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# Ethical Challenges During Field Studies of Interactive Technologies

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**Abstract**

In this tutorial we will explain the key principles that guide research with human participants, and how these apply to field studies of interactive technologies. This is largely based on existing policies that have been adopted nationally in some places or specific to certain disciplines or professional associations. We will discuss the gaps that exist between these guidelines and the challenges of conducting fieldwork of mobile interactive technologies, particularly in sensitive or difficult environments. These will be exemplified by cases studies of ours and our colleagues' recent research. A discussion of examples brought forward by the audience will also be facilitated.

**ACM Classification Keywords**

H.5.2 User Interfaces: Evaluation/methodology; H.5.m Information interfaces and presentation: Miscellaneous; K.4.1 Public Policy Issues: Ethics

**Authors' Keywords**

Ethics; Field studies; In the wild evaluations; Mobile Interactions

**Introduction and motivation**

Conducting research in an ethical manner is fundamental to all scientific and engineering disciplines. This is particularly critical when the research involves human participants. In most cases, preparing for a study or evaluation involves a formal process of receiving approval from an administrative body

responsible for ensuring all research follows sound ethical principles. For example, in Canada, these bodies (Research Ethics Boards) are present in all publicly-funded institutions and are guided by the Tri-Council Policy on Ethical Conduct for Research Involving Humans [1]. Similar governance exist in the United Kingdom (e.g. the Ethical Guidelines for Good Research Practice established by the Association of Social Anthropologists of the UK and the Commonwealth), while in other countries such as the US this is specific to each institution; nonetheless, the principles are shared across countries and disciplines.

For most research, the application of such guidelines is straightforward. However, we are recently seeing a wider and changing range of field studies in Human Computer Interaction (HCI), from traditional usability evaluations to ethnographic research and to user-centered or participatory design. These are prompted by the need to study an ever-increasing diversity of emerging technologies (particularly mobile) that afford new interactions but also are often used in unexpected ways and in atypical contexts (for example, research on mobile interfaces providing health or educational support for at-risk user groups [6]). User populations have also changed; they now often include vulnerable groups, who may benefit the most from our research but potentially suffer from researcher engagement. These can often pose various serious ethical dilemmas – when the realities of field research do not match or even contradict the formal requirements of the ethical approval process [9]. The severity and complexity of such ethical dilemmas is evident in the case studies presented at workshops such as [10].

While ethics has long been an essential part of the planning process for techno-centric human subject

research [5], new practice-based methods can more dynamically affect all aspects of ethically conducting the research: privacy, confidentiality, consent, harm and risks, trust and authority. To a certain extent, our community is adapting to the ethical challenges prompted by the changing nature of the evaluations and field studies [1,2,3]. However, these are isolated examples – as we have seen in research such as our own preliminary investigation [7], we are often unprepared to cope with such challenges.

### **Learning objectives**

This course aims to provide attendees with the theoretical background and practical examples that can assist them in tackling the ethical implications they may face when conducting field trials of mobile technologies or lab-based experiments with vulnerable users. This will be grounded in national guidelines such as the Canadian Tri-Council Policy as well as in legal frameworks such as ethical and privacy legislation that is relevant to several European Union countries. However, the learning focus will be on the core principles of these frameworks rather than on the specific “letter of the law”, thus allowing attendees to better contextualize the general ethical principles to the particular discipline or country where they conduct their own research.

### **Outline**

The course will blend the presentation of formal concepts with audience participation and with discussions of case studies. The tutorial will be structured along several core parts:

- A survey of the existing ethical principles and body of knowledge, together with a review of examples of current policies and regulatory frameworks.

- A presentation and small-group analysis of several relevant case studies that will help the audience enrich their understanding of the approaches taken by researchers in coping with such challenges.
- A plenary discussion of cases and examples brought forward by the tutorial participants.

**Course material**

This course is based on a graduate student training seminar that has been developed by the main author, Cosmin Munteanu. The seminar has been given to MSc and PhD students in Canada who are conducting their research on technologies to support older adults. The course has recently been accepted (peer-reviewed) for presentation at the ACM MobileHCI 2016 Conference. URL for existing course materials:  
<http://cosmin.taglab.ca/share/ethics-tutorial>

**Benefits to attendees**

We are expecting an increase in the research conducted on many emerging technologies, especially in the space of interactive, mobile, ubiquitous digital interfaces and devices. Not only are such technologies evolving rapidly, but their contexts of use and their users (especially marginalized populations) are constantly being redefined. By offering this tutorial, we are confident that participants new to CHI will become more aware of and better prepared to navigate the challenges of fieldwork of mobile technologies, especially with vulnerable users. We believe that more experienced participants will benefit from the case studies discussions and will renew their scholastic interest in re-assessing how we approach HCI research from an ethical perspective. Our hope is that this tutorial will serve as one of the many stepping stones to improving the dialogue that (should) exist between researchers and relevant stakeholders that will better

prepare our community for the new ethical challenges we are facing in HCI research.

**Duration, format, and participants***Format*

The course aims to be highly interactive. We welcome discussions from the audience about their particular studies and we will answer questions about the challenges or dilemmas attendees are facing in designing and conducting their own research in an ethical manner. We particularly encourage participants to submit ahead questions about their ethical challenges. We plan to set up an online question submission system with a URL that will be sent to registered participants, where questions for the instructors can be uploaded ahead of time. The URL will be also be included in all announcements advertising the course. These submissions will be reviewed by the instructors and by the contributing co-authors, and a curated selection of such challenges or questions will be then used during the tutorial for groupwork analysis.

*Duration*

Ideal tutorial duration: 1 unit (80 minutes). The main theoretical overview can be accommodated within 50 and 60 minutes, with the rest of the time dedicated to discussing case studies proposed by the instructors and questions / ethical dilemmas raised by the audience.

*Participants*

The course welcomes all attendees with interest in or who have conducted field studies of mobile interactive technologies, regardless of the particular ethics approval process or policy framework that is relevant to their discipline or country where this is conducted. No prior knowledge or experience is required.

*Enrolment and advertising*

If accepted for presentation, the course will be advertised through relevant professional mailing lists (CHI, CSCW, MobileHCI, etc.) as well as through social media channels that are relevant to the CHI community, e.g. official CHI or the Meta CHI Facebook groups, as well as the newly-created CHI Ethics group.

**Instructors' Biographies**

**Prof. Cosmin Munteanu** is an Assistant Professor at the Institute for Communication, Culture, Information, and Technology at University of Toronto Mississauga and Co-Director of the Technologies for Ageing Gracefully lab. His multidisciplinary research includes speech and natural language interaction for mobile devices, mixed reality systems, learning technologies for marginalized users, assistive technologies for older adults, and ethics in human-computer interaction research. In particular, Cosmin has conducted research on the ethical aspects of conducting technology-centric ethnographies and fieldwork and on issues of digital divides and interactive technologies for marginalized populations. Cosmin is an organizer for the Workshop on Ethical Encounters in Human-Computer Interaction (held at ACM CHI 2015 and 2016), which aims to engage multidisciplinary researchers in a dialogue about the ethical challenges faced in fieldwork with emerging interactive technologies. He has served as scientific reviewer for ethics applications during his tenure at the National Research Council Canada, is currently a member of the SIGCHI Committee on Ethics, and is actively conducting research in the field of ethics as a recipient of a Social Sciences and Humanities Research Council of Canada (SSHRC) Knowledge Synthesis Grant.

**Dr. Roisin McNaney** is a Lecturer in Digital Healthcare Technologies at the School of Computing and Communications at Lancaster University. Her research interests focus around the role that digital technologies might play in supporting self-monitoring and management Practices in people with Parkinson's specifically and chronic health conditions more generally. She comes from a clinical background originally and has experience working in both clinical and HCI research environments. She is one of the organizers of the Workshop on Ethical Encounters in HCI held at CHI 2016 and 2017.

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