

Digital Sovereignty & Identity

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Bart Jacobs — Radboud University, Nijmegen, NL
bart@cs.ru.nl

Digital Sovereignty & Identity

Background

- ▶ Professor of computer security & privacy at Nijmegen, NL
 - Member of Royal Netherlands Academy of Arts and Sciences
 - Recipient of **Stevin premium** 2021, highest award in science in NL
- ▶ Active in media, societal debates and parliamentary hearings
- ▶ Member of national Cyber Security Board
 - Last year: member of intelligence law evaluation committee
 - Currently: member of advice committee on Covid apps
- ▶ Non-remunerated chair of Privacy by Design foundation — which runs free IRMA app, see later

Where we are, so far

Who is this guy?

Sovereignty and digital autonomy

Digital identity

Conclusion

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Sovereignty on EU agenda. Why?

- (1) Pushed by (threatening) strategic IT-dependencies:
 - 5G, with Huawei as dominant supplier
 - but also AI and quantum computation
 - dominant IT-suppliers (“big-tech”), esp. in “cloud”
 - fear of tech-colonialism
- (2) Picked up by EU-commission chair Ursula von der Leyen upon taking office (dec. 2019)
 - “... Europe has all the scientists and all the industrial capabilities it needs to be competitive in these areas ...”
- (3) Strengthened by Covid dependencies: masks, medicins, vaccins
- (4) And by geopolitical instability
 - interplay of industry policies and foreign policies
 - digital attacks become more aggressive & disruptive



What are we talking about? Goal and means

- ▶ **Sovereignty** is the goal
 - in traditional sense: authority over one's own territory
 - includes internal and external recognition & legitimacy
- ▶ **Autonomy** is a means
 - being able to take one's own decisions and carry them out w.r.t. economy, society, governance
 - includes uninterrupted democratic decision making
 - digital autonomy covers the digital domain.



Several recent studies in NL

- ▶ Lokke Moerel, Paul Timmers, *Reflecties over digitale soevereiniteit*, Preadvies Staatsrechtconferentie 2020
- ▶ Paul Timmers Freddy Dezeure, *Nederlandse strategische autonomie en cybersecurity*, jan. 2021 (assignment of the Cyber Security Raad)
- ▶ TNO & HCSS, *Soevereiniteit en Digitale Autonomie*, feb. 2021.

See also Cyber Security Board advice on cyber resilience ([Integrale aanpak cyberweerbaarheid](#), april 2021)



Main points

- (1) EU is mainly regulatory power (esp. via GDPR), but lacks its own ICT-infrastructure (e.g. > 90% EU data on US servers)
- (2) Own infrastructure is needed to embed and safeguard own values: autonomy, privacy, transparency, freedom of expression, non-discrimination, duties of care ...
- (3) Control over ICT-infrastructure determines modern power relations
 - In the past: *follow the money*, but now: *follow the data*
- (4) EU benefits insufficiently from its own innovations
- (5) There is no *level playing field* with current big-tech
 - buying up innovations at early stage, incorporating useful technology
 - whereas threatening technology is killed
- (6) Economical openness is no longer sacred
- (7) Knowledge, knowledge, knowledge!!



What now?

- ▶ NL/BE/LU cannot do everything themselves. What, with whom?
- ▶ Reports give lots of policy-blaba: monitoring, further research, more debate & discussion, and of course more reports ...

Two main points

- (1) **Substantial investment in own ICT-innovation**
 - strong knowledge position is of strategic interest
 - otherwise you become a puppet and others decide for/about you
 - science-funding in EU bottom-up, themes come from researchers
 - more steering needed, on strategic topics (like in US)
- (2) **Building own ICT-infrastructure**
 - Own data in own datacenters, a.o. by stimulating national hosting (like with **Corona** apps), see also EU GAIA X initiative
 - Electronic identity is a strategisch topic
 - Compartmentalisation instead of global ICT



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Von der Leyen, State of the Union (EP, sept'2020)



- ▶ “Europe’s Digital Decade (2020-2030)”
- ▶ Focus on European cloud, AI and on European **digital identity**
- ▶ *That is why the Commission will soon propose a secure European e-identity. One that we trust and that any citizen can use anywhere in Europe to do anything from paying your taxes to renting a bicycle. A technology where we can control ourselves what data and how data is used.*
- ▶ EU digital **wallet-id** plans appeared in June 2021 — as eIDAS revision

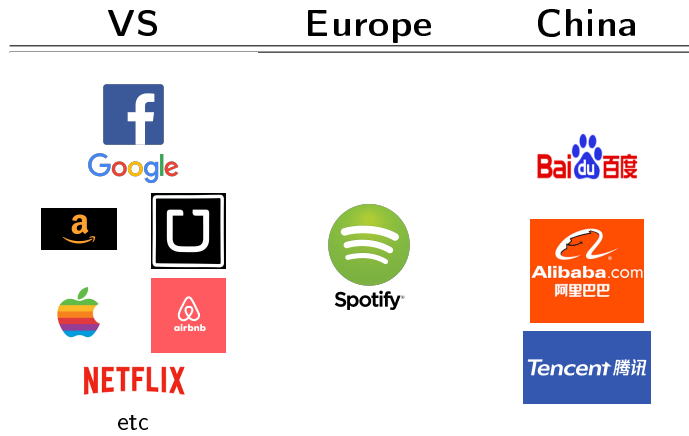


Security and identities

- ▶ Essential for security : **knowing who you are dealing with**
 - e.g. in electronic banking
 - or in buying alcoholic drinks
 - or during video calls/conferences (recall EU defence ministers)
- ▶ Identity requests must be **proportional**:
 - for online game a proof of “older than 18” suffices
 - sufficient for ordering a book only: address + bank account number
 - for logging into government site a citizen number suffices
- ▶ NL has **DigiD** for the public sector: *end-of-life*
 - Interior ministry in charge of successor, no vision or decisiveness
 - Big-IT is ready to take over (esp. Facebook & Apple)
 - strategic area
 - Parliamentary discussion of Digital Identity Law (“WDO”) is taking 4 years



Global platforms



The shared US-CN agenda, versus EU

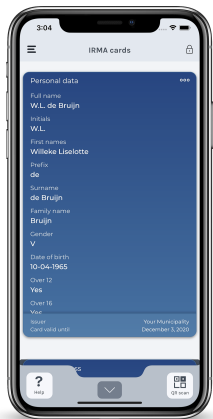
- ▶ Both US and CN platforms wish to control digital identities
 - they wish to precisely register who is doing what & when online
 - goal: build up detailed profiles
- ▶ The US platforms have mostly **commercial** motives
 - but they have been used for political manipulation too
- ▶ The CN platforms are instrumental in maintaining **state control**
 - see e.g. their role in “social credit scores”

These systems work on the basis of a **unique identifier** (number), per individual, that is used everywhere — very unlike attributes

- ▶ Strong EU sentiment: there are **better ways** to do this, with more respect for human (digital) rights & dignity
- ▶ Decentralised, attribute-based approach combines diversity & easy interoperability: **ideal for EU sovereignty**



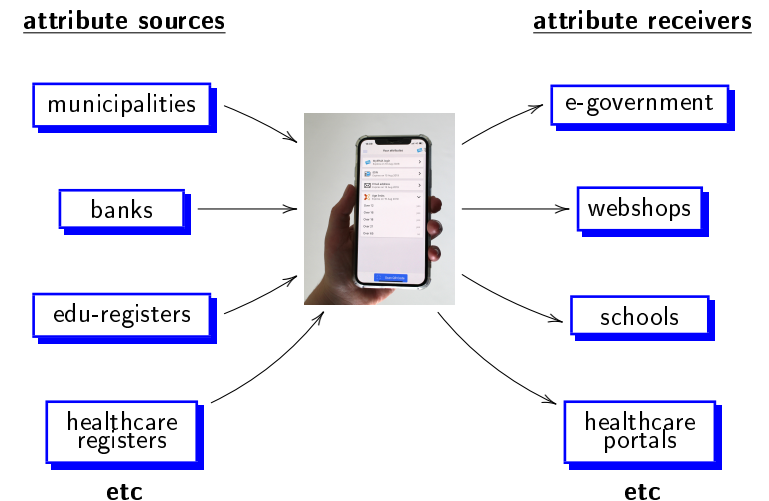
IRMA app, for revealing only relevant attributes



Essentials:

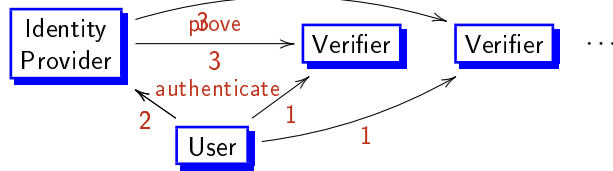
- ▶ attributes instead of identities
- ▶ collected by user him/herself
- ▶ attributes are reliable (digitally signed by source)
- ▶ decentralised architecture: attributes only on users own phone
- ▶ IRMA is free & open source, up-and-running, with ±50K registrations, worldwide

The IRMA app as everyone's personal hub

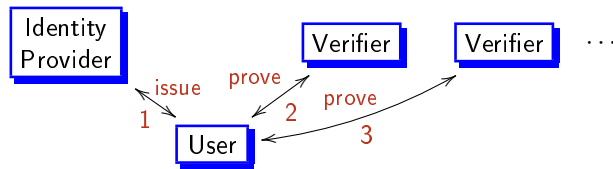


Centralised versus decentralised, schematically

Centralised: everything goes via the Identity Provider (think Facebook)



Decentralised: everything goes via the User (think IRMA)



Note: Data flows determined power relations in modern societies!

eID breakthroughs in spring 2021

(1) From Dutch Senate

- NL Senate demands **open source** (OS) for future Dutch eID
- Compare: Corona apps are OS, for transparency & citizen trust
- Minister is reluctant, waters down to OS as “weighting factor”

(2) From EU-commission

- EU digital **wallet-id**, based on attributes, for public & private use
- Clearly based on **IRMA ideas** — after own eIDAS revision input
- **missing:** EU demands no **open source** nor **decentralisation**

Open source is important for EU digital autonomy

- ▶ no vendor lock-in
- ▶ stimulus for **local development**, not at IBM / Oracle / Huawei ...



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Main points

- ▶ Digital sovereignty is high on EU agenda — and also more in NL
- ▶ Main elements:
 - strong knowledge position, via planning and focussed investments
 - development of own ICT-infrastructure, against tech-colonialism
- ▶ IRMA is decentralised, open source community effort, growing
 - not only as actual up-and-running app, but also as source of ideas
- ▶ Digital identity is of geo-strategic importance
 - also determining: in what kind of society do we wish to live
 - in essential political matter, so Parliaments should play active role
 - EU takes back initiative with attribute-based **wallet-id**
- ▶ Open source is powerful mechanism for digitale autonomy
- ▶ General concern: are we doing enough to safeguard **public values** in the digital world?

