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SYRACUSE UNIVERSITY

April 11, 2016

VIA THE WEB

Federal Trade Commission
600 Penn. Ave. NW
Washington, DC 20580

Re: Request to Participate in Fall Technology Series: Drones Workshop, Oct. 13, 2016

Dear Drone Workshop Organizers,

I would be delighted to present my research on people's perceptions of civilian drones at the workshop. My research team has been conducting interviews and surveys of both drone owners/controllers and bystanders in the US since last summer.

One aspect of this research has been published in the Proceedings on Privacy Enhancing Technologies (PoPETS) as *Flying Eyes and Hidden Controllers: A Qualitative Study of People's Privacy Perceptions of Civilian Drones in The US*, by Yang Wang, Huichuan Xia, Yaxing Yao and Yun Huang. This paper is attached to this proposal. We have another paper of this research currently under blind review. I will send it until it is accepted.

Key findings to present:

- Both drone owners and bystanders mentioned a variety of useful applications of civilian drones.
- Bystanders had both *physical* and *information* privacy concerns about drone uses by government agencies, organizations and individuals.
- People's reasoning about the acceptance of drone use was in part based on whether the drone is operating in a *public* or *private* space. However, people differed significantly in their definitions of public and private spaces. In particular, drone owners often focused on the *legal* definitions of public/private spaces (i.e., property ownership, or who owns that place). In contrast, many bystanders relied on *social* definitions of public/private space (e.g, the nature of the space is characterized by the relationship within it; for instance, shopping with a *close friend* in a mall makes it a private space for them).
- Compared to other tracking or recording technologies (e.g., CCTV and camera phones), bystanders underscored two heightened privacy issues of drones: (1) flexible, powerful yet inconspicuous data collection, (2) hidden and inaccessible drone controllers. These two aspects of drones render some of people's existing privacy practices futile (e.g., notice recording and ask controllers to stop or delete the recording).
- There are significant mismatches of privacy attitudes towards drones between drone controllers and bystanders. Drone controllers generally felt privacy issues of civilian drones are exaggerated and misinformed by the media's sensational reporting of controversial drone uses. While some



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bystanders demanded notifications of drones near them and expected drone controllers to ask for their explicit permissions before recording, many drone controllers believed they have the constitutional right (citing the first amendment) to fly drones and take pictures/videos without anyone's permission as long as the drones are operating in a (legally) public space.

- We asked about a number of proposed privacy mechanisms for drones, and none of them was universally espoused by both drone owners and bystanders. But, no-fly-zone and drone owner registration were relatively more acceptable to both drone owners and bystanders.

Overall, these findings highlight considerable privacy concerns about civilian drones as well as significant discrepancies between drone owners and bystanders regarding the privacy implications of drones. If such gaps are not addressed, the general public will continue to have reservations about civilian drones, which would in turn affect the wider acceptance and adoption of drones. These findings also call into question the best practices of civilian drones that are primarily based on the legal definitions of public vs. private spaces (e.g., draft best practices from the multi-stakeholder process on drones). Just because doing something might be legal (e.g., flying a drone over one's backyard and taking pictures/videos) does not mean it will not raise privacy concerns and offend people. The current drone design and industry best practices fall short in protecting people's privacy. Future drone design and policy should consider bystanders' privacy concerns more explicitly. They should also take into account not only the legal but also the social aspects of public/private spaces. Lastly, while many drone controllers have already been using their common sense to operate drones appropriately, further guidance and even training on how to respect others' privacy are needed for the overall drone owner community.

Thank you for considering my submission.

Regards,

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