



**LSTS**  
LAW, SCIENCE,  
TECHNOLOGY &  
SOCIETY STUDIES  
VRIJE UNIVERSITEIT BRUSSEL  
BELGIUM



Vrije  
Universiteit  
Brussel



# Trust after the computational turn

Mireille Hildebrandt

[http://works.bepress.com/mireille\\_hildebrandt/](http://works.bepress.com/mireille_hildebrandt/)

February 17, 2010

2



LSTS

LAW, SCIENCE,  
TECHNOLOGY &  
SOCIETY STUDIES  
VRIJE UNIVERSITEIT BRUSSEL  
BELGIUM



Vrije  
Universiteit  
Brussel



## Key message:

- Trustworthiness cannot be left to a failing market
- User-centric European eID platform does not suffice, in the era of KDD

## Need for:

- Smart data minimisation
- Transparency enhancing tools



LSTS

LAW, SCIENCE,  
TECHNOLOGY &  
SOCIETY STUDIES  
VRIJE UNIVERSITEIT BRUSSEL  
BELGIUM



Vrije  
Universiteit  
Brussel



## Goals RISEPTIS Report:

1. Advance of e-Commerce and e-Government
2. Sustaining values, rights and liberties of constitutional democracy
3. Facilitating transparency and accountability



LSTS

LAW, SCIENCE,  
TECHNOLOGY &  
SOCIETY STUDIES  
VRIJE UNIVERSITEIT BRUSSEL  
BELGIUM



Vrije  
Universiteit  
Brussel

Trustworthiness:

2 and 3

Two sides of the same coin



Trust lubricates the market, but if  
not based on trustworthiness a  
dangerous lubricant

German Fundamental right to  
trustworthy ICT infrastructure



LSTS

LAW, SCIENCE,  
TECHNOLOGY &  
SOCIETY STUDIES  
VRIJE UNIVERSITEIT BRUSSEL  
BELGIUM



Vrije  
Universiteit  
Brussel



Trustworthiness depends on:

Inscribing legal protection into the  
ICT infrastructure  
(Ambient Law)

Constitutional protection =  
domain of the legislator, cannot  
be left to the market



LSTS

LAW, SCIENCE,  
TECHNOLOGY &  
SOCIETY STUDIES  
VRIJE UNIVERSITEIT BRUSSEL  
BELGIUM



Vrije  
Universiteit  
Brussel



Ambient Law should create the  
incentive structure for a free and  
fair market

Eg:

a European eID platform that  
supports a user-centric ID  
management?



LSTS

LAW, SCIENCE,  
TECHNOLOGY &  
SOCIETY STUDIES  
VRIJE UNIVERSITEIT BRUSSEL  
BELGIUM



Vrije  
Universiteit  
Brussel



## Computational turn:

- Data as 'currency' in the information age
- Eg Google Analytics, Google Books, Google Adsense, usw.



**LSTS**  
LAW, SCIENCE,  
TECHNOLOGY &  
SOCIETY STUDIES  
VRIJE UNIVERSITEIT BRUSSEL  
BELGIUM



Vrije  
Universiteit  
Brussel

# The old days...





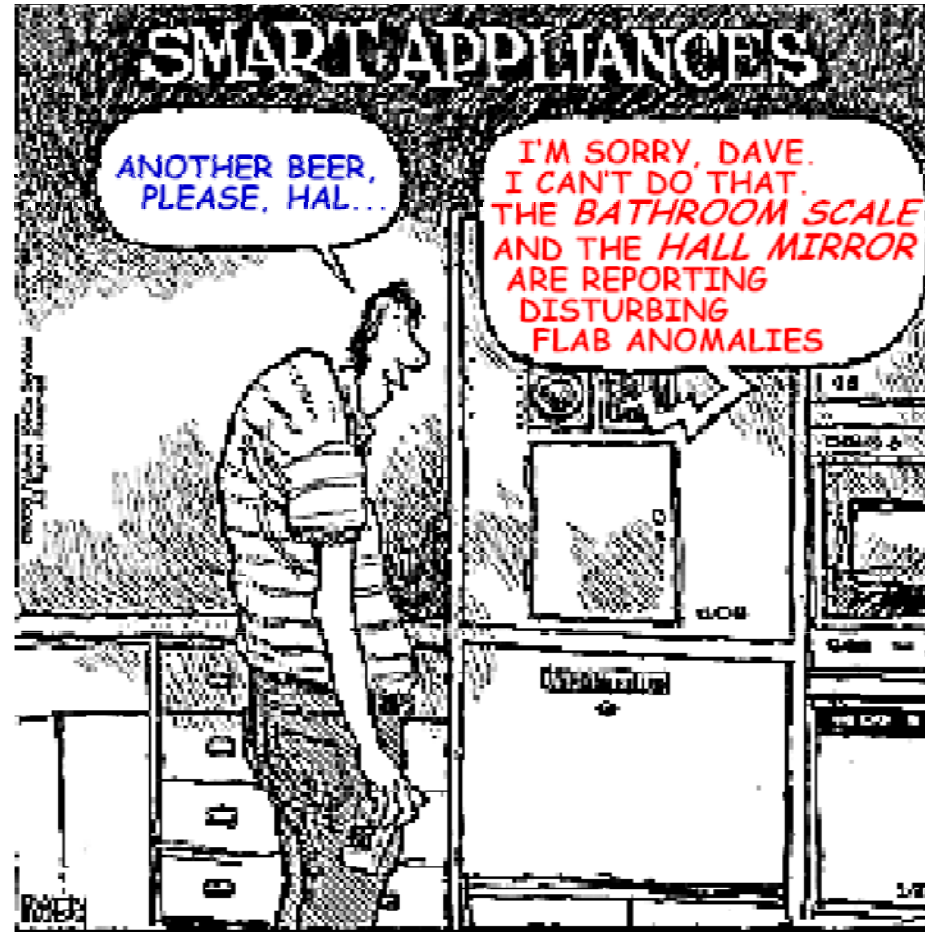
LSTS

LAW, SCIENCE,  
TECHNOLOGY &  
SOCIETY STUDIES  
VRIJE UNIVERSITEIT BRUSSEL  
BELGIUM



Vrije  
Universiteit  
Brussel

Times are changing...



© J. MacNelly



LSTS

LAW, SCIENCE,  
TECHNOLOGY &  
SOCIETY STUDIES  
VRIJE UNIVERSITEIT BRUSSEL  
BELGIUM



Vrije  
Universiteit  
Brussel



## KDD:

(Knowledge discovery in data bases)

- New type of 'knowledge' (Anderson)
- Data mining, supercrunching, multiple regression and randomised trials (Ayres)
- Eg Google Analytics



LSTS

LAW, SCIENCE,  
TECHNOLOGY &  
SOCIETY STUDIES  
VRIJE UNIVERSITEIT BRUSSEL  
BELGIUM



Vrije  
Universiteit  
Brussel



## Market failure:

User-centric IDM is not enough:  
You don't know which of your  
data matches the 'knowledge'  
that is 'out there'

Transaction costs on the side of the  
user too high



**LSTS**  
LAW, SCIENCE,  
TECHNOLOGY &  
SOCIETY STUDIES  
VRIJE UNIVERSITEIT BRUSSEL  
BELGIUM



Vrije  
Universiteit  
Brussel



## Trust - trustworthiness

Will depend on coping with the  
computational avalanche



LSTS

LAW, SCIENCE,  
TECHNOLOGY &  
SOCIETY STUDIES  
VRIJE UNIVERSITEIT BRUSSEL  
BELGIUM



Vrije  
Universiteit  
Brussel



## 3 major interrelated concerns:

Privacy – autonomy trap  
Discrimination - social sorting

Due process



LSTS

LAW, SCIENCE,  
TECHNOLOGY &  
SOCIETY STUDIES  
VRIJE UNIVERSITEIT BRUSSEL  
BELGIUM



Vrije  
Universiteit  
Brussel



I

## Smart data minimisation:

which of your data do you want to  
hide in which context from  
which part of the ICT-  
infrastructure?



**LSTS**  
LAW, SCIENCE,  
TECHNOLOGY &  
SOCIETY STUDIES  
VRIJE UNIVERSITEIT BRUSSEL  
BELGIUM



Vrije  
Universiteit  
Brussel



II

## Transparency Enhancing Tools

Showing how your data match  
relevant group profiles

(technical legal operationalisation  
of art. 12 D95/46)



**LSTS**  
LAW, SCIENCE,  
TECHNOLOGY &  
SOCIETY STUDIES  
VRIJE UNIVERSITEIT BRUSSEL  
BELGIUM



Vrije  
Universiteit  
Brussel



Thank you for your attention

Any Questions?