NIST Survey: Interviews with First Responders about IoT Usage

FOUR STANDARD SURVEY QUESTIONS

1. Explain who will be surveyed and why the group is appropriate to survey.

The program at the National Institute of Standards and Technology (NIST) supporting the Internet of Things (IoT)research project is the Public Safety Communications Research (PSCR) division. The PSCR Division currently works with first responders and public safety officials to help target and clarify research goals. PSCR's aim for this study is to determine the most crucial information used by public safety during a mission critical event. NIST's goal is to expand and deepen our understanding of communications between first responders and show how IoT technologies may meet their needs. Additionally, it will become a foundation for future research on technology for first responders.

The people who will be contacted to participate in the interview have already expressed their interest in PSCR's IoT research by means of a sign-up mechanism at the 2019 PSCR Annual Stakeholder Conference. Many of the people or organizations to be targeted with this survey are existing collaborators who've worked with PSCR on research projects in the past four years. Through our interviews, PSCR will ask fire fighters around the country to inform NIST of their previous and current use of IoT devices in their work. NIST will contact these people who have opted into the IoT research program.

2. Explain how the survey was developed including consultation with interested parties, pre-testing, and responses to suggestions for improvement.

PSCR is researching the use IoT devices among first responders and has consulted with numerous first responders to develop the interview questions. NIST PSCR operates an indoor and outdoor lab in Boulder, CO.

The basis of this proposed research project was formed at a recent IoT event. NIST PSCR convened over 25 stakeholders in public safety, industry, and academia at the Department of Commerce Boulder, CO campus to collect input on how public safety can best prepare for and leverage next generation Internet of Things (IoT) sensor and data collection capabilities. This two-day event took place April 3-4, 2019 and provided stakeholders an opportunity to identify and prioritize technology, interoperability, and standards gaps inhibiting IoT commercialization and sensor integration in public safety environments. In addition, stakeholders identified a list of high-priority gaps that research and development (R&D) organizations must address before public safety agencies can fully take advantage of commercial IoT capabilities. Attendees also brainstormed ways that R&D organizations can facilitate more consistent, efficient IoT data

exchange between industry and first responders. The interview questions seek to address these areas. Our proposed survey questions, we aim to address the priorities identified at this event. After formulating the research questions and interview questions, NIST PSCR consulted with two firefighters who hold significant experience and expertise in IoT technologies. They reviewed the questions and provided feedback.

3. Explain how the interviews will be conducted, how customers will be sampled if fewer than all customers will be interviewed, expected response rate, and actions your agency plans to take to improve the response rate.

The interviews will be conducted over the phone. Each will take 45 minutes. We anticipate conducting 20 interviews. The people who will be contacted to participate have already expressed interest in taking part in upcoming IoT research activities. Since they have self-selected, we anticipate an 80-90% participation rate.
 When contacted, participants will be invited to view an informational video recording about the project goals and their role in the research. If they would still like to participate, they will be directed to a doodle poll page in which they can select a time slot to conduct their interview. The participants' names which were collected previously (not on this Information Collection) will be utilized for scheduling purposes only; for the purposes of the interview, their answers will not be correlated to their names. Information is not kept in a Privacy Act System of Records, therefore a Privacy Act Statement and SORN are not applicable.

4. Describe how the results of the survey will be analyzed and used to generalize the results to the entire customer population.

NIST's goal is to use the interview findings to produce a list of data objects that are created by first responder sensors and other tools. NIST PSCR will compile information into a document and to be used as a reference repository for exchange standards that exist today. We will define a standard format for sensor data so it can be used in systems more interchangeably and easily. NIST also aims to characterize data use by first responders in general, so that if there's an area where sensor data would benefit them, NIST can identify it. The information will be made freely available on the NIST PSCR website.