OMB Control #0693-0043 – NIST Generic Clearance for Usability Data Collections

NIST Survey Questionnaires for: **Questions for members of households with Internet of Things (IoT) about their experiences with smart home devices**

Phase 1 – Screening Questionnaire

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

The Visualization Access Division (VAD), of the Information Technology Laboratory (ITL) at the National Institute of Standards and Technology (NIST) is leading this information collection. The purpose of this in-depth, interview study is to understand users' beliefs, perceptions, expectations, and behaviors regarding Internet of Things (IoT) smart home devices (e.g., internet-connected appliances, lighting, sensors, security devices, media), and to identify factors that impact IoT usage. The findings will contribute to the development of a usability framework that can guide the design of future smart home devices. Therefore, it is necessary and appropriate to interview people who use smart home devices to learn about their experiences with the devices.

The first part of this information collection is the recruitment of potential respondents or participants. Potential respondents will be contacted by email from a research recruitment database managed by a NIST IDIQ contractor. The database contains individuals living in the DC-Maryland-Virginia metro area who have consented to be contacted for research studies. A subset of this group will be selected to receive a mailing about the study based on general demographic diversity and the length of time since they last participated in a research study (database members have indicated how often they would like to be contacted). Participants may also be recruited via flyers/physical ads distributed in the DC-Maryland-Virginia metro area. Flyers will contain the same text as that in the recruitment email which has been uploaded into ROCIS for review.

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: 1) survey questions and gaps identified in prior research on Internet of Things and smart home devices and 2) discussions with smart device subject matter experts (SMEs).

The screening collection instrument was reviewed by a survey expert and an SME to ensure the language and questions were technically accurate and appropriately tailored to determine participant eligibility for the study.

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.

Potential respondents will be notified of the potential information collection via email or ad/flyer. It is expected that 100 individuals will express interest in participating by responding to the recruitment email/ad via email. Potential respondents will be contacted via phone to complete the 10-minute phone screening questionnaire to collect information to determine if they qualify for participation in the next phase or part two of this study. NIST estimates that 100 participants will take 10 minutes to complete. The estimated total burden time for completion the screening questionnaire is 166 hours (100 respondents X 10 minutes). If a potential respondent qualifies and agrees to participate as a result of the screening questionnaire, an in-person interview appointment will be scheduled to move into Phase Two (2) of the information collection.

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

Data analysis will be conducted by NIST researchers. Descriptive statistics will be run on screening data collected. From these results, we will plan any subsequent phases of our research efforts.

Data will not be linked back to a respondent or their personally identifiable information. NIST will not create or keep a list that links the participant reference code to a participant.