

# De Publieke Zaak in de Digitale Wereld

(Public Interests in the Digital World)

Piratenweekend, Delft

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## Outline

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PPNL only

## Where we are, sofar

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## Who is this guy?

- ▶ Professor at Nijmegen (NL), in computer security
  - studied mathematics & philosophy (not law!)
- ▶ doing a mix of theoretical and practical work: e.g. both
  - quantum security, via ERC Advanced Grant
  - attribute-based authentication, see [irmacard.org](http://irmacard.org)
- ▶ focus on protection & abuse of ICT
- ▶ security research with societal relevance, eg. in **e-passports, voting, road pricing, smart meters, e-ticketing, privacy**
- ▶ regular role in media on security/privacy/intelligence issues, and occasionally in parliamentary expert meetings
- ▶ member of the Cyber Security Board in NL, but also of the Advise Board of Bits of Freedom, and Expert Board of Independent Intelligence supervision committee
- ▶ I cherish my **independence**

## Plan for today

- (1) Some **background** on security and privacy
  - "back to school"
- (2) **Tenets** (*Stellingen*)
  - basic observations about the digital world
- (3) General political **recommendations**
  - feedback and discussion is much appreciated
- (4) A few specific points for **PPNL**

### Please note:

- ▶ Had the *Christenunie* invited me, I would have gone too ...
- ▶ ... and I would have given basically the same talk

## Where we are, sofar

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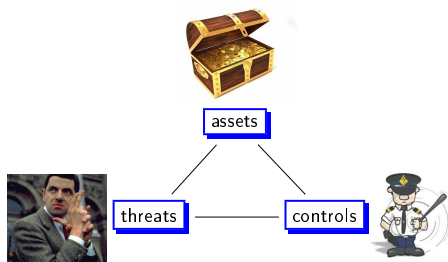
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## What is computer security about?

My favourite definition:

regulating access to digital assets



Personal data is among the assets that you may want to protect

## Computer security is interdisciplinary

- ▶ **Mathematics:** cryptology as basic toolkit for encryption, signing, authentication, etc.
- ▶ **Computer security:** the software, hardware, networks that make things work
- ▶ **Management / economics / psychology:** which incentives work?
- ▶ **Law / ethics / politics:** what is/should be allowed, esp. against cybercrime and for dataprotection

## Societal relevance

- ▶ Traditional view:
  - computer scientists are architects of the **digital** world
- ▶ Modern view:
  - computer scientists are architects of the **social** world

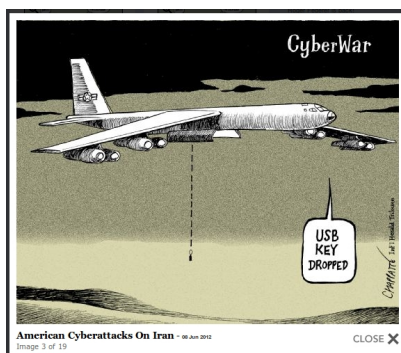
Computer security and privacy issues can make or break developments in:

- ▶ communication
- ▶ transportation
- ▶ health care
- ▶ finance
- ▶ government *etc.*

## Cybercrime, cyberwarfare, cyberespionage

- ▶ You're an **old-school loser** if you're still planning a career as a physical bank robber
- ▶ *the bad guys have gone digital*, in fraud, extortion, blackmail, sabotage, ...
- ▶ espionage has become almost exclusively digital — and political manipulation too
- ▶ warfare has gone digital ...

## A picture says it all



(© Herald Tribune)

## Privacy and contexts, after Helen Nissenbaum

- ▶ We naturally live in different **contexts**
  - home, work, sports club, in church, with friends ...
- ▶ We naturally want to keep information in context
  - what we tell to our doctor should not end up in a supermarket
- ▶ People get upset when **contextual integrity** is broken
  - recall anger: about selling customer financial data (ING), about speeding data ending up at the police (TomTom), about school children's performances in online tests ending up at publishers
- ▶ When explained like this, almost **everybody** cares about privacy
- ▶ The Google's and Facebook's of this world make us use the **same identifier** everywhere or track us via **Like** and **cookies**
  - they break-up contexts, and destroy our basic privacy intuitions
  - Mark Zuckerberg: "Having two identities for yourself is a lack of integrity" 😞😞😞

## Privacy versus data protection (in EU)

- ▶ **Privacy**
  - Right for **citizens**
  - Strongly entwined with identity and autonomy
  - Data protection is one mechanism to guarantee privacy
- ▶ **Data Protection**
  - Right for **data controllers**: if they stick to certain rules, then they can process data
  - Processing must be based on one of six **legal grounds** (consent, contract, legal obligation, vital interests of data subject, public task or legitimate interest of data controller)
  - Rules for data subjects involve: rights to **see, correct, delete**
  - Strongly entwined with control and informational self-determination

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### Tenet I

If we wish to keep some level of privacy, we will have to use technical means to protect it

- ▶ This goes much further than **privacy-by-design-and-default** and **security-by-design** requirements, as in the GDPR
  - those principles apply to general ICT-systems, with other goals
- ▶ tenet I is about ICT-systems dedicated to privacy protection
  - it is insufficiently acknowledged by the privacy movement, including BOF
- ▶ following Nissenbaum: ICT-systems must **keep data in context**
  - More generally, EU fundamental rights must be embodied in technology

**Aside:** my own research is based on this tenet, especially **IRMA** and **PEP**, see also [www.privacybydesign.foundation](http://www.privacybydesign.foundation)

### Tenet II

Power relations in society are determined by (access to) data flows

- ▶ In the past, if you wanted to understand power: "follow the money!"
- ▶ Nowadays: "follow the data!"
- ▶ The Google / Facebook / Amazon's have understood this all too well
- ▶ Learn to think in terms of data flows — and also of how to protect these flows

### Tenet III

ICT is highly political; its developments can (and should) be steered by regulation

- ▶ Very few politicians seem to recognise the political nature of ICT.
  - remember: **architecture is politics**
- ▶ Leaving all choices to "silicon valley" is also a political choice
- ▶ Large tech-firms lobby heavily not to intervene.
- ▶ Who is defending the public cause/interests in the digital world?

### Tenet IV

The early-day optimism about the internet giving individual freedom and transparency of the powerful has turned out to be so naive

- ▶ The internet has become a tool for mass surveillance, esp. in the commercial sector
- ▶ Individuals have become transparent, via Facebook and profiling, instead of the people in control
- ▶ the prevalent business model is economically destructive, leading to excessive, concentrated wealth and power
- ▶ Pervasive profiling has led to filter-bubbles and easy manipulation — e.g. via fake news and differential pricing

(Read e.g. Evgeny Morozov or Andrew Keene)

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## Recommendation I

### Both

Demand **both** security and privacy

- ▶ Often a **choice** is presented: either privacy or security
  - this is too simplistic
- ▶ Sometimes also there is talk about a finding a **balance** between security and privacy
  - if you hear this, you can bet that privacy will loose
- ▶ Contrasting security and privacy is the lazy solution
  - the combination of security and privacy is often possible but requires an **innovative** technical solution
  - this is the kind of innovation that we need
- ▶ Remember also: privacy is essential for personal security

## Recommendation II

### Align

Seek alliance with the agenda towards more cyber security. Try to get personal data of citizens acknowledged as a strategic national asset.

- ▶ The next cabinet will most likely invest much more in cyber security
  - Slogan: *NL is a safe place to do business*
- ▶ Make sure that personal data protection is an integral part of this package
  - refer to the General Data Protection Regulation (GDPR), which will have huge impact
- ▶ Add slogan: *privacy protection is a licence to do business*
- ▶ Follow German rule: in all ICT-projects 10% of the budget must go to security and privacy.

## Recommendation III

### Law

Recognise and exploit the power of the law, especially in Europe. The European Court of Justice ("Luxembourg") is very influential, based on the EU Charter of Fundamental Rights

- ▶ CJEU judges are the privacy hero's, not national politicians
  - **data retention** directive invalid: telecoms no longer obliged to store everyone's metadata
  - **right to be forgotten** introduced: search engines must remove stigmatising links on request
  - **Safe Harbour agreement** rejected: European data are not safe in the US.
- ▶ Get your main points into laws; laws have impact.
- ▶ And indeed, NL needs a constitutional court too.

## Recommendation IV

### Power

Organise power structures for your cause.

- ▶ In the next cabinet, the Internal Ministry will probably control all public ICT
  - it might set up an **ICT-authority**, with real power
  - make **open source**, for all public services, part of that agenda
  - and of course, privacy protection too
  - increase the **Data Protection Authority** budget five-fold
- ▶ Think big: claim this Internal Ministry!

## Recommendation V

### Connect

Make your story concrete and recognisable for many people

- ▶ The **healthcare** sector is being colonised by Google, Apple, Philips ... , looking for high margins and sensitive personal data
  - who in politics defends that personal data should remain in a medical context?
- ▶ Same story for cars, or TVs, toys, internet-of-things, ...
  - if you buy a Tesla, you have to sign that all your data goes to Tesla; will this be the norm?
- ▶ The essence of **smart cities** is plundering data of citizens and municipalities
- ▶ Strengthen the law, and its enforcement
  - e.g. disconnct/delete buttons, right-not-to-be-profiled, ...

## Recommendation VI

### Green

Advocate privacy and data protection as the new "green"

- ▶ When the first environmental protection laws appeared in the 1980s, after several big pollution scandals, industry complained bitterly about economic loss through these laws
- ▶ Nowadays "green" is widely accepted and a driver of economic growth.
- ▶ Try to copy the success of this movement. The GDPR prepares the ground.

## Recommendation VII

### Protect

Don't just talk about privacy, freedom and autonomy, but also about protecting people.

- ▶ Recall the original naivety about the internet
- ▶ Freedom is most advantageous for people with much money **and** data
- ▶ Sometimes you have to protect people against themselves
  - that's why it is forbidden to sell your own organs
  - maybe it should also be forbidden to sell your own medical data
- ▶ In the US, privacy is a matter of **negotiation**; here in Europe it is **constitutionally protected**. Organise this protection!

## Recommendation VIII

### Blame

Put the blame for the current state of weak security and privacy in ICT where it can be fixed: be careful not to put the responsibility with the victims

- ▶ Software vulnerabilities are at the core of our many security (and also privacy) problems
- ▶ Make the producers of crappy software liable
  - certainly resist campaigns to **make people more aware**
  - blaming and shaming works best
  - full disclosure of vulnerabilities is counter-productive — responsible disclosure and repair seems to work
- ▶ Work towards **duty of care (zorgplicht)** in ICT, with open norms

## Main points

- (1) think strategically
- (2) know your stuff
- (3) protect people

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## How to distinguish yourself as PPNL

- (1) Present yourself as the only party with a **digital agenda**, addressing the data-based power inequalities in society
- (2) Use **humor**, especially in the social media, hoping that (one of) your messages goes viral

## Tweet suggestions ...

De piratenpartij heeft al meer dan 1000 keer zo veel leden als de PVV

In het volgende kabinet claimt de PPNL het ministerie van defensie: fantastisch, een piraat die de marine leidt!

## Thanks for your attention. Questions/remarks?

