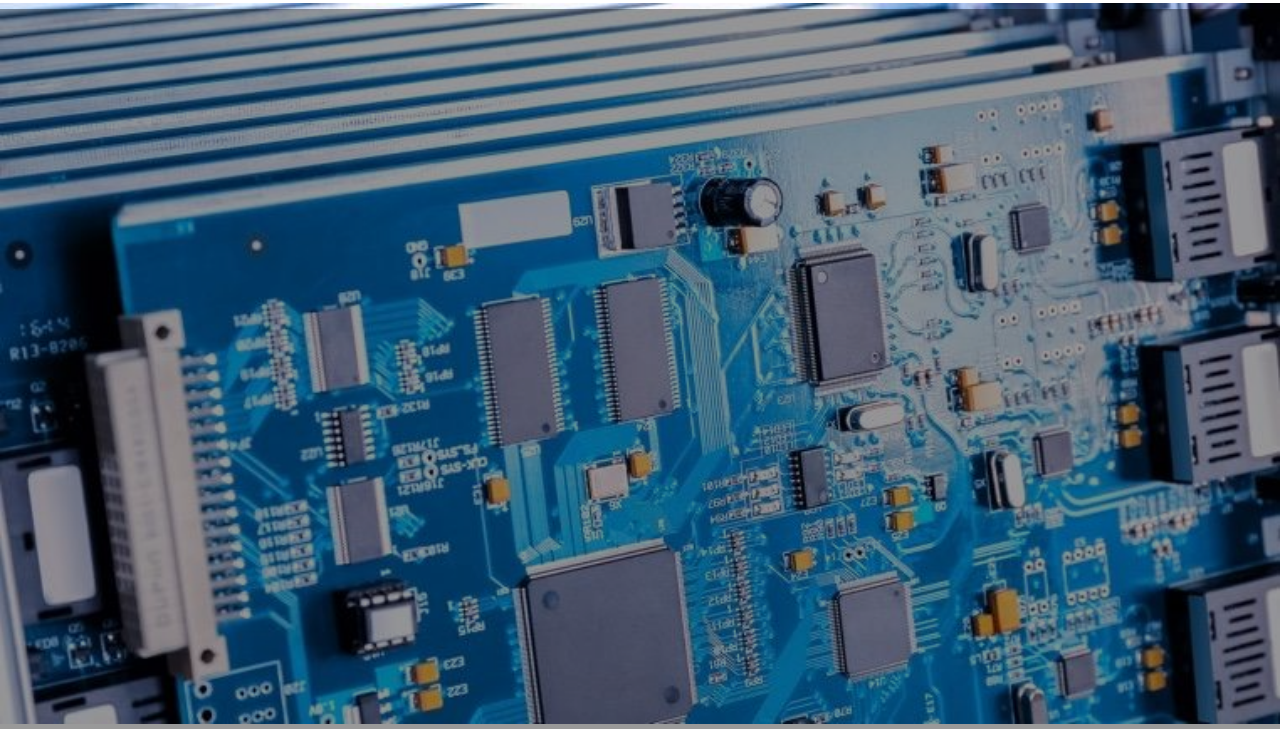
What resources were used to determine the validity/realness of the data?

DISCUSSION TOPICS

Topic 4:

What did you learn or what surprised you while creating the simulated IoT data?

CHARIoT EMULATORS & NETWORK COMPONENTS



- Emulated data for emergency scenarios, sensor emulation components
- Message Queuing Telemetry Transport (MQTT) as a data collection “broker” for IoT data
- Sending the data from the MQTT server to the virtual reality (VR) headsets, challenges and data consensus for accurate data dissemination
- Replaying data in the final challenge

CONTRIBUTE YOUR FEEDBACK

Contributions could include:

- New public safety scenarios and use case directories

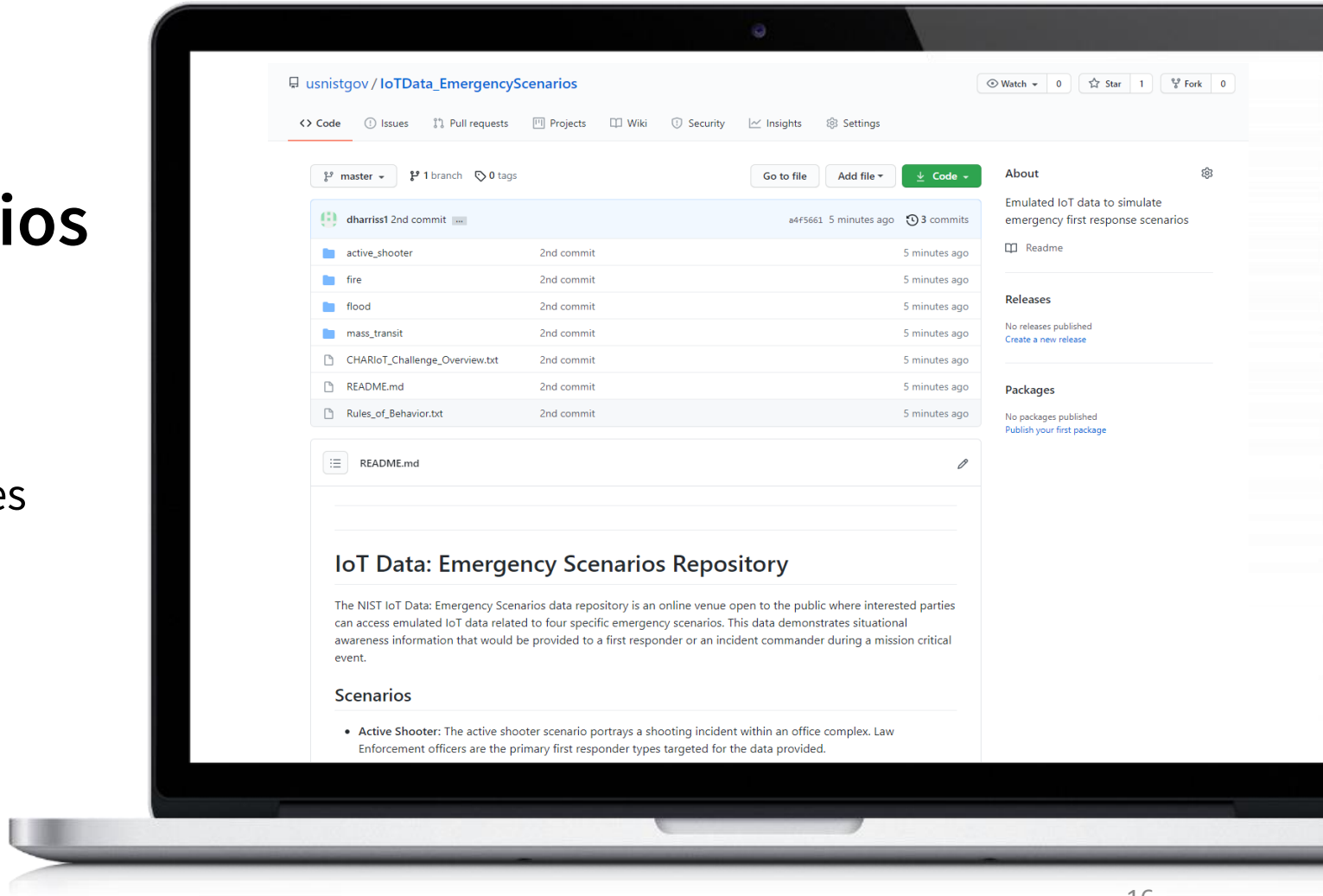
- Emulated IoT data that is relevant to first responder situational awareness within a preexisting public safety scenario or use case directory

ACCESS THE DATA ON THE NIST GITHUB

https://github.com/usnistgov/IoTData_EmergencyScenarios

IoTData_EmergencyScenarios

- CHARIoT contest data
- Challenge overview
- Contributions and submission guidelines



SEE CHARIoT IoT DATA IN ACTION WITH THE WEBXR VISUALIZATION DEMO

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THANK YOU
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