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Privacy

Computer forensics

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Agenda

- Basics: See lecture “Legal basics for computer scientists”!
  - → The basic right
  - → Giving "consent"
  - → Exclusions
  - → …
- Here only some special topics:

Who is protected?

- EU directive: Only natural persons
  - → Austria: Extended to legal persons
- The intention is to protect humans from everything/-one else
  - → This includes:
    - » Children in relation to their parents
    - » Employees in relation to their manager/the employing company
    - » The managers from the public
  - → Excluded are:
    - » Anonymous persons
    - » Unique things
      - – Only as long as they are not associated with a single person!
- Legal entities are often protected only to a lesser degree
  - → See e.g. publishing financial data; or environmental pollution
  - → **They are included** in the (later) directive on privacy and electronic communications!

Identifiability

- Only persons identified or identifiable are protected
  - → If nobody can say who the person is the data relates to, there is no danger at all (purely statistical data)
  - → For the EU directive "nobody" means:
    - » Identification only through an external entity with no obligation to provide the information, like an ISP → Not identifiable
    - » Identification possible through own databases, from sources that are controlled, or where disclosure is obligatory → Identifiable
  - → Legally enforceable or practically possible → Identifiable
- Identification can be possible directly or indirectly
  - → E.g. one/more factors specific to physical, physiological, mental, economic, cultural, social identity
    - » "The blonde girl working in the accounting department"
    - » If there is only one a) young woman, with b) blond hair, c) in that department → Still identifiable

Identifiability: IP addresses

- In computer forensics, you often only get the IP address
  - → Distinguishing between “internal” and “external” ones:
    - » Internal: You know/can find out which computer (→ user) this is
      - – Therefore this is clearly identifiable data
      - – Austria: Directly person-related data
    - » External: Static IPs → Through WHOIS owner can be identified
      - – Typically a company, not a person
      - – Without any further information, no identification possible
      - – Austria: **In**directly person-related data
- Attention: Depending on the content of the communication, everything can be completely different!
  - → Example: E-Mail is observed on the wire
    - » We don’t just have the IP of sender and recipient, but also their full E-Mail addresses, probably their names (content!), …!

What is protected?

- All data relating to a protected person
  - → Example: Hair colour, voice, letters, personal habits or preferences, income, sexual orientation, last breakfast meal, creditworthiness, …
  - → Regardless whether it is "important" or not
    - » Together with other data it might become important
    - » Everyone can determine the importance for them autonomously
- Result: If there is a list of "person" (identified somehow) and "attribute(s) of this person", the list is protected!
  - → Note: There is one additional data hidden here: Being on the list!
  - → Example: List of name and address
    - » Public data (taken from phone book)
      - – Practically unprotected and completely harmless
    - » Add the heading: "AIDS patients"
      - – Suddenly this list becomes much more dangerous!

What is protected?

- Special protection exists for more "dangerous" data:
  - → "Sensitive" data: Closed list
    - » Racial/ethnic origin, political opinion, religious/philosophical beliefs, trade-union membership, health, sex life
  - → "Criminal" data: Closed list
    - » Offences, criminal convictions, security measures
      - – Does NOT refer to administrative sanctions or judgements in civil cases (national law may include them, however!)
    - » Attention: When searching for clues, any kind of (probably later used as) evidence is NOT such criminal data!
      - – This refers to the fact that a person was convicted (for a certain crime/…), not about the evidence which led to this!

What is not protected?

- Data which is not processed and stored
  - → If immediately and automatically filtered out, no limitation
    - » This means, there must be no possibility of reconstruction/…!
- Example: Calculating statistics on network packet length
  - → You have to look at the packet (→ IP address, content, …), but all that is processed and stored is the length
  - → But not:
    - » Storing the whole packet for later statistics
      - – You could also look at its content!
    - » Statistics of packet length of a certain user
      - – IP address is processed to select which packets to investigate!

Exclusions from protection

- Some data/persons is excluded wholly from the applicability of the directive
  - → Matters outside the scope of the EU
    - » Excluded from the applicability in Austria in the law
- Not applicable in all points:
  - → No information, no objection, no supervision, …
  - → Areas:
    - » National/Public security: Police
    - » Defence: Military secret service
    - » State security, including the economic well-being of the state
      - – Includes the EU
      - – Examples: Secret service
    - » State activities in criminal law: Preventive measures
  - → Note: The ECHR still applies, i.e. exclusions must also conform to it!

Exclusions: Overview

- The basic right prohibits any use of personal data
  - → See above: This will not work in society
- Several exclusions exist, when personal data may be collected, used, stored etc.
  - → Typically, transferring the data is much more restricted!
  - → Fewer exclusions exist for the more "dangerous" subsets of data: sensitive and criminal data
- In the EU directive the exclusions are very general
  - → National law can either define them in more detail, like in Austria, or leave it up to the courts
- In general, there is a weighing of interests between the person the data is about, and the person wanting to use it
  - → Some decisions of this weighing has been included in the directive as a pre-determined result!

Which countries law's are applicable?

- Each country regulates data processing within its boundary
  - → An establishment on its territory, where data is processed
    - » Multinational company: National law applies to each establishment separately, i.e. where it is physically located
    - » This does not depend on where the data logically belongs to!
      - – Usual delineation: Processing in a country without establishment Law from the country where the main seat is located applies
  - → An establishment outside the EU where international law dictates, that the law of this EU country is to be applied
  - → Established solely outside the EU but processing takes place on equipment within the EU
- Exclusion from applicability: Mere transfer
  - → Transporting data through the EU is excluded
    - » Any kind of "working" on or with it → EU law applies
  - → Example: Data sent from USA to China via Internet through London

Rights of the data subject

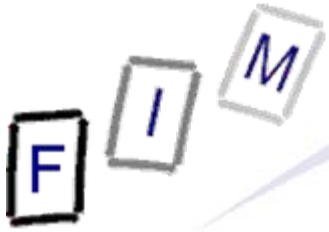
- The data subject has several rights
  - → Information, Access, Objecting (two different instances)
- Cannot be removed through contracts or terms of business
- Obligation of the data controller to enable this
  - → He need not provide incentives to do it
  - → He just isn't allowed to make it more difficult than necessary
- The data subject is obliged to cooperate
  - → Like providing the internal number with the processor if available to him ("customer number", …)
  - → Provide proof of identity
    - » Employing the right of access to get data on your neighbour…
- Restrictions are possible: National security, …
  - → No access to your data in the police/secret service records!

Rights of the data subject: Information

- When collecting data, the following information must be provided to the data subject
  - » If the person doesn't have the information already
  - → Identity of the controller: Who am I?
  - → Purpose of the processing: What is intended
    - » Main reason: So the controller cannot use solely internal documentation of the purpose, which could be changed at a later point in time arbitrarily!
  - → Any further information required to fulfil the fairness principle
    - » (Categories of) recipients of the data
    - » Whether answering is obligatory and what the consequences are of not answering
      - – E.g. "Lottery ticket must be filled out completely or it is void"
    - » Existence of the right of access/correction
- See also "consent" above!

Conclusions

- Privacy is an important aspect in a free society
  - → Diverging interests must be balanced
- Currently privacy in on a constant decline
  - → Fear of terrorism
  - → "I have nothing to hide"
- Privacy legislation is quite strict and very effective in theory
  - → In practice it is often ignored to a large degree
  - → Only seldom infractions become known and are prosecuted
- Problematic are especially the security precautions
  - → Illegally selling data is rather rare, as far as known
  - → Illegally obtaining data (hacking) or losing it is common!
    - » Stolen laptops, unencrypted backup tapes lost, …



Questions?

Thank you for your attention!