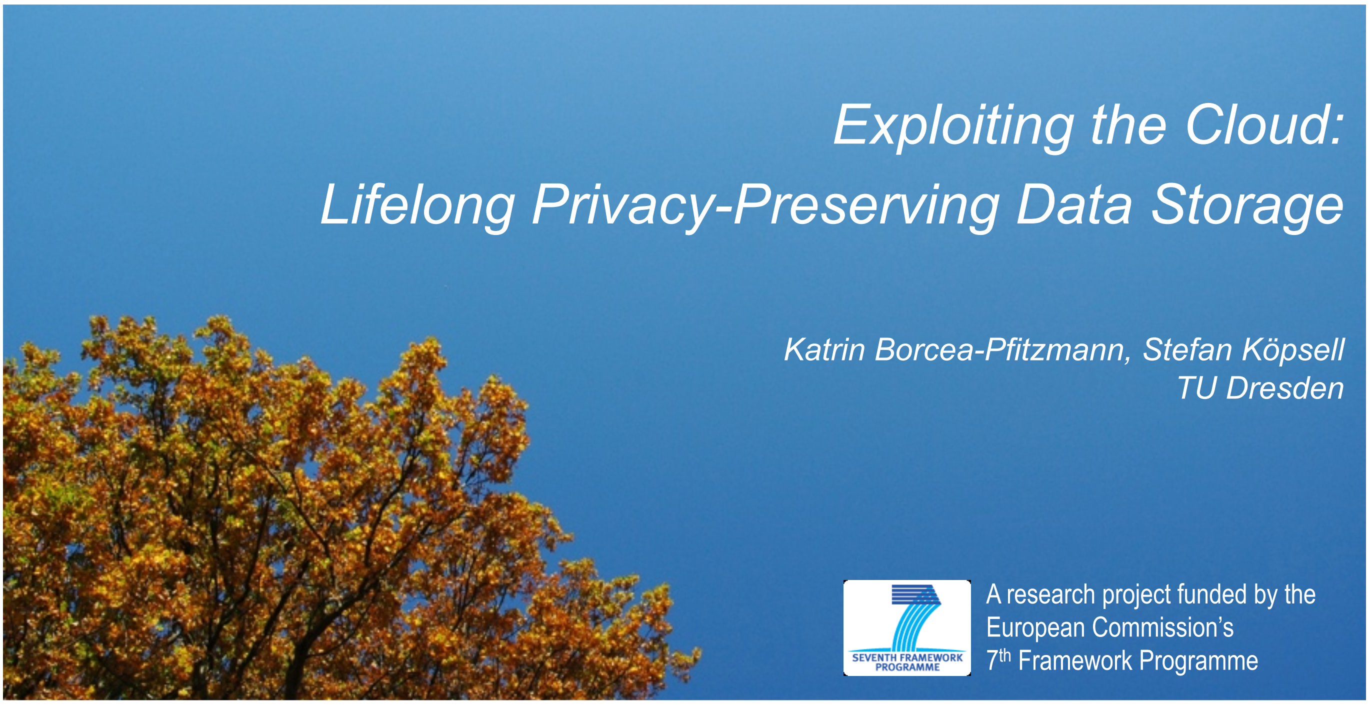
PrimeLife

PrimeLife Summit

June 7 – 8, 2011



Exploiting the Cloud: Lifelong Privacy-Preserving Data Storage

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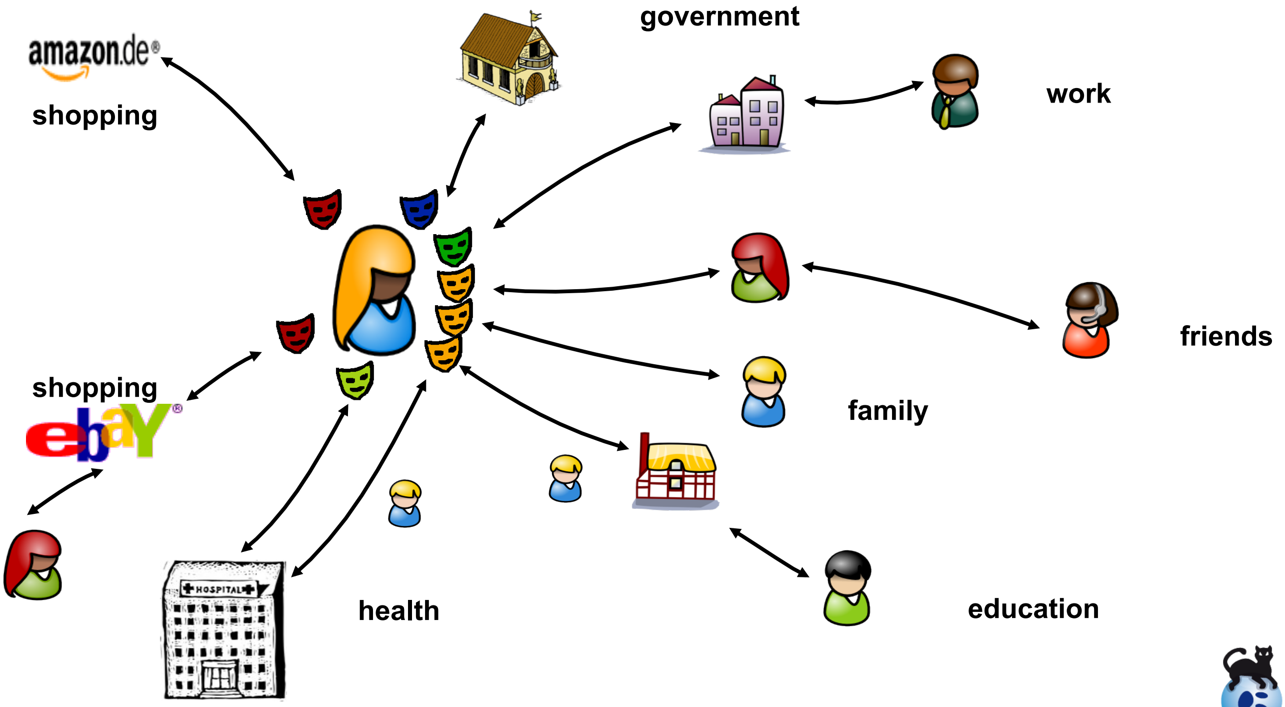
Privacy *in* „My Life“



shopping

government

work

friends

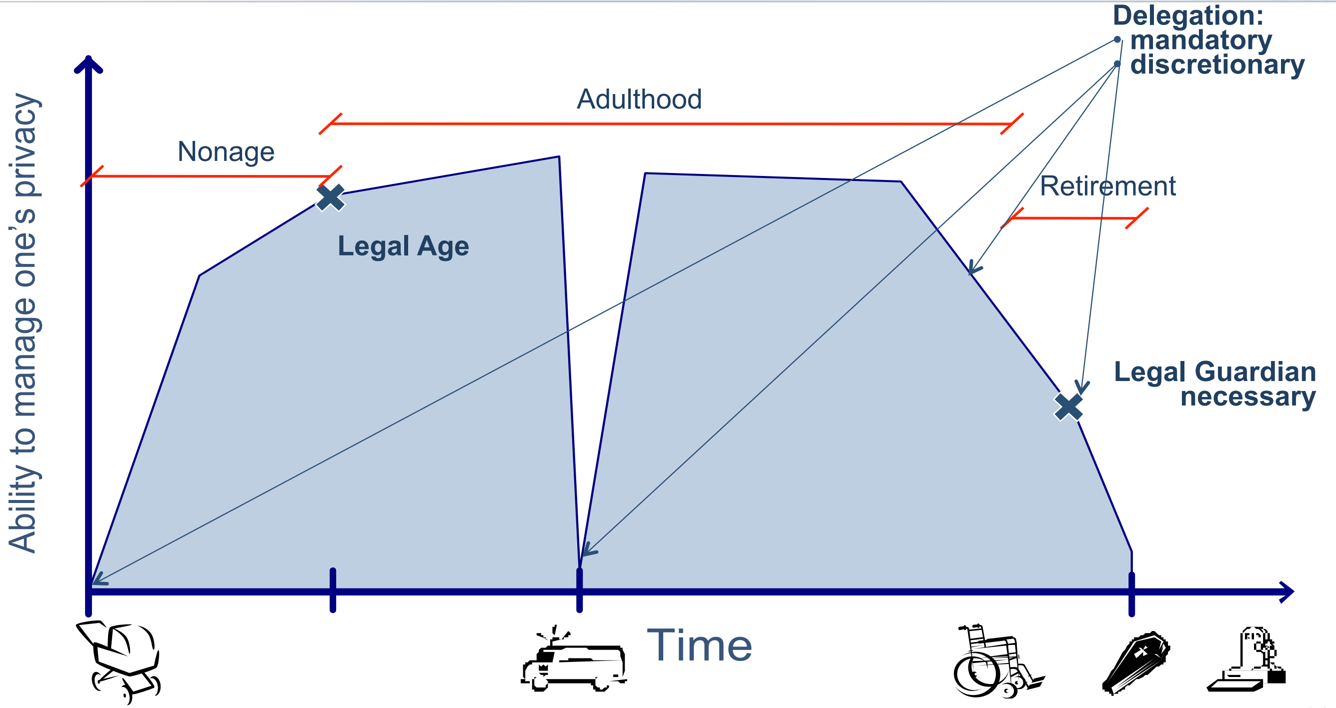
family

shopping

health

education

Privacy throughout "My Life" – Stages of Life (SoL)



Delegation:
- mandatory
- discretionary

Adulthood

Nonage

Legal Age

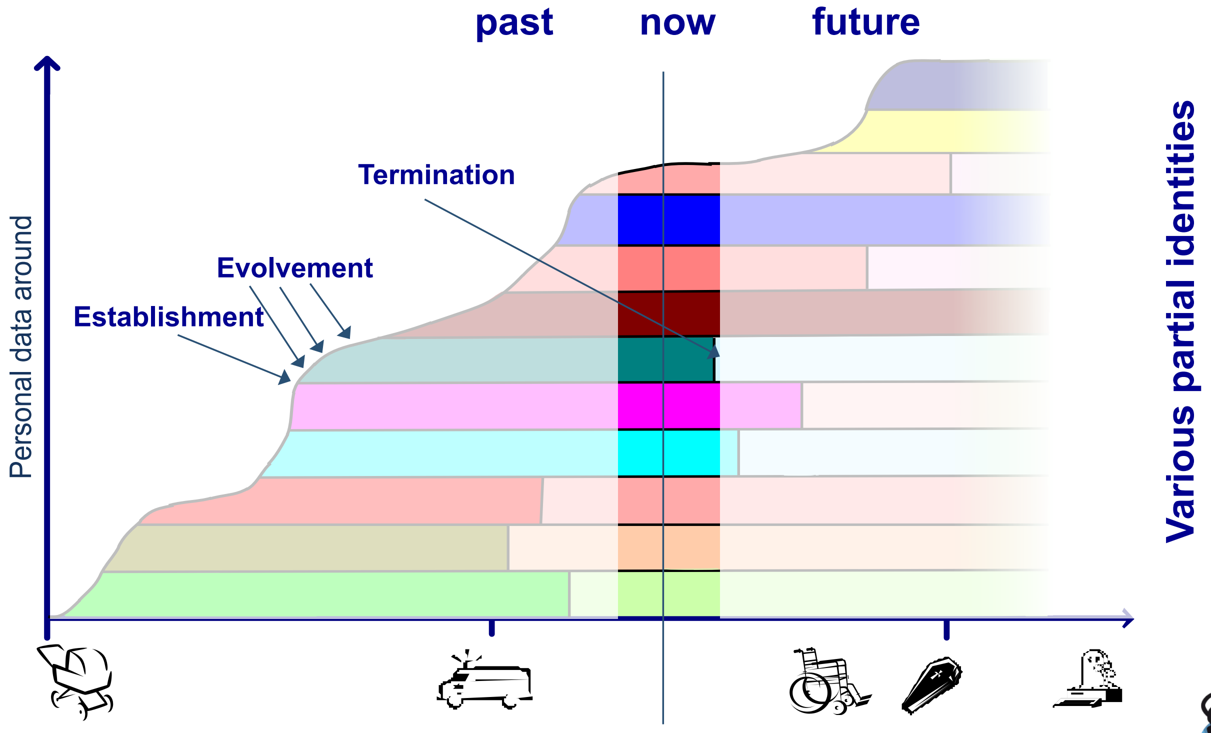
Retirement

Legal Guardian necessary

Ability to manage one's privacy

Time

Privacy throughout "My Life" – Areas of Life (AoL)



past now future

Termination

Evolvement

Establishment

Personal data around

Various partial identities

Focal Points of the Presentation

- Third year focal prototype
  - challenge we were faced:
    - develop a prototype considering timespan of 80 - 100 years
    - limited possibilities of predicting technology development
  - Lifelong personal data management demonstrator
- Delegation
  - important concept to tackle with stages of life
  - challenging in the context of privacy protection for law and technology development

Delegation

"… [a] data subject needs to be represented by another natural person who exercises the right on behalf of the data subject concerned during certain phases of life." [D1.3.1]

- means to cope with changing abilities and willingness to manage privacy
- delegation based on
  - legal provisions
  - explicit consent

Delegation requirements

- mechanisms for issuance of mandate for proxy and related activities including revocation
- support of “proxy credentials”
- mechanisms to trace proxy actions
- mechanisms to stipulate conditions and preferences
- mechanisms to protect the proxy’s privacy

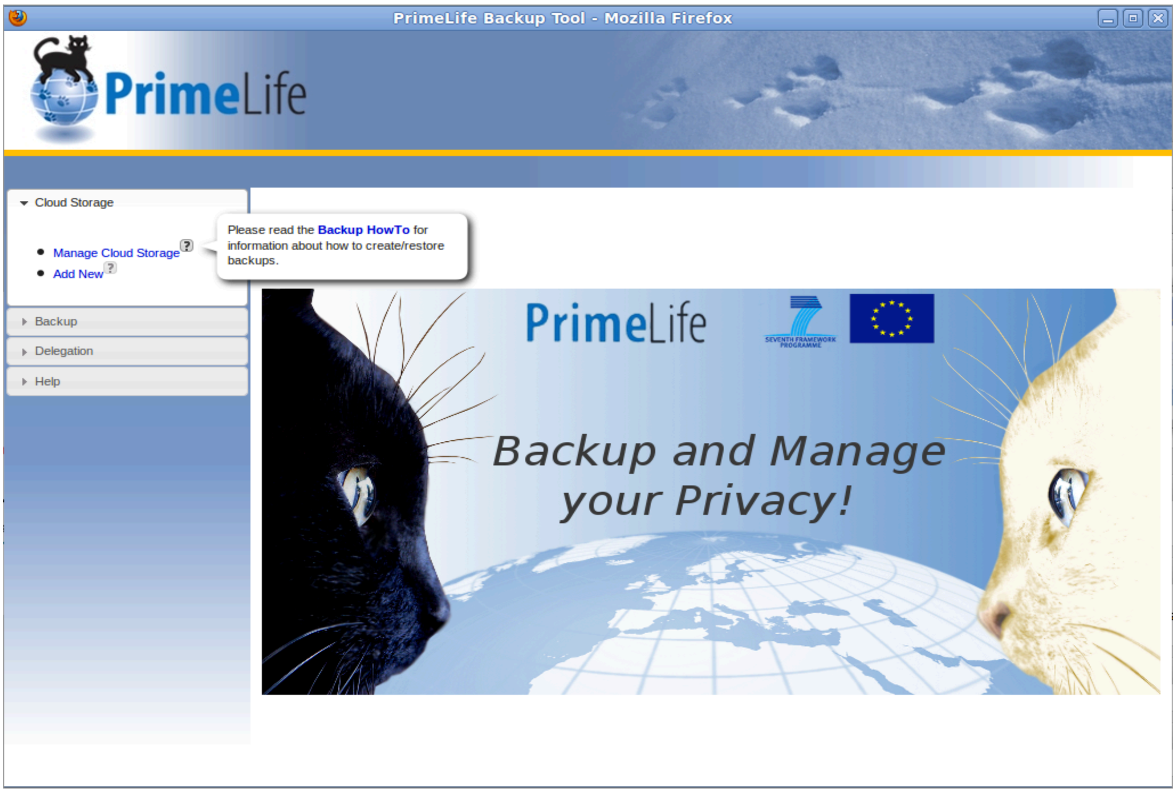
Lifelong Personal Data Management Demonstrator

- useful area of public interest
  - most “normal” users are familiar with the concept
  - enhancement of existing idea
- lifelong privacy aspects:
  - everyday work with *AoLs*
  - everyday work with different *SoLs*
  - everyday work with *partial identities (pIDs)*
- combination with ideas and concepts from a couple of prototypes

Objectives of Demonstrator

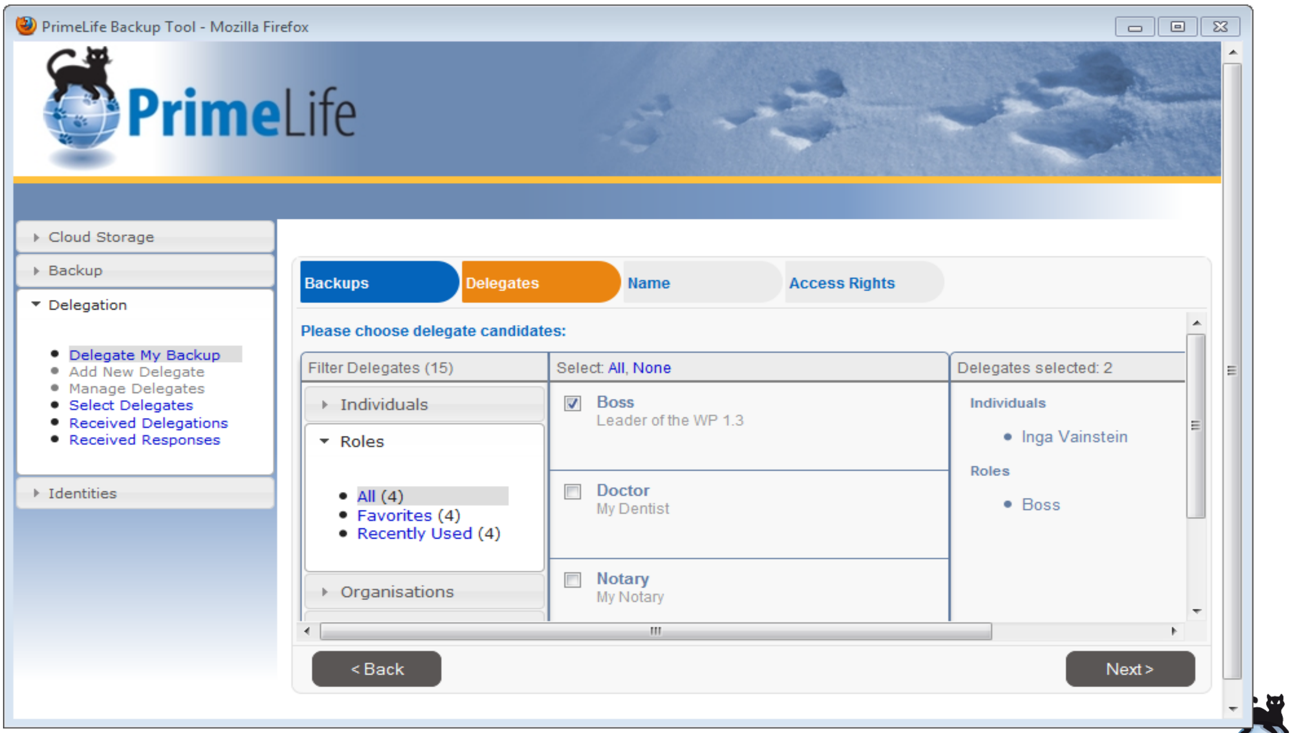
- protection of user against unwanted data loss during his lifetime
  - → redundancy and physical distribution
- assurance of lifelong confidentiality of user's data
  - → encryption
- delegation of access rights to user's backup data
  - → specific conditions
- distribution of the backup data according to different areas of life
  - → privacy management in advanced way

Features of the Demonstrator


PrimeLife Backup Tool - Mozilla Firefox
PrimeLife
Cloud Storage
Manage Cloud Storage
Add New
Backup
Delegation
Help
PrimeLife
SEVENTH FRAMEWORK PROGRAMME
Backup and Manage your Privacy!

Please read the **Backup HowTo** for information about how to create/restore backups.

Features: Setting up a Delegation



Please choose delegate candidates:

Filter Delegates (15)

- Individuals
- Roles
  - All (4)
  - Favorites (4)
  - Recently Used (4)
- Organisations

Select: All, None

☑ Boss
Leader of the WP 1.3

□ Doctor
My Dentist

□ Notary
My Notary

Delegates selected: 2

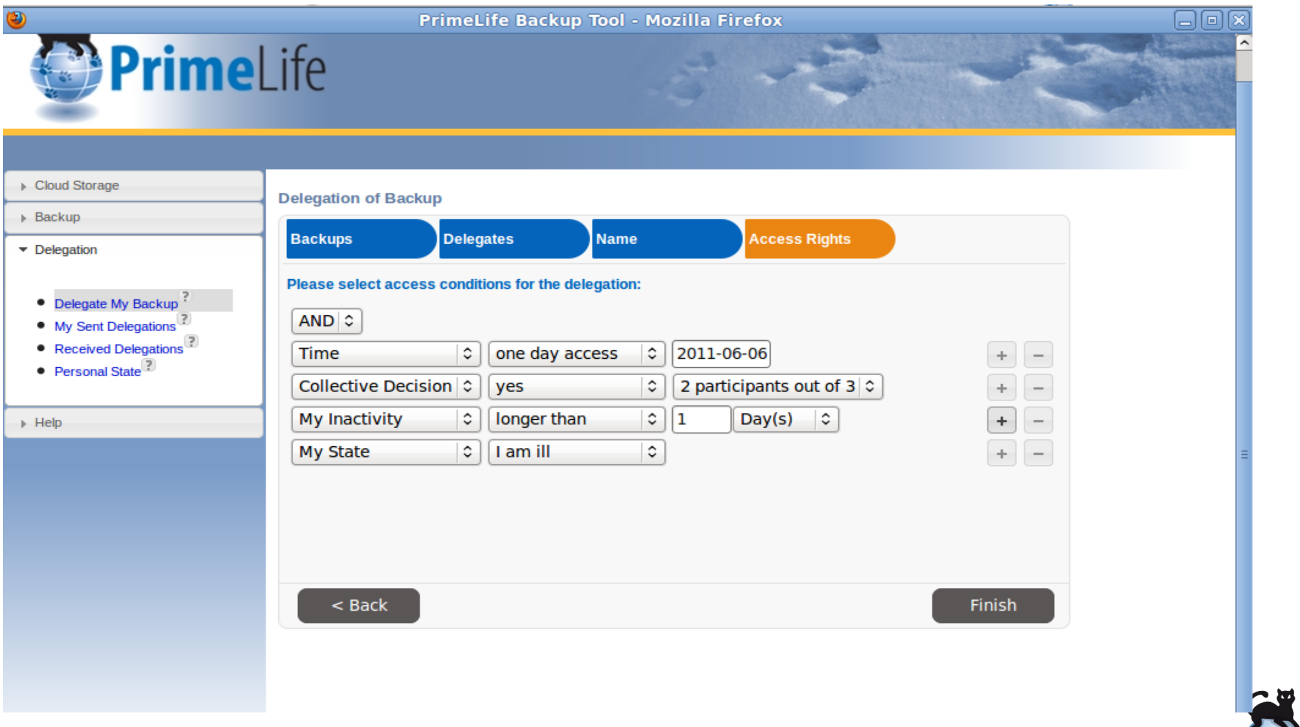
Individuals

- Inga Vainstein

Roles

- Boss

Features: Delegation/Collective Decision



Delegation of Backup

Please select access conditions for the delegation:

AND

Time | one day access | 2011-06-06

Collective Decision | yes | 2 participants out of 3

My Inactivity | longer than | 1 | Day(s)

My State | I am ill

Summary & Lessons Learned 1|2

- highly complex research area
- interdisciplinary approach
- two-fold problem field:
  - long-term security
  - minimization of disclosure of personal data & identity management
- domain-/application-/user-specific

Summary & Lessons Learned 2|2

- design of privacy-respecting applications requires thorough contemplations:
  - the full lifespan of users meaning
    - dynamics in life conditions, aims, attitudes
    - changes in abilities and willingness to manage privacy
    - possible influences of privacy-related decisions for contexts other than the “current”
- delegation scenarios are crucial as
  - interests of **all** involved parties regarding their privacy and expected service/functionality have to be met
  - law has to be fulfilled

Thank you for your attention!

References

[D1.3.1] K. Borcea-Pfitzmann (ed.): Scenario, Analysis, and Design of Privacy Throughout Life Demonstrator. PrimeLife Deliverable D1.3.1, February 2011