Seductive myths about privacy

- Myth: The major privacy risk is from unauthorized access to information
- Myth: Privacy can be adequately protected by removing personally identifying information (PII) from records to be released.
- Myth: Notice and choice is an adequate framework for privacy protection
- Myth: Personal privacy is about individuals

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Seductive myths about privacy

- Myth: The major privacy risk is from unauthorized access to information

- Reality: Confounding security and privacy is a favorite myth of the computer security industry and of IT organizations everywhere.

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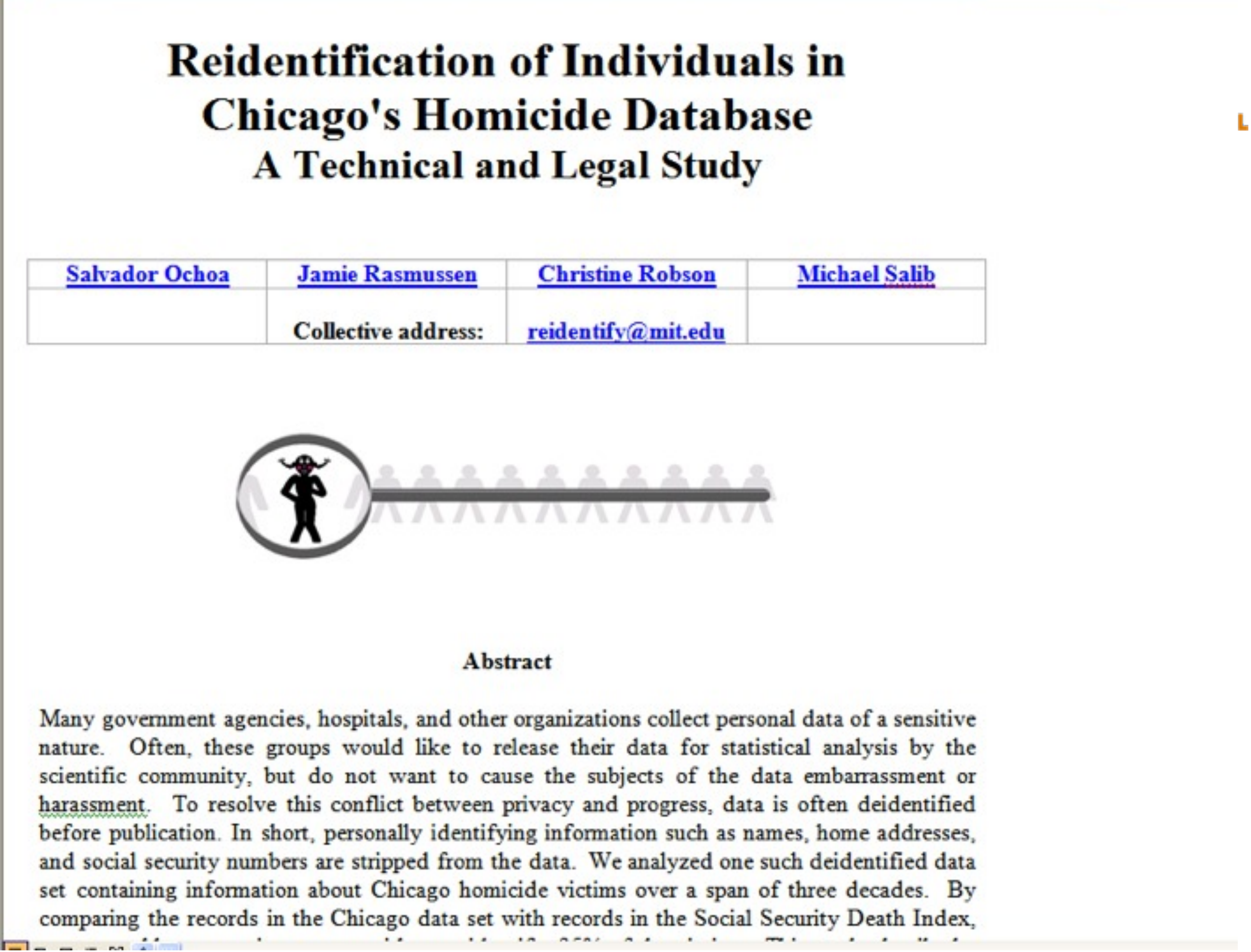
Seductive myths about privacy

- Myth: Privacy can be adequately protected by removing personally identifying information (PII) from records to be released.
- Reality: The belief that information can be de-identified is the basis for much current privacy regulation. But information can be readily re-identified.



Reidentification of Individuals in Chicago's Homicide Database

A Technical and Legal Study

Salvador Ochoa	Jamie Rasmussen	Christine Robson	Michael Salib
	Collective address:	reidentify@mit.edu	

Abstract

Many government agencies, hospitals, and other organizations collect personal data of a sensitive nature. Often, these groups would like to release their data for statistical analysis by the scientific community, but do not want to cause the subjects of the data embarrassment or harassment. To resolve this conflict between privacy and progress, data is often deidentified before publication. In short, personally identifying information such as names, home addresses, and social security numbers are stripped from the data. We analyzed one such deidentified data set containing information about Chicago homicide victims over a span of three decades. By comparing the records in the Chicago data set with records in the Social Security Death Index,

NEWS

Published on Friday, January 21, 2005

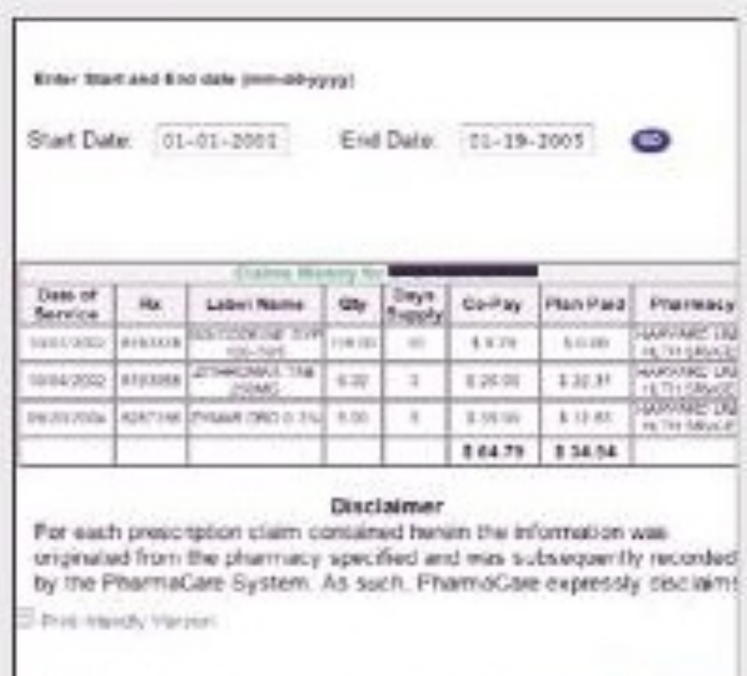
Drug Records, Confidential Data Vulnerable

Harvard ID numbers, PharmaCare loophole provide wide-ranging access to private data

By J. HALE RUSSELL and ELISABETH S. THEODORE

CRIMSON STAFF WRITERS

The confidential drug purchase histories of many Harvard students and employees have been available for months to any internet user, as have the e-mail addresses of high-profile undergraduates whose contact information the University legally must conceal, a Crimson investigation has found.



Enter Start and End date (mm-dd-yyyy)

Start Date: 01-01-2001 End Date: 01-19-2005

Claims History for [redacted]

Date of Service	Rx	Label Name	Qty	Days Supply	Co-Pay	Plan Paid	Pharmacy
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	HARVARD UN [illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	HARVARD UN [illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	HARVARD UN [illegible]
					$ 64.79	$ 34.54	

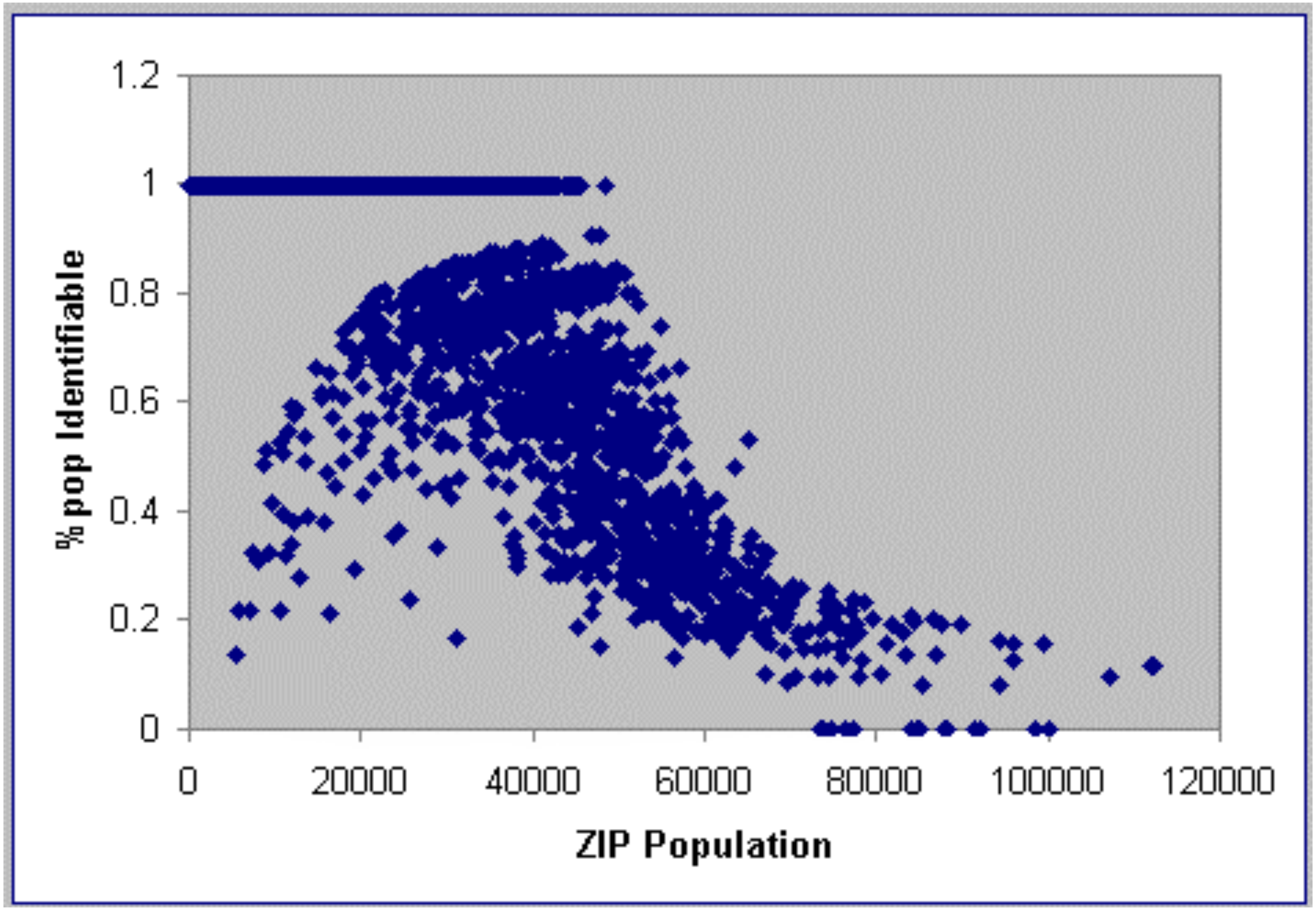
Disclaimer

For each prescription claim contained herein the information was originated from the pharmacy specified and was subsequently recorded by the PharmaCare System. As such, PharmaCare expressly disclaims

Print-friendly Version

Administrators shut down a Harvard

{*date of birth*, *gender*, *5-digit ZIP*} uniquely identifies 87.1% of USA pop.



courtesy Latanya Sweeney, CMU

Seductive myths about privacy

- Myth: Notice and choice is an adequate framework for privacy protection

Seductive myths about privacy

- Myth: Notice and choice is an adequate framework for privacy protection
- Reality: Choice, whether opt-in our opt-out are meaningless if the choice is not informed. “User choice” has become a way for industry to shift blame to users.

BEASTI
Goodbar

Seductive myths about privacy

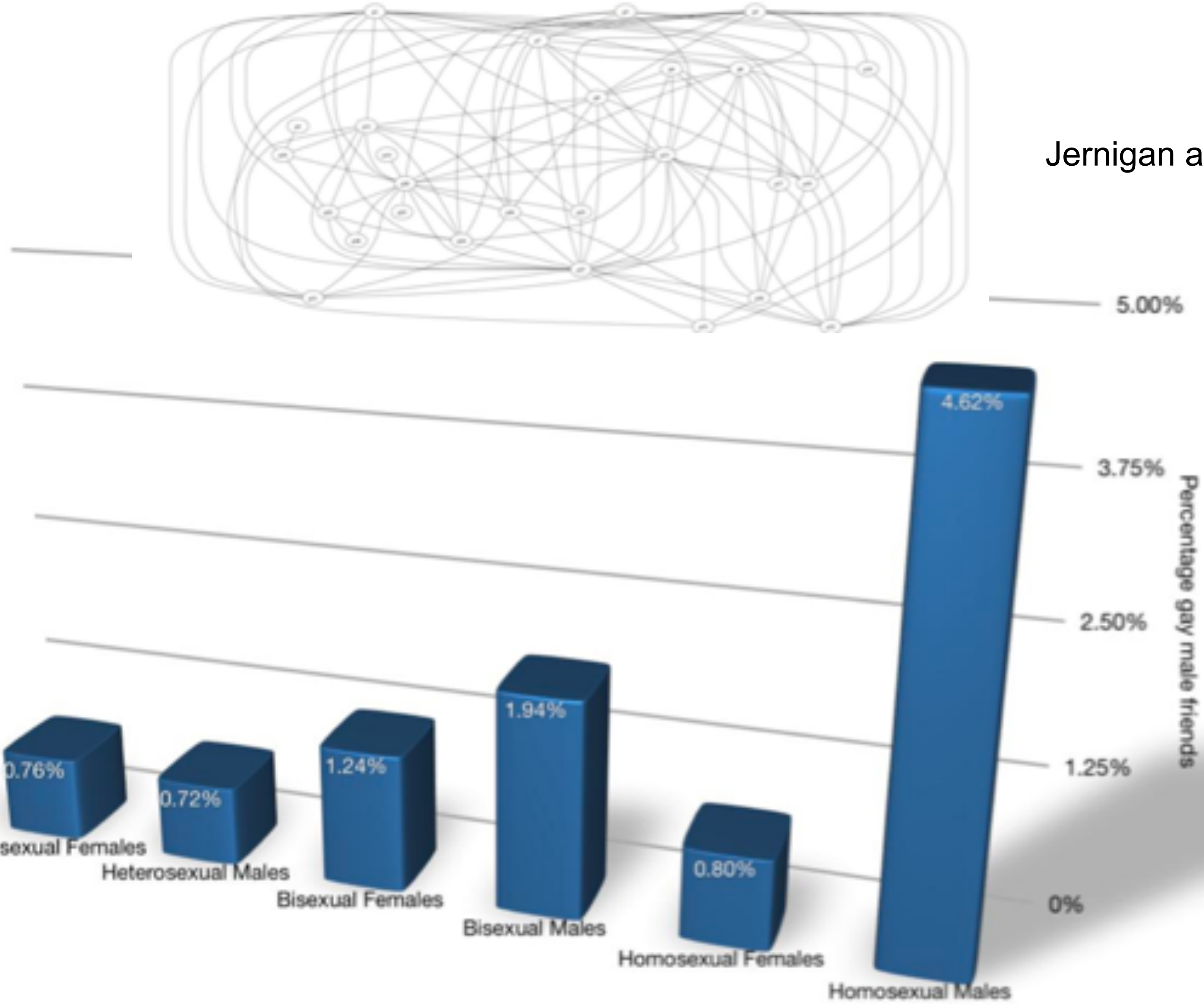
- Myth: Personal privacy is about individuals

Seductive myths about privacy

- Myth: Personal privacy is about individuals
- Reality: On the internet, people really can judge you by your friends (your mother was right).
- A “personal choice” to reveal information about yourself also reveals information about your associates.

Information Leakage from Social Networks

Jernigan and Mistree (2007)



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Moving from an old privacy framework …

- **Privacy is the claim of individuals, groups, or institutions to determine for themselves when, how, and to what extent *information about them is communicated to others*.**

To a privacy framework for the information age

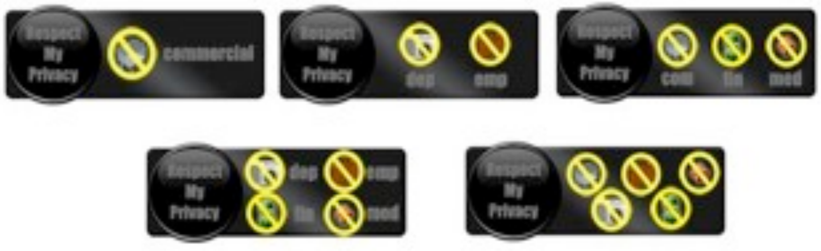
- **Privacy is the claim of individuals, groups, or institutions to determine for themselves when, how, and to what extent *information about them is communicated to others*.**

- **Privacy is the claim of individuals, groups, or institutions to determine when, how, and to what extent *information about them is used by others in ways that affect them*.**

The RMP restrictions

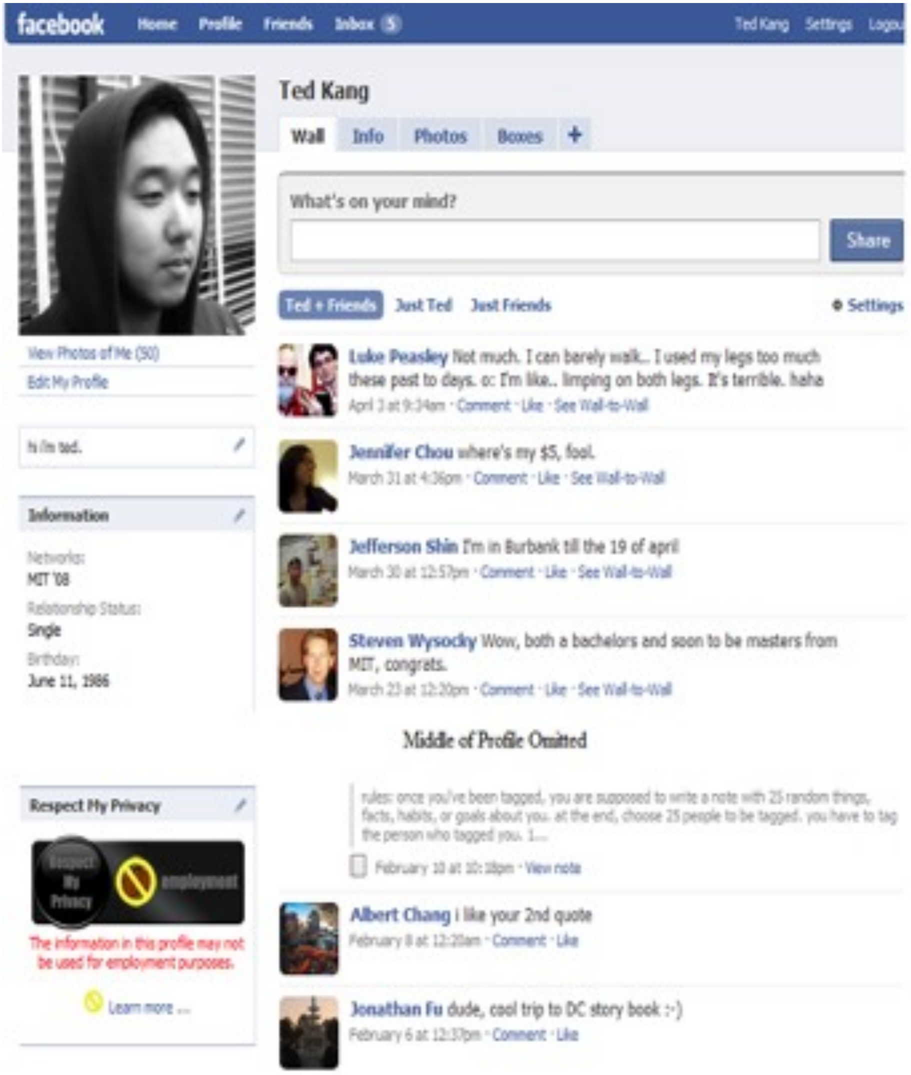
- We currently offer five RMP restrictions:
  - no-commercial
  - no-depiction
  - no-employment
  - no-financial
  - no-medical

- A user is able to choose any combination of these restrictions to apply on their personal information.
- The user is then given an icon, similar to the Creative Commons icon, that can be publicly posted on their profile pages.



RMP on Facebook/OpenSocial

- RMP applications for Facebook and OpenSocial.
- The applications allow users to create and display restrictions on their private information.
- An icon is created from their choices that is displayed on a user's profile page and links to a page containing more information.



Ted Kang

What's on your mind?

hi i'm ted.

Information

Networks:
MIT '08

Relationship Status:
Single

Birthday:
June 11, 1986

Luke Peasley Not much. I can barely walk.. I used my legs too much these past to days. o: I'm like.. limping on both legs. It's terrible. haha
April 3 at 9:34am · Comment · Like · See Wall-to-Wall

Jennifer Chou where's my $5, fool.
March 31 at 4:36pm · Comment · Like · See Wall-to-Wall

Jefferson Shin I'm in Burbank till the 19 of april
March 30 at 12:57pm · Comment · Like · See Wall-to-Wall

Steven Wysocky Wow, both a bachelors and soon to be masters from MIT, congrats.
March 23 at 12:20pm · Comment · Like · See Wall-to-Wall

Middle of Profile Omitted

rules: once you've been tagged, you are supposed to write a note with 25 random things, facts, habits, or goals about you. at the end, choose 25 people to be tagged. you have to tag the person who tagged you. 1...
February 10 at 10:18pm · View note

Albert Chang i like your 2nd quote
February 8 at 12:20am · Comment · Like

Jonathan Fu dude, cool trip to DC story book :-)
February 6 at 12:37pm · Comment · Like

Respect My Privacy

The information in this profile may not be used for employment purposes.

Information Accountability: **When information has been used, it should to possible to determine what happened, and to pinpoint use that is inappropriate**

Technology to support information accountability

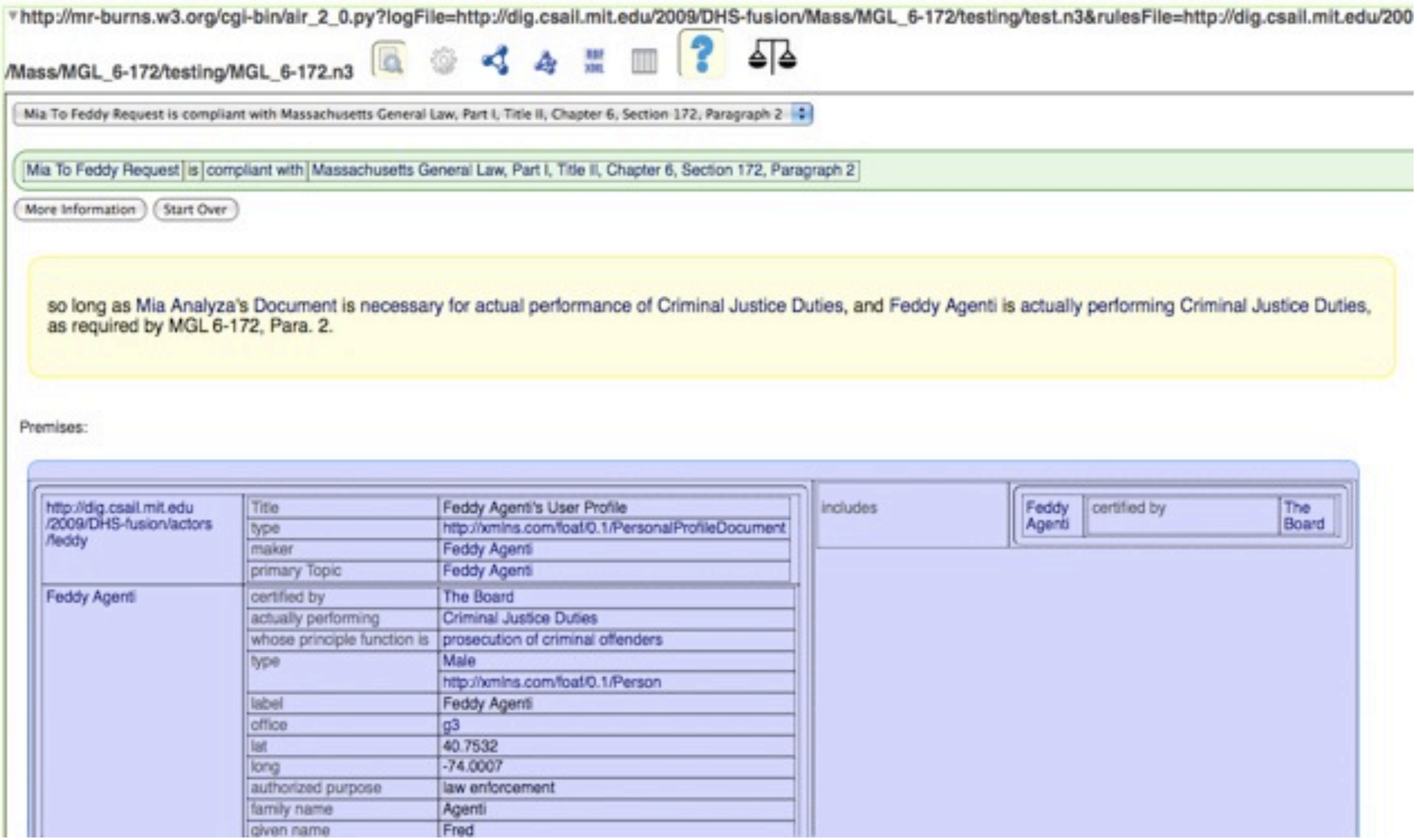
- Information is annotated with provenance that identifies its source.
- Data transfers and uses are logged so that chains of transfers have audit trails
- Databases and data providers supply machine-readable policies that govern permissible uses of the data.
- Automated reasoning engines use policies to determine whether data use is appropriate.
- Users manipulate information via policy-aware interfaces that can enforce policies and/or signal non-compliant uses.

Use Case: Data sharing in Fusion Centers

- Current CSAIL research for DHS

- Example
  - Sender: Mia Analysa of Massachusetts Commonwealth Fusion Center
  - Data: Request for Information regarding Robert Guy
  - Receiver: Fedd Agenti of DHS
  - Is this allowed under policies of the involved parties ?

Automated policy reasoning



http://mr-burns.w3.org/cgi-bin/air_2_0.py?logFile=http://dig.csail.mit.edu/2009/DHS-fusion/Mass/MGL_6-172/testing/test.n3&rulesFile=http://dig.csail.mit.edu/200 /Mass/MGL_6-172/testing/MGL_6-172.n3

Mia To Feddy Request is compliant with Massachusetts General Law, Part I, Title II, Chapter 6, Section 172, Paragraph 2

Mia To Feddy Request | is | compliant with | Massachusetts General Law, Part I, Title II, Chapter 6, Section 172, Paragraph 2

so long as Mia Analyza's Document is necessary for actual performance of Criminal Justice Duties, and Feddy Agenti is actually performing Criminal Justice Duties, as required by MGL 6-172, Para. 2.

Premises:

http://dig.csail.mit.edu /2009/DHS-fusion/actors /feddy	Title	Feddy Agenti's User Profile
	type	http://xmlns.com/foaf/0.1/PersonalProfileDocument
	maker	Feddy Agenti
	primary Topic	Feddy Agenti
Feddy Agenti	certified by	The Board
	actually performing	Criminal Justice Duties
	whose principle function is	prosecution of criminal offenders
	type	Male http://xmlns.com/foaf/0.1/Person
	label	Feddy Agenti
	office	g3
	lat	40.7532
	long	-74.0007
	authorized purpose	law enforcement
	family name	Agenti
	given name	Fred

includes	Feddy Agenti	certified by	The Board

END