Consumer-Oriented Social Media
How to Achieve 'Easy Privacy'

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http://www.rogerclarke.com/II/COSMP-1407 {.html, .pdf}

Asian Privacy Scholars Network
4th International Conference
Meiji University, Tokyo – 10-11 July 2014

Social Media
A Working Definition

And hence Scope Specification

An application or service
that is perceived by its users
to support them in relation to:

- Interaction with other people
- Broadcast to other people
- Sharing with other people

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A Consumer-Oriented Classification of Social Media

<table>
<tr><td>Interaction
(Closed)</td><td>1 ⟷ 1
OR
1 ⟷ few</td><td></td></tr>
<tr><td>Broadcast
(Open)</td><td>1 ⟶ many</td><td></td></tr>
<tr><td rowspan="3">Collaboration
or
Sharing
(Semi-Open
or Open)</td><td rowspan="3">1 ⟷ many</td><td>Content</td></tr>
<tr><td>Indicator</td></tr>
<tr><td>Gaming</td></tr>
</table>

Email / Chat-IM / Skype
Messaging

Web-**Pages**
'Walled-garden' **'wall-postings'**
YouTube

Wikis

Dis/Approvals
'Like', '+1'

Second Life

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http://www.rogerclarke.com/II/COSM-1301.html#SM

Motivation

- All contemporary Social Media
  - adopt an exploitative business model
  - embody consumer-hostile features

- An alternative is highly desirable:
  'Consumer-Oriented' Social Media
- A key feature would be Easy Privacy
- Critics need to make constructive proposals

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Consumer-Oriented Social Media Characteristics

- Distributed Architecture
- Interoperability
- Portability
- **Privacy Features**
- Terms of Service
- Privacy Terms
- Business Model

Consumer-Oriented Social Media Services – Instances

Appleseed	Defunct?
Crabgrass	"Social networking, group collaboration and network organizing ... tailored specifically to meet the needs of bottom up grassroots organizing"
cyn.in	"Open source collaboration software"
Diaspora*	"A distributed social network", "reengineering the way online socializing works"
Duuit	Dormant?
elgg	"A social networking engine, delivering the building blocks for fully-featured social networks and applications"
Friendica	"Think WordPress or Drupal, but for social"
GNU social	Merged into StatusNet in June 2013
identi.ca	Previously a front-end to StatusNet, now to pump.io
Kune	For collaborative management of a collective
Lorea/N-1	A fork of Elgg
OneSocialWeb	Dormant
OpenSocial	"Standards-based component model for cloud based social apps"
Personal Containers	"Federated data sources"
pump.io	"Social Server with an ActivityStreams API"
StatusNet	"Free and Open Source social software", whose commercial target is enterprise social networking
Tent	"A protocol for open, decentralized social networking"
Thimbl	"Distributed micro-blogging platform"

Failure

- Few have been mentioned in academic papers
- Even Diaspora* and StatusNet have attracted very little consideration
- And those papers have few citations
- COSM user-counts appear to be at most a few hundreds of thousands, whereas the largest commercial services have a few billion users
- **COSM have o.t.o.o. 0.01% of the total social media services user-base**

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Innovations need Drivers, and face Impediments

Impediments

- **(Un)Awareness** – Why would I need one of those?
- **(In)Comprehensibility** – It does what exactly?
- **(Un)Installability** – How do I get one?
- **(Un)Usability** – How do I get it to do what I need?
- **(In)Convenience** – Does it interfere with my activities?

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Innovations need Drivers, and face Impediments

Impediments

- **(Un)Awareness** – Why would I need one of those?
- **(In)Comprehensibility** – It does what?
- **(Un)Installability** – How do I get it on my device(s)?
- **(Un)Usability** – How do I get it to do what I need?
- **(In)Convenience** – Does it interfere with my activities?

Drivers

- **Perceived Need** – Justified and/or Delusive Paranoia

  RA: Threats, Vulnerabilities, Safeguards, Residual Risks

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Consumer-Oriented Social Media – 'Easy Privacy'?

Agenda

1. Social Media
2. Consumer-Oriented S.M.
   - Definition
   - Characteristics
   - Failure
3. **Achieving 'Easy Privacy'**
   - **Privacy Features**
   - User Segmentation
   - Usability
4. Conclusions

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A Catalogue of Social Media Privacy Concerns

1 Privacy-Abusive **Data Collection**

2 Privacy-Abusive **Service-Provider Rights**

3 Privacy-Abusive **Functionality and User Interfaces**

4 Privacy-Abusive **Data Exploitation**

Source: Reviews of Media Reports 2005-11

A Catalogue of Social Media Privacy Concerns

1 Privacy-Abusive Data Collection

Demands for User Data

- Identity data
- Profile data
- Contacts data, including users' address-books:
    - Their contact-points (some sensitive)
    - Comments about them (ditto)
    - By implication, their social networks

Collection of User Data

- About users' online behaviour when transacting with and via the particular service, over time
- About users' online behaviour, even when not transacting with or via the particular service
- From third parties, without notice to the user and/or without user consent
- About users' locations over time

2 Privacy-Abusive Service-Provider Rights

Terms of Service Features

- Substantial self-declared, non-negotiable rights

for the service-provider, including:

- To exploit users' data for their own purposes
- To disclose users' data to other organisations
- To retain users' data permanently,

even if the person terminates their account

- To change Terms of Service:
    - unilaterally
    - without advance notice to users; and/or
    - without any notice to users

Exercise of Self-Declared Service-Provider Rights

- In ways harmful to users' interests
- In order to renege on previous undertakings

Avoidance of Consumer Protection and Privacy Laws

- Location of storage and processing in data havens
- Location of contract-jurisdiction distant from users
- Ignoring of regulatory and oversight agencies
- Acceptance of nuisance-value fines and nominal undertakings

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http://www.rogerclarke.com/II/COSM-1301.html#PC

A Catalogue of Social Media Privacy Concerns

3 Privacy-Abusive Functionality and User Interfaces

Privacy-Related Settings

- Non-conservative default settings
- Inadequate granularity
- Failure to group into Profiles
- Complex and unhelpful user interfaces
- Changes to the effects of settings, without advance notice, without any notice and/or without consent

'Real Names' Policies

- Denial of multiple identities
- Denial of anonymity
- Denial of pseudonymity
- Enforced publication of 'real name', associated profile data

Functionality and User Interface

- Inadequate documentation and reliance on interpolation
- Frequent changes; and/or without advance notice to users, without any notice to users and/or without user consent

User Access to Their Data

- Lack of clarity about whether, and how, data can be accessed
- Lack of, even denial of, the right of subject access

User Deletion of Their Data

- Lack of clarity about whether, and how, data can be deleted
- Lack of, and even denial of, the user's right to delete

4 Privacy-Abusive Data Exploitation

Exposure of User Data to Third Parties

- Wide exposure, in violation of previous Terms, of:
  - Users' profile-data (e.g. address, mobile-phone)
  - Users' postings
  - Users' advertising and purchasing behaviour
  - Users' explicit social networks
  - Users' inferred social networks,

  e.g. from messaging-traffic
- Changes to the scope of exposure:
  - Without advance notice to users
  - Without any notice to users; and/or
  - Without user consent
- Access by government agencies without demonstrated legal authority

Exposure of Data about Other People

- Upload of users' address-books, including:
  - Their contact-points
  - Comments about them
  - By implication, their social networks
- Exploitation of non-users' interactions with users
- Disclosure of non-users' social networks

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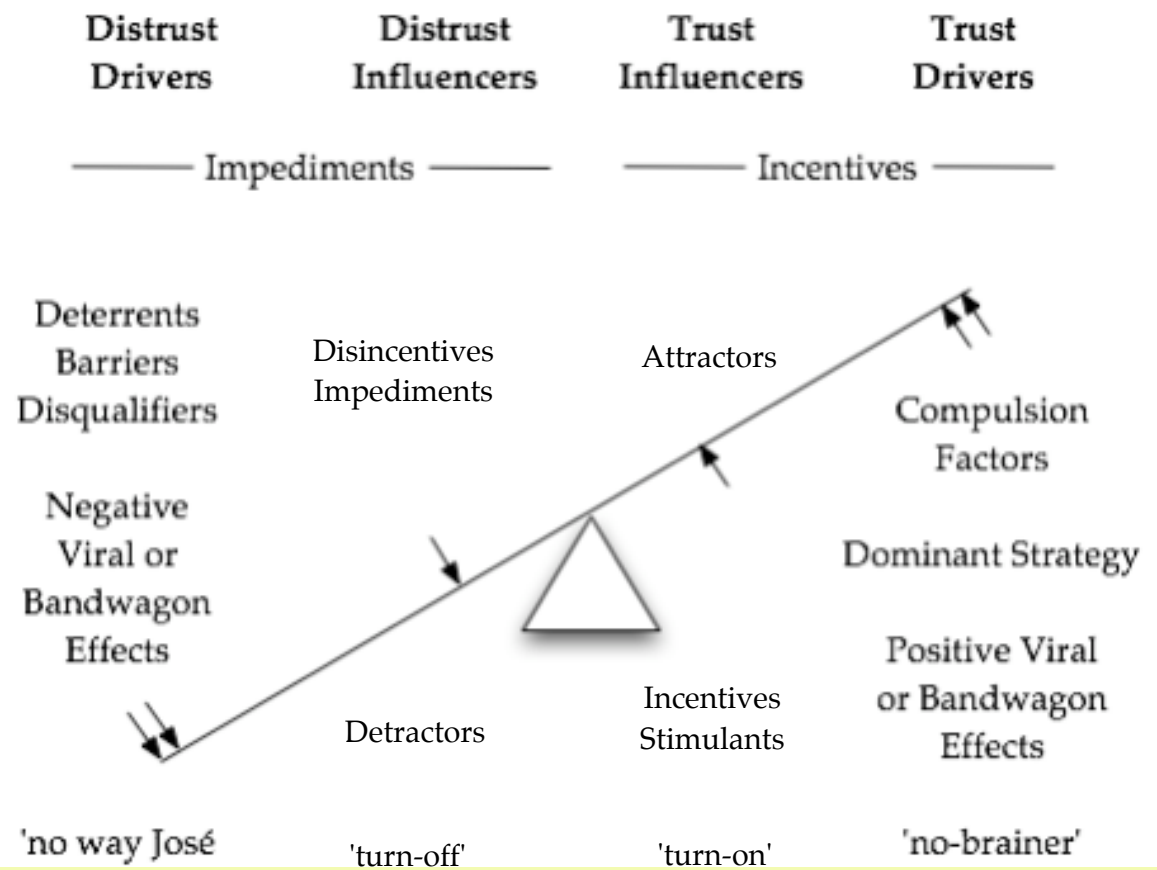
Prioritisation of Privacy-Sensitive Features



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http://www.rogerclarke.com/DV/SMTD.html

COSM – Privacy-Sensitivity
A Possible Set of Priority Features

Not 'The Default is Social'

Consent-Based (Not Opt-Out)

- Informed
- Freely-Given
- Granular not Bundled
- Conservative Defaults
- Settings Management

Trustworthy Terms, esp. Transparency re Data-Handling

Identity Protections

- Protected Pseudonyms
- Multiple Identities
- Caveats, Social Norms and Reputations

Location Protections

Non-User Protections

- Content
- Social Networks

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Does EveryPerson Want COSM?

- Hedonism trumps Functionalism
- The Candide/Pollyanna Syndrome:
  People want to believe in the goodness of
  the institutions around them, and are trusting
- Consumer Orientation and Privacy Sensitivity
  conflict with Convenience / Usability
- Most people won't accept the trade-off

Does EveryPerson Need COSM?

- COSM is needed by:
  - particular kinds of people
  - people in particular situations
- Such people fall into various categories
- Those categories have different needs
- COSMs need to be targeted at those categories

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User Segmentation for COSMs

Categories of 'Persons-at-Risk'

Social Contexts

- Victims of domestic violence
- Celebrities and notorieties at risk of extortion, kidnap, burglary
- Short-term celebrities such as lottery-winners, victims of crime
- Victims of harassment, stalking
- Individuals subject to significant discriminatory behaviour
- People seeking to leave a former association, e.g. ex-gang-members

Political Contexts

- Whistleblowers
- Dissidents

http://www.rogerclarke.com/EC/eHlthRes.html#PAR

http://geekfeminism.wikia.com/wiki/Who_is_harmed_by_a_%22Real_Names%22_policy%3F

User Segmentation for COSMs

Categories of 'Persons-at-Risk'

Organisational Contexts

- Corporate executives
- Government executives
- Undercover operatives
- Law enforcement and prison staff
- Mental health care prof'ls, counsellors

Legal Contexts

- Judges, lawyers and jurors, particularly in highly-charged cases
- Witnesses, including people in protected witness programs
- Ex-prisoners re-integrating with society

Social Contexts

- Victims of domestic violence
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Consumer-Oriented Social Media Risk Assessment

(0) The Mainstream Security Model

(1) The Technical Architecture
(2) The Commercial Architecture
(3) The Transaction Process Aspect
(4) The Harm Aspect
(5) The Vulnerability Aspect
(6) The Threat Aspects
(7) The Safeguards Aspect

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http://www.rogerclarke.com/EC/MP-RAF.html

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Software Usability

- 'Usability Engineering' (Nielsen 1993)
  Proposed 5 "usability attributes":
  Learnability, Efficiency of Use, Memorability, Lowness of Error-Rate, Satisfaction
- Human-Computer Interaction (HCI) theory
- User Interface (UI) design theory
- 'The Design of Everyday Things' (Norman 2000)
- ISO 9241-11 (1998), identified 4 key elements:
  Effectiveness, Efficiency, Satisfaction, Learnability

Usable Security

- Whitten & Tygar (1999) tests (re PGP):
  - W1. Users are reliably made **aware** of the security tasks they need to perform
  - W2. Users are able to figure out how to successfully **perform** those tasks
  - W3. Users don't make dangerous **errors**
  - W4. Users are sufficiently **comfortable** with the interface to continue using it
- Garfinkel & Miller (2005) guidelines:
  - G1. Users should be **aware** of the steps they have to perform to complete a core task
  - G2. Users should be able to determine how to **perform** these steps
  - G3. Users should know when they have successfully **completed** a core task
  - G4. Users should be able to recognize, diagnose, and recover from non-critical **errors**
  - G5. Users should not make dangerous **errors** from which they cannot recover
  - G6. Users should be comfortable with the **terminology** used in interface dialogues, documentation
  - G7. Users should be sufficiently **comfortable** with the interface to continue using it
  - G8. Users should be aware of the application's **status** at all times
- Herzog & Ahahmehri (2007)
- Camp (2013)'s principles of 'translucent security':
  - C1: High security defaults
  - C2: Single-click override
  - C3: Context-specific settings
  - C4: Personalised settings
  - C5: Use-based settings

User Interface Design for Privacy

- EU-funded studies, oriented to the EU Directive:
  - Patrick et al. (2002)
    (Chapter 12 of van Blarkom, Borking & Olk's 'Handbook of Privacy and Privacy-Enhancing Technologies')
  - Privacy and Identity Management for Europe
    (PRIME, 2006-08)
    https://www.prime-project.eu/
  - PrimeLife (2009-11)
    'Bringing sustainable privacy and identity management to future networks and services'
    http://primelife.ercim.eu/

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PrimeLife Guidelines for Usable PETs (enhanced)

H1. Consistency , i.e. common elements and processes
H2. Feedback
H3. Efficiency, including the avoidance of undue interruptions by privacy features of the task that is the user's primary focus
H4. Flexibility
H5. Clearly marked exits
H6. Wording in the users' language
H7. Control
X7A. Where a PET blocks or degrades a service, it must notify the user, and provide access to an explanation of the reasons why, and the options available
X7B. Users must have the following conveniently-accessible capabilities re the operation of a PET feature:
- to 'suspend / resume' (i.e. an on-the-fly on/off switch)
- to 'leave generally off, but apply to this transaction only'
- to 'leave generally on, but override for this transaction only'

H8. Recovery and forgiveness, i.e. an 'undo' button is always desirable
H9. Minimization of memory load
H10. Transparency, i.e. an explanation of the effect of each choice must be available
H11. Aesthetics and emotional effect
H12. Distinctiveness of remote vs. local handling of data
H13. Internationalization, to accommodate different written, spoken and visual languages and cultural values
H14. Support for informed and specific consent
H15. Privacy-friendly defaults
X16. Provide simplified profiles that aggregate parameter-settings, which a user can select, and can customise

Usability

- Usability Foundations
- Usable Security
- User Interface Design for Privacy
- Guidelines for Usable PETs

=====>>>

- **Guidelines for Usable Consumer-Oriented Social Media**

http://www.rogerclarke.com/DV/UPETs-1405.html#PU

Consumer-Oriented Social Media
Create Drivers, Overcome Impediments

- **Design**
  Exclude exploitative features
  Incorporate 'Easy Privacy' features
  Interoperability, Portability; P2P or ...
- **Ensure Understanding**
  Target relevant user categories, in their language
  Leverage off exploitative SM's PR disasters
- **Ensure Viability**
  Leverage off alternative Business Models
  'Who pays? For what? To whom? and Why?'
  Fairy godmother, cross-subsidies, versioning

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