

# **information flow, privacy and surveillance**

prepared by Burak Galip ASLAN, PhD

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- type my phone number in Reverse Phone field -> name + address



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- click the address -> to see the map



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- enter the address -> estimated value of house



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- click on the "street view" tab -> photo of my house from Google's camera-equipped cars

- become a friend of my

friend in Facebook and learn

my family



or



prabook



**“you have zero privacy anyway,  
get over it”**



**Scott McNealy (1954 - )**

**former CEO of Sun  
Microsystems**

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**is it possible to  
maintain privacy  
in the  
information age?**



# several cases

- 1-Georgetown Uni, campus security, email crime report on 3 students, accidentally email to all, email system shutdown immediately for hours to delete emails from inboxes
- 2-Maryland, 1993, medical records DB, a member of Maryland's public health commission also a banker, access DB, call in the loans who have cancer



## several cases

3-2005, senior, UMass Dartmouth, research paper on communism, Mao's "Little Red Book", not in lib, interlibrary request form, name&address&phone&SSN, two agents visit and warn, book on "watch list", significant time abroad combined with request triggered visit

his professor: "I shudder to think of all the students I've had monitoring al-Qaeda web sites, what the government must think of that?"



# several cases

4-email privacy and advertising: “send” attorney-to-client, client account Gmail, attorney do not know Google scans inside msgs, “new client” “attorneys at law” “construction litigation” name of the city where attorney is scanned, when client views email attorney’s competitors advs are next, everyday occurrence



# several cases



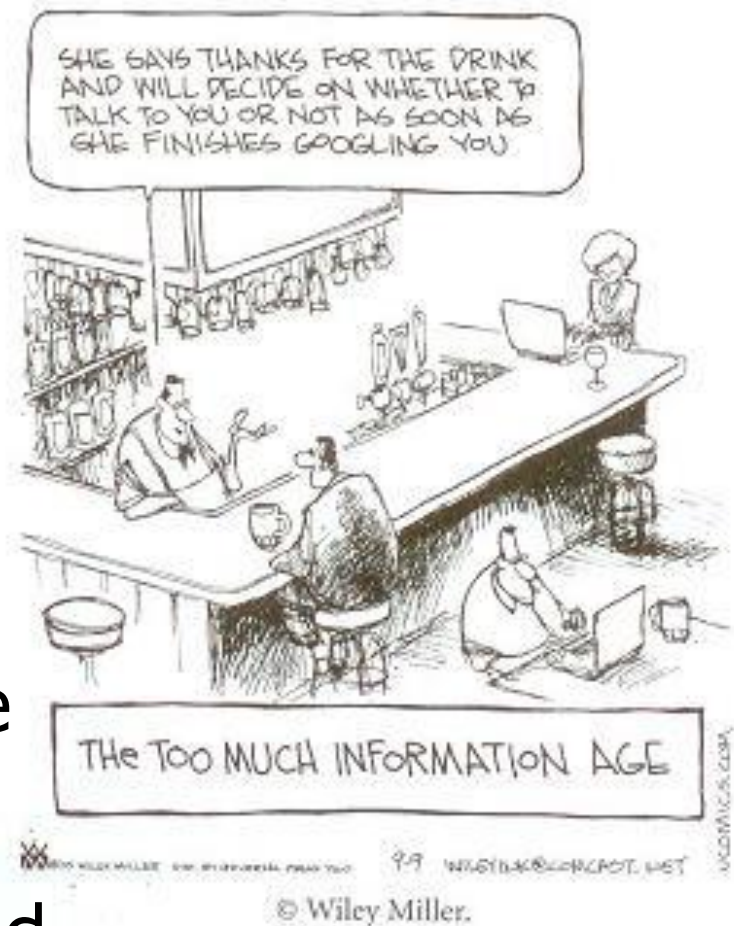
5-workplace spying: the Lidl case: march 2008, second largest grocery store in Germany accused by "Stern", hiring detectives to spy employees, also in Czech Rep., filing reports on individuals "on job", "on breaks" even "in toilet", also gathering data on financial status, relationships, postwork, "Her circle of friends consists of mainly junkies.", "Ms. M. has a tattoo on both lower arms.", compared to "Stasi" – East German secret police, Czech Rep. -> female employees prohibited to go to bathroom any time, headband for period, Lidl -> 17000 stores in 17 different European countries, no denial, excuse and even justification about employee thefts, violations of personal privacy and human dignity, 36k euro fine in 2009

# information flow with and without IT<sup>13/131</sup>

three features of IT-conf-socs -> esp. reproducibility, flowing one-to-many, one-to-one, many-to-one, difficult and often practically impossible to be not tracked, "scale" of personal info gathering exponentially increased, not tech determinism -> esp. govn and corps want this, new kind of info -> transaction generated info (TGI) (cookies, clickstreams, merged and mined, personal info when stored in a server, intentionally or not can be sold, given away, traded or stolen, endurance problem -> when digitally no need to get rid of it (Facebook personal info and images are kept even after deletion), also the quality and accuracy of info is in question, erroneous dat can be spread so quickly that indiv. can't trace (both intentional and mistake)

# information flow with and without IT

- 1- much more personal information collection
- 2- new kinds of personal information available
- 3- personal information is distributed widely
- 4- personal info endurance
- 5- effects of erroneous information are magnified



# defining privacy

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“violating someone’s privacy is an affront to that person’s dignity” (Bloustein) (*means to an end issue, e.g. stealing someone’s pw*)

# harms of privacy

wealthy white Anglo-Saxon Protestant men  
club, journalist figuring politician losing a  
million at gambling in Las Vegas, family  
violence, outcast ignorance



# benefits of privacy

true freedom, fostering intellectual activities,  
respect, love, friendship, trust, “moral  
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“ladder of privacy” -> spouse ~ enemies

not exactly sharing info, intimacy is more than  
that (e.g. psychiatrist)

# ladder of privacy example



# **ladder of privacy example**

spouse

priest/minister/rabbi

brothers and sisters

parents

children

friends

in-laws

coworkers



# ladder of privacy example

**spouse**

priest/minister/rabbi

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children

friends

in-laws

coworkers



neighbors

marketers

employers

government

news media

**ex-spouses**

potential  
rivals/enemies



# why care about privacy?

intensive tracking and monitoring on individuals

surveillance by CCTV (public streets, public spaces), computers (supervisor monitoring), navigational devices, cell phones (location identification), website tracking

data can be merged! -> comprehensive profiling on individuals, merged data can be mined! -> classified as terrorist or on-debt creditor?

IT societies -> surveillance societies

# **why care about privacy?**

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from utilitarianism -> to autonomy and democracy

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3. “data has enormous benefits to the organizations as well as to individuals”

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also irrelevant info problem (woman v.s. landlord)

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- people largely unaware and naive, e.g. discount options are limiting choices (give info for discount or get nothing)
- people make “local” choices but they can’t realize that it can be “globalized” (individual -> shop, CCTV at work, air travel NP... but when cumulative??)



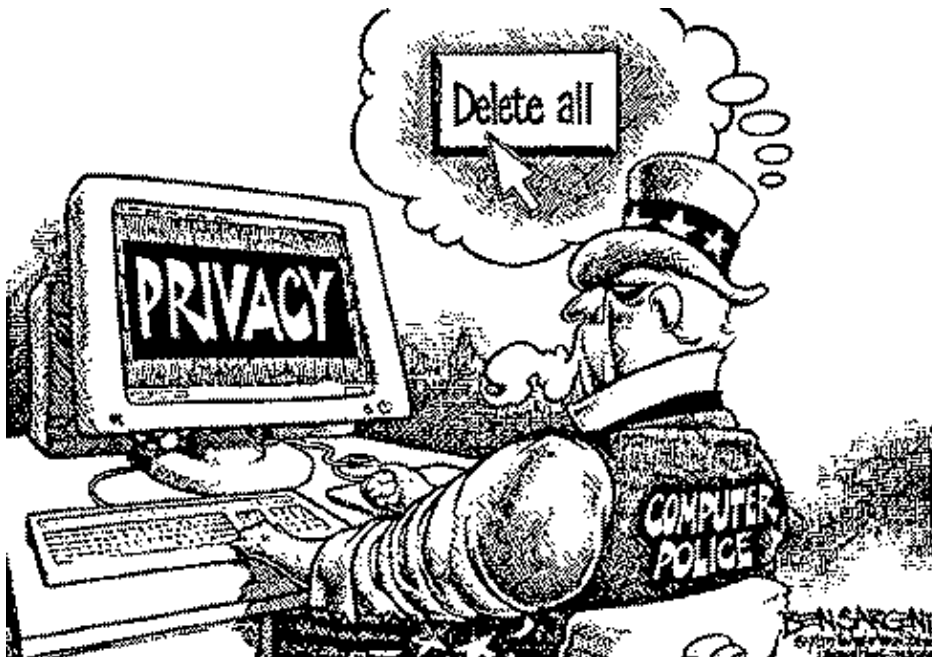
# **“no need to worry”**

3. “better loan estimates, better risk analysis, catching terrorists, who doesn’t want that?”

# "no need to worry"

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are "**they**" trying to "serve" us or "shape" us in fact?  
(need utilitarian analysis)





# United Nations

## Peace, dignity and equality on a healthy planet

# Universal Declaration of Human Rights



## The Universal Declaration of Human Rights

The Universal Declaration of Human Rights (UDHR) is a milestone document in the history of human rights. Drafted by representatives with different legal and cultural backgrounds from all regions of the world, the Declaration was proclaimed by the United Nations General Assembly in Paris on 10 December 1948 (General Assembly resolution 217 A) as a common standard of achievements for all peoples and all nations. It sets out, for the first time, fundamental human rights to be universally protected and it has been translated into over 500 languages.

[Download PDF](#)

# United Nations Universal Declaration of Human Rights

- 1 We Are All Born Free & Equal.**  
We are all born free. We all have our own thoughts and ideas.  
We should all be treated in the same way.
- 2 Don't Discriminate.**  
These rights belong to everybody, whatever our differences.
- 3 The Right to Life.**  
We all have the right to life, and to live in freedom and safety.
- 4 No Slavery.**  
Nobody has any right to make us a **slave**. We cannot make anyone our slave.
- 5 No Torture.**  
Nobody has any right to hurt us or to torture us.

# United Nations Universal Declaration of Human Rights

**6** You Have Rights No Matter Where You Go.  
I am a person just like you!

**7** We're All Equal Before the Law.  
The law is the same for everyone. It must treat us all fairly.

**8** Your Human Rights Are Protected by Law.  
We can all ask for the law to help us when we are not treated fairly.

**9** No Unfair Detainment.  
Nobody has the right to put us in prison without good reason and keep us there, or to send us away from our country.

**10** The Right to Trial.  
If we are put on trial this should be in public. The people who try us should not let anyone tell them what to do.

# United Nations Universal Declaration of Human Rights

## 11

### We're Always Innocent Till Proven Guilty.

Nobody should be blamed for doing something until it is proven. When people say we did a bad thing we have the right to show it is not true.

## 12

### The Right to Privacy.

Nobody should try to harm our good name. Nobody has the right to come into our home, open our letters, or bother us or our family without a good reason.

## 13

### Freedom to Move.

We all have the right to go where we want in our own country and to travel as we wish.

## 14

### The Right to Seek a Safe Place to Live.

If we are frightened of being badly treated in our own country, we all have the right to run away to another country to be safe.

## 15

### Right to a Nationality.

We all have the right to belong to a country.

# United Nations Universal Declaration of Human Rights

**16** **Marriage and Family.**  
Every grown-up has the right to marry and have a family if they want to. Men and women have the same rights when they are married, and when they are separated.

**17** **The Right to Your Own Things.**  
Everyone has the right to own things or share them. Nobody should take our things from us without a good reason.

**18** **Freedom of Thought.**  
We all have the right to believe in what we want to believe, to have a religion, or to change it if we want.

**19** **Freedom of Expression.**  
We all have the right to make up our own minds, to think what we like, to say what we think, and to share our ideas with other people.

**20** **The Right to Public Assembly.**  
We all have the right to meet our friends and to work together in peace to defend our rights. Nobody can make us join a group if we don't want to.

# United Nations Universal Declaration of Human Rights

## 21

### The Right to Democracy.

We all have the right to take part in the government of our country. Every grown-up should be allowed to choose their own leaders.

## 22

### Social Security.

We all have the right to affordable housing, medicine, education, and childcare, enough money to live on and medical help if we are ill or old.

## 23

### Workers' Rights.

Every grown-up has the right to do a job, to a fair wage for their work, and to join a trade union.

## 24

### The Right to Play.

We all have the right to rest from work and to relax.

## 25

### Food and Shelter for All.

We all have the right to a good life. Mothers and children, people who are old, unemployed or disabled, and all people have the right to be cared for.



# United Nations Universal Declaration of Human Rights

## 26 The Right to Education.

Education is a right. Primary school should be free. We should learn about the United Nations and how to get on with others. Our parents can choose what we learn.

## 27 Copyright.

Copyright is a special law that protects one's own artistic creations and writings; others cannot make copies without permission. We all have the right to our own way of life and to enjoy the good things that art, science and learning bring.

## 28 A Fair and Free World.

There must be proper order so we can all enjoy rights and freedoms in our own country and all over the world.

## 29 Responsibility.

We have a duty to other people, and we should protect their rights and freedoms.

## 30 No One Can Take Away Your Human Rights.

# there is a natural right to privacy

like right to life, liberty, to own property +  
**privacy**



# 12

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like right to life, liberty, to own property +  
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grows out of property rights

English common law -> "a man's home is his castle" (European basis, adopted by US)

# there is a natural right to privacy

“Every ‘privacy right’ violation is a violation of another right” (e.g. picture – see)



**Judith J. Thompson (1929 - )**

**American philosopher**

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“the control on my own self”



**Jeffrey Reiman (1942 - )**  
**American philosopher**



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telemarketing, home calls at dinner time,  
disturbed %49 in 1994, %62 in 2003,  
"National Do Not Call Registry", 50M+  
phones registered, shielding > tel. adv.

# privacy and trust

less privacy at agrarian times (religious oppression, society oppression), modern times -> rise of the individualism, (*single homes, automobile, TV, computer, the Internet*)



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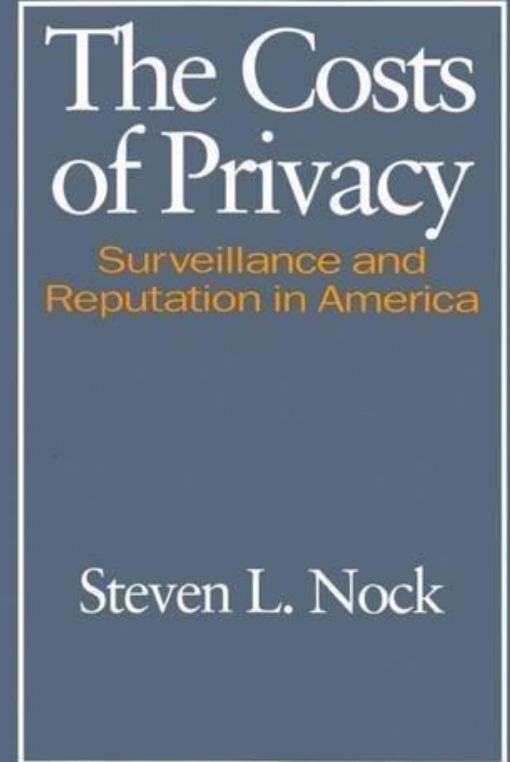
trust -> easier in past, quite harder now, need ordeal or credentials

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times -> rise of the individualism  
*homes, automobile, TV, computer, Internet*

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Nock: "A society of strangers is one of immense personal privacy, surveillance is the cost of that privacy." - 1993

# the importance of privacy

- privacy as an individual good
- privacy as contextual integrity
- privacy as a social good essential for democracy

# privacy as an individual good

1970's debate, limiting govn but what about corporations?, corps are even stronger than govn today



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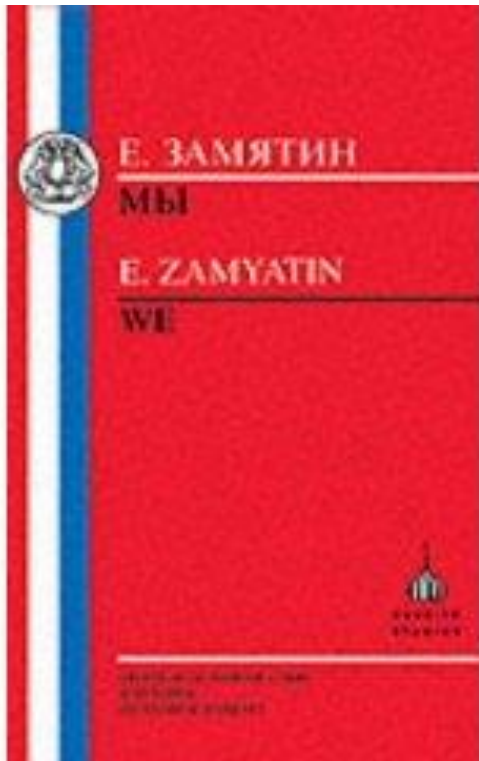
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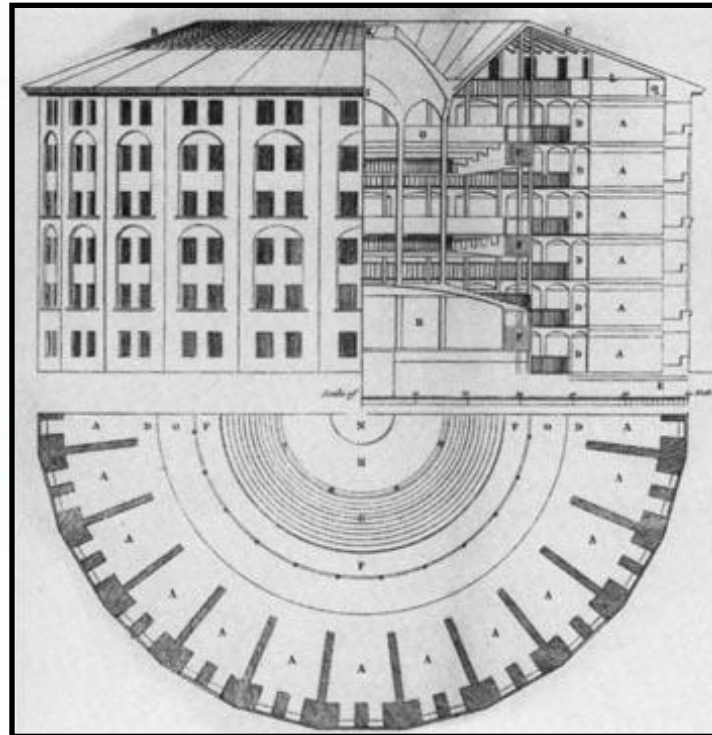
individuals are watched -> impossible to develop trust and mutual respect



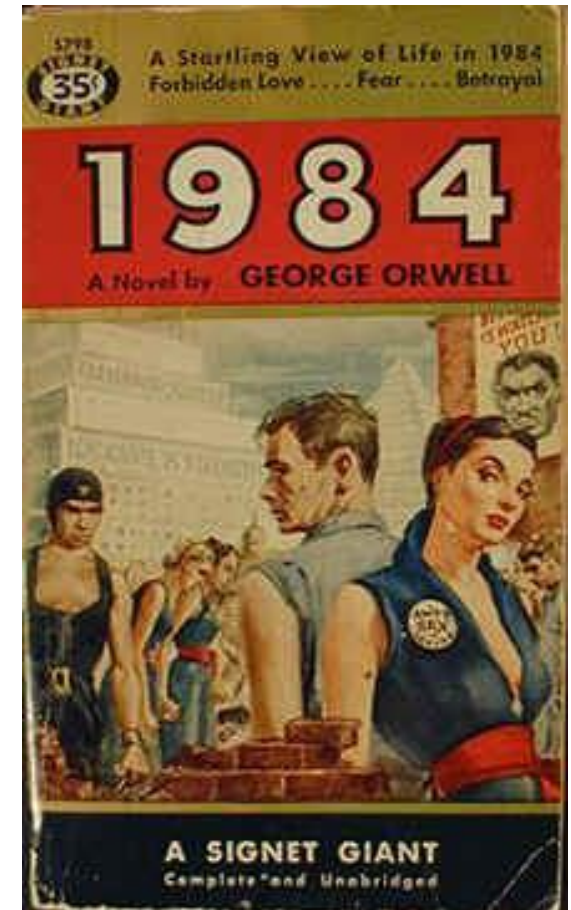
# privacy as an individual good



*Zamyatin "We"*  
(1920)



*Jeremy Bentham's*  
*"Panopticon"*  
(1787)



*George Orwell "1984"*  
(1949)

# privacy as an individual good

Rachels(1975) -> importance of diversity in relationships, controlling information about us, spouse v.s. employer, no control -> no diversity, (*dentist example*), diversity != many options (SNS, govn, corp, police), value of diversity is important

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2. privacy -> contextual integrity

3. autonomy -> democracy

# privacy as contextual integrity

Nissenbaum(2004) information norms in every domain of life

1. what kinds of information are appropriate and inappropriate?
  2. how that information will be distributed?
- norms violated -> privacy violated



# privacy as contextual integrity

Nissenbaum(2004) information norms in every domain of life

1. what kinds of information are appropriate and inappropriate?

2. how that information will be distributed?

norms violated -> privacy violated

1.loan at bank -> salary, debts etc., not medical history, political affiliations, ethnic background; medical aid -> medical history, maybe ethnic background, sexual preference, not financial status, political affiliations

# privacy as contextual integrity

2. purchase over \$10k must be reported,  
criminal records access (*safe harbor*),  
medical records access limited, credit reports  
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IT expands -> norms change

e.g. users have discovered that Google can  
and does search email for content yet many  
still using services

# **privacy as contextual integrity**

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IT tools often invisible in domains and usually adopted and used without public announcement

# privacy as contextual integrity

privacy is so difficult to protect, esp. with IT  
IT tools often invisible in domains and usually  
adopted and used without public  
announcement

customers, clients and citizens are unaware of  
information norms in many contexts, no way  
to inquire, no way to find out norms.

one doesn't know whether one is being treated  
appropriately or not

# **privacy as a social good essential for democracy**

76/131

so far individual interest -> hard to convince  
for whole?

# privacy as a social good essential for democracy<sup>77/131</sup>

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U.S. Patriot Act, Reagan(1995) balancing privacy against social good -> personal privacy loses, the need for social good focus



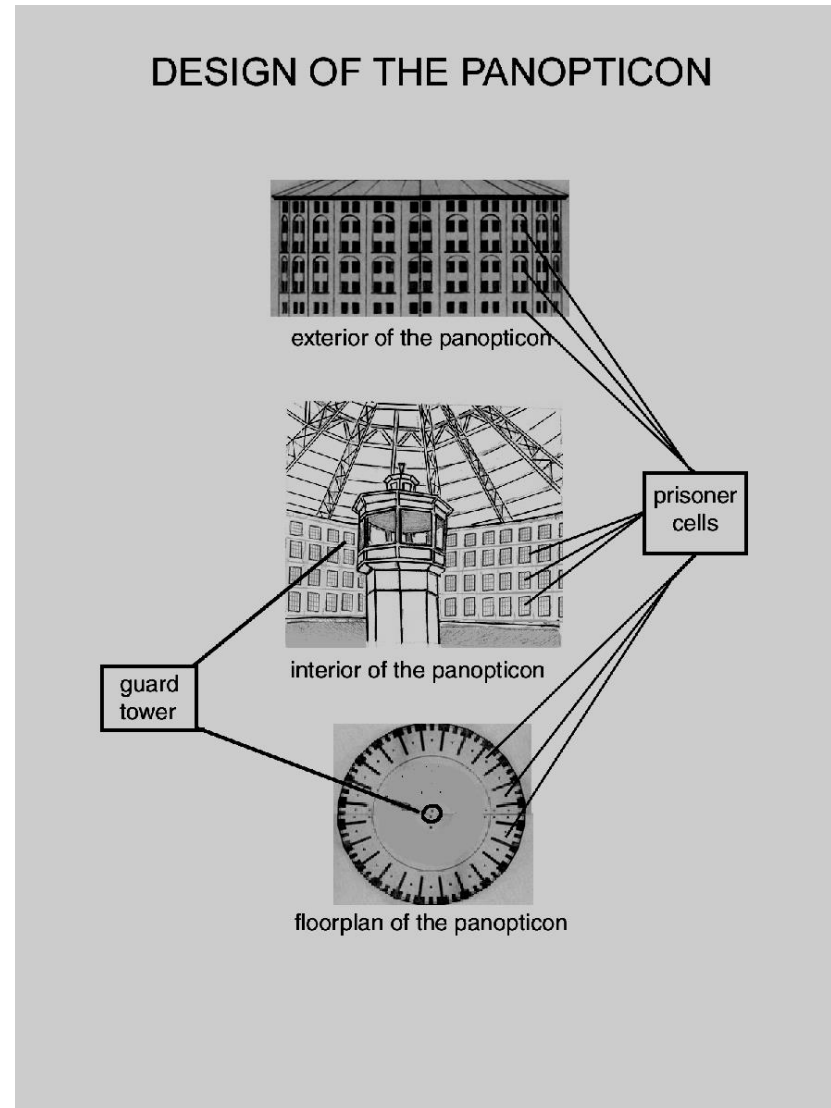
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focus on autonomy -> essential for democracy

# autonomy, democracy and the panoptic gaze



# **autonomy, democracy and the panoptic gaze**

surveillance : continuous observation

what might observer think of me? -> people  
become to see themselves as their watchers  
see them -> behaving to watcher's norms



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be not only careful about obeying law, taxes  
and debts... also on Facebook, Google,  
phone calls, sexual preference, drinking  
habits, religion etc. ...

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freedom ☹, democratic citizenship ☹

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democracy -> autonomy... finally democracy  
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privacy isn't only instrumental to autonomy and democracy, is essential to both

allowing people to have at least some privacy is better than denying all privacy at all

# disclosing information

electronic trails in DBs

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## electronic trails in DBs

public record: incident or action reported to govn to inform public (*birth certificates, marriage licenses, motor vehicle records, criminal records, deeds to property*)



# disclosing information

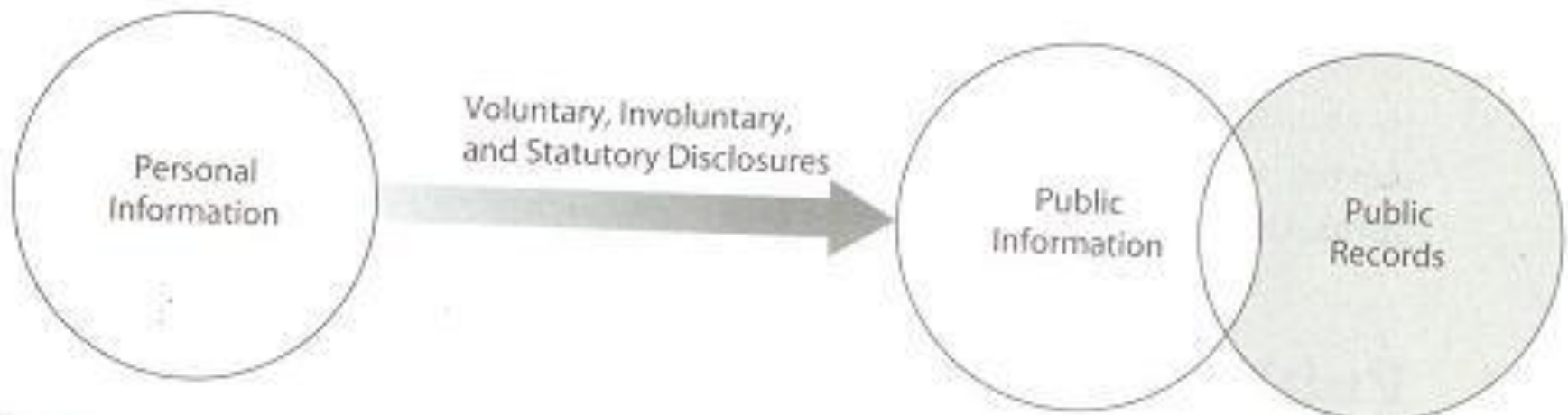
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public information: information you have provided to an org that has right to share it with other orgs (tel.dir. listing)

# disclosing information

personal information becomes public information or public record through a voluntary, involuntary or statutory disclosure



# public information

the path from personal info -> public info

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1. rewards or loyalty programs (market card, 100+ years, burden is on people who aren't using them)

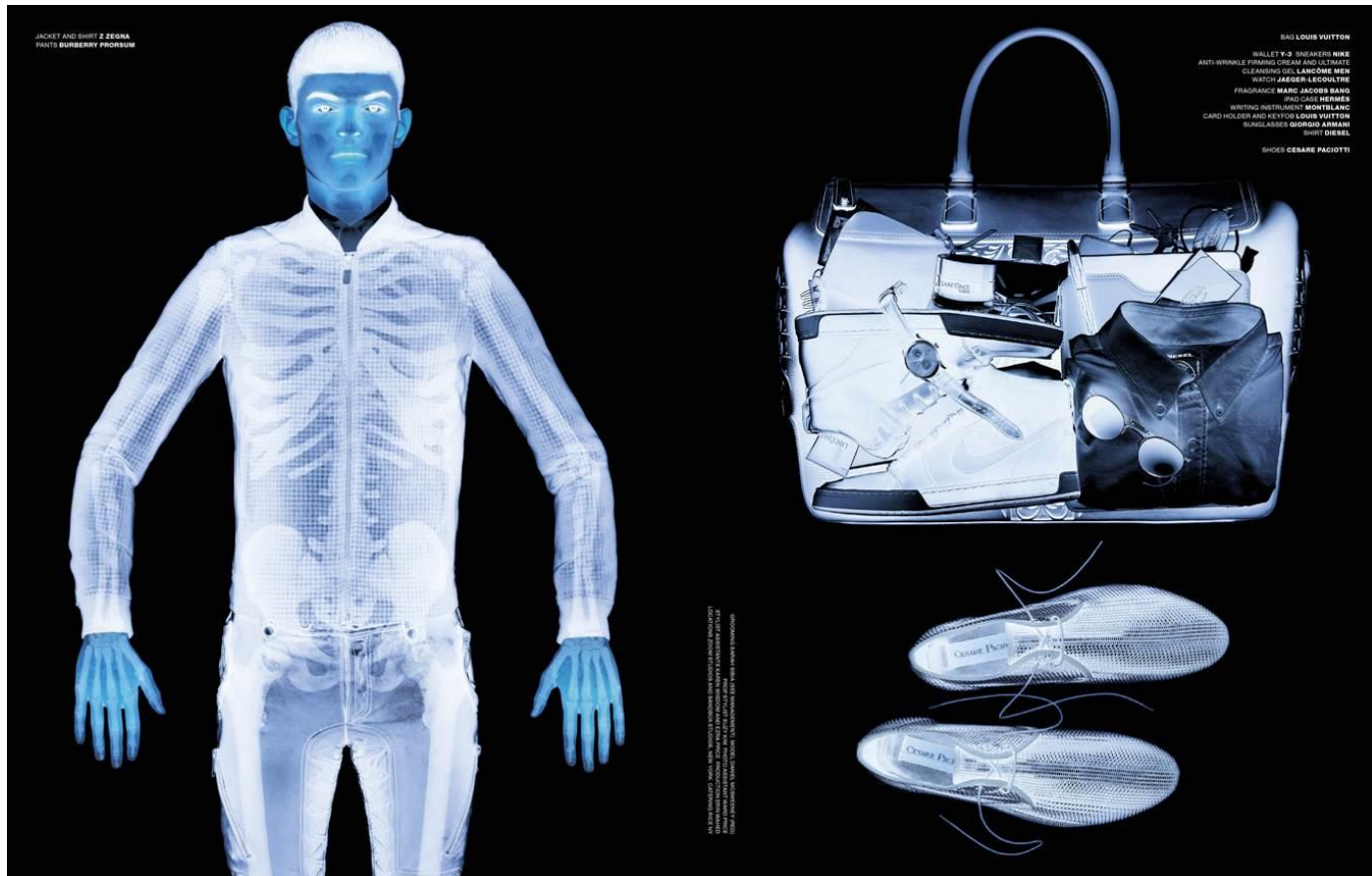


# public information

the path from personal info -> public info

1. rewards or loyalty programs (market card)

2. body scanners (clothing)



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4. automobile "black boxes" (+ OnStar – e.g. chase)



# public information

the path from personal info -> public info

1. rewards or loyalty programs (market card)
2. body scanners (clothing)
3. digital video recorders (TiVo, record TV prg)
4. automobile "black boxes" (OnStar)
5. enhanced 911 service (cell phone location – what if sold or shared?)

Canada's new free digital home phone service.



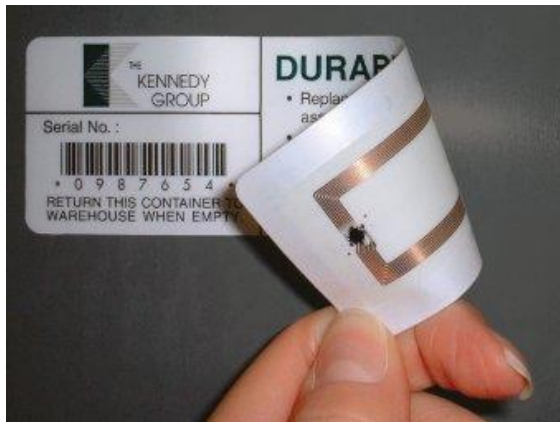


# public information

the path from personal info -> public info

1. rewards or loyalty programs (market card)
2. body scanners (clothing)
3. digital video recorders (TiVo, record TV prg)
4. automobile "black boxes" (OnStar)
5. enhanced 911 service (cell phone location)

## 6. RFIDs (not removed!)

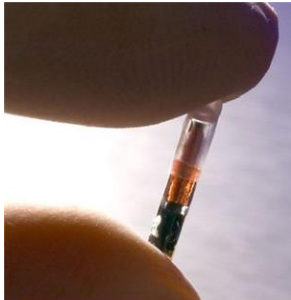


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VenChip's implantable RFID device.



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9. medical records (who has access?)

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**Android security: 0.04% of downloads on Google Play in 2018 were 'potentially harmful apps'**

# **data mining: who should own information about a transaction?**

keeping transaction private is more difficult than making it public

# **data mining: who should own information about a transaction?**

Google's personalized search  
(e.g. bass – secondary use, cookie, 180 days)



# data mining: who should own information about a transaction?

collaborative filtering, large numbers of people

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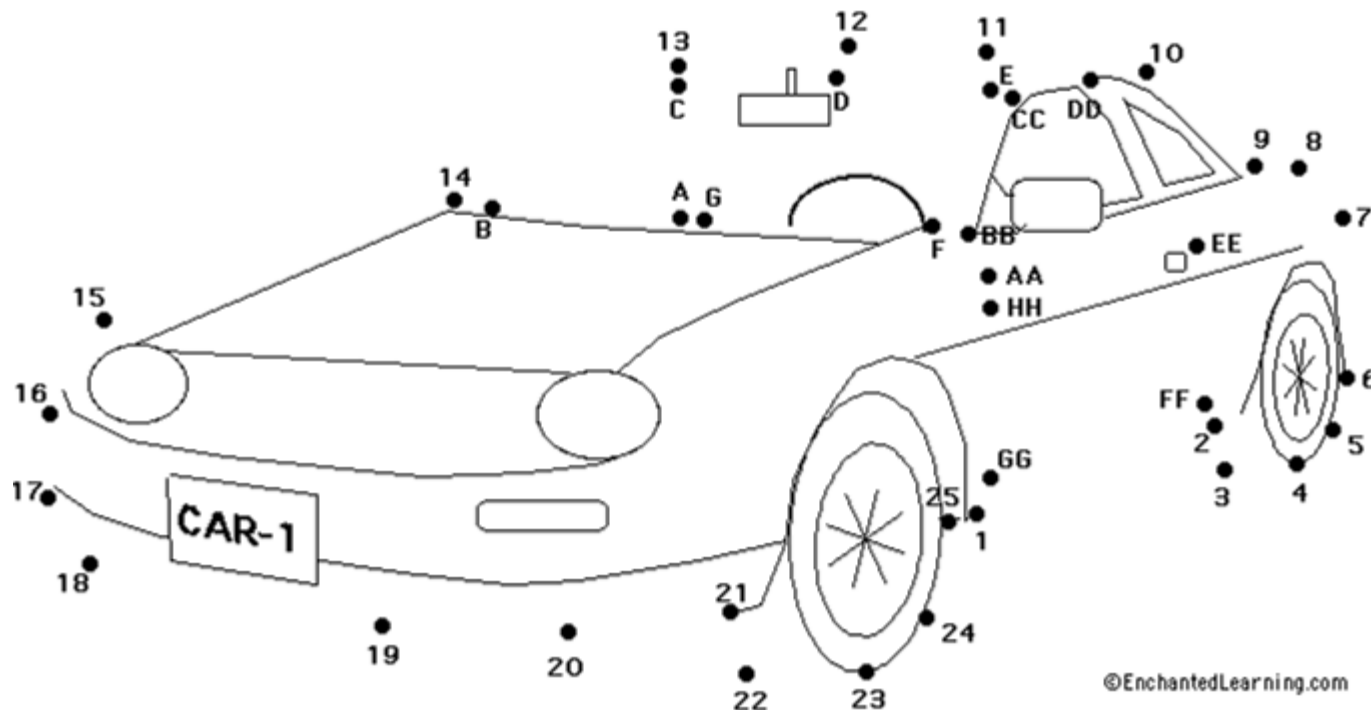
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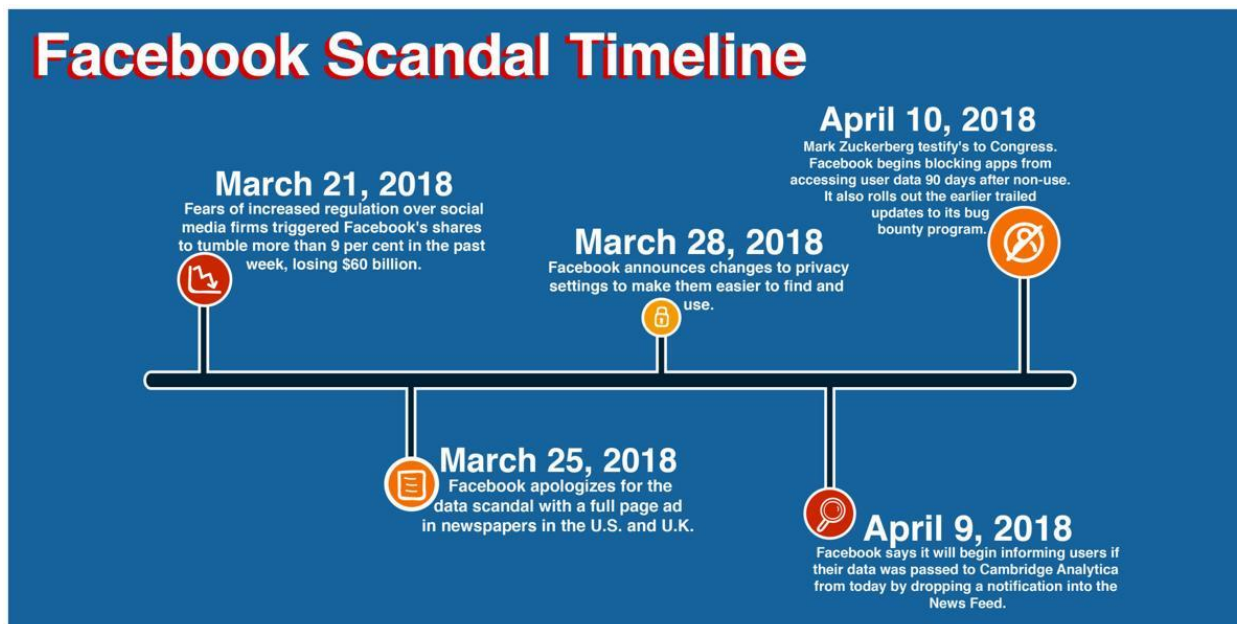
connecting the dots (example – transponder id, date, time, location, charge – govn agency-> credit card company -> banks)



# data mining, social sorting and discrimination

invisibility of watching, evaluation and treatment

Patriot Act -> norms are hidden for security  
corps -> no rationale on personal info prot.



Cambridge  
Analytica

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CCTV in Britain -> only %3 street robbery drop

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CCTV in Britain -> only %3 street robbery drop

“name of the game” -> “prediction”

conundrum -> prediction + prejudice and injustice

stereotyping X individuals

# data mining, social sorting and discrimination

sorting -> inequality, different individuals are treated differently



# crude categories

imagine: even crudest categories are  
prohibited!?

“all default”



# crude categories

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“all default”

- more privacy because using personal data is forbidden
- individuals as autonomous beings
- individuals are treated as to be changeable



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from objects -> to persons

# **is privacy over? strategies for shaping data flow**

“privacy is over; forget it”

“wouldn't you want the medical staff to be able to access your medical records wherever they are?”

strategy -> specifying policies for particular domains

# **fair information practices**

## **“Code of Fair Information Practices” (1973)**

- personal data record-keeping, secret existence
- individual, what info, used how
- prevent for one purpose to another purpose
- individual to correct information
- any organization manipulating data must ensure misuse of data

# fair information practices

“Code of Fair Information Practices” (1973)

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transparency (warning), opt-in instead of opt-out

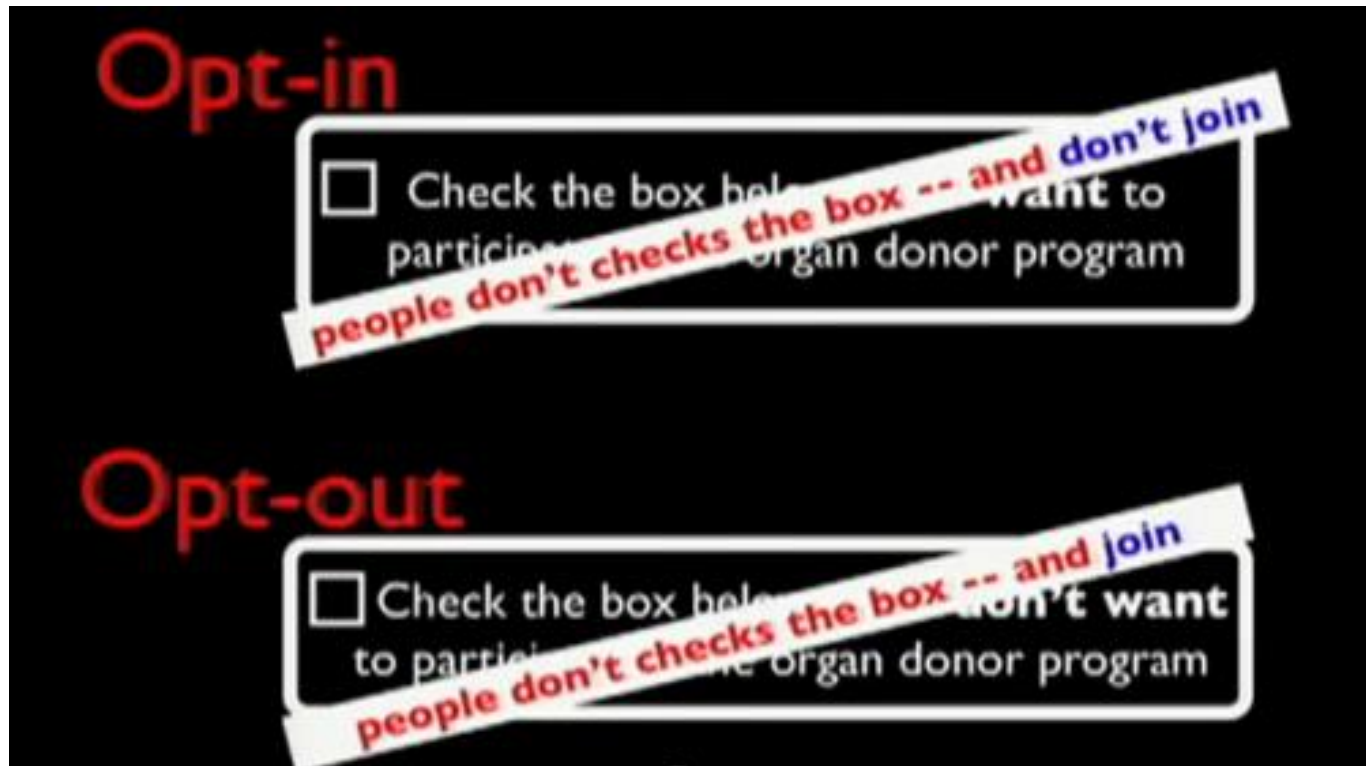
# **opt-in v.s. opt-out**

opt-in policies are preferred by privacy advocates

# opt-in v.s. opt-out

opt-in policies are preferred by privacy advocates

opt-out preferred by direct marketers because  
opt-in is a barrier for new businesses



# encryption

encryption is the process of transforming a message in order to conceal its meaning

strong encryption  $\sim$  length of public key

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govn forbid export of strong encryption tech (need a “backdoor” for govn), Phil Zimmermann case 1991-1996 (PGP – Pretty Good Privacy for common people, “if privacy is outlawed, only outlaws will have privacy)





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identified electronic money system: bank can trace the money flow from customer

anonymous electronic money system: a.k.a. digital cash, cannot be tracked, relies upon blind signature, centralized online system can easily check for duplication, ***pseudonymous???***



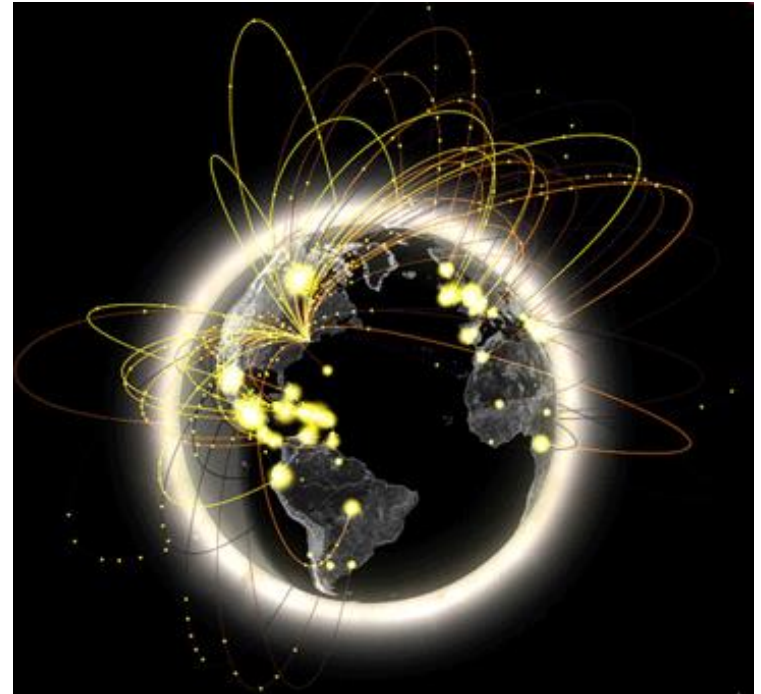
# design and computer professionals<sup>123/131</sup>

ACM (Association for Computing Machinery)

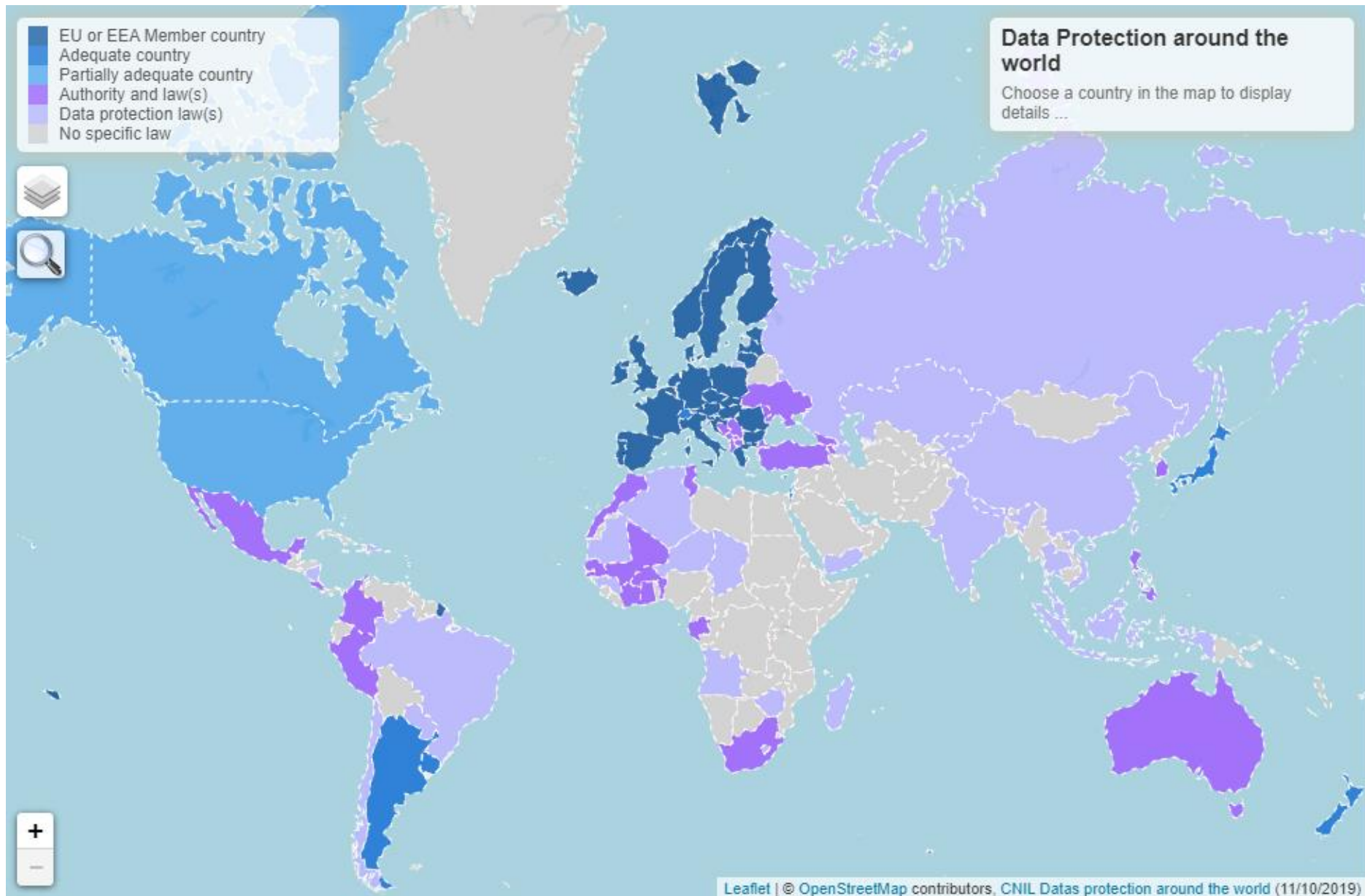
- minimize data collected
- limit authorized access to data
- provide proper security for data
- determine required retention period of the data
- ensure proper disposal of data

# a note on privacy and globalization

personal data moving from one set of law to another state of law?

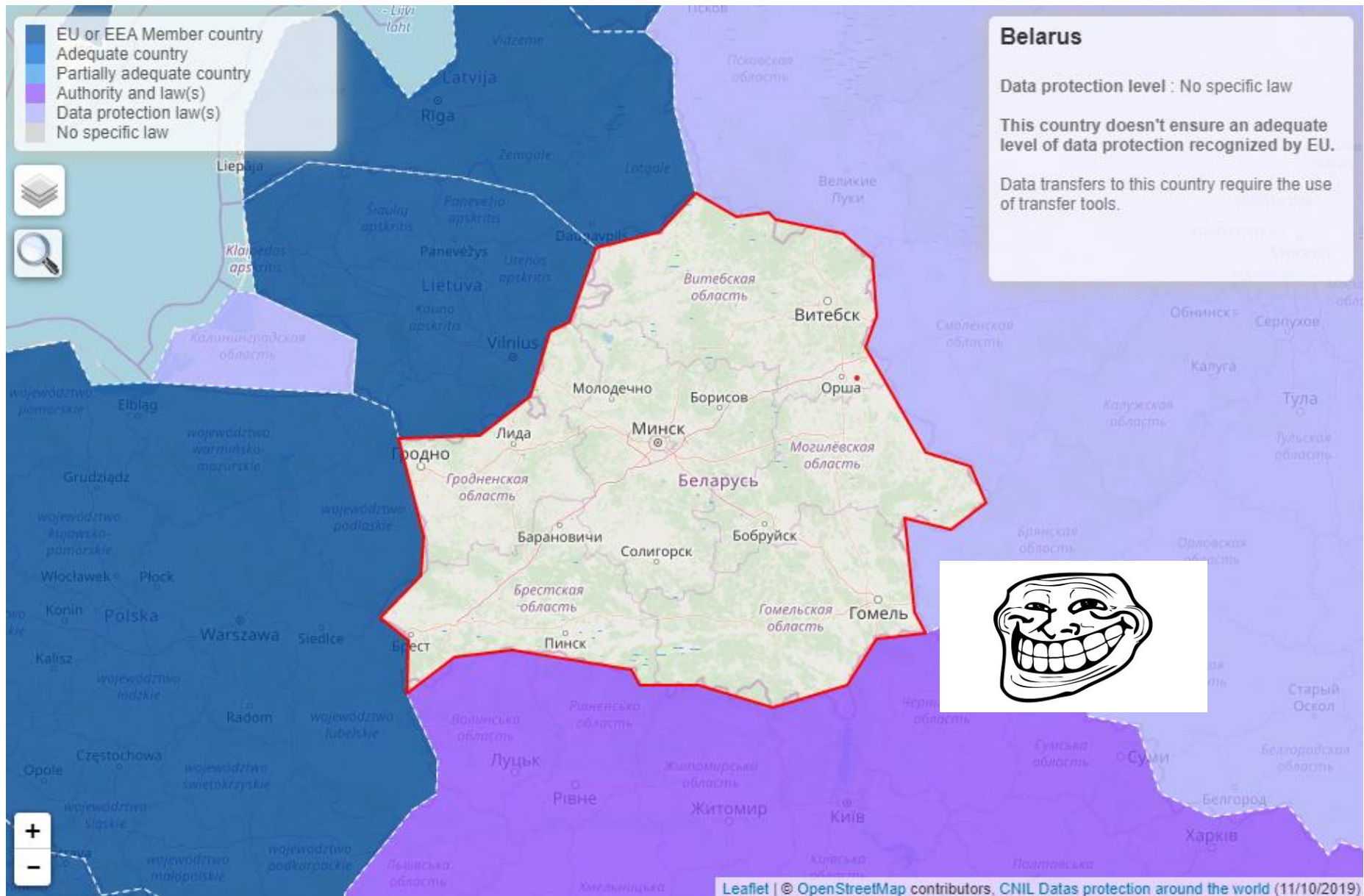


# a note on privacy and globalization

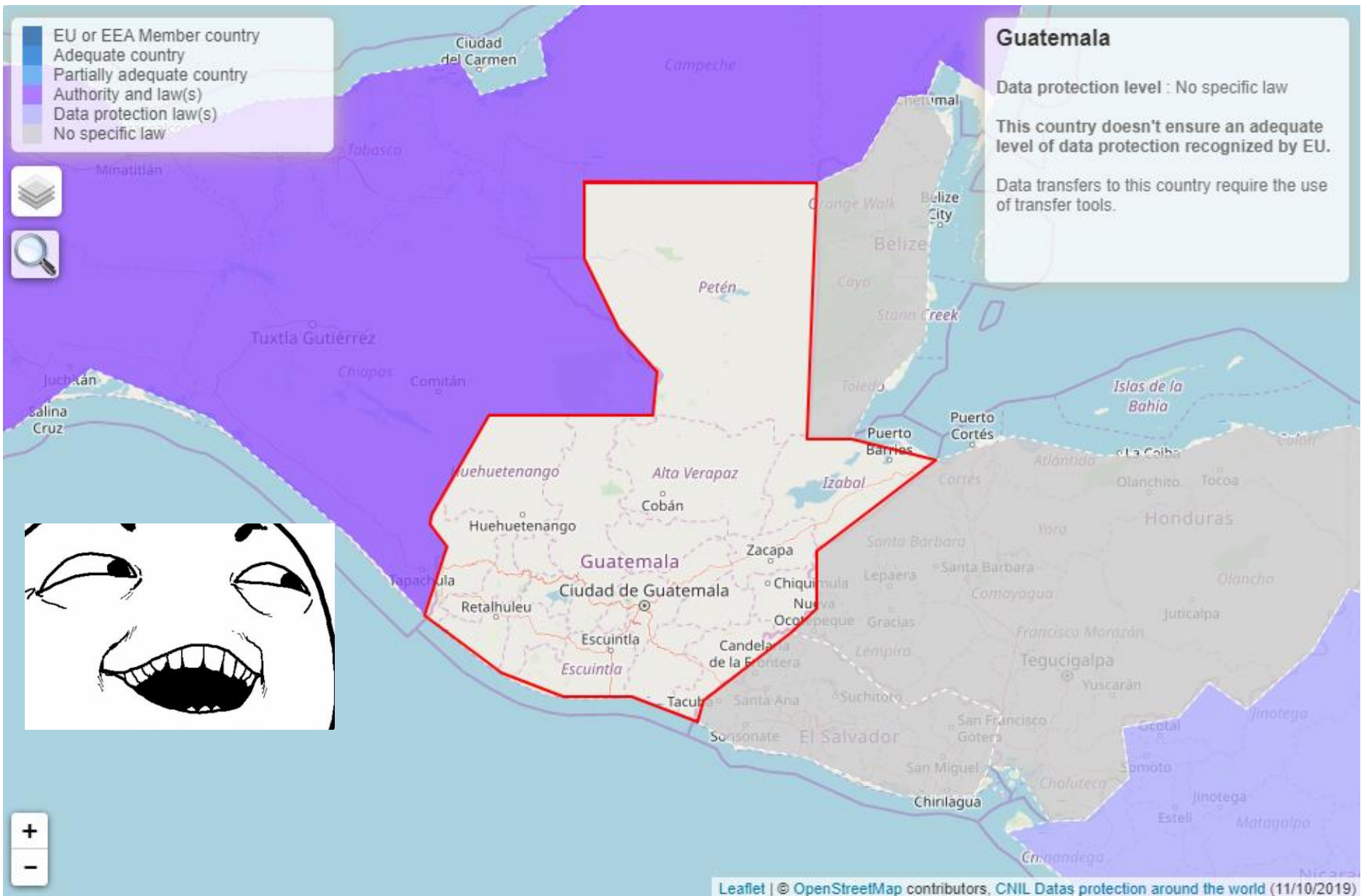


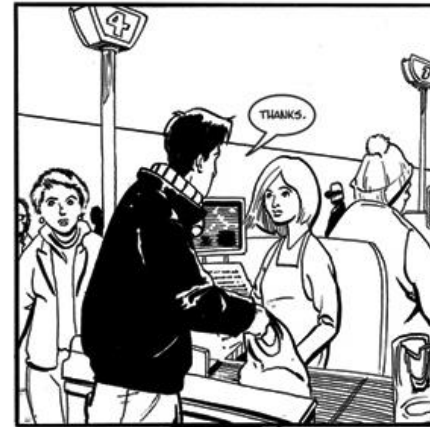
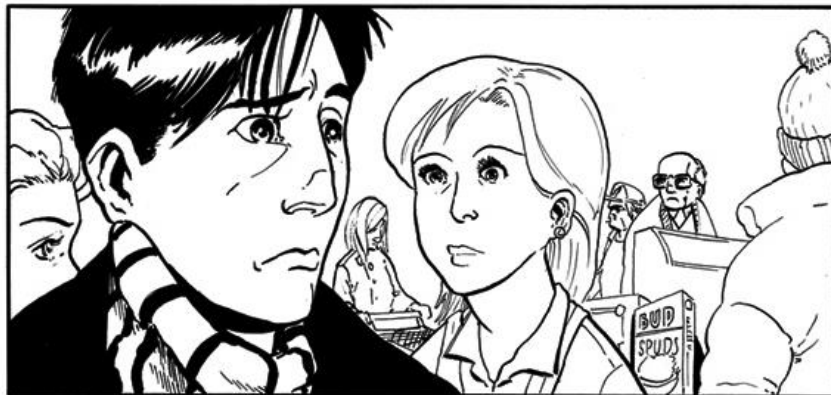


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# references

