



# UNIVERSITY OF TWENTE.

## HCI DESIGN & EVALUATION LECTURE 7 ETHICS IN INTERACTION

PRINCIPLES, CONCEPTS, AND PROCEDURES

WHY | WHAT | HOW  
RANDY KLAASSEN

BASED ON SLIDES BY: DENNIS REIDSMA – ETHICS COMMITTEE COMPUTER AND  
INFORMATION SCIENCE

# THE COURSE

Week	Lecture (Location in <a href="#">Rooster</a> )	on	Tutorial	Deadlines	Readings
1	Introduction HCI Course overview, topic and project	15.11	Ideation activity * Literature * Brainstorm * top 3 ideas	Proposal report (Fri 19-11)	Klemmer, Lecture 1. Available: <a href="#">YouTube</a> Preece, Chapter 2 <a href="#">Link</a> Lazar, Chapter 1 <a href="#">Link</a>
2	Concepts, Ideation, Value Sensitive Design	22.11	Concept and Ideation * Scenario's, persona's, Values * Final #1 top idea * Video shotlist of above	Concept video, persona and scenario report (Fri 26-11)	Scenario-Based Design - Mary Beth <a href="#">LINK</a> Value Sensitive Design and Information Systems - Batya Friedman <a href="#">LINK</a> CHI - <a href="#">Guide to a Successful Video Submission</a>
3	User confrontation	29.11	User confrontation * Interview script * Interview with peer groups * Interview results and conclusions	Interview report (Fri 03-12)	Lazar, Chapter 5 Surveys <a href="#">Link</a> Lazar, Chapter 8 Interviews <a href="#">Link</a> Lazar, Chapter 11 Qualitative Data <a href="#">Link</a>
4	Lo-fi prototyping	06.12	Prototyping part I * (digital) prototyping * Setup user evaluation	-	Preece, Chapter 12 <a href="#">Link</a> Klemmer, Lecture 2, The Power of Prototyping <a href="#">Link</a> Lazar, Chapter 15 <a href="#">Link</a> Lazar, Chapter 16 <a href="#">Link</a>
5	Hi-Fi Prototyping	13.12	Prototyping part II * (digital) prototyping * User evaluation * Conclusions and results	Lo-Fi prototype report (Fri 17-12) Exam part I (Fri 17-12)	Lazar, Chapter 10 <a href="#">Link</a>
6	Experiment Design, Research methods and Data Analysis	20.12	Prototyping part III * Hi-fi prototyping	-	Lazar Chapter 2 <a href="#">Link</a> Lazar, Chapter 3.1, 3.2, 3.3 <a href="#">Link</a> Lazar, Chapter 4 <a href="#">Link</a> Usability.gov <a href="#">Link</a> ; Quant. Spec. <a href="#">Link</a>
<i>Holiday</i>					
7	Ethics	10.01	Prototyping part III * Hi-fi prototyping * Experiment design + ethics	Hi-Fi Prototype report (Fri 14-01) Controlled Experiment report (Sun 16-01)	<i>provided during lecture</i>
8	Guest lecture	14.01	User testing ( <b>Resits required</b> )	Exam part II (Fri 21-01)	-
9	n/a		n/a	Final project Report (Sun 23-01)	
10	n/a		n/a	Oral Reflection (TBD) (option) resubmission Final project Report (Sun 06-02)	

#### Readings List:

Rosson, M. B. & Carroll, J. M. (2002) Scenario-Based Design. [LINK](#)

Friedman, B., Kahn Jr., P. H. , & Borning, A. (2013) Value Sensitive Design and Information Systems [LINK](#)

Preece, Sharp & Rogers (2019). *Interaction Design: beyond human-computer interaction*. 5th edition. John Wiley. [Link](#)

Lazar, J., Feng, J. H., & Hochheiser, H. (2017). *Research methods in human-computer interaction*. Morgan Kaufmann. [Link](#)

# GUEST LECTURE

- Friday 14-01 13:45 – 15:30, online

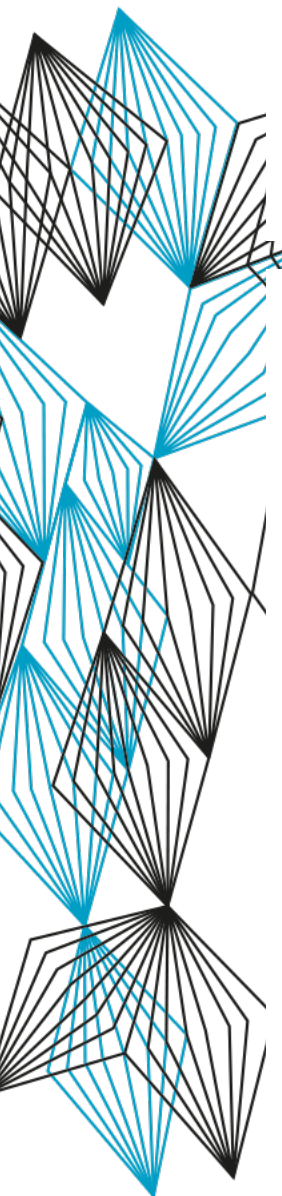


Harm op den Akker  
Senior Researcher

INNOVATION  
SPRINT



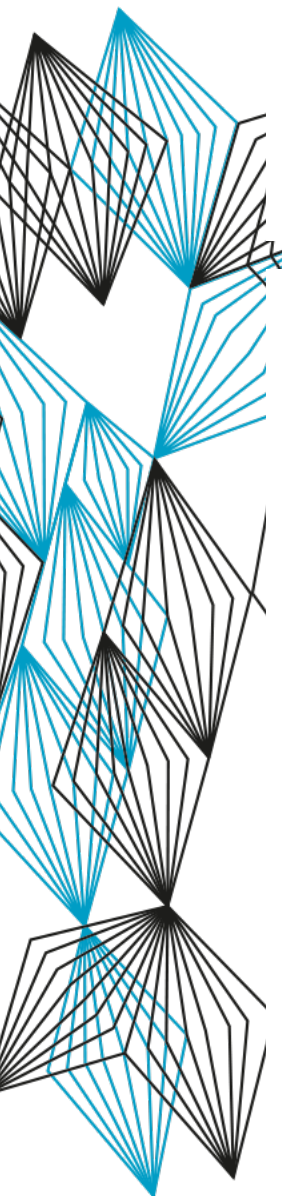
# WEEK 7

- 
- Online lectures
  - Online tutorials (Gather.Town, new URL, see Canvas)
  - AI&CS exam on campus, see rooster
  - New update later this week

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# **WHY? REASONS FOR ENGAGING WITH ETHICS**

# WHY THIS LECTURE?



You will have to apply for ethics committee assessments. Context analysis with users, lofi studies, final evaluations with users, ...

To this end, a quick overview of main involved principles, concepts, and procedures.

Provide you with the background to engage with ethics assessment procedures in research.

# WHY ETHICS?



Ethics in ICT and Interaction Technology research is a growing concern in the world; society desires accountability.

Funders and journals demand increasingly that we follow well established ethics procedures.

More sophisticated frameworks of research ethics are emerging that can contribute quality in how we carry out our research.

# WHY COMMITTEE?



Ethics Assessment: Ensure and verify that all research is prepared according to established view on what is ethical.

Visible accountability: Show outside world that our research is ethically well considered, by embedding in procedures.

Support and lifelong learning: Organise availability of knowledge, training, and advice to increase ethical sophistication of research.

# WHY COMPUTER & INFORMATION SCIENCE?



AI, algorithms, and data science

Cybersecurity

Human Computer Interaction design and user studies

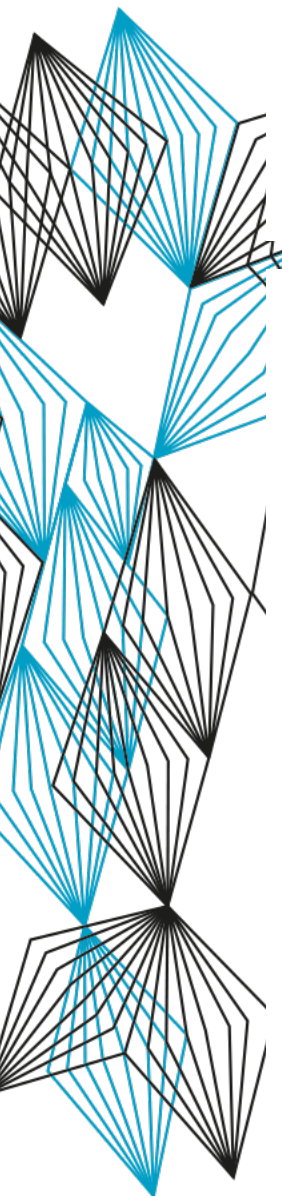
ICT as a motor of transformation – for good and for bad

...



# WHAT? SIX FACETS OF ETHICS IN OUR RESEARCH

# SIX FACETS OF ETHICS IN OUR RESEARCH



Discussion of ethics in research tends to be spurred on by actual cases.

# SIX FACETS OF ETHICS IN OUR RESEARCH

- 
- Professional Ethics of the Researcher  
*People should be able to trust the content and the provenance of research.*

# SIX FACETS OF ETHICS IN OUR RESEARCH

- 
- Professional Ethics of the Researcher
  - Research-with-Humans Ethics

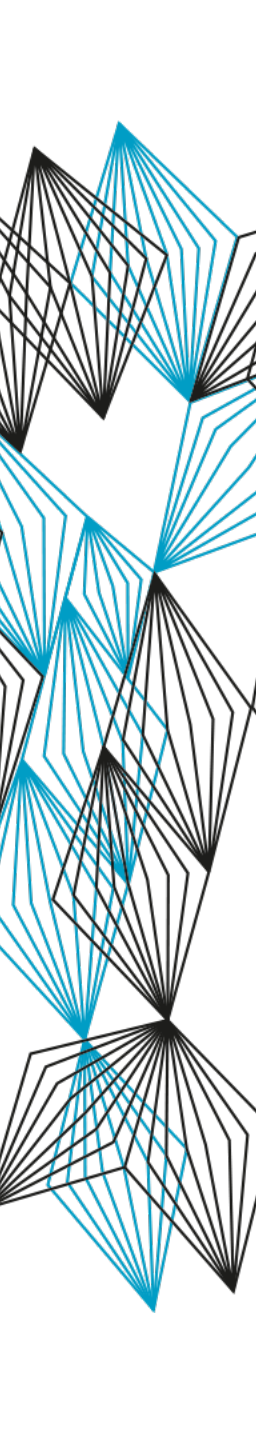
*People have the right not to be researched upon without knowing it, understanding it, & actively agreeing to it; we have a duty of care.*

# SIX FACETS OF ETHICS IN OUR RESEARCH

- 
- Professional Ethics of the Researcher
  - Research-with-Humans Ethics
  - Data-and-Privacy Ethics

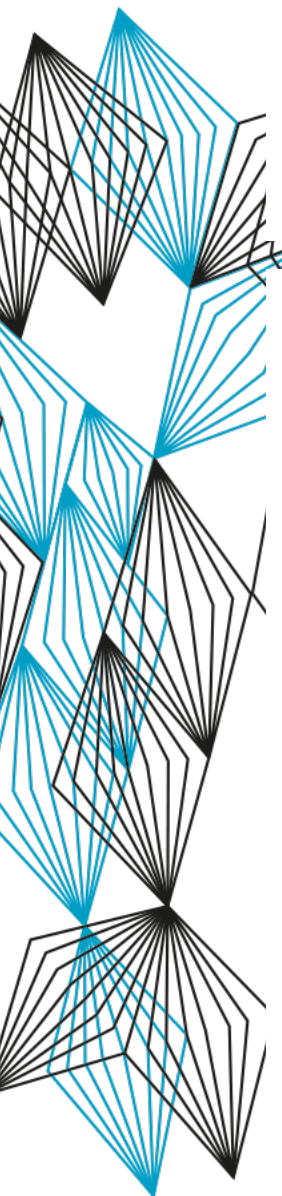
*People have the right that their personal data is not collected, processed, or shared without their consent, and the right to withdraw that consent at any time in the future.*

# SIX FACETS OF ETHICS IN OUR RESEARCH

- 
- Professional Ethics of the Researcher
  - Research-with-Humans Ethics
  - Data-and-Privacy Ethics
  - Design Ethics

*Try to design for good and avoid bad consequences.*

# SIX FACETS OF ETHICS IN OUR RESEARCH

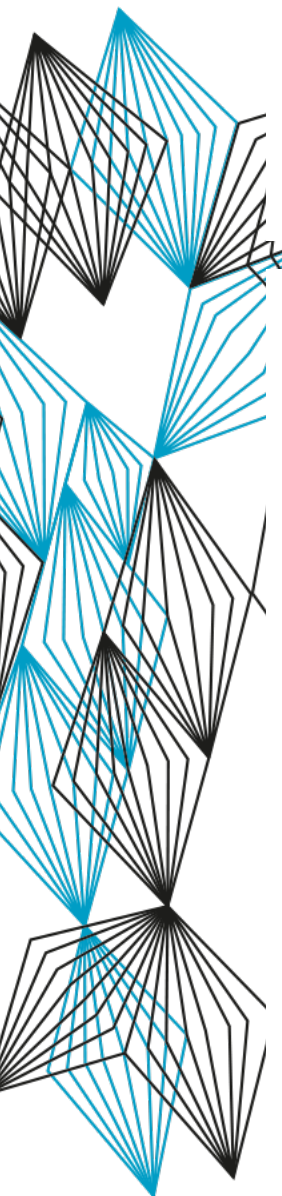
- 
- Professional Ethics of the Researcher
  - Research-with-Humans Ethics
  - Data-and-Privacy Ethics
  - Design Ethics
  - User Collaboration Ethics


*Treat your “users” with care and respect, whether they are present or not.*

# SIX FACETS OF ETHICS IN OUR RESEARCH

- 
- Professional Ethics of the Researcher
  - Research-with-Humans Ethics
  - Data-and-Privacy Ethics
  - Design Ethics
  - User Collaboration Ethics
  - Researcher's Well being Ethics
- We should also care for our researchers.*

# SIX FACETS OF ETHICS IN OUR RESEARCH

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- Professional Ethics of the Researcher
  - Research-with-Humans Ethics
  - Data-and-Privacy Ethics
  - Design Ethics
  - User Collaboration Ethics
  - Researcher's Well being Ethics
-

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# WHAT? SIX FACETS: MORE DETAIL

# PROFESSIONAL ETHICS OF RESEARCHER

## Foundation:

People should be able to trust content and the provenance of research

## Three basic principles:

Contribute real work

Claim only what is yours to claim

Credit others for their work

**Operationalisation:** don't fabricate data; cite properly; represent results clearly and critically; don't slice your papers too much; ethics of authorship; ...

**Examples:** Diederik Stapel, ...

*Indian J Psychiatry*, 2011 Apr-Jun; 53(2): 95–96.

doi: [10.4103/0019-5545.82529](https://doi.org/10.4103/0019-5545.82529)

PMCID: PMC3136032

PMID: [21772639](https://pubmed.ncbi.nlm.nih.gov/21772639/)

## The MMR vaccine and autism: Sensation, refutation, retraction, and fraud

[T. S. Sathyanarayana Rao](#) and [Chittaranjan Andrade](#)<sup>1</sup>

▶ [Author information](#) ▶ [Copyright and License information](#) [Disclaimer](#)

This article has been [cited by](#) other articles in PMC.

In 1998, Andrew Wakefield and 12 of his colleagues<sup>[1]</sup> published a case series in the *Lancet*, which suggested that the measles, mumps, and rubella (MMR) vaccine may predispose to

# RESEARCH-WITH-HUMAN ETHICS

## Basic principle:

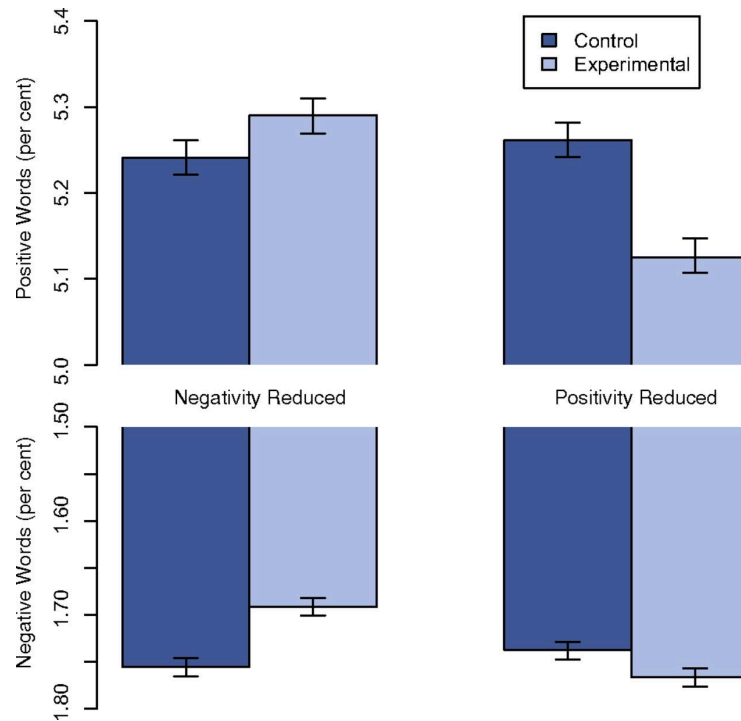
People have the right not to be researched upon without knowing, understanding, & actively agreeing to it (*informed, active, voluntary consent*) and a right not to be harmed in research.



# RESEARCH-WITH-HUMAN ETHICS

## Basic principle:

People have the right not to be researched upon without knowing, understanding, & actively agreeing to it (*informed, active, voluntary consent*) and a right not to be harmed in research.



# RESEARCH-WITH-HUMAN ETHICS



**Basic principle:**

People have the right not to be researched upon without knowing, understanding, & actively agreeing to it (*informed, active, voluntary consent*) and a right not to be harmed in research.

**Operationalisation:**

Consent forms

Information brochures

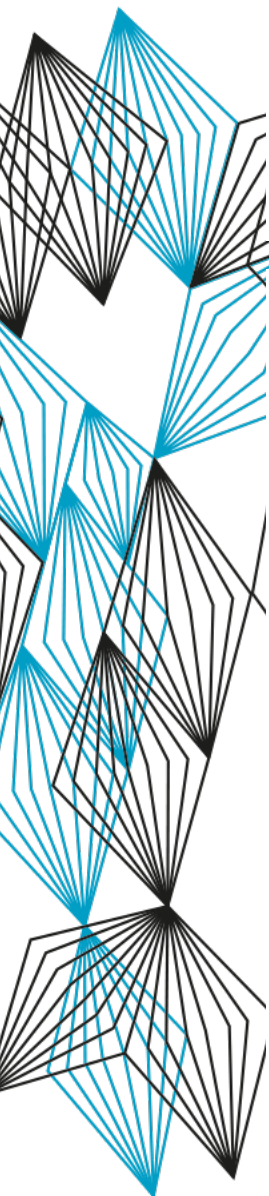
No pressure; watch out for power relations in recruitment

Ensure the “informed” part of the consent: language level

Minimise risk of harm

...

# DATA-AND-PRIVACY ETHICS



## Basic principle:

People have the right that their personal data is not collected, processed, or shared without their consent, and the right to withdraw that consent at any time in the future.

Operationalisation: GDPR

## Examples:

Cambridge Analytica; Strava; ...



# DESIGN ETHICS



**Basic principle:** Try to design for good, and avoid bad consequences

**Operationalisation:** reflection, imagination, scenario thinking, ...

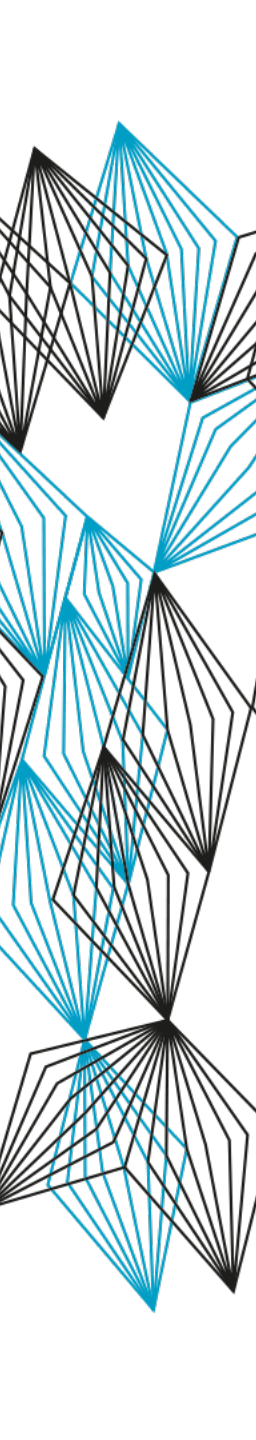
## Examples:

The desirability of the product: e.g., technology to replace human contact

Exclusion of marginalized groups: Face recognition underperforming on women and people of color, leading to more stop-and-search by police in US; gesture tracking not working on people in wheelchair; ...

Dual use, double effect, and misuse: technology that turns out to be good for possibly bad purposes. Encryption and criminality; robots and military; IoT and big data for surveillance and oppression; ...

# USER COLLABORATION ETHICS



**Basic principle:** treat your “users” with care and respect

**Operationalisation:** LISTEN. reflect.

**Examples:**

Not crediting the expert whom you interviewed

Drive by research and withdrawal of helpful technology (e.g., BLOX)

Communication and logistics being unduly burdensome (our initial school based work)

But also: “tainted collaborations”; working with partners who share your ethics

# RESEARCHER'S WELL BEING ETHICS



**Principle:** we should also care for ourselves

**Examples:** BLOX; working with refugees; projects on (mental) illnesses; ...

# SIX FACETS OF ETHICS IN OUR RESEARCH



Professional Ethics of the Researcher

*(plagiarism; honesty and integrity: contribute, claim, credit)*

Research-with-Humans Ethics

*(dignity, wellbeing, benevolence, beneficence, justice, risks)*

Data-and-Privacy Ethics

*(collecting data, publishing data, algorithms and big data vs privacy)*

Design Ethics


*(desirability, inclusivity, dual use, marginalized groups, data privacy)*

User Collaboration Ethics

*(users as partners, recognition, withdrawal, communication and logistics)*

Researcher's Well being Ethics

*(research in difficult settings)*

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# HOW? COMMITTEES AND PROCEDURES

# ETHICS COMMITTEE



Professional Ethics of the Researcher

*(plagiarism; honesty and integrity: contribute, claim, credit)*

**Research-with-Humans Ethics**

*(dignity, wellbeing, benevolence, beneficence, justice, risks)*

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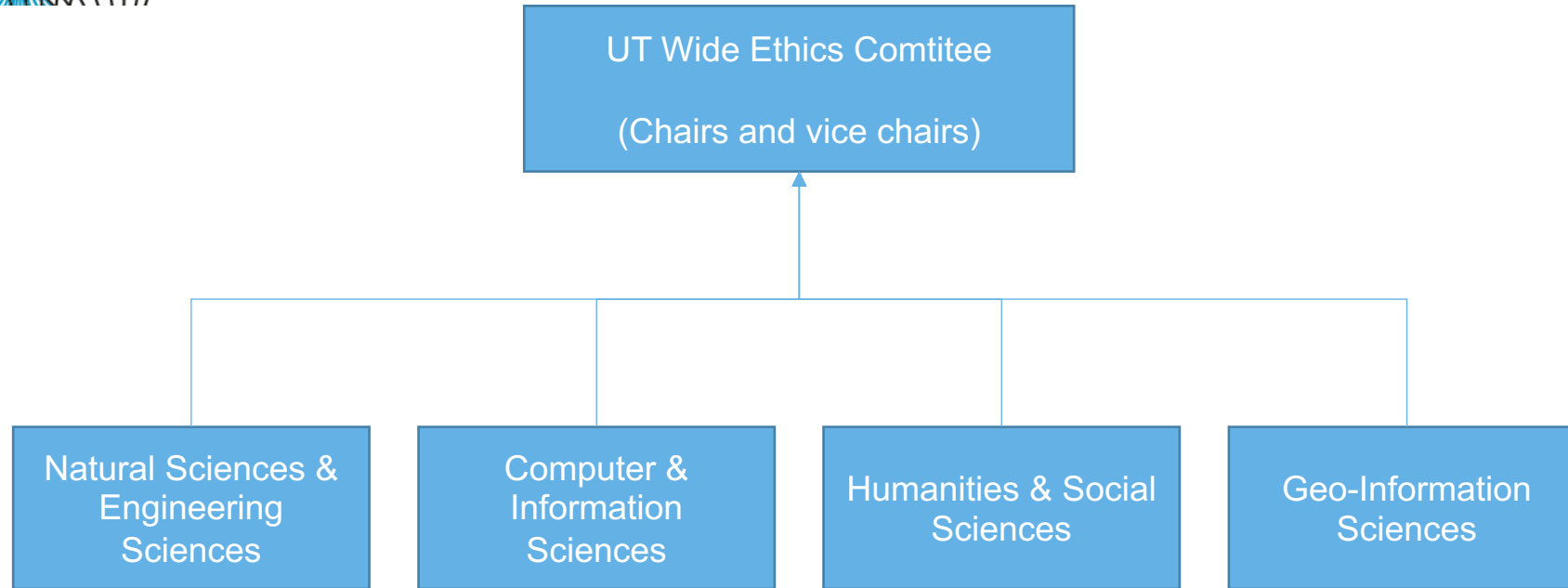
**User Collaboration Ethics**

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**Researcher's Well being Ethics**

*(research in difficult settings)*

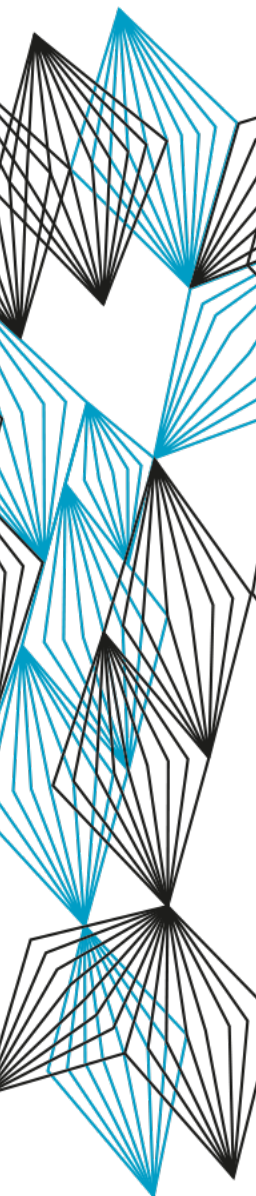
# ETHICS COMMITTEE




UT Research Ethics Policy as part of “House of Integrity” (2019).

*Domain committees, central procedures and framework for checklists, research support for researchers and for committees, development of web portal (2021)*

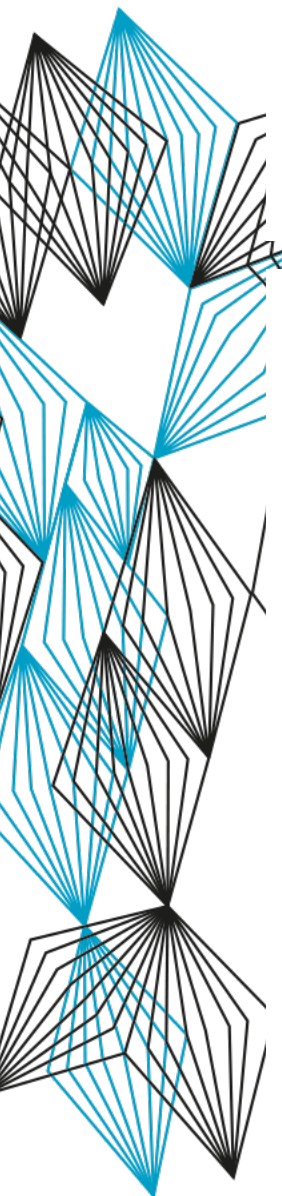
# ETHICS COMMITTEE – PROCEDURE

- 
- Choose domain – *EC-CIS, other domain, UT Wide, (or Medical)*
  - Self assessment – *Fill out **checklist***
  - Prepare request – ***Plans; consent forms; other documents**; enough detail but not more*
  - Ask advice – *Mandatory for students CreaTe and ITech!  
[ethics-create-itech@utwente.nl](mailto:ethics-create-itech@utwente.nl)*
  - Submit to EC – *Now: [ethicscommittee-cis@utwente.nl](mailto:ethicscommittee-cis@utwente.nl) ; later: dedicated portal.  
supervisor must approve for student.*
  - Assessment – *Trivial: automatic positive advice  
Simple: 1 EC member  
More complex: 2 or more EC members*
  - Decision – *Positive advice to the Dean*
  - Carry out research – *The best part!*

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# HOW? IMPORTANT CONCEPTS IN PRACTICE

# THEORY AND PRACTICE



Theory and the conceptual apparatus to discuss ethics (out of scope)

VS

The practical applied aspects of **dealing with humans in your research**

# ANTICIPATORY VS SITUATIONAL ETHICS



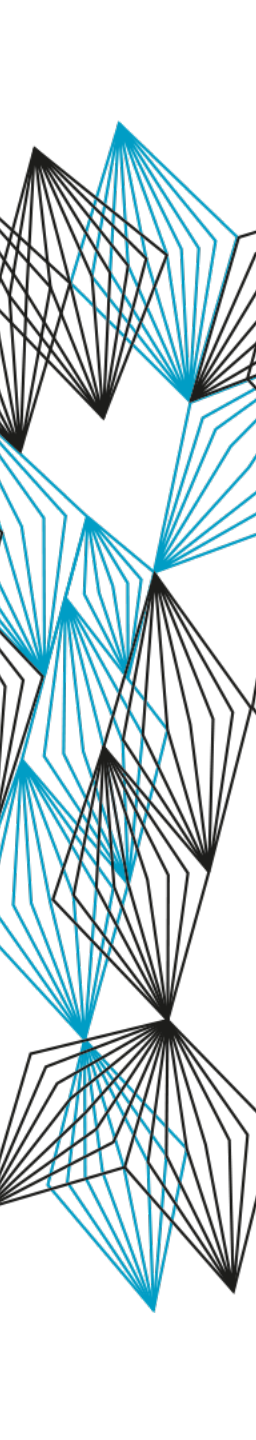
Responsibility lies with researcher

- Prepare
- Do
- Report
- Reflect

Ethics Committees play their role in the “prepare” phase

“Thou shalt not” vs “be sensitive”

# PROCEDURES, CHECKLISTS, AND FORMS



Anticipatory ethics assessments depend on checklists and forms; you need to understand what you are filling out.

Next part of presentation: concepts that you need to get your own EC assessments right, to describe the right aspects of your planned research in the right way.

# 1. LEGAL ASPECTS



## **GDPR**

*Privacy laws: gathering, use and publication of Personally Identifiable Information*

## **CCMO / WMO**

*Laws concerning medical studies: e.g., testing the health effects of a novel system*

## **Journal publications**

*Journals demand that you show a dossier number for your EC check*

## **Funding bodies**

*Most funding bodies legally require researchers to adhere to ethics principles and to follow procedures as precondition on getting the money*

# 2. CONSENT



Two backgrounds:

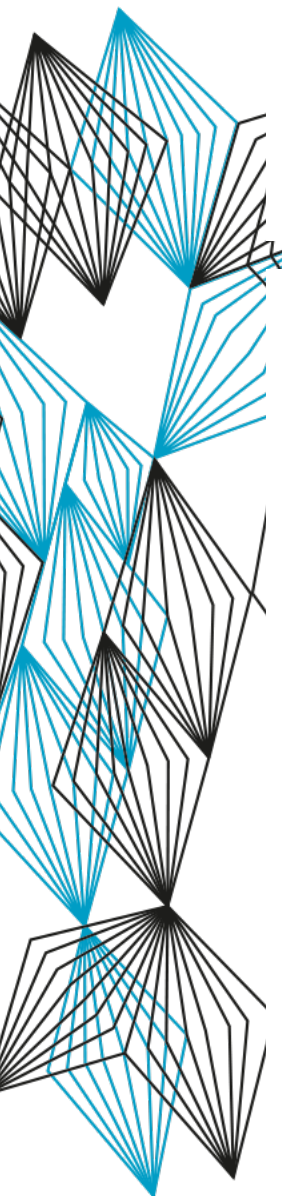
Consent on **participation** in research

*People have a right not to be experimented upon without their knowledge and consent*

Consent on personal **data** (GDPR!)

*People have a right that their personal data is not collected and used without their permission*

# 2. CONSENT



Show how you **ensure** and how you **document** that all your participants consented

Ask their explicit permission, with info brochure and signed consent form

Public Announcement

**WE WILL PAY YOU \$4.00 FOR ONE HOUR OF YOUR TIME**

**Persons Needed for a Study of Memory**

\*We will pay five hundred New Haven men to help us complete a scientific study of memory and learning. The study is being done at Yale University.

\*Each person who participates will be paid \$4.00 (plus 50c carfare) for approximately 1 hour's time. We need you for only one hour: there are no further obligations. You may choose the time you would like to come (evenings, weekdays, or weekends).

\*No special training, education, or experience is needed. We want:

- |                 |                     |                      |
|-----------------|---------------------|----------------------|
| Factory workers | Businessmen         | Construction workers |
| City employees  | Clerks              | Salespeople          |
| Laborers        | Professional people | White-collar workers |
| Barbers         | Telephone workers   | Others               |

All persons must be between the ages of 20 and 50. High school and college students cannot be used.

\*If you meet these qualifications, fill out the coupon below and mail it now to Professor Stanley Milgram, Department of Psychology, Yale University, New Haven. You will be notified later of the specific time and place of the study. We reserve the right to decline any application.

\*You will be paid \$4.00 (plus 50c carfare) as soon as you arrive at the laboratory.

TO:  
PROF. STANLEY MILGRAM, DEPARTMENT OF PSYCHOLOGY,  
YALE UNIVERSITY, NEW HAVEN, CONN. I want to take part in  
this study of memory and learning. I am between the ages of 20 and  
50. I will be paid \$4.00 (plus 50c carfare) if I participate.

NAME (Please Print) .....

ADDRESS .....

TELEPHONE NO. .... Best time to call you .....

AGE ..... OCCUPATION ..... SEX .....

CAN YOU COME:

WEEKDAYS ..... EVENINGS ..... WEEKENDS .....

# 2A. CONSENT ON PARTICIPATION

Risk, cost

Effort vs gain

Goal

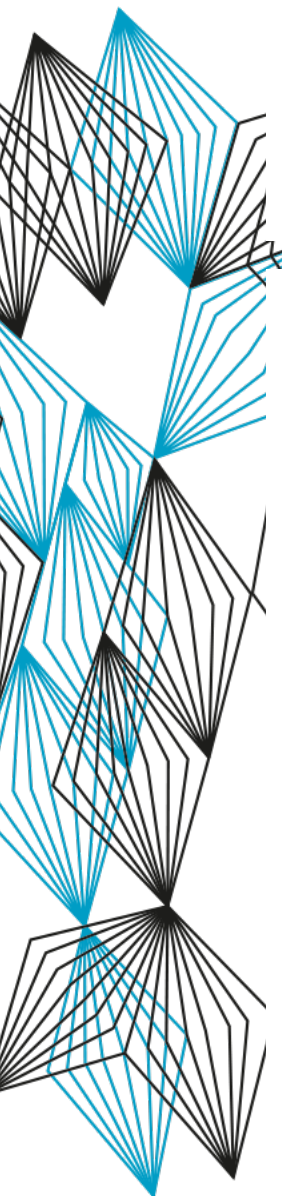
Nature of activity and stimuli and measures

Explain enough of the activity and stimuli and  
measures so people can see it is OK

Provide the explanation, and ask for the consent



# 2B. CONSENT ON DATA



Explain very clearly how will you use data:

- a) for analysis and drawing conclusions about certain subjects
- b) for publication in various ways

Ask consent:

- to collect data AND DO RESEARCH WITH IT including publishing derived anonymous results and sometimes publishing the anonymous data
- to collect PII and store it for research
- to PUBLISH PII (pseudo or fully identifiable)

Provide the explanation, and ask for the consent



Cambridge  
Analytica

# 2. AGE OF CONSENT



Are your participants legally able to provide consent?

Children, people with cognitive impairments

Proxy consent

At what age do we ask the children to sign themselves in addition to the parents?

Asking child assent besides parental consent

## 2. VOLUNTARY CONSENT



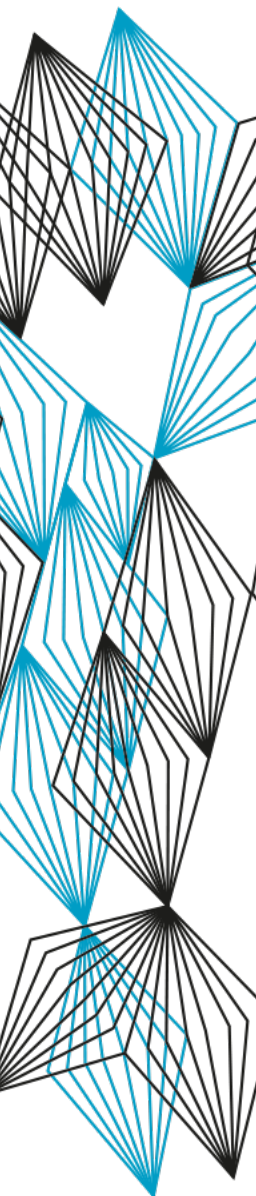
Power relations

Knowing they can withdraw

No consequences for dropping out

Alternatives to participation

## 2. INFORMED CONSENT



It's called **INFORMED** consent (it's not just a legalistic thing).  
*Language level!*

Chance for Q&A

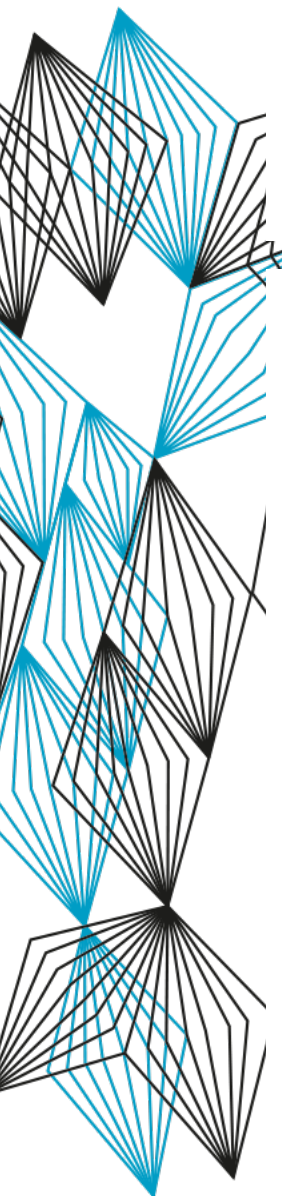
# 3. PRIVACY: WHAT IS PII?



**GDPR:** *Privacy laws concerning gathering, use and publication of Personally Identifiable Information*

- Data that could be used to identify a person
- Name, address, student number, photos
- Video and audio recordings
- GPS data
- But also... (expectations of future Big Data analysis)

# 3. PRIVACY: WHAT IS SENSITIVE PII?



**GDPR:** *Privacy laws concerning gathering, use and publication of Personally Identifiable Information*

- Sensitive data is data on, e.g.:
- religion
- gender identity
- medical records
- sometimes political orientation
- ...

Process with extra care! (and only if you REALLY need it)

# 3. PRIVACY: USING AND STORING DATA



**GDPR:** *Privacy laws concerning gathering, use and publication of Personally Identifiable Information*

- UTwente policy [\[link\]](#)
- GDPR registration [\[link\]](#): always register your processing of Personally Identifiable Information (PII)
- Informed Consent (“a signature”): needed to process a person’s PII
- Store safely: Encrypted drives; Certified storages
- Some risks with processing PII...



# 4. RESEARCH DATA: VERIFICATION AND REPLICATION

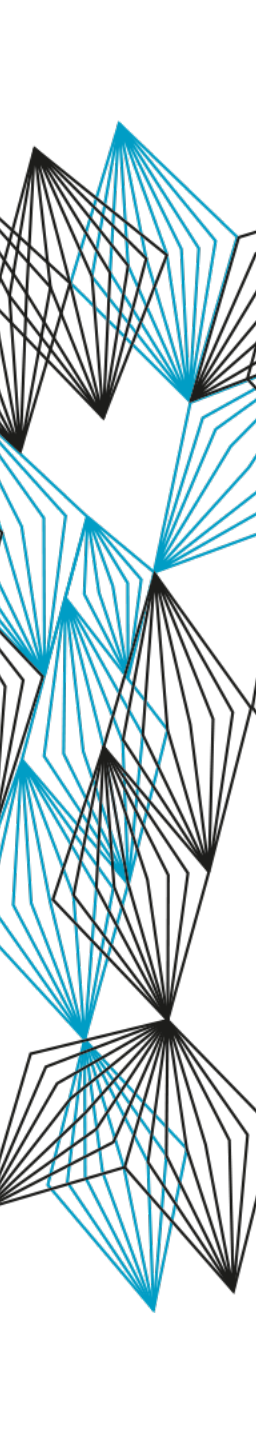
Code of conduct of Universities demands that research data is kept for verification / validation...

What is this?

Why is this ethics related?

How does it relate to privacy and consent?

# 5. USER SELECTION



From ethics perspective: Are you targeting the right users? Are there potential users for whom the efforts or risks are greater? Are you excluding users for the wrong reasons?

- Inclusion
- Exclusion (group level)
- Representative sampling
- **Screening** for adverse effects (individual level exclusion)
- Accidental discovery (past projects: of lung problems, or color blindness, or the fact that a test with a driving simulator shows that someone is in fact not capable of holding a driver's license, ...etc)

# 6. COMMUNICATION: WORKING WITH USERS



Communication with users: they should feel valued, welcome, and included.

From ethics perspective:

- Don't recruit via inappropriate channels
- Plan your logistics to minimize unnecessary effort from their side
- Explain things and check that they understood
- Help them feel at ease, thank them
- Accept “no” for an answer
- Use “qualified” researchers
- Offer room for questions, also to independent contact person (EC!)
- Debrief

# 7. STIMULI AND MEASURES



Tasks, stimuli, and interview questions should be chosen carefully with eye to participant well-being.

- Too much effort (mental but also physical)
- Health risks
- Offensive or threatening stimuli
- Triggering memories of previous experiences by thoughtless stimuli
- Asking about personally sensitive things
- Deception
- Stop protocol (e.g., for motion sickness, or “emotional meltdowns” of children)

# 8. MEDICAL OR THERAPEUTIC RESEARCH



**WMO / CCMO:** *Laws concerning medical studies: e.g., testing the health effects of a novel therapeutic system.*

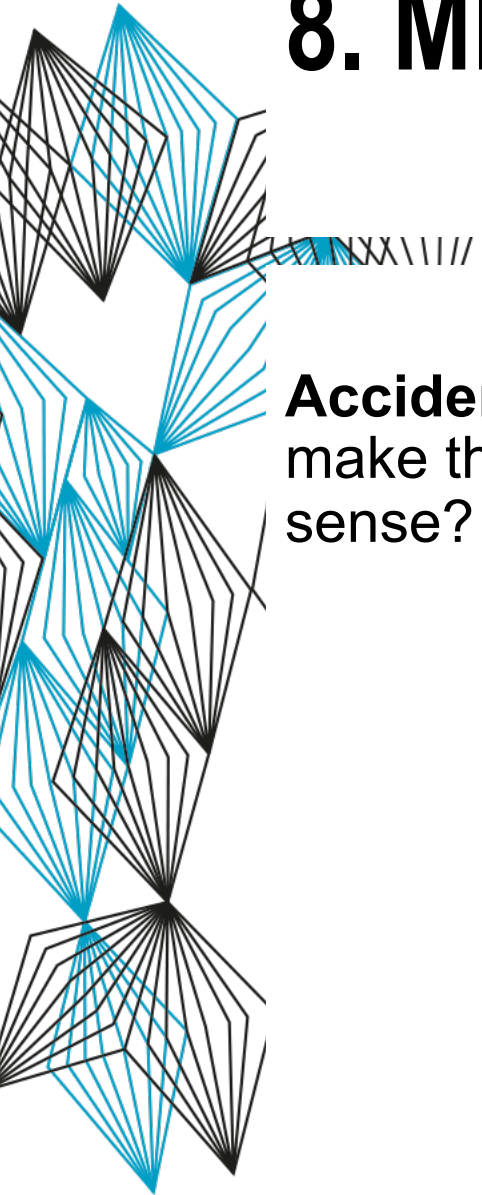
Medical outcome? Medical target population?

Always check whether your UX research does not fall under laws for medical research.

Depends on questions, task, and outcome: how will you use the data analysis?

*(1 years in prison or 20.000 EUR fine – and still: personal responsibility!)*

# 8. MEDICAL OR THERAPEUTIC RESEARCH



**Accidental discoveries:** Should you report them or not? Are there any chances to make these discoveries? Are you capable enough to interpret the data in this sense?

# PREPARING YOUR MATERIALS

Minimum content for assessment:

- information brochure for participants
- consent form to be signed
- filled out Ethics Committee self assessment
- (possibly: a Data Management Plan and GDPR registration)

Use examples of other students and researchers, ask supervisor

But check carefully and tailor to own situation

Ask mandatory advice: [ethics-create-itech@utwente.nl](mailto:ethics-create-itech@utwente.nl)

# FINAL NOTE



Do Not Overdo Ethics Checking

Do Not Trivialize Ethics Checking

Anticipatory and Conversational Checking

what can we make?

what can be the value of what we make?

what can be the dis-value of what we make?

what are the good and bad sides of my approach?

who am I and what do I bring into it?

**Thank you!**

# UNIVERSITY OF TWENTE.

## ETHICS IN INTERACTION

PRINCIPLES, CONCEPTS, AND PROCEDURES

WHY | WHAT | HOW