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NIST GENERIC CLEARANCE FOR USABILITY DATA COLLECTIONS

NIST, Information Technology Laboratory (ITL)
Public Safety Communications First Responder Survey

Survey Questionnaires for: Questions for first responders about public safety communications technology.

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

This nation-wide survey is a quantitative follow-up to a prior qualitative in-depth interview study of first responders conducted by the Visualization and Usability Group (VUG), of the Information Technology Laboratory (ITL), of the National Institute of Standards and Technology (NIST). This survey seeks participants who have first-hand, on-the-ground work experience as public safety first responders: fire fighters (FF), emergency medical services (EMS), law enforcement (LE), and 9-1-1/dispatch (COMMS). This survey differs slightly for each of these four public safety domains (FF, EMS, LE, and COMMS), so that the language and questions are appropriately tailored for each particular domain.

The purpose of this survey is to identify: technology currently used for communication in public safety today; problems experienced with this technology; and other kinds of technology that may be helpful for communication in public safety in the future. Therefore, it is necessary and appropriate to survey first responders from the four public safety domains (FF, EMS, LE, and COMMS).

Participants will be recruited from several different sources: for example, first responder organizations such as the Public Safety Advisory Committee (PSAC), the International Association of Fire Fighters (IAFF), the National Association of State EMS Officials (NASEMSO), the International Association of Chiefs of Police (IACP), the Association of Public Safety Communications Officials (APCO), and NIST PSCR (Public Safety Communications Research) partner mailing lists.

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

The survey questions were developed and refined based on findings and data from prior NIST qualitative in-depth interviews with first responders (report available here: <https://nvlpubs.nist.gov/nistpubs/ir/2018/NIST.IR.8216.pdf>), and discussions with first responder subject matter experts (SMEs). Each version of the survey (FF, EMS, LE, and COMMS) was pretested via formal cognitive walkthroughs with multiple first responders from that domain, to ensure that language and questions were valid and appropriately tailored for each domain. Questions were refined based on first responder SME feedback as necessary.

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

There are approximately 2,000,000 first responders in the United States. For a 99% CI and a 1% margin of error, a sample of approximately 16,500 is necessary (evenly sampled from the 4 first responder domains, resulting in approximately 4,125 first responders sampled in each of the FF, EMS, LE, and COMMS domains). Given the established buy-in of the first responder population, a response rate of 35% is believed to be reasonable (approximately 5,800 total responses, distributed among the 4 first responder domains, resulting in approximately 1,450 responses in each of the FF, EMS, LE, and COMMS domains).

A multi-method approach will be utilized to contact sample agencies and solicit participation of their first responders in the survey. An email invitation will be sent to a main contact from each identified agency (an Assistant Chief, a PIO, etc.). The email invitation will ask for a response about their willingness to participate and distribute the survey link to their first responders. The survey link will be included in the email.

In order to improve the response rate, national agencies representing each of the four public safety domains (FF, EMS, LE, and COMMS) will be contacted and asked to post the survey link to their website, and to encourage their membership to participate (as described above, for example, APCO, NASEMSO, etc.).

The goal is to have representation from: all 10 Federal Emergency Management Agency (FEMA) regions; all four public safety domains (LE, FF (career and volunteer), EMS (private and public), and COMMS); and urban, suburban, and rural agencies.

The survey will take about 20 minutes to complete.

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

NIST researchers will perform data analysis. Descriptive statistics and inferential statistics will be used to analyze the survey results based on the four public safety domains. The quantitative survey results will be combined with prior NIST qualitative interview findings to provide a more holistic view of the perspective of first responders on public safety communications technology. There will be no collection, storage, access, use, or dissemination of personally identifiable information from the survey.