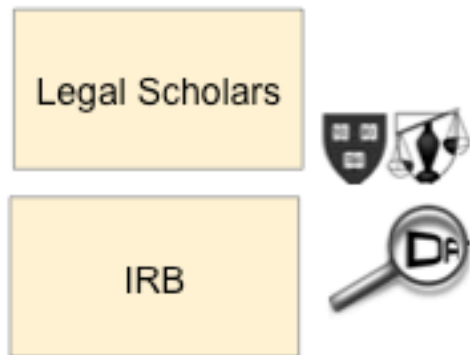
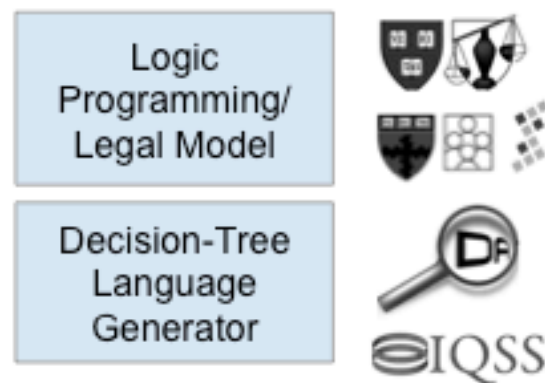


DataTags ecosystem with Privacy Tools collaborations

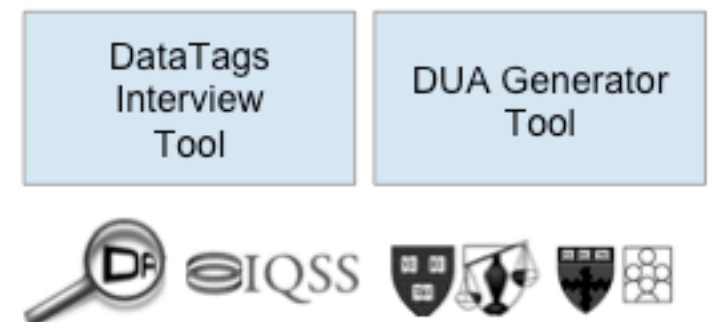
Knowledge Acquisition



Knowledge Codification



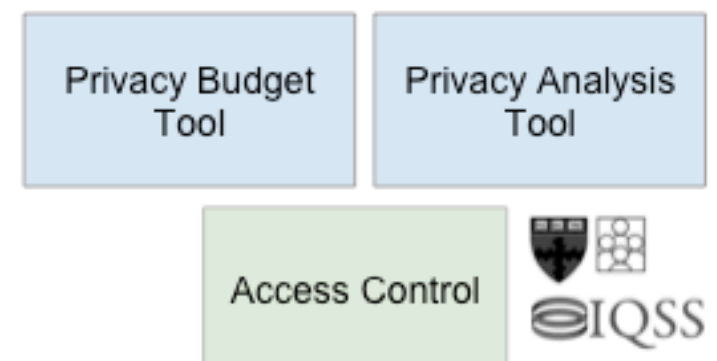
Data Ingestion



Secure Infrastructure



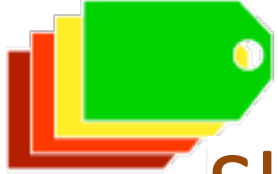
Data Retrieval



End-to-End Systems

Technology Science

Dataverse



Sharing sensitive data with confidence: the DataTags System

Latanya Sweeney

latanya@fas.harvard.edu | latanyasweeney.org

Sweeney L, Crosas M, Bar-Sinai M. Sharing Sensitive Data with Confidence: the DataTags System. Technology Science. October 19, 2015. 2015101901. [web](#)

Adam: Large Medical Research Group

- Repository for sharing local data
- Repository for published data
- Repository for sharing with collaborators

Betty: Sole Researcher

- Received consent from participants
- Repository for sharing highly sensitive data

Charles: Institutional Review Board

- Document committee decisions
- Recommend handling based on prior decisions

Diane: Multinational Corporation

- Cloud contains data from all over the world, collected under a variety of terms, subject to different laws
- Repository that enforces requirements on employee access

Related Approaches

- Database
- Unix-like file systems with README
- Role-based access
- Policy languages ex
- iRODS

Handle Sensitive and Non-Sensitive Data

- Security: eavesdropper, break-in
- Credentials: single, multi-factor
- Approval: none, required
- Agreement: click, signed

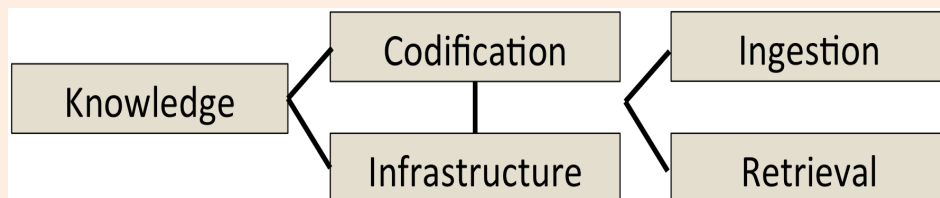
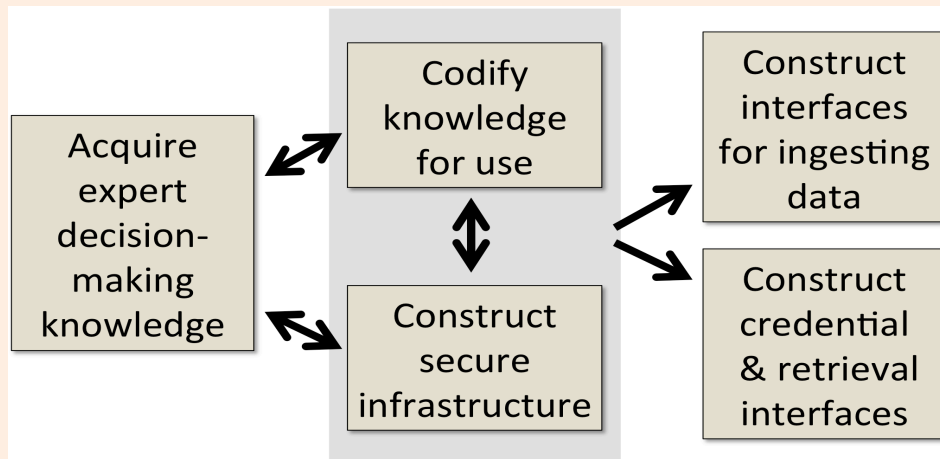
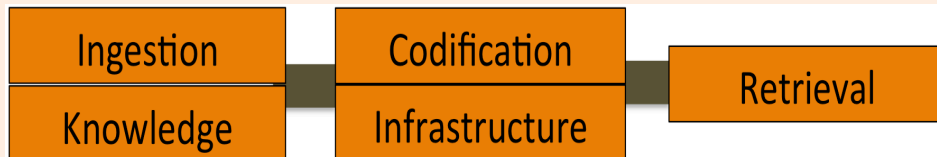
DataTags Repository

- A datatag is (**security, access**).
- A datags repository has a partially **ordered** set of datatags with at least two datags being ordered.
- Each **file** has exactly one datatag.
- **Guarantees:** file security, recipients satisfy access requirements.

DataTags Repository Model Tags

Tag Type	Description	Security Features	Access Requirements
Blue	Public	Clear storage Clear transmission	Open
Green	Controlled public	Clear storage Clear transmission	Email, OAuth verified registration
Yellow	Accountable	Clear storage Encrypted transmit	Password, Registered , Approval, Click DUA
Orange	More accountable	Encrypted storage Encrypted transmit	Password, Registered, Approval, Signed DUA
Red	Fully accountable	Encrypted storage Encrypted transmit	Two-factor authentication, Approval, Signed DUA
Crimson	Maximally restricted	MultiEncrypt store Encrypted transmit	Two-factor authentication, Approval, Signed DUA

DataTags Repository Design | Construction



Adam: Large Medical Research Group

Ingestion and
Decision-making
Knowledge

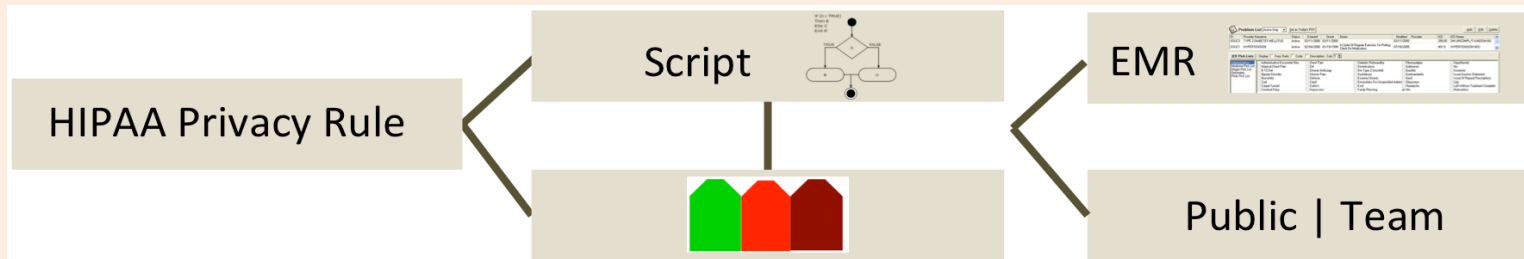
A HIPAA-consistent Safe Harbor script redacts data files to produce a version for sharing under the Green tag. It assigns a Crimson tag to any file if finds that contains clinical notes, psychiatric notes, or HIV-AIDS information. It assigns a Red tag to all other data files and to the original non-redacted files that are not Crimson.

Codification and
Infrastructure

Green, Red and Crimson tags.

Credentials and
Retrieval

Data-use agreements. Red and Crimson are limited to those who qualify based on IRB review and their data-use agreements describe handling requirements beyond the repository for downloaded files.



Diane: Multinational Corporation

Ingestion and
Decision-making
Knowledge

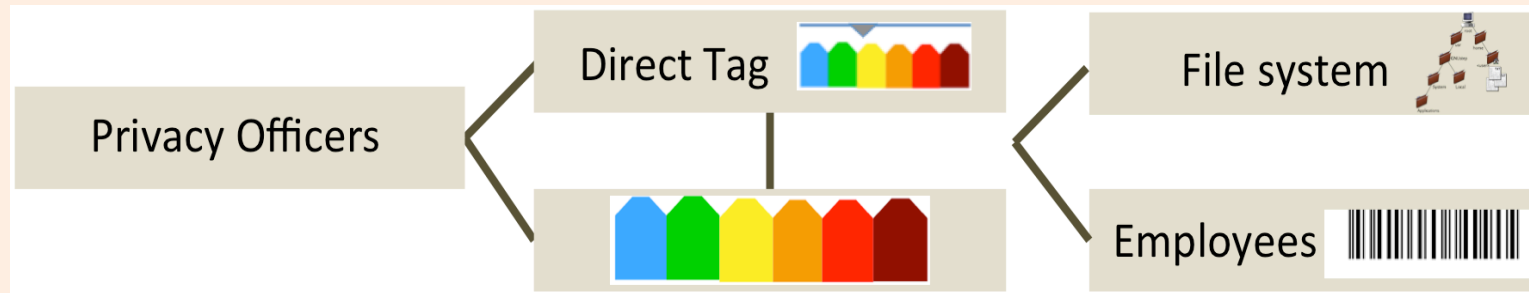
Local privacy officers and project leaders determine which datatags apply to which data sets and specify any additional restrictions or notices that apply.

Codification and
Infrastructure

Blue, Green, Yellow, Orange, Red, Crimson with access based in part on the company's role-based access system.

Credentials and
Retrieval

Employees having appropriate credentials in the company's role-based access system may access a file in the datags repository after acknowledging receipt of any notices about special handling required for the file. Employees may not share the files, even with other employees.



Charles: Institutional Review Board

Ingestion and
Decision-making
Knowledge

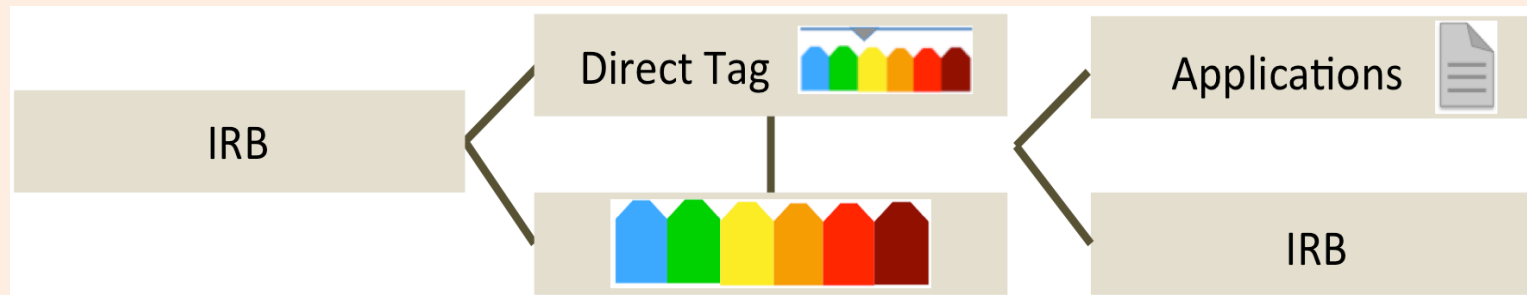
The IRB determines which datatags apply to which data sets and specify any additional restrictions that apply. A copy of IRB documents appears as files in the repository, and not the data themselves.

Codification and
Infrastructure

Blue, Green, Yellow, Orange, Red, Crimson. However, the access requirements associated with the tags are not used to access the IRB files. IRB committee members have password access to any file in the repository.

Credentials and
Retrieval

IRB members can retrieve documents describing the data, as well as summary reports about the nature of data archived at each level.



Betty: Global Research Repository

Ingestion and
Decision-making
Knowledge

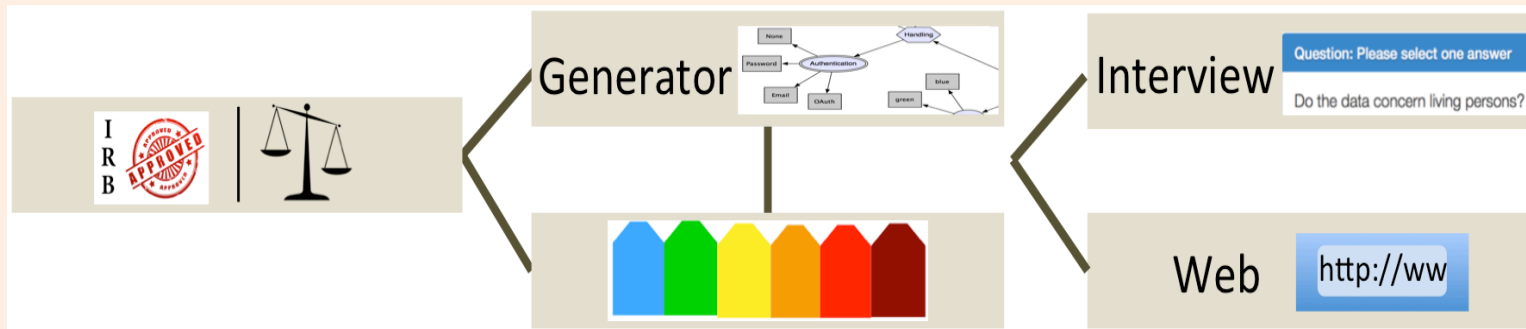
IRB determination or an interview system.

Codification and
Infrastructure

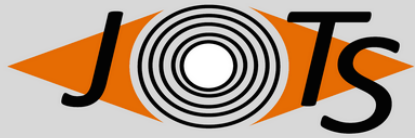
Blue, Green, Yellow, Orange, Red, Crimson.

Credentials and
Retrieval

Different files may additionally require specific terms of use based on legal or regulatory requirements or adopted best practices.




[more](#)



Technology Science

...how technology impacts humans.

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How technology impacts humans.

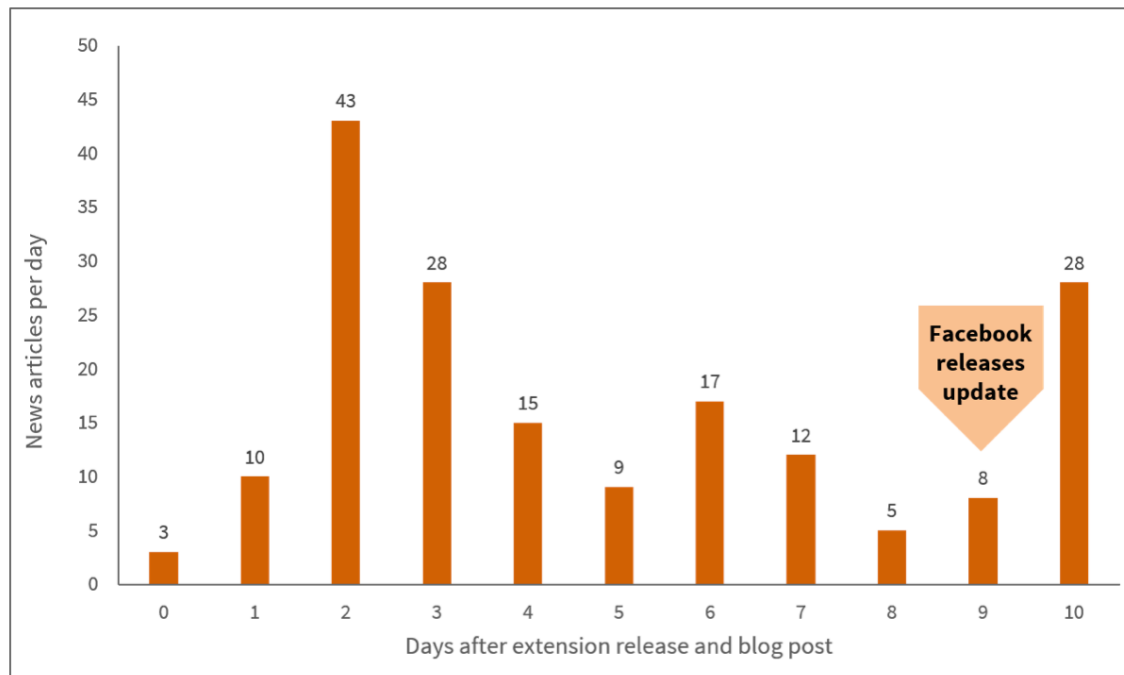
- Unforeseen consequences
- Scientific facts for civil society and government discourse

techscience.org

Facebook's Privacy Incident Response: a study of geolocation sharing on Facebook Messenger

Blue

Aran Khanna



News coverage by day

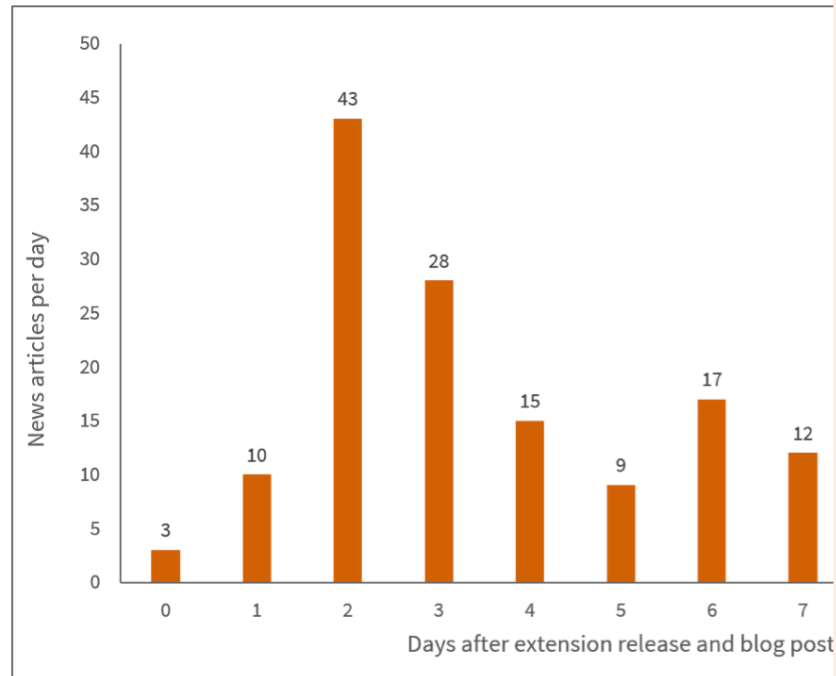
- In 2012, a media outlet reported that Facebook Messenger shared personal geolocations by default
- In 2015, my demonstration displayed Facebook's shared data on a map; it was downloaded over 85,000 times
- After 9 days of news coverage, Facebook released an update that requires a user's permission to share geolocations

techscience.org

Khanna A. Facebook's Privacy Incident Response: a study of geolocation sharing on Facebook Messenger. Technology Science. 2015081101. August 11, 2015. <http://techscience.org/a/2015081101>

Facebook's Privacy Incident Response: a study of geolocation sharing on Facebook Messenger

Aran Khanna



News coverage by day

techscience.org

Khanna A. Facebook's Privacy Incident Response: a study of geolocation sharing on Facebook Messenger. Technology Science. 2015081101. August 11, 2015

Harvard Dataverse > Technology Science Dataverse >
Replication Data for: Facebook's Privacy Incident Response, a study of geolocation sharing on Facebook Messenger
88 Downloads
Replication Data for: Facebook's Privacy Incident Response, a study of geolocation sharing on Facebook Messenger
Khanna, Aran, 2015, "Replication Data for: Facebook's Privacy Incident Response, a study of geolocation sharing on Facebook Messenger", <http://dx.doi.org/10.7910/DVN/D2SNRI>, Harvard Dataverse, V1 [UNF:6:hiXa200z0wPt9CL8yBGHDA==]
If you use these data, please add this citation to your scholarly resources. Learn about [Data Citation Standards](#).

Harvard Dataverse > Technology Science Dataverse >
Replication Data for: Facebook's Privacy Incident Response, a study of geolocation sharing on Facebook Messenger
Metrics 88 Downloads
Replication Data for: Facebook's Privacy Incident Response, a study of geolocation sharing on Facebook Messenger
Khanna, Aran, 2015, "Replication Data for: Facebook's Privacy Incident Response, a study of geolocation sharing on Facebook Messenger", <http://dx.doi.org/10.7910/DVN/D2SNRI>, Harvard Dataverse, V1 [UNF:6:hiXa200z0wPt9CL8yBGHDA==]
If you use these data, please add this citation to your scholarly resources. Learn about [Data Citation Standards](#).

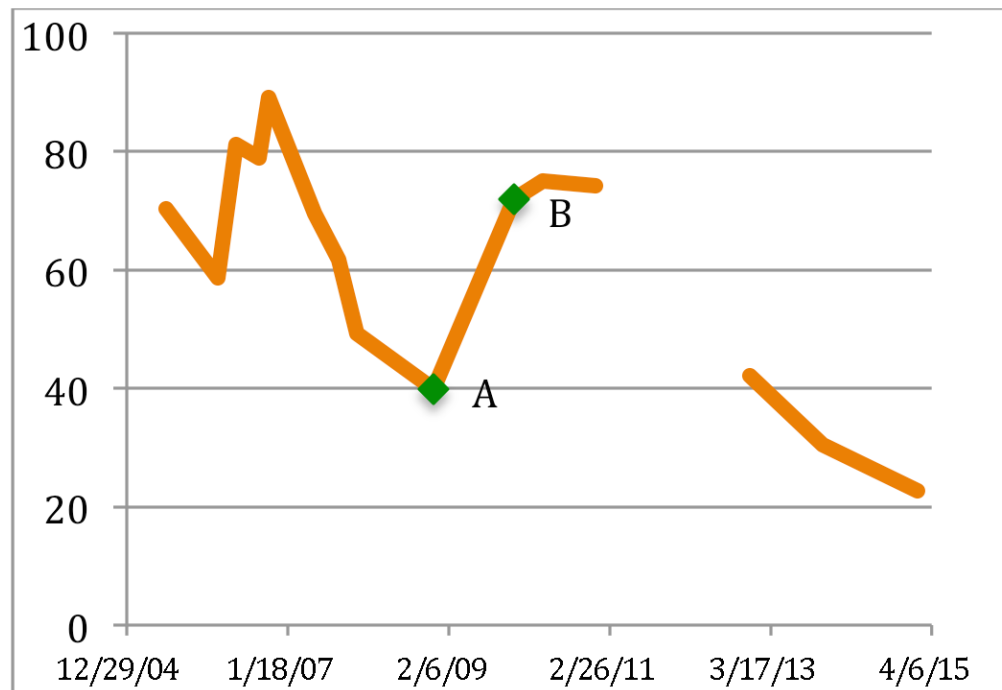
Description	This dataset was used for this paper published on 8/11/2015 on Technology Science http://techscience.org/a/2015081104/
Subject	Computer and Information Science

Files Metadata Terms Versions
Download
20 Files
bing_news_search_results_1.docx
MS Word (docx) - 153.0 KB - Aug 10, 2015 - 13 Downloads
MD5: 8ef886cc26c1b493bca0b0366d080785;
bing_news_search_results_2.docx
MS Word (docx) - 138.3 KB - Aug 10, 2015 - 3 Downloads
MD5: e0412b149afc92247f831aad184f5112;

Did You Really Agree to That?: The Evolution of Facebook's Privacy Policy

Blue

Jennifer Shore and Jill Steinman



Facebook privacy policy rating over time.

- We examined changes to Facebook's Privacy Policy from 2005 to 2015 using the relevant parts of the 2008 Patient Privacy Rights (PPR) framework
- We found that Facebook's score declined by 2015 in 22 of 33 measures on a 5-point scale, including the extent of internet monitoring, informing users about what is shared with 3rd parties, clearly identifying data used for profiling, and giving users choices in privacy settings

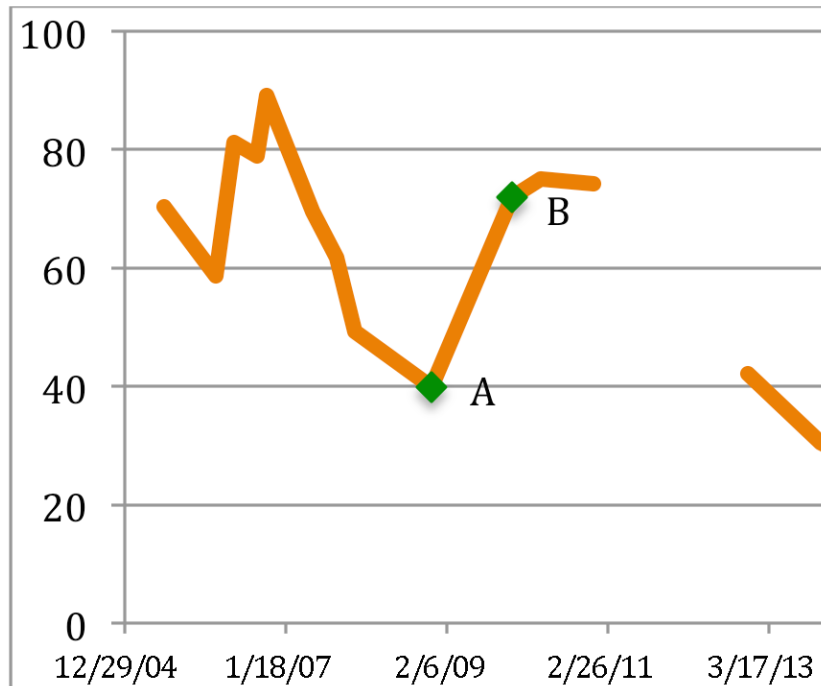
Published 2015-08-11

techscience.org

Shore J, Steinman J. Did You Really Agree to That? The Evolution of Facebook's Privacy Policy. Technology Science. 2015081102. August 11, 2015. <http://techscience.org/a/2015081102>

Did You Really Agree to That? Privacy Policy

Jennifer Shore and Jill Steinman



Facebook privacy policy rating over time.

techscience.org

Shore J, Steinman J. Did You Really Agree to That? 2015081102. August 11, 2015. <http://techscience.org>

Harvard Dataverse > Technology Science Dataverse > Replication Data for: Did You Really Agree to That? The Evolution of Facebook's Privacy Policy

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Replication Data for: Did You Really Agree to That? The Evolution of Facebook's Privacy Policy

Steinman, Jill; Shore, Jennifer, 2015, "Replication Data for: Did You Really Agree to That? The Evolution of Facebook's Privacy Policy", <http://dx.doi.org/10.7910/DVN/JROUKG>, Harvard Dataverse, V2

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Subject Social Sciences

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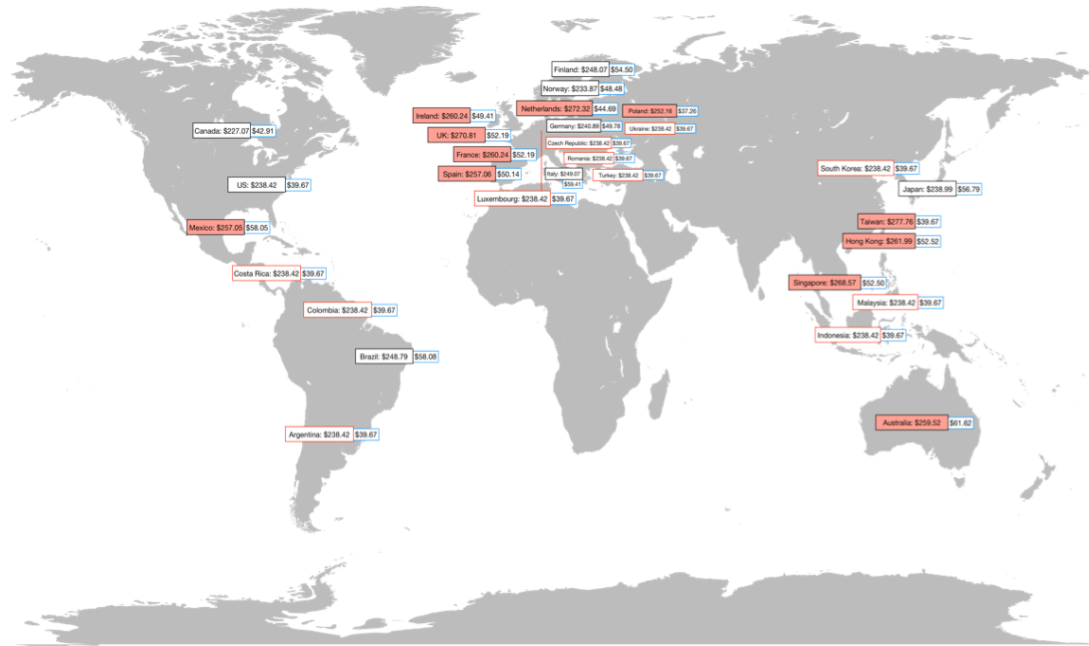
2 Files

	privacy policies.pdf Adobe PDF - 3.10 MB - Aug 18, 2015 - 20 Downloads MD5: a1dcb2cbd7c97885e9ccac7697feb115;	Download
	Privacy Rankings-2.xlsx MS Excel (XLSX) - 144.1 KB - Aug 6, 2015 - 24 Downloads MD5: 3e005c4485bf21553cdf3cd4b8a9327a;	Download

Who's Paying More To Tour These United States? International Travel & Price Discrimination

Blue

Michael Rose and Mohammed Rahman



Online US Hotel and Car Rental Rates by Country

- We tested whether customers from around the world see the same price online when searching for U.S. hotel rooms and rental cars.
- We simulated connecting online from 30 countries around the world to travel site Kayak.com.
- Simulated customers in five locations, e.g., Hong Kong and Australia, were quoted hotel prices significantly above the global average. Domestic prices were slightly below the average.

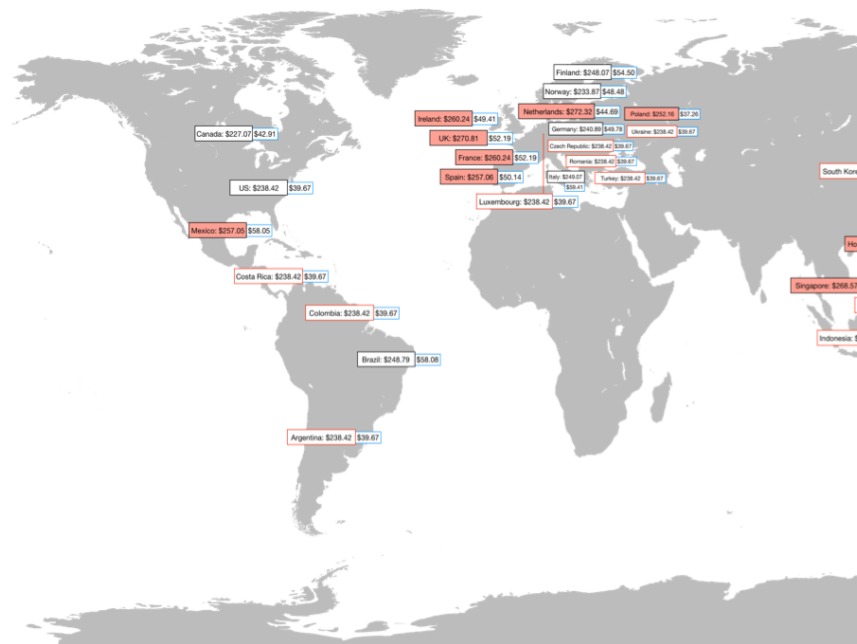
Published 2015-08-11

techscience.org

Rose M, Rahman M. Who's Paying More to Tour These United States? Price Differences in International Travel Bookings Technology Science. 2015081105. August 11, 2015. <http://techscience.org/a/2015081105/>

Who's Paying More To Tour International Travel & Price

Michael Rose and Mohammed Rahman



Online US Hotel and Car Rental Rates by Country

techscience.org

Rose M, Rahman M. Who's Paying More to Tour The Bookings Technology Science. 2015081105. August

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Rose, Michael; Rahman, Mohammed, 2015, "Replication Data for: "Who's Paying More to Tour These United States? Price Differences in International Travel Bookings", <http://dx.doi.org/10.7910/DVN/8OPIL7>, Harvard Dataverse, V1 Download Citation ▾



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Subject	Computer and Information Science; Social Sciences

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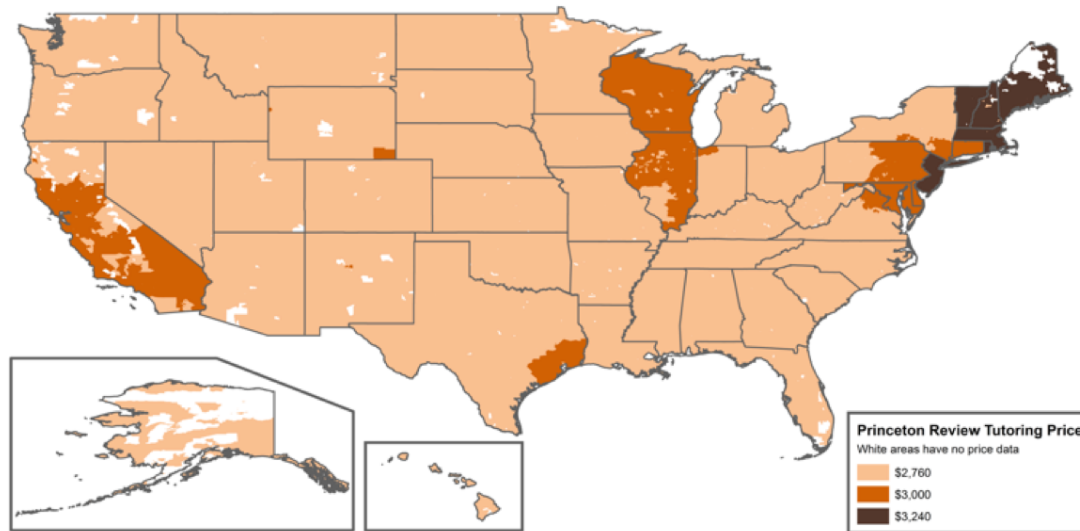
11 Files

<input type="checkbox"/>	 data_and_analysis.tab Tabular Data - 1.4 KB - Aug 6, 2015 - 11 Downloads 5 Variables, 27 Observations - UNF:6:XXoej8O+cBCDJm2FbK+bUA== Explore Download ▾
<input type="checkbox"/>	 fig 2.png PNG Image - 781.5 KB - Aug 6, 2015 - 0 Downloads MD5: d70445aafca11ddbc63a145944e3e85b; Download

Price Discrimination in The Princeton Review's Online SAT Tutoring Service

Blue

Keyon Vafa, Christian Haigh, Alvin Leung, and Noah Yonack



The Princeton Review's SAT tutoring package price across the US.

- We tested whether customers are seeing the same price for SAT tutoring on The Princeton Review's website
- We searched the website from 33,000 ZIP codes across the US
- We found different 3 different prices depending on the ZIP code input seemingly on a regional basis

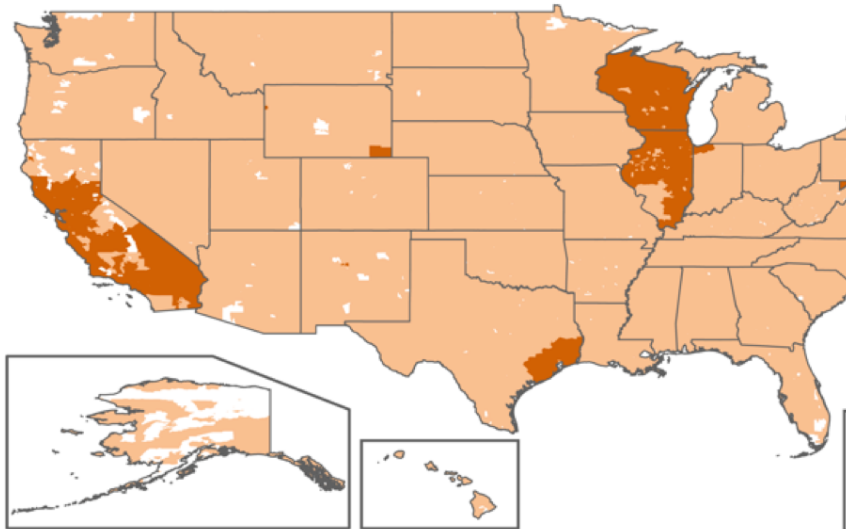
Asians are 1.8 times as likely to be quoted a higher price.

techscience.org

Vafa K, Haigh C, Leung A, Yonack N. Price Discrimination in The Princeton Review's Online SAT Tutoring Service. Technology Science. 2015090102. September 01, 2015. <http://techscience.org/a/2015090102>

Price Discrimination in The Princeton Review's Online SAT Tutoring Service

Keyon Vafa, Christian Haigh, Alvin Leung, and Noah Yonack



The Princeton Review's SAT tutoring package price across the US

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Vafa K, Haigh C, Leung A, Yonack N. Price Discrimination in The Princeton Review's Online SAT Tutoring Service. Technology Science. 2015090102. September 01, 2015

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Replication Data for: Price Discrimination in The Princeton Review's Online SAT Tutoring Service

Vafa, Keyon; Haigh, Christian; Leung, Alvin; Yonack, Noah, 2015, "Replication Data for: Price Discrimination in The Princeton Review's Online SAT Tutoring Service", <http://dx.doi.org/10.7910/DVN/U4OKBP>, Harvard Dataverse, V1 [UNF:6:TS9hVyPo4nRTRDp1Ijs4xA==]

If you use these data, please add this citation to your scholarly resources. Learn about [Data Citation Standards](#).

Description	This dataset was used for this paper published on 9/1/2015 on Technology Science. http://techscience.org/a/2015090102/
Subject	Computer and Information Science; Social Sciences
Keyword	price discrimination
Notes	This dataset includes the prices from Princeton Review as well as its mapping by zip code to the US

Files Metadata Terms Versions

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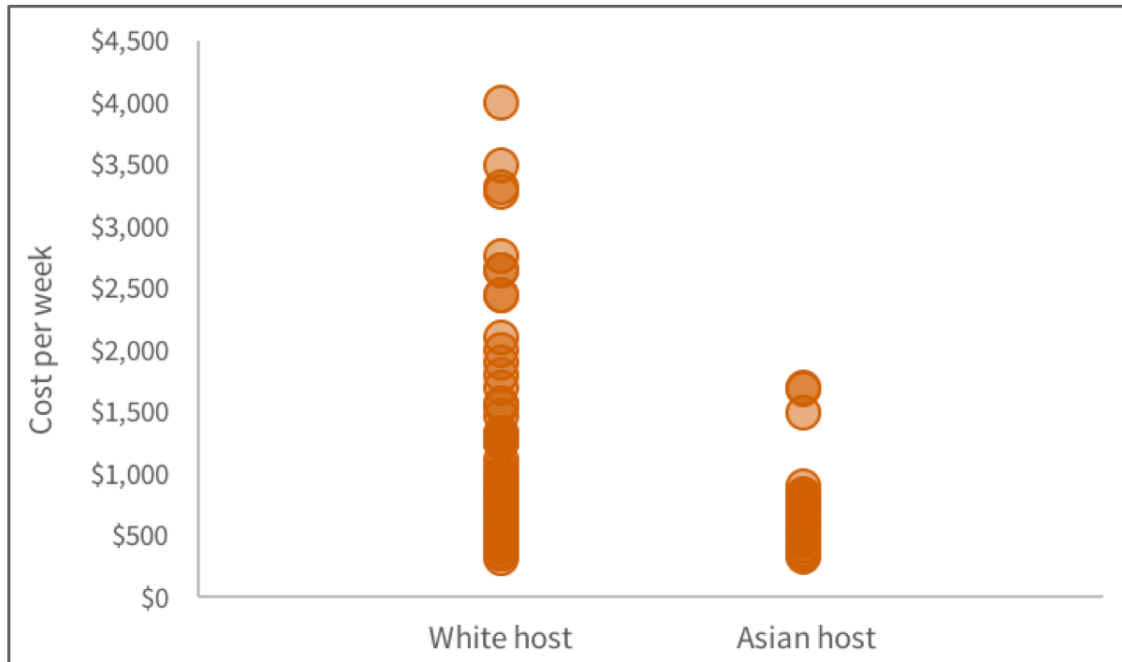
16 Files

	Princeton Review Map v3.pdf Adobe PDF - 9.1 MB - Sep 1, 2015 - 1 Download MD5: 434065e41ce6c8d77009a2dfa0a07f7a;	Download
	Princeton Review Map v3.png PNG Image - 1.5 MB - Sep 1, 2015 - 1 Download MD5: 1a837f2155271ed3a50b18eb3d90f99d;	Download

The Model Minority? Not on Airbnb.com: A Hedonic Pricing Model to Quantify Racial Bias against Asian Americans

John Gilheany, David Wang and Stephen Xi

Blue



Price differences between White and Asian hosts on Airbnb

- We tested if Asians receive lower prices on Airbnb's vacation rental website
- We identified 101 White and Asian hosts on Airbnb in Oakland and Berkeley in April 2015
- We found that on average Asian hosts earn \$90 less per week or 20% less than White hosts for similar rentals

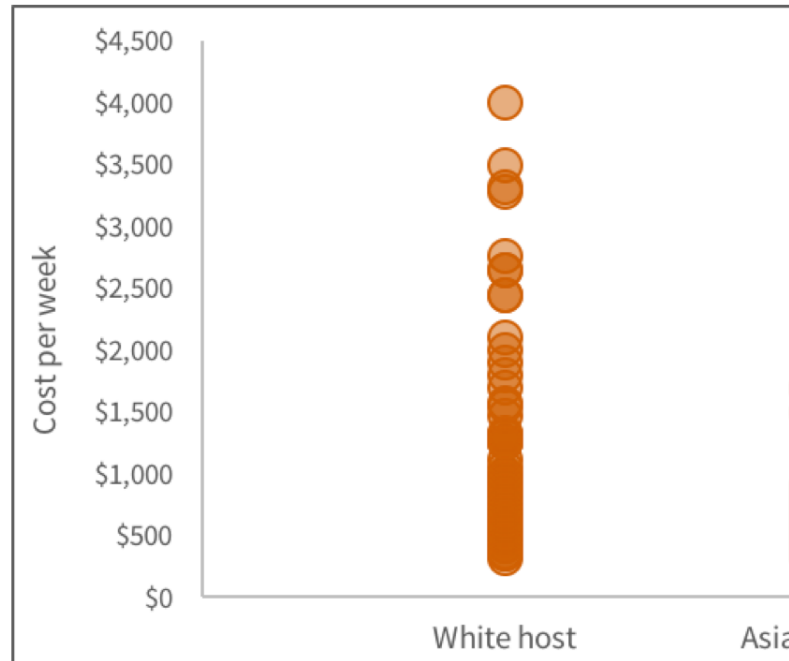
Black hosts earn 12% less in New York City.

techscience.org

Wang D, Xi S, Gilheany J. The Model Minority? Not on Airbnb.com: A Hedonic Pricing Model to Quantify Racial Bias against Asian Americans. Technology Science. 2015090104. September 01, 2015. <http://techscience.org/a/2015090104>

The Model Minority? Not Model to Quantify Racial

John Gilheany, David Wang and Stephen



Price differences between White and Asian hosts on A

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Wang D, Xi S, Gilheany J. The Model Minority? N
against Asian Americans. Technology Science. 2
2015090104

The screenshot shows the Dataverse website interface. At the top, there is a navigation bar with the Dataverse logo, a search icon, and links for 'About', 'Guides', 'Support', 'Sign Up', and 'Log In'. Below the navigation bar is a banner for 'Technology Science' with the JOTs logo. The main content area displays the dataset page for 'Replication Data for: The Model Minority? Not on Airbnb.com'. It includes a 'Metrics' bar showing '4 Downloads', a 'Download Citation' button, and a description of the dataset. The description states: 'This dataset was used for this paper published on 9/1/2015 on Technology Science'. The subject is listed as 'Social Sciences'. There are tabs for 'Files', 'Metadata', 'Terms', and 'Versions'. Under the 'Files' tab, there is one file listed: 'gov1430 data set housing (1).xls', which is an MS Excel file (46.0 KB) from August 31, 2015, with 4 downloads. A 'Download' button is provided for this file. At the bottom of the page, there is a footer with the text: 'Data Science at The Institute for Quantitative Social Science | Dataverse Project on Twitter | Code available at GitHub | Copyright © 2015, The President & Fellows of Harvard College'. The footer also includes the text 'Powered by The Dataverse Project v. 4.2 build 92-d6443eb'.

De-anonymizing South Korean Resident Registration Numbers Shared in Prescription Data

처방전 데이터의 주민등록번호 익면성 해제 연구

Latanya Sweeney and Ji Su Yoo



Letter	Number
a	1
b	2
c	3
d	4
e	5
f	6
g	7
h	8
i	9
j	0

Odd-digit

Letter	Number
f	0
g	9
h	8
i	7
j	6
k	5
l	4
m	3
n	2
o	1

Even-digit

- South Korea's national identifier, the Resident Registration Number (RRN) includes encoded demographic information and a checksum with a publicly known pattern
- We conducted two de-anonymization experiments on 23,163 encrypted RRNs from prescription data of South Koreans
- We demonstrate the data's vulnerability to de-anonymization by revealing all 23,163 unencrypted RRNs in both experiments

Coding table that replaced digits of South Korean national identifiers with letters in shared prescription data.

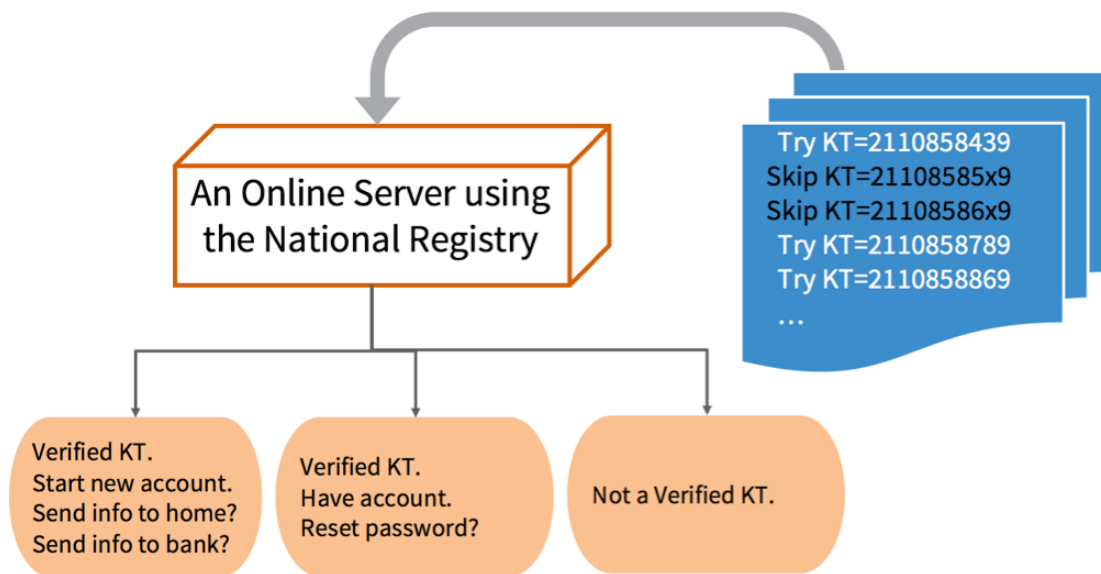
Published 2015-09-29

techscience.org

Sweeney L, Yoo J. De-anonymizing South Korean Resident Registration Numbers Shared in Prescription Data. Technology Science. 2015092901. September 29, 2015. <http://techscience.org/a/2015092901>

Identity as a Service: Iceland's Kennitala and the Convergence of Identifier and Authenticator in Online Third Party Applications

Gili Vidan



- Iceland's national identifier, the Kennitala (KT), is computed from one's date of birth and some random digits
- I found five Icelandic subjects online and was able to guess and verify their KT using a dating app
- This experiment suggests that KT registry may be reverse-engineered and expose personal data on services that rely on the KT for authentication to imposters

Using an online server to identify assigned national identifiers.

techscience.org

Published 2015-09-29

Vidan G. Identity as a Service: Iceland's Kennitala and the Convergence of Identifier and Authenticator in Online Third Party Applications. Technology Science. 2015092902. <http://techscience.org/a/2015092902>

Only You, Your Doctor, and Many Others May Know

Latanya Sweeney



Record	00000000
Hospital	162: Sacred Heart Medical Center in Providence
Admit Type	1: Emergency
Type of Stay	
Length of Stay	6 days
Discharge Date	Oct-2011
Discharge Status	under the care of an health service organization
Charges	\$71708.47
Payers	1: Medicare 6: Commercial insurance 625: Other government sponsored patients
Emergency Codes	E8162: motor vehicle traffic accident due to loss of control; loss control mv-mocycl
Diagnosis Codes	80843: closed fracture of other specified part of pelvis 51851: pulmonary insufficiency following trauma & surgery 2761: hyposmolality &/or hyponatremia 78057: tachycardia 2851: acute orragic anemia
Age in Years	60
Age in Months	723
Gender	Male
ZIP	98851
State Reside	WA
Race/Ethnicity	White, Non-Hispanic

MAN 60 THROWN FROM MOTORCYCLE
A 60-year-old Soap Lake man was hospitalized Saturday afternoon after he was thrown from his motorcycle. Ronald Jameson was riding his 2003 Harley-Davidson north on Highway 25, when he failed to negotiate a curve to the left. His motorcycle became airborne before landing in a wooded area. Jameson was thrown from the bike; he was wearing a helmet during the 12:24 p.m. incident. He was taken to Sacred Heart Hospital. The police cited speed as the cause of the crash. [News Review 10/18/2011]

- Washington State is one of 33 states that share or sell anonymized health records
- I conducted an example re-identification study by showing how newspaper stories about hospital visits in Washington State leads to identifying the matching health record 43% of the time
- This study resulted in Washington State increasing the anonymization protocols of the health records including limiting fields used for the re-identification study

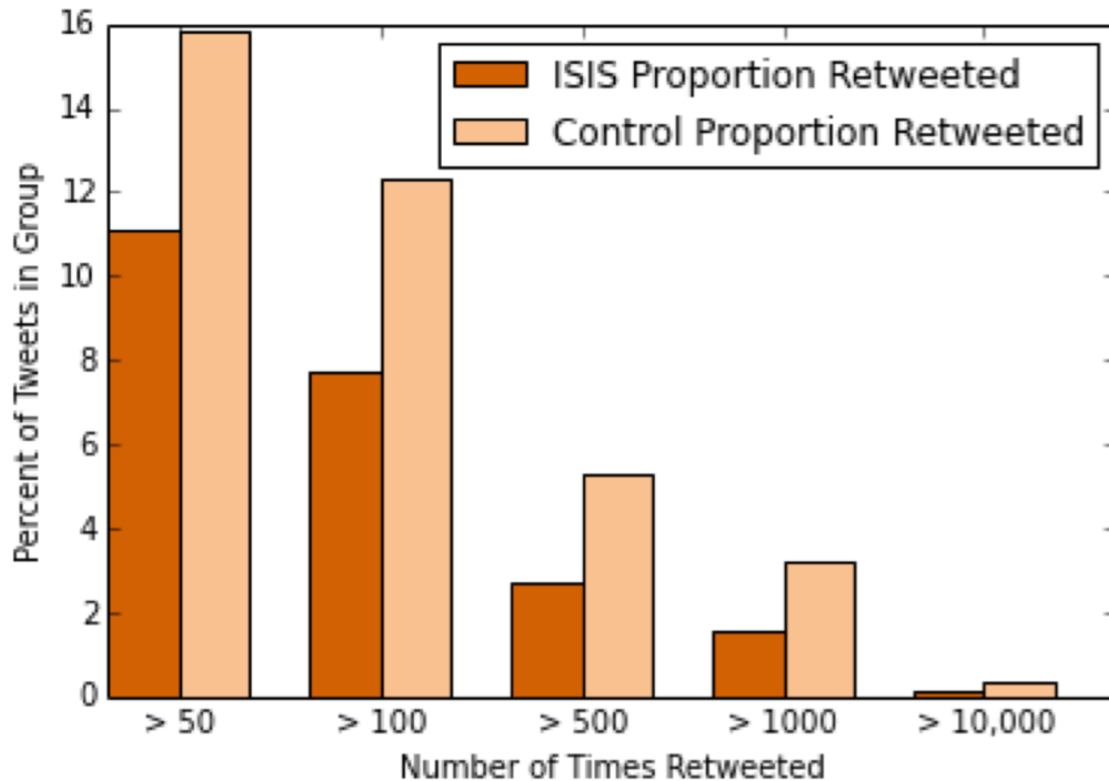
Matching public medical information to news stories to identify patients.

techscience.org

Sweeney L. Only You, Your Doctor, and Many Others May Know. Technology Science. 2015092903. September 29, 2015. <http://techscience.org/a/2015092903>

Defeating ISIS on Twitter

Batsheva Moriarty



Proportion of retweet rates of suspected ISIS-supporters versus control group.

- I evaluated 1.5 million tweets from 1,500 ISIS-affiliated Twitter accounts to determine if they were humans or bots
- I compared ISIS tweets to a control group of 700,000 non-ISIS Arabic tweets
- ISIS tweets exhibited unique, un-unified tweet, retweet, and favoriting patterns suggesting that the accounts are controlled by humans

Published 2015-09-29

techscience.org

Moriarty B. Defeating ISIS on Twitter. Technology Science. 2015092904. September 29, 2015. <http://techscience.org/a/2015092904>

Finding Fraudulent Websites Using Twitter Streams

Daniel Rothchild



Blue

Count	URL
12095	http://womanshealthlifestyle.com/PureGarciniaCambogia/
10328	http://muscleandhealth.info/
3556	http://muscleformen.com/Metaboosts
2033	http://healthyreport.co/nfl-wants-to-ban-supplement/index.html
1953	http://womenshealthmag.com-article.link/
324	http://www.forcefactor.com/h/
193	http://www.uniquegarcinia.com/
181	http://tmzf.itness.co/index.html

- I developed a monitoring program that searches Twitter in real time for tweets with potentially suspicious links
- The program found more than 70,000 suspicious tweets in 24 hours, with 56% of the tested links appearing fraudulent

Most frequently occurring tweets in 24 hours that contain the words muscle, weight, diet, acai, cambogia, lose fast, or miracle pill.

techscience.org

Rothchild D. Finding Fraudulent Websites Using Twitter Streams. Technology Science. 2015092905. September 29, 2015. <http://techscience.org/a/2015092905>

DATA

Technology Science

How technology impacts humans.

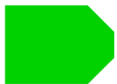
Editorial Board

Direct Tagging

Direct Deposit



Open.
Agree to cite.



Register email.
Agree to handling.



Confirm email.
Be approved.
Agree to handling.



Confirm email.
Be approved.
Sign agreement.



Confirm email, phone.
Be approved.
Sign agreement.



Confirm email, phone.
Be approved.
Sign agreement.

Benefits to Privacy Tools Project

- Real-world use case
- Knowledgebase and tools available
- Software for independent repositories

Replication Data for: Facebook's Privacy Incident Response: a study of geolocation sharing on Facebook Messenger

Aran Khanna

[Published paper](#)

[Data home](#)

[Journal home](#)

Data Citation

Khanna A. Replication Data for: Facebook's Privacy Incident Response, a study of geolocation sharing on Facebook Messenger. Harvard Dataverse. August 10, 2015. <http://dx.doi.org/10.7910/DVN/D2SNRI>

Individual Files

<input type="checkbox"/>		bing_news_search_results_1.docx Data. MS Word. 153KB MD5:8ef886cc26c1b493bca0b0366d080785		Open. Agree to cite.
<input type="checkbox"/>		bing_news_search_results_2.docx Data. MS Word. 142KB MD5:e0412b149afc92247f831aad184f5112		Open. Agree to cite.
<input type="checkbox"/>		google_news_search_results_1.docx Data. MS Word. 168KB MD5:3206a326c0de38827bd02ccb15f6d3ff		Open. Agree to cite.
<input type="checkbox"/>		google_news_search_results_2.docx Data. MS Word. 209KB MD5:ff59b44442d90d55d1826587ab44a51		Open. Agree to cite.
<input type="checkbox"/>		news_and_twitter_analysis_1.tab Data and analytics. Tab-delimited. 31KB MD5:60c8c2ddfc8bdf3690713eefd7fd0a44		Open. Agree to cite.
<input type="checkbox"/>		news_and_twitter_analysis_2.tab Data and analytics. Tab-delimited. 37KB MD5:4914ab7eaf3f018f961f49313689aca7		Open. Agree to cite.
<input type="checkbox"/>		reddit_search_results.docx Data. MS Word. 41KB MD5:e2bf617a91275e5c2b70faf0f21698e6		Open. Agree to cite.
<input type="checkbox"/>		twitter_search_results.docx Data. MS Word. 5.7MB MD5:47f70fe4d884083d8e1a12021981e0da		Open. Agree to cite.

Get selected files

Get all files



Published 2015-08-11. Views 96,000. Downloads 1,992. Suggestions 22.

Facebook's Privacy Incident Response: a study of geolocation sharing on Facebook Messenger

Aran Khanna

Abstract

Introduction

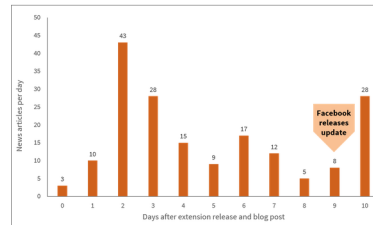
Background

Methods

Results

Discussion

References



News coverage by day

- In 2012, a media outlet reported that Facebook Messenger shared personal geolocations by default
- In 2015, my demonstration displayed Facebook's shared data on a map; it was downloaded over 85,000 times
- After 9 days of news coverage, Facebook released an update that requires a user's permission to share geolocations

Datastore

Published 2015-08-11. Views 0. Downloads 0.

Replication Data for: Facebook's Privacy Incident Response: a study of geolocation sharing on Facebook Messenger

Aran Khanna

View paper

Datastore home

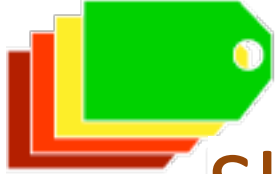
Journal home

Data Citation

Khanna A. Replication Data for: Facebook's Privacy Incident Response, a study of geolocation sharing on Facebook Messenger. Harvard Dataverse. August 10, 2015. <http://dx.doi.org/10.7910/DVN/D2SNRI>

Individual Files

- bing_news_search_results_1.docx**
 Data file. MS Word 153KB
 MD5:8ef886cc26c1b493bca0b0366d080785
 Open. Agree to cite.
- bing_news_search_results_2.docx**
 Data file. MS Word 138KB
 MD5:e0412b149afc92247f831aad184f5112
 Open. Agree to cite.



Sharing sensitive data with confidence: the DataTags System

Latanya Sweeney

latanya@fas.harvard.edu | latanyasweeney.org

Sweeney L, Crosas M, Bar-Sinai M. Sharing Sensitive Data with Confidence: the DataTags System. Technology Science. October 19, 2015. 2015101901. [web](#)

Global Research Repository Knowledge

Start.

1	Does your data include personal information?
2	No [BLUE, basis=not personal info, identity=not person-specific]
3	Did each person whose information appears in the data give explicit permission to share the data?
4	Yes Did the consent have any restrictions on sharing?
5	No [GREEN, basis=Consent, identity =__]
6	Yes [GREEN, basis=Consent, identity =__] Add special terms (Table 7).
7	Does the data contain personal health information?
8	Yes Was the data received from a HIPAA covered entity or a business associate of one?
9	Yes Does the data visually adhere to the HIPAA Safe Harbor Provision (e.g., dates in years and first 2 digits of ZIPs)?
10	No [GREEN, basis=HIPAA Safe Harbor, identity =de-identified]
11	Yes Has an expert certified the data as being of minimal risk?
12	Yes [GREEN, basis=HIPAA Statistician, identity =de-identified]
13	Yes Did you acquire the data under a HIPAA limited data use agreement?
14	Yes Did the limited data use agreement have any restrictions on sharing?
15	No [ORANGE, basis=HIPAA Limited Dataset, identity =identifiable]
16	Yes [ORANGE, basis=HIPAA Limited Dataset, identity =identifiable] Add special terms (Table 7).
17	Yes Did you acquire the data under a HIPAA Business Associate agreement?
18	Yes Did the business associate agreement have any restrictions on sharing?
19	No [RED, basis=HIPAA Business Associate, identity =identifiable]
20	Yes [RED, basis=HIPAA Business Associate, identity =identifiable] Add special terms (Table 7).
21	Yes Are you an entity that is directly or indirectly covered by HIPAA?
22	Yes [RED, basis=HIPAA Covered Entity, identity =identifiable]
23	No Did the data have any restrictions on sharing (e.g., stated in an agreement or policy statement)?
24	No [GREEN, basis=Agreement, identity =__]
25	Yes [GREEN, basis=Agreement, identity =__] Add special terms (Table 7).
26	Unable to tag. This version processes consent and medical data only.

Global Research Repository Knowledge

Start.

- 1 Does your data include personal information?
- 2 No [BLUE, basis=not personal info, identity=not person-specific]
- 3 Did each person whose information appears in the data give explicit permission to share the data?
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- 13 Yes Did you acquire the data under a HIPAA limited data use agreement?

Global Research Repository Knowledge

Select one of the following to specify a time limit.

May a qualified person use the data indefinitely?

Yes timelimit=none

May a qualified person use the data for 1 year?

Yes timelimit=1yr

May a qualified person use the data for 2 years?

Yes timelimit=2yr

May a qualified person use the data for 5 years?

Yes timelimit=5yr

Repeat until timelimit is set.

Select one of the following to specify further data sharing.

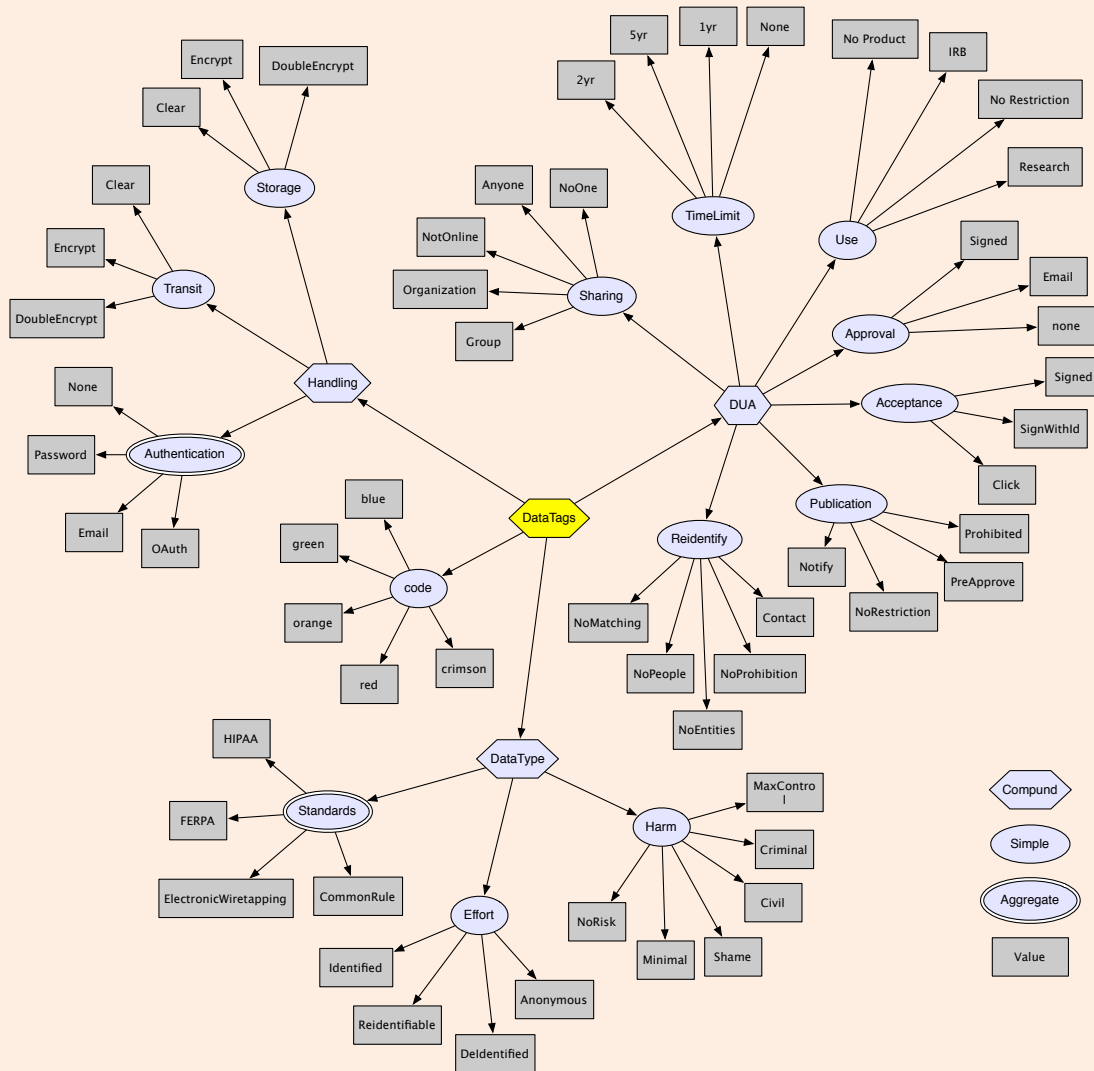
Select one of the following to specify whether the recipient can link the file to other data.

Select one of the following to specify any publication restrictions.

Select one of the following to specify any restrictions on use.

Select one of the following to specify whether you want to personally approve each data request.

Global Research Repository Codification



DataType: Standards, Effort, Harm.
 Standards: **some of** HIPAA, FERPA,
 ElectronicWiretapping,
 CommonRule.
 Effort: **one of** Identified, Identifiable,
 DeIdentified, Anonymous.
 Harm: **one of** NoRisk, Minimal, Shame, Civil,
 Criminal, MaxControl.

Global Research Repository Interview

Question: Please select one answer

Do the data concern living persons?

Yes No

Answer Feed

This space will contain your answers, and will allow you to revisit them when needed.

Current Tags

Question: Please select one answer

Is there any reason why we cannot store the data indefinitely? Limiting the time a dataset could be held interferes with good science practices such as replication, and should thus be avoided whenever possible.

Yes No

Answer Feed

Do the data concern living persons? No [Revisit](#)

Current Tags

DataTags

Code [blue](#)

Assertions

Identity [noPersonData](#)

Question: Please select one answer

Did the data have any restrictions on sharing, e.g. stated in an agreement or policy statement?

Yes No

Answer Feed

Is there any reason why we cannot store the data indefinitely? Limiting the time a dataset could be held interferes with good science practices such as replication, and should thus be avoided whenever possible. No [Revisit](#)

Do the data concern living persons? No [Revisit](#)

Current Tags

DataTags

Code [blue](#)

Assertions

Identity [noPersonData](#)

Handling

DUA

TimeLimit [none](#)

[back](#)

Policy Language

IRB Example

1. If all the participants whose data appears in the file consented to sharing, allow any requester a copy of the file.
2. If there is no personal information in the file, allow any requester a copy of the file.
3. If the data includes AIDS or HIV information about participants, only allow requesters having medical information clearance a copy of the file.
4. Do not share any file that a law or regulation prohibits from being shared.
5. If the rules conflict, disallow the request.

Policy Language

IRB Example

1. If all the participants whose data appears in the file consented to sharing, allow any requester a copy of the file.

Rule 1 Respects human autonomy in decision-making.

Policy Language

IRB Example

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2. If there is no personal information in the file, allow any requester a copy of the file.

Rule 2 Limits decision-making to files that actually contain personal information.

Policy Language

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Rule 3 Protects sensitive medical information from being shared widely.

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Rule 4 Ensures legal compliance.

Policy Language

IRB Example

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2. If there is no personal information in the file, allow any requester a copy of the file.
3. If the data includes AIDS or HIV information

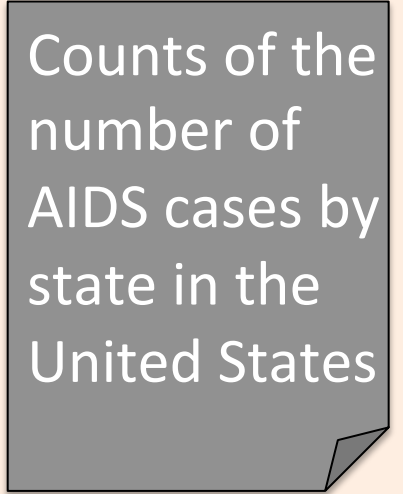
Rule 5 Resolves conflicts by conservatively disallowing a conflicting request.

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Counts of the number of AIDS cases by state in the United States

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Mobile phone
geo-locations
of patients' to
schedule
complex
appointments

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[back](#)

