CNRS Conseil Scientifique
Seminaire Scientifique : Ethique

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Ethical behavior : different perspectives

Each profession has rules to protect someone …
but not always the same person.

Researchers	protect	users / subjects
Journalists	protect	public
Consultants	protect	clients
Corporations	protect	corporation

HCI ethics

Process: Design and testing

Goal:	Protect study participants
Mechanisms:	Informed consent
	Data protection
	IRBs (Institutional review boards)

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Result: System development

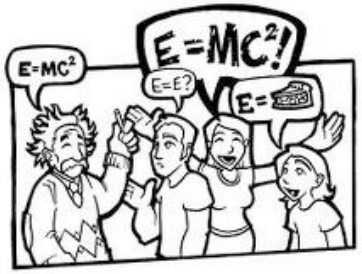
Goal	Protect users
Mechanisms:	GDPR (General **Data Protection** Regulation)
	But ...

HCI Research Process

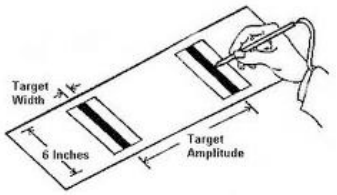
HCI Research Process

get an idea → develop theory → operationalize → build system

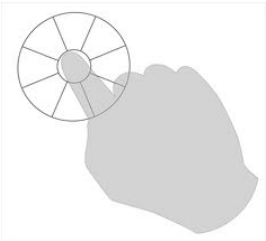
Find problem



Fitts' law



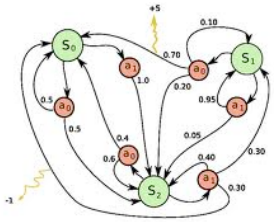
Extract features



Make prototypes

design experiment → run experiment → analyze results → frame paper

Generalize iinsights



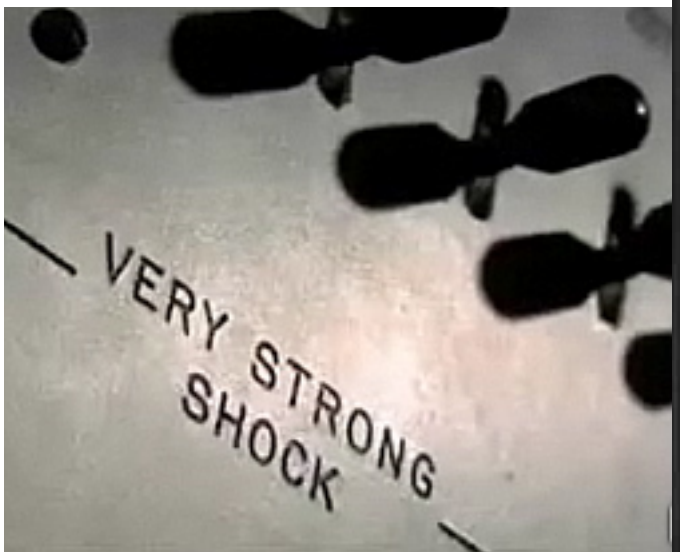
Quantitative / qualitative

Lab or field studies

Few benchmarks

Milgram's 'Obedience to Authority' experiment

Will ordinary people give a stranger a lethal electric shock in the name of science?
"Teachers" administer shocks to "students"
Start with a sample 45v shock
Paired-associate learning task



IRB

Institutional Review Board

Mandated by governments for research experiments with human participants

Ethics Boards

Challenge for HCI researchers:

- Most designed for medical research
- Usually too restrictive for HCI experiments

In France

- Required by European grant agencies
- French faculty have no formal training
- Usually all or nothing

Solution for 'standard' HCI experiments

- Inria COERLE 'Quick IRB'
- How create ethical experiment protocols

Experimental Protocols

Define specific, replicable scientific procedures
- Specify specific experiment details

Ensure adherence to ethical standards
- Do not harm to study participants
- Obtain true informed consent

Informed Consent – general principles

Participants:

- obtain informed consent before study starts
- may leave at any time, no reason required
- anonymized raw data accessible only to research team
- personal characteristics are stored separately
- performance data published only in aggregate form
- quotes published anonymously
- artistic work acknowledged, with permission
- final study available
- can complain to IRB

Informed Consent

Example

Sample Informed Consent

Study: *Command Selection with Gesture Keyboards* **ID:** *2017-DoB* **Participant ID:** *P-*

1. Purpose of the study: We designed a new keyboard for smartphones that lets you send commands, either by typing the command name and drawing an 'execute' gesture, or by drawing a different gesture for each command. We will compare these with existing techniques, such as selecting from a pull-down menu or typing symbols, to see which is faster, with fewer errors, and which you like better. Our goal is to provide faster, more powerful ways for people to send commands with mobile phones.

2. Procedures to be followed: If you agree to participate, we will show you how to gesture type on a smartphone and then ask you to perform a series of tasks. You will begin by filling out a short questionnaire about whether or not you gesture type on your mobile phone. Next, we will ask you to sit and find a comfortable position to hold the phone. We will show you how to make different gestures and let you practice. You will then be asked to try the different techniques. In each case, we will display instructions on the phone's screen and ask you to write words and perform gestures accordingly. At the end, we will ask you to fill out another short questionnaire and ask you your opinions about the techniques. We will record the words you type and the gestures you make, as well as video of your hands as you perform the tasks, including your voice.

3. Risks and Discomforts: We do not believe you will experience any risks by participating in this study, beyond those in daily life. However, you may find the tasks to be slightly tiring, uncomfortable or boring.

4. Benefits: You may find the 'gesture typing' technique useful when entering text on your smartphone.

5. Duration: The complete study, including pre- and post-questionnaires will take about 50 minutes.

6. Confidentiality: Your participation in this research is confidential and your data will be anonymized. This paper form is the only link between your name and your participant ID, and will be stored in a locked office. The researchers listed below will be able to review the anonymized data. We may publish or present screen recordings or images of your hands, but will not include any personally identifiable information.

PI:	Wendy Mackay	Research Director	Inria	*mackay@lri.fr*
	Jessalyn Alvina	Ph.D. student	Inria	*alvina@lri.fr*
	Carla Griggio	Ph.D. student	Inria	*griggio@lri.fr*

7. Right to ask questions: Members of the research team will be happy to answer any questions about research procedures and future publications. You may contact *Wendy Mackay (mackay@lri.fr)* if you have questions, complaints or concerns or Inria's ethics board (COERLE) if you feel this study has harmed you in any way: *http://www.inria.fr/institut/organisation/instances/coerle/composition*

8. Voluntary Participation: Your decision to be in this research is entirely voluntary. You do not have to answer the questions, and you may ask us to withdraw your data from the analysis, up to two months after the study. You may stop at any time, without giving a reason, and there is no penalty for withdrawal. You will not be paid for taking part in this study.

9. CONSENT: You must be at least 18 years to participate in the study. If you agree with the above, please sign your name and indicate the date. You may ask for a copy of this consent form.

Study: *Command Selection with Gesture Keyboards* **ID:** *2017-DoB* **Participant ID:** *P-*

The nature and purpose of this research have been sufficiently explained and I agree to participate in this study. I understand that I am free to withdraw at any time without incurring any penalty.

Participant's name *(please print)* Signature Date

Researcher's name *(please print)* Signature Date

Informed consent

Let participants make an informed decision whether or not to participate in the study

Purpose:	What is the study for?
Procedures:	What will they do and for how long?
Risks:	Should be 'none'
Benefits:	Who benefits and how?
Anonymity:	How will their identity be kept secret?
Compensation:	Often voluntary and unpaid
Withdrawal:	User may withdraw at any time without a reason
Approval:	If it has undergone IRB review

HCI Research Results

But is protecting the study participant enough?

HCI ethics

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Goal	Protect users
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	But ...

Ethical Software design

Rarely considered in computer science education
    'Trolley problem' discussions insufficient

European laws protect data privacy
    (far less in United States)

Only option is to opt out
    No middle ground
    No informed consent

Rules applied to human subjects in experiments
    are not applied to human users

Ethical Software design

Training in computer science rarely
focuses on **consequences** for the user

hare to use	replacement
hard to learn	deskilling
exploitation	misinformation
persuasion	tracking

. . . etcetera