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Privacy

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INTRODUCTION TO PRIVACY

PRIVACY – WHAT IS IT?
– WHY IS IT IMPORTANT?

"As the world is now, code writers are increasingly lawmakers. They determine what the defaults of the Internet will be; whether privacy will be protected; the degree to which anonymity will be allowed; the extent to which access will be guaranteed."

-- Lawrence Lessig, Code 2.0

(NY: Basic Books, 2006), at 77, online: Codev2 <http://pdf.codev2.cc/Lessig-Codev2.pdf>

INTRODUCTION TO PRIVACY

PRIVACY – WHAT IS IT?
– WHY IS IT IMPORTANT?

"Privacy is a protean concept" – Justice Binnie, Supreme Court of Canada
R. v. Tessling, [2004] 3 S.C.R. 432 (S.C.C.) <http://csc.lexum.umontreal.ca/en/2004/2004scc67/2004scc67.html>

Implicates other values:

- Personal autonomy/dignity
- Democracy
- Freedom
- Control

(Theoretical) Hierarchy of Privacy: Bodily > Territorial > Informational

INTRODUCTION TO PRIVACY

PRIVACY – WHAT IS IT?
– WHY IS IT IMPORTANT?

INFORMATIONAL PRIVACY

Privacy as informed control over your personal information:

"Beyond our bodies and the places where we live and work, however, lies the thorny question of how much information about ourselves and activities we are entitled to shield from the curious eyes of the state…Informational privacy has been defined as "the claim of individuals, groups, or institutions to determine for themselves when, how, and to what extent information about them is communicated to others" [Alan Weston, 1967]. Its protection is predicated on 'the assumption that all information about a person is in a fundamental way his own, for him to communicate or retain ... as he sees fit.'…Privacy is a protean concept, and the difficult issue is where the "reasonableness" line should be drawn."

R. v. Tessling, (S.C.C. 2004), Binnie, J.

INFORMATIONAL PRIVACY

PRIVACY – WHAT IS IT?
– WHY IS IT IMPORTANT?

Territorial: Information about what occurs within the home is sensitive
Bodily: Information about the 'body' is sensitive (medical information, DNA, biodata).

!Territorial: Can you have privacy in public spaces?

Informational privacy is often about maintaining contextual integrity

"Most people have a robust sense of the information about them that is relevant, appropriate, or proper to particular circumstances, situations, or relationships…For the myriad transactions, situations and relationships in which people engage, there are norms—explicit and implicit—governing how much information and what type of information is fitting for them. Where these norms are respected I will say that contextual integrity is maintained; where violated, I will say that contextual integrity has been violated."

H. Nissenbaum, "Protecting Privacy in an Information Age: The Problem of Privacy in Public", <http://www.nyu.edu/projects/nissenbaum/papers/privacy.pdf>.

INFORMATIONAL PRIVACY

PRIVACY – WHAT IS IT?
– WHY IS IT IMPORTANT?

INFO PRIVACY @ LAW

Absolute control over all personal information in all contexts?

The Law Protects:

- Data Protection: knowledge and consent over the collection, use, and disclosure of personal information in a commercial context
  - Consent-based protection
- Reasonable Expectations of privacy
  - What is reasonable?
- Intentional and culpable violations of privacy
  - Interception of an electronic communication
  - Unauthorized access of a computer system
  - Intentional violations of individual privacy

INFORMATIONAL PRIVACY

PRIVACY – WHAT IS IT?
– WHY IS IT IMPORTANT?

PRIVACY 'HARMS'

'Information is power':

- Economics:
  - information assymetries lead to market inefficiencies (market of lemons)
- Can lead to other harms: identity theft/fraud, loss/lack of employment, proliferation of 'Facebook evidence' in lawsuits/criminal trials, political repression, embarrassment (medical information, private 'affairs'
- General 'creep' factor
  - Knowledge that you are being watched chills free expression
  - U.S. Federal Trade Commission: *"for some consumers, the actual range of privacy related harms is much wider and includes reputational harm, as well as the fear of being monitored or simply having private information 'out there.'"*

Federal Trade Commission, "Protecting Consumer Privacy in an Era of Rapid Change", December 2010, <http://www.ftc.gov/os/2010/12/101201privacyreport.pdf>

  - Panoptican

INFORMATIONAL PRIVACY

PRIVACY – RELEVANCE TO COMP SCI?

1. Building Confidence/Trust
- Macro: Confidence *still* affects adoption
- Micro: trust is integral to maintaining customers as well as to encouraging adoption of new features
  - Google WiFi Collection
  - RFIDs

2. Cost Efficiency/Savings
- Build privacy into the product
- Avoids costly/difficult ex post redesigns
  - Facebook Developers API
  - Google Street View

3. Threat of Democratic/Legal Action
- There are existing legal ramifications to ignoring privacy (more below)
- Democratic/legal developments are often driven by violations

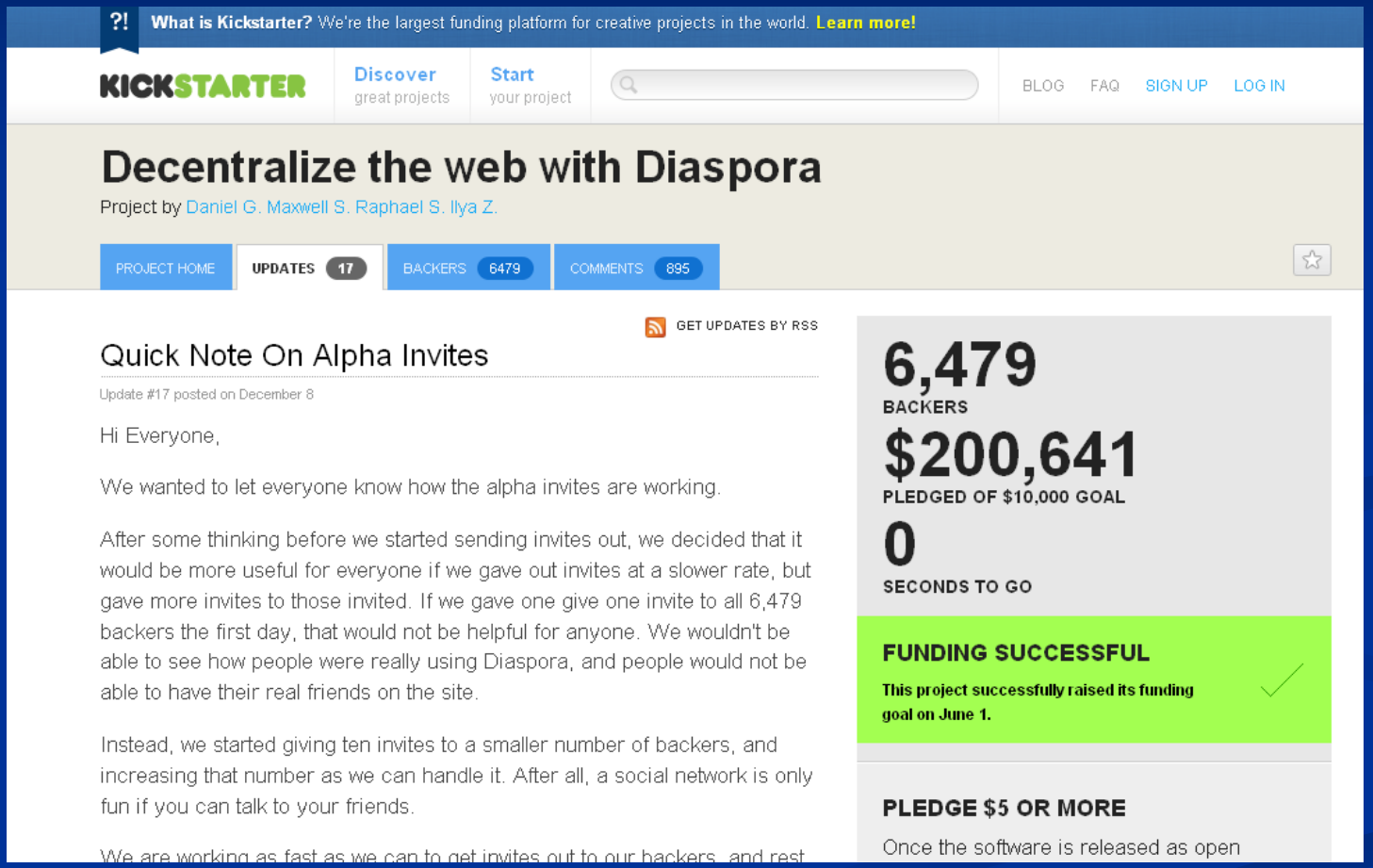
4. Privacy Enhancing Technologies (PETs)
- Developing privacy tools can give products a competitive advantage
- There is a potentially developing market for privacy-oriented applications

INFORMATIONAL PRIVACY

PRIVACY – RELEVANCE TO COMP SCI?

INFORMATIONAL PRIVACY

PRIVACY – RELEVANCE TO COMP SCI?



<http://www.kickstarter.com/projects/196017994/diaspora-the-personally-controlled-do-it-all-distr/posts>

INFORMATIONAL PRIVACY

PRIVACY – EMERGING CHALLENGES

TECH CONTEXT

1. Uniqueness of Digital Data:
   - Metadata, the Semantic Web
   - Instantaneous, permanent, searchable, & easily copyable
   - Obscure, unintuitive, invisible processes
     - UI design is integral ('viscosity' – how much effort does it take to protect privacy?)

     L. Church & A. Whitten, "Generative Usability: Security and User Centered Design Beyond the Appliance", (2009) *NSPW '09,* 2010 ACM <http://www.nspw.org/papers/2009/nspw2009-church.pdf>
     - 'Architecture': people do not (often can not) know what happens behind the scenes
   - Aggregation/Analytical Capacity [Perceived Anonymity, Predictive technologies]

2. Everythign is now more 'social'

3. Digital data is now a commodity

4. New Technologies:
   - 'Internet of Things'
   - Geo-locational
   - Cloud Computing
   - Online Tracking

INFORMATIONAL PRIVACY

PRIVACY – THE LAW

LEGAL PROTECTIONS

1. DATA PROTECTION:

- *Personal Information Protection and Electronic Documents Act* (PIPEDA)
  - Provides fair information practices for commercial entities
  - Federal statute
- Some Provinces (B.C., Alberta, Quebec) have 'substantially similar' versions
- Some sectors (health) have special protections

2. COMMON LAW (judge made law):

- Actions that result in lawsuits, class actions
- Individuals can sue in court for invasions of privacy

3. CRIMINAL LAW (?):

- Acts that may send you to jail
- Italy: Google charged for criminal invasion of privacy (charges later dropped)
- US: Husband faces criminal charges for reading wife's emails
- UK: 'NOTW' fiasco: reporters breaking in to mobile phone voice messages

INFORMATIONAL PRIVACY

PRIVACY – THE LAW

LEGAL PROTECTIONS

COMMON LAW INVASION OF PRIVACY:

Courts increasingly willing to impose liability for invasions of informational privacy

> *"With advancements in technology, personal data of an individual can now be collected, accessed (properly and improperly), and disseminated more easily than ever before. There is a resulting increased concern in our society about the risk of unauthorized access to an individual's personal information. The traditional torts such as nuisance, trespass, and harassment may not provide adequate protection against infringement of an individual's privacy interests. Protection of those privacy interests … would be consistent with Charter values and an "incremental revision" and logical extension of the existing jurisprudence."*

*Somwar v. McDonalds (*Ont. S.C. 2006), <http://www.canlii.org/en/on/onsc/doc/2006/2006canlii202/2006canlii202.html>

In Ontario, involves two components:

> *"The key features of this cause of action are, first, that the defendant's conduct must be intentional, within which I would include reckless; second that the defendant must have invaded, without lawful justification, the plaintiff's private affairs or concerns; and third, that a reasonable person would regard the invasion as highly offensive causing distress, humiliation or anguish." – Jones v. Tsige*

Lawsuits: Invasion of right to seclusion

Jones v. Tsige, 2012 ONCA 32,
<http://www.canlii.org/en/on/onca/doc/2012/2012onca32/2012onca32.html>

FACTS: Both parties were employees at different branches of the Bank of Montreal. The plaintiff (J) was also a customer of BMO. T and J had never met, but T was in a legal dispute with J's former husband Moodie, who was also, by this time, T's common law spouse. From 2006-2009, T accessed J's account information a total of 174 times until she was finally caught by BMO and reprimanded. T claimed she was accessing J's account to ensure M was not lying about child support payments he owed J. J sued T for invasion of privacy.

"The internet and digital technology have brought an enormous change in the way we communicate and in our capacity to capture, store and retrieve information. As the facts of this case indicate, routinely kept electronic data bases render our most personal financial information vulnerable. Sensitive information as to our health is similarly available, as are records of the books we have borrowed or bought, the movies we have rented or downloaded, where we have shopped, where we have travelled, and the nature of our communications by cell phone, e-mail or text message."

Invasion of Seclusion likely to require:

- Intentional or reckless invasion (accidental invasion excluded)
- Invasion must be one reasonable people consider highly intrusive. This typically involves sensitive information relating to such matters as: "one's financial or health records, sexual practices and orientation, employment, diary or private correspondence that, viewed objectively on the reasonable person standard"
- Freedom of expression considerations (is the invasion of privacy justified because it relates to a matter of public importance?)

INFORMATIONAL PRIVACY

PRIVACY – THE LAW
DATA PROTECTION/PIPEDA

PIPEDA

"The purpose of [PIPEDA] is undoubtedly directed at the protection of an individual's privacy; but it is also directed at the collection, use and disclosure of personal information by commercial organizations. It seeks to ensure that such collection, use and disclosure are made in a manner that reconciles, to the best possible extent, an individual's privacy with the needs of the organization. There are, therefore, two competing interests within the purpose of the PIPED Act: an individual's right to privacy on the one hand, and the commercial need for access to personal information on the other. However, there is also an express recognition…that the right of privacy is not absolute. The PIPED Act is a compromise both as to substance and as to form."

Englander v. TELUS Communications, F.C.A. 2004, <http://www.canlii.org/en/ca/fca/doc/2004/2004fca387/2004fca387.html>

INFORMATIONAL PRIVACY

PRIVACY – THE LAW
DATA PROTECTION/PIPEDA

APPLICATION: PIPEDA applies to any collection, use, and disclosure of personal information that is conducted in the course of commercial activity.

> *"personal information" means information about an identifiable individual…*
>
> PIPEDA, section 2, Definitions

- IP Addresses?
  - Bell's DPI

<http://www.priv.gc.ca/cf-dc/2009/2009_010_rep_0813_e.cfm>

- Aggregate information?
- Facebook?
- Anonymized data?

> *"An examination of these pharmacy data indicated that out of 3,510 patient visits during which the hospital pharmacy dispensed a prescription, 99.6 percent were unique on age, gender, FSA, admission date, and discharge date."*

K. El-Emam & P. Kosseim, "Privacy Interests in Prescription Data, Part 2",
<http://www.ruor.uottawa.ca/fr/bitstream/handle/10393/12985/El_Emam_Khaled_2009_Privacy_interests_in_prescription_data_2.pdf>

INFORMATIONAL PRIVACY

PRIVACY – THE LAW
DATA PROTECTION/PIPEDA

"Information will be about an identifiable individual if there is a serious possibility that someone could identify the available information. It is not necessary…to demonstrate that someone would necessarily go to all lengths to actually do so. Consequently, de-identified data will not constitute "truly anonymous information" when it is possible to subsequently link the de-identified data back to an identifiable individual."

OPC Case Summary #2009-018, *Psychologist's anonymized peer review notes are the personal information of the patient*, <http://www.priv.gc.ca/cf-dc/2009/2009_018_0223_e.cfm>

"…Bell assigns its subscribers a dynamic IP address when a Sympatico subscriber connects to the network. Bell has indicated that it binds each dynamic IP address to an invariable "subscriber id" that can be traced back to an individual Sympatico subscriber. In this way, Bell can determine which Sympatico subscriber is associated with a dynamic IP address at a given time. Given that Bell can link its Sympatico subscribers, by virtue of their subscriber ID, with Internet activities (in this case, type of application being used) associated with their assigned IP addresses, in my view, IP addresses in this context are personal information."

OPC Case Summary #2009-010, *Assistant Commissioner recommends Bell Canada inform customers about Deep Packet Inspection (DPI)*, <http://www.priv.gc.ca/cf-dc/2009/2009_010_rep_0813_e.cfm>

INFORMATIONAL PRIVACY

PRIVACY – THE LAW
DATA PROTECTION/PIPEDA

PUBLICLY AVAILABLE INFORMATION?

Applies to MOST publicly available information, except as expressly specified:

- I.e. name, address and phone number listed in a phone directory, where the subscriber may refuse to have her number listed
- Implied consent

PIPEDA Case Summary #2005-297

- An organization collected a business e-mail address from employer's website directory service, sent email asking if individual wished to purchase tickets to sporting events.
- Organization A's purpose for collecting/using the email address was unrelated to the purpose for which the directory was created.
- Violation of Principle 4.3, collection/use of PI w/out consent.

PIPEDA Case Summary #2005-297, Unsolicited e-mail for marketing purposes, <http://www.priv.gc.ca/cf-dc/2005/297_050331_01_e.cfm>

INFORMATIONAL PRIVACY

PRIVACY – THE LAW
DATA PROTECTION/PIPEDA

Fair Information Principles

PIPEDA – Schedule 1

1. Accountability
2. Identifying purposes
3. Consent
4. Limiting Collection
5. Limiting use, disclosure and retention
6. Accuracy
7. Safeguards
8. Openness
9. Individual access
10. Challenging compliance

INFORMATIONAL PRIVACY

PRIVACY – THE LAW
DATA PROTECTION/PIPEDA

PIPEDA – Schedule 1

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Accountability (Principle 4.1):
An organization is responsible for personal information under its control and shall designate an individual or individuals who are accountable for the organization's compliance with the following principles.

"Due to the engineer's failure to forward his design document to the Product Counsel, the Counsel was unable to assess the privacy implications of the code designed to collect WiFi data."

OPC Preliminary Letter of Findings [Google and WiFi], October 19, 2010, <http://www.priv.gc.ca/media/nr-c/2010/let_101019_e.cfm>

INFORMATIONAL PRIVACY

PRIVACY – THE LAW
DATA PROTECTION/PIPEDA

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FORM OF CONSENT:

- Can have UI implications
- Can be implied, opt-out, opt-in
- Based on sensitivity of information involved, reasonable expectations of users, whether purpose is primary/secondary

CONSENT: Principle 4.3.2

"The principle requires "knowledge and consent". Organizations shall make a reasonable effort to ensure that the individual is advised of the purposes for which the information will be used. To make the consent meaningful, the purposes must be stated in such a manner that the individual can reasonably understand how the information will be used or disclosed."

LEGITIMATE PURPOSES: Principle 4.3.3

"An organization shall not, as a condition of the supply of a product or service, require an individual to consent to the collection, use, or disclosure of information beyond that required to fulfil the explicitly specified, and legitimate purposes."

LIMITING COLLECTION: Principle 4.4

"The collection of personal information shall be limited to that which is necessary for the purposes identified by the organization. Information shall be collected by fair and lawful means."

INFORMATIONAL PRIVACY

PRIVACY – THE LAW
DATA PROTECTION/PIPEDA

PIPEDA – Schedule 1

1. Accountability
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EXTENT?

- Mandatory encryption?
- Facebook API
- Retention + Aggregation

SAFEGUARDS/RETENTION:

- Organizations must retain personal information only as far as is necessary to achieve the purposes for which it was collected (4.5, 4.5.2)
- Organizations must implement technical and non-technical safeguards to protect personal information from unauthorized access or disclosure (4.7, 4.7.1)
- PRINCIPLE 4.7: *Personal information shall be protected by security safeguards appropriate to the sensitivity of the information.*

INFORMATIONAL PRIVACY

PRIVACY – THE LAW
DATA PROTECTION/PIPEDA

PRIVACY COMMISSIONERS

- Investigative mandate
- Ombudsman v. 'Rights-defender'
- Incentives for Compliance?
- Education/Research Mandate

"I would also like to take a few moments to talk about incentives for compliance. I am increasingly of the view that we may need stronger powers in order to be an effective privacy guardian for Canadians. We've become one of the few major countries where the data protection regulator lacks the ability to issue orders and impose fines."

-- Jennifer Stoddart, Privacy Commissioner of Canada, 2011,
http://www.priv.gc.ca/speech/2011/sp-d_20110119_e.cfm