Proceedings of iHDI 2020: Interdisciplinary Workshop on Human-Drone Interaction

Co-located with the 2020 CHI Conference on Human Factors in Computing Systems (CHI 2020)
Honolulu, HI, April 26, 2020

Organized and Edited by

Mehmet Aydın Baytaş
Graduate School of Social Sciences and Humanities, Koç University
Istanbul, Turkey

Markus Funk
Cerence, Inc.
Ulm, Germany

Sara Ljungblad
Department of Computer Science of Engineering, University of Gothenburg and
Chalmers University of Technology
Gothenburg, Sweden

Jérémie Garcia
ENAC, University of Toulouse
Toulouse, France

Joseph La Delfa
School of Design, RMIT University
Melbourne, Australia

Florian 'Floyd' Mueller
Exertion Games Lab, Monash University
Melbourne, Australia

Preface

The public's perception of unmanned aerial robots – a.k.a. "drones" – is colored by their prolific use as tools for warfare and surveillance. In contrast, our community of human-computer interaction (HCI) and interaction design (IxD) researchers envisions drones as a platform for ingenuity and novel experiences. Drones have been considered in recent HCI research, for example, to enhance virtual reality experiences with compelling haptic effects, to guide calm and slow meditative movement experiences, to support navigation and wayfinding, as assistive technologies for the blind, and to augment sports and exercise.

Thus, within the HCI and IxD research communities at large, human-drone interaction (HDI) is currently a growing topic of interest. At last year's CHI conference, this was evidenced by a full main track session and a whole pre-conference workshop focusing on HDI. Building on these efforts, at CHI 2020, we have organized the Interdisciplinary Workshop on Human-Drone Interaction (iHDI 2020).

Current HDI research builds on a diverse array of motivations and methodologies, with contributions originating worldwide. Thus, aiming to bring together this community in an inclusive fashion, our focus at iHDI 2020 has been *interdisciplinarity.*

Our goal is to build an enduring community of researchers who continue to learn from each other's methods and philosophies, and collaborate over the long term towards impactful research contributions.

April 2020

Mehmet Aydın Baytaş
Markus Funk
Sara Ljungblad
Jérémie Garcia
Joseph La Delfa
Florian 'Floyd' Mueller

Keynote: Ethics in Human-Drone Entanglements

Kristina Höök
KTH Royal Institute of Technology

As interaction designers we are interested in how ethics is enacted and shaped by exactly how we design autonomous systems.

Drones are fascinating as we, in a sense, get superhuman powers: we become cyborgs or centaurs as we get entangled with them. They take us to places we would not otherwise be allowed to enter or see. They move, makes a lot of noise, and behaves in ways that look intelligent and alive to onlookers.

As our ways of understanding the world fundamentally sees movement as a sign of intentionality, drones become the 'other' to us — an alterity.

Even more interesting to us, is how drones and other autonomous technologies (depending on how they are designed) require that we move in certain ways to interact with them, spurring certain aesthetic experiences, certain practices and responses, while discouraging others. It is precisely in that interplay – in those movements and adaptations of behaviors – that ethics is enacted and enforced. Ethics to an interaction designer attempting to create drone behaviors is not a bunch of abstract principles residing in committees and institutions, it is not an 'attribute' that we 'give' to a system, formulated into some sort of ethical risk management checklist, nor is it something that can be described in terms of individual, rational, decision-making. Instead, ethics is emergent in the interactions we, as designers (and users) enable.

We shape and are shaped by these autonomous systems. Ethics becomes emergent and enacted in the human-drone entanglement.