Law and Ethics in Human-Computer Interaction

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Introduction

Law

“The system of rules which a particular country or community recognizes as regulating the actions of its members and which it may enforce by the imposition of penalties.”

(Oxford Dictionary)

HCI

“The study of how humans interact with computers, and how to design computer systems that are easy, quick and productive for humans to use.”

(Dictionary of Computing, © Denis Howe)
Introduction

Law and Ethics in HCI

Modern computing:
Contextual search, health apps, Internet of things, AI, Unmanned aerial vehicles

- Infiltration
- Decision-making

*HCl – an authorisation of a computer user*
Introduction

HCI:

System of rules which users recognize as regulating their actions.

“Penalties” – lack of access to the service or technology

Law:

Regulatory system of human (inter)actions

Penalties – sanctions defined by law
Introduction

Defining the rules with respect to rights of an individual, law and ethics

= New responsibility of HCI researchers, SW/HW architects and engineers
Subject of the lecture

Legal and Ethical Issues of HCI

• Privacy

• Dignity - Personality rights

• Personal Integrity
Subject of the lecture

**HCI and Law - Areas of Law**

- Intellectual Property (Copyright, Patent, Utility Model, Industrial Design)
- Unfair Competition
- Data Protection
- Contracts
- Legal regulation of research, innovation and higher education

**Related Courses at CTU**

Intellectual Property

Research in HCI

Rights and obligations of:

• Subject of the Research

• Researcher (data controller)

• Third Party (another data controller, the next of kin)
Research in HCI

Research methods in HCI

• Survey - Data Collection
• Interviews for Research - Interaction with the subject of the research
• Observational Research and Secondary Data
• Secondary Data Collection – Development - Customisation, Third Party Data

Human Subject Research
(only when interacting with the subject)
Research in HCl

Research in HCl – Human Subject Research

**Intervention** - eg. manipulations of the subject or the subject’s environment that are performed for research purposes. [45 CFR 46.102(f)]

**Interaction** - communication or interpersonal contact between investigator and subject. [45 CFR 46.102(f)]

**Private information** - information about behaviour that occurs in a context in which an individual can reasonably expect that no observation or recording is taking place, and information which has been provided for specific purposes by an individual and which the individual can reasonably expect will not be made public. [45 CFR 46.102(f)]

**Identifiable information** - information that is individually identifiable (i.e., the identity of the subject is or may readily be ascertained by the investigator or associated with the information).

*CFR – Code of Federal Regulation; 45 CFR part 46 - U.S. regulation on protection of human research subjects based on Belmont Report*
Research in HCI
Ethical Principles

Respect for individual, beneficence, justice (Belmont Report)

- risks vs. benefits 
  - no benefits – no research

- equal distribution vs. research group with special needs (Q: Should children be excluded or not?)

- protection and due care in respect to the research subjects

Ethical Committee of the University
Internal policy of the University
Research in HCI
Ethical Principles

Nuremberg War Trials - The Nuremberg Code (1947)
Permissible Medical Experiments

1. The voluntary consent of the human subject is absolutely essential. This means that the person involved should have legal capacity to give consent; should be so situated as to be able to exercise free power of choice, without the intervention of any element of force, fraud, deceit, duress, overreaching, or other ulterior form of constraint or coercion; and should have sufficient knowledge and comprehension of the elements of the subject matter involved as to enable him to make an understanding and enlightened decision. This latter element requires that before the acceptance of an affirmative decision by the experimental subject there should be made known to him the nature, duration, and purpose of the experiment; the method and means by which it is to be conducted; all inconveniences and hazards reasonably to be expected; and the effects upon his health or person which may possibly come from his participation in the experiment.

2. The experiment should be such as to yield fruitful results for the good of society, unprocurable by other methods or means of study, and not random and unnecessary in nature.

4. The experiment should be so conducted as to avoid all unnecessary physical and mental suffering and injury.

6. The degree of risk to be taken should never exceed that determined by the humanitarian importance of the problem to be solved by the experiment.

9. During the course of the experiment the human subject should be at liberty to bring the experiment to an end if he has reached the physical or mental state where continuation of the experiment seems to him to be impossible.

10. During the course of the experiment the scientist in charge must be prepared to terminate the experiment at any stage, if he has probable cause to believe, in the exercise of the good faith, superior skill and careful judgment required of him, that a continuation of the experiment is likely to result in injury, disability, or death to the experimental subject.
Personal data protection
Legal Issues of HCI Research

• Scope of data and kinds of data processed
• Consent
• Surveillance from point of view of Personal Data Protection
• Third Party’s Use of Data
• Protection of the data and the system
Personal data protection
Legal regulation in the Czech Republic

• Constitutional act No. 2/1993 Coll. as amended, Charter of Fundamental Rights and Freedoms

• Act No. 89/2012 Coll., Civil Code

• Act No. 101/2000 Coll., on Personal Data Protection / GDPR and Act No. ?, on Personal Data Processing

• Act No. 40/2009 Coll., Criminal Code
Section 3 - Scope of the Act

- processed by state authorities (...) and natural and legal persons
- by a natural person for personal needs exclusively
- accidental personal data collection, unless these data are subject to further processing
Section 4 - Definitions

- personal data
- sensitive data
- personal data processing
- personal data collection
- personal data liquidation
- controller
- processor
- register or personal data file
- consent of data subject
Chapter II
Rights and obligations in processing of personal data

Section 5 para 2
- consent or an exception c) essential for the protection of vitally important interests of the data subject  BUT
  the consent of data subject must be obtained without undue delay

Section 9 Sensitive data
- qualified consent (express)
- case of emergency (without consent)
- in relation with ensuring health services, public health protection (special leg. reg.)

Section 10
- dignity
Chapter II
Rights and obligations in processing of personal data

Section 13  Personal data security
- controller obliged to adopt measures preventing unauthorised or accidental access to personal data

Section 16  Notification Obligation
- Whoever intends to process personal data as a controller
- certificate (x GDPR)
Chapter II
Rights and obligations in processing of personal data

Section 20  Liquidation of Personal Data
- as soon as the reason ceased to exist

Section 25 et. seq.  Protection of Data Subjects' Rights
- processed in contradiction with the protection of private and personal life of the data subject (…) OR without authorisation (consent)
- legal redress
Personal data protection
Legal regulation in the Czech Republic
GDPR and Act No. ?, on Personal Data Processing

• GDPR effective and enforceable as of 25th May, 2018
• Adaptation Act (use of exceptions)
• All parties involved must be ready by 25th May, 2018
• Protecting the data subject
• Administrative burden with possibility of exceptions e.g. for journalism, art or science (on national regulatory basis)
Personal data protection
Legal regulation in the Czech Republic

GDPR and Act No. ?, on Personal Data Processing

GDPR - new

- Not primarily consent-based
- DPIA
- Incident Report
- Data portability right
- Data processing report
- No Data processing registration
- DPO
- GDPR Compliance certification
- WP29 – European Data Protection Board (EDPB)
Personal data protection
Legal regulation in the Czech Republic - Research

GDPR and Act No. § , on Personal Data Processing

Art. 85 of GDPR

Processing and freedom of expression and information

1. Member States shall by law reconcile the right to the protection of personal data pursuant to this Regulation with the right to freedom of expression and information, including processing for journalistic purposes and the purposes of academic, artistic or literary expression.

2. For processing carried out for journalistic purposes or the purpose of academic artistic or literary expression, Member States shall provide for exemptions or derogations (…) if they are necessary to reconcile the right to the protection of personal data with the freedom of expression and information.
Art. 89 of GDPR

Safeguards and derogations relating to processing for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes

2. Where personal data are processed for scientific or historical research purposes or statistical purposes, Union or Member State law may provide for derogations from the rights referred to in Articles 15, 16, 18 and 21 subject to the conditions and safeguards referred to in paragraph 1 of this Article in so far as such rights are likely to render impossible or seriously impair the achievement of the specific purposes, and such derogations are necessary for the fulfilment of those purposes.
Personal data protection
Legal regulation in the Czech Republic

GDPR and Act No. ?, on Personal Data Processing

• 5th December, 2018 Chamber of Deputies passed the Act (now to the Senate)

Act No. 101/2000 Coll., on Personal Data Protection

Act No. ?, on Personal Data Processing
Personal data protection
Legal regulation in the Czech Republic

The Office for Personal Data Protection

The Office for Personal Data Protection is an independent body set up to

• supervise observance of the legal obligations laid down for processing of personal data;
• maintain the register of notified data processing operations;
• deal with initiatives and complaints from citizens concerning breach of law;
• provide consultancy in personal data protection

https://www.uoou.cz/
https://www.mvcr.cz/gdpr/
edpb@edpb.europa.eu
EDPB has at the moment (9.12. 2018) no specific guidance regarding research

WP29 Guidelines on Consent – Consent and Research

GDPR Recital 159 states “(...) For the purposes of this Regulation, the processing of personal data for scientific research purposes should be interpreted in a broad manner. (...)”

WP29 interpretation: Research project set up in accordance with relevant sector-related methodological and ethical standards, in conformity with good practice.

Consent should be distinguished from other consent requirements that serve as an ethical standard or procedural obligation.
Personal data protection
Legal regulation in the Czech Republic - Research

• ensure that technical and organisational measures are in place in particular in order to ensure respect for the principle of data minimisation. *E.g. data minimization, anonymisation and data security.* (Art. 89 (1) GDPR)

• Recital 33 states: “It is often not possible to fully identify the purpose of personal data processing for scientific research purposes at the time of data collection. Therefore, data subjects should be allowed to give their consent to certain areas of scientific research when in keeping with recognised ethical standards for scientific research. Data subjects should have the opportunity to give their consent only to certain areas of research or parts of research projects to the extent allowed by the intended purpose.” - but where cannot be specified, Rec. 33 allows more general description
Title
Safeguards
Principles: Lawfulness, fairness and transparency, Purpose limitation, Data minimization, Accuracy, Storage limitation, Integrity and confidentiality (security), Accountability
Administrative checklist

• appropriate safeguards
• transparency
• withdrawal of the consent
• sensitive data – Art. 9 GDPR
Example of consent in research under WP29 Guidelines

In an online context, a controller could retain information on the session in which consent was expressed, together with documentation of the consent workflow at the time of the session, and a copy of the information that was presented to the data subject at that time. It would not be sufficient to merely refer to a correct configuration of the respective website.

[Example 21] A hospital sets up a scientific research programme, called project X, for which dental records of real patients are necessary. Participants are recruited via telephone calls to patients that voluntarily agreed to be on a list of candidates that may be approached for this purpose. The controller seeks explicit consent from the data subjects for the use of their dental record. Consent is obtained during a phone call by recording an oral statement of the data subject in which the data subject confirms that they agree to the use of their data for the purposes of project X.
Personal data protection
Legal regulation in the Czech Republic - Research

• appropriate safeguards
• transparency
• withdrawal of the consent
• special categories of personal data - sensitive data – Art. 9 GDPR:

No explicit consent needed if processing is necessary for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes in accordance with Article 89(1) based on Union or Member State law which shall be proportionate to the aim pursued, respect the essence of the right to data protection and provide for suitable and specific measures to safeguard the fundamental rights and the interests of the data subject.
Personality Rights
Legal Issues of HCI Research

• Concept of Privacy
• Consent
• Surveillance from point of view of Personality Rights
Personality rights
Legal regulation in the Czech Republic

Constitutional act No. 2/1993 Coll. as amended, Charter of fundamental rights and freedoms

Article 7

(1) The inviolability of the person and of her privacy is guaranteed. They may be limited only in cases provided for by law.

Article 10

(1) Everyone has the right to demand that her human dignity, personal honour, and good reputation be respected, and that her name be protected.

(2) Everyone has the right to be protected from any unauthorized intrusion into her private and family life.
Personality rights
Legal regulation in the Czech Republic

Act No. 89/2012 Coll., Civil Code

Section 3

(1) Private law protects the dignity and freedom of an individual and his natural right to pursue his own happiness and the happiness of his family or people close to him in a way that does not unreasonably harm others.

(2) Private law primarily relies on the following principles:

a) everyone has the right to protect his life and health, as well as freedom, honour, dignity and privacy,

b) family, parenthood and marriage enjoy special statutory protection,

c) no one may sustain unjustified harm due to insufficient age, mental capacity or dependency; however, no one may unreasonably benefit from his own inability to the detriment of others,
Personality rights
Legal regulation in the Czech Republic

Act No. 89/2012 Coll., Civil Code

Personality rights of an individual

Section 81 General provisions

(1) Personality of an individual including all his natural rights are protected. Every person is obliged to respect the free choice of an individual to live as he pleases.

(2) Life and dignity of an individual, his health and the right to live in a favourable environment, his respect, honour, privacy and expressions of personal nature enjoy particular protection.
Image and privacy

Section 84  
Capturing the image of an individual in any way that would allow his identity to be determined is only possible with his consent.

Section 86  
No one may interfere in the privacy of another without a lawful reason. Without an individual’s consent, it shall in particular be prohibited to intrude into his private premises, watch or record his private life on audio or video recordings, use such or other recordings made by a third person about the private life of an individual, or distribute such recordings about his private life. Private documents of personal nature are protected to the same extent.
Section 89

An image, or audio or video recording may, without the consent of an individual, also be reasonably made or used for scientific or artistic purposes and for print, radio, television or similar coverage.

Section 90

Lawful reasons for interference with the privacy of another or for the use of his image, documents of personal nature or audio or video recordings may not be used unreasonably in conflict with the legitimate interests of the individual.
Section 31  Minors

Any minor who has not yet acquired full legal capacity is presumed to be capable of making juridical acts which are, as to their nature, appropriate to the intellectual and volitional maturity of the minors of his age. (objective) compare with Section 32 and 33 - business activities (subjective)

vs.

Subsidiary measures in the case of disrupted capacity of an adult to make juridical acts
Case Study: In-hospital navigation / Monitoring system for Elderly Individuals

Subject of Research: Elderly individual

- Minors vs. Elderly individuals:
  - Minors - Particular protection of rights (objectivised by age and in some cases by objective circumstances)
  - Elderly Individuals (No particular protection of rights of Elderly individuals)
Personality rights
Legal regulation in the Czech Republic

Act No. 89/2012 Coll. Civil Code

Subsidiary measures in the case of disrupted capacity of an adult to make juridical acts

Section 38 et seq. Declaration in anticipation of incapacity
In anticipation of one’s own lack of capacity to make juridical acts, an individual may express the will to have his matters managed in a certain way or by a certain person (…)

Section 49 et seq. Representation by a household member
(1) If a mental disorder prevents an adult who has no other representative to make juridical acts, he may be represented by his next of kin (…) BUT
Section 52

(1) Representation covers ordinary matters, as is consistent with the life circumstances of the person represented. However, the representative may not give consent to an interference in mental or physical integrity of the individual with permanent consequences.
Case Study: In-hospital navigation / Monitoring system for Elderly Individuals

Subject of Research: Elderly individual:

- Protection of Elderly individuals

- Consent – Limitation in cognitive capacity - legal activity (consent)
Case Study: In-hospital navigation / Monitoring system for Elderly Individuals

Subject of Research: Elderly Individual

- Next of kin decision-making
- Personal Integrity
  - Consent
  - Necessary Assistances
Personality rights
Legal regulation in the Czech Republic

Act No. 89/2012 Coll. Civil Code

**Right to mental and physical integrity** Section 91 et seq.

**Section 91**

An individual is inviolable.

**Section 99**

If an individual’s life gets into a **sudden and apparent danger** and consent cannot be obtained even in a form other than the one prescribed, **immediate intervention** may be carried out if it is necessary for the benefit of the health of the individual concerned.
Case Study: In-hospital navigation / Monitoring system for Elderly Individuals

Act No. 40/2009 Coll., Criminal Code

Section 150  Failure to Provide Assistance

(1) Whoever fails to provide necessary assistance to another person in danger of death or showing signs of a serious health disorder or a serious disease, even though he/she can do so without endangering him-/herself or another person, shall be sentenced to imprisonment for up to two years.

(2) Whoever fails to provide necessary assistance to another person in danger of death or showing signs of a serious health disorder or a serious disease, even though he is required to provide such assistance by the nature of his/her employment, shall be sentenced to imprisonment for up to three years or to prohibition of activity.
Summary: Law and Ethics in Human-Computer Interaction

- Subject of the research/data collection (user) = Individual
- Specifics of elderly individuals
- Consent
- Personal data protection
- Privacy
- Ethical aspects of computer systems in quotidian life – synergy, not intrusion
Use of prototype of a programme for scientific research

Act No. 527/1990 Coll., on Inventions and Rationalisation Proposals

- Computer programs are not patentable as such but only as part of patentable technology!
- Combined legal regulation predominantly within the Copyright Act
- Section 13: prohibition of unauthorised commercial use of a patent and limitation: when already on the market
- Section 18: d) and e) legitimate use for non-commercial and experimental purpose
Use of prototype of a programme for scientific research

- Act No. 121/2000 Sb., Copyright Act
- Section 65: programme protected as literary work - whereas mere ideas (algorithm) and principles are not protectable

- Section 66 – Limitation of rights of an author of a computer programme
  Sec. 1 d) in a nutshell:
  Rights of the author are not infringed by reverse engineering if the programme as such is used (was acquired) legally.
Use of prototype of a programme for scientific research

Conclusion

• Complex protection
• Requires further study and knowledge of the specific use of the specific programme
• ÚPV, Research Committee of the Faculty, IP literature regarding legal protection of programme
Thank you for your attention
VERONIKA KŘÍŽOVÁ: LAW AND ETHICS IN HCI

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