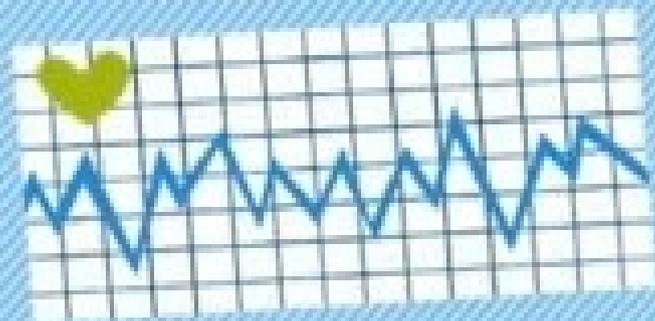
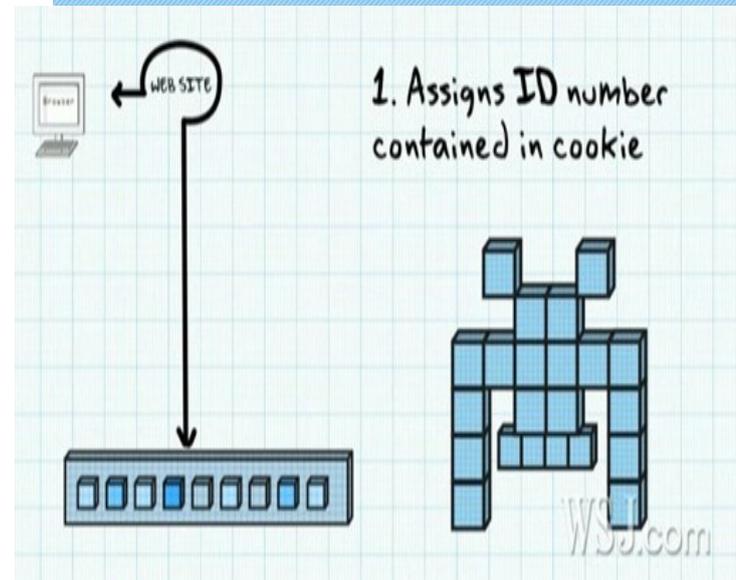


For Sale: Your Data By: You [1]



Internet privacy

- Behavior tracking/targeting of personal information
 - IP address
 - Cookies (and derivations)
 - User accounts



Internet privacy

"With your permission you give us more information about you, about your friends, and we can improve the quality of our searches. We don't need you to type at all. We know where you are. We know where you've been. We can more or less know what you're thinking about."

Eric Schmidt: Google gets close to 'the creepy line'

By [Shane Richmond](#) | [Media](#) | Last updated: October 5th, 2010

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Eric Schmidt, **the CEO of Google**, has described his company's policy:

"Google policy is to get right up to the creepy line and not cross it."



Schmidt was **talking to The Atlantic** about the possibility of a Google implant – a chip under your skin that would track you and provide easy web access. That, Schmidt said, was probably over 'the creepy line'.

However, he followed that by saying: "With your permission you give us more information about you, about your friends, and we can improve the quality of our searches. We don't need you to type at all. We know where you are. We know where you've been. We can more or less know what you're thinking about."

<http://goo.gl/DWXB8>

Behavior Targeting

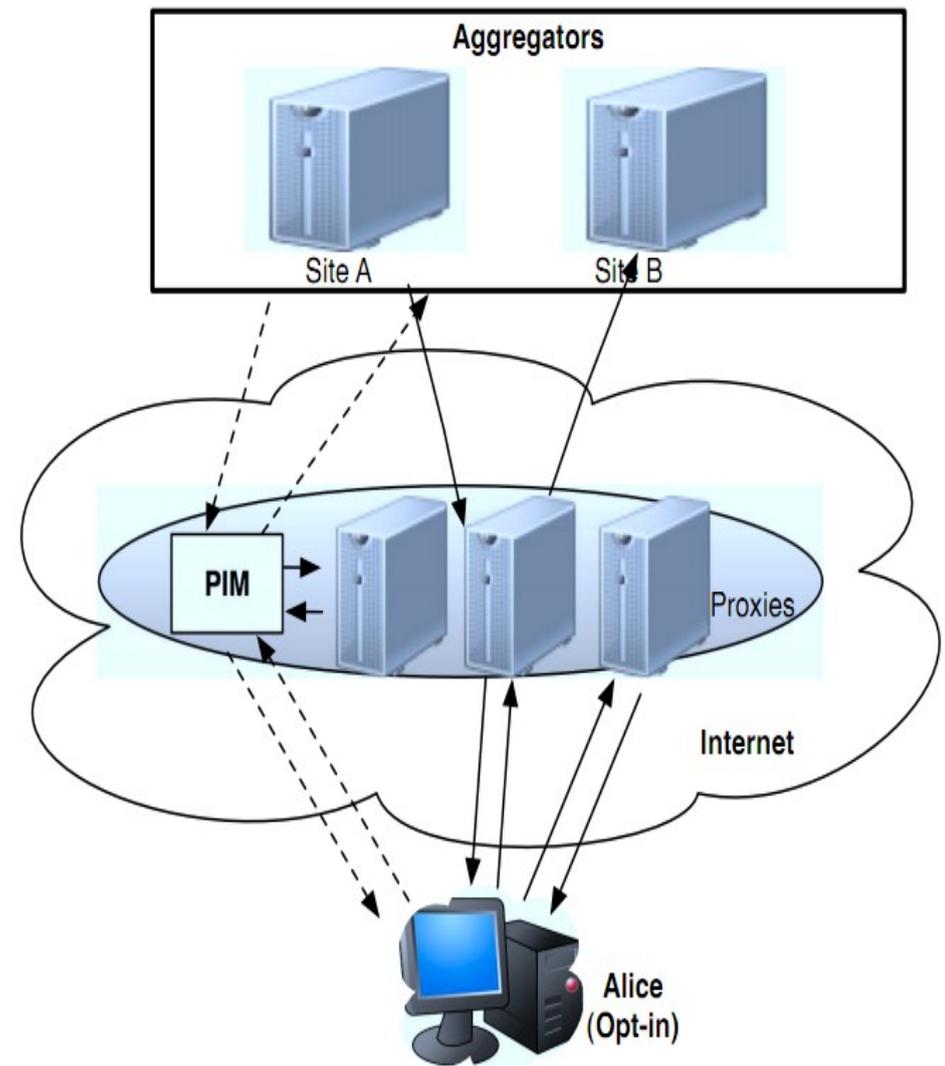
- Customization x Privacy
- PII is collected and sold
 - Data market from online sources is expect to be \$840 million in 2012*
 - Tracking without user consent (legal rights?)
 - Many scrapers and data brokers argue that if information is available online, it is fair game, no matter how personal.

Solutions?

- For Sale: Your Data by: You [1]
 - Transaction Privacy
 - Enables release of portions of PII by end-user (opt-in basis) to information aggregators for adequate monetary compensation
 - User decides: what and how much information

Transaction Privacy: How works?

- Alice browses: all request go through a proxy.
- The proxy traps all Set-Cookie HTTP response headers (masquerades real IP by random IP)
- Alice decides to put her PII for sale in the auction
- The auction creates a fix relation (IP real with IP public) until next auction

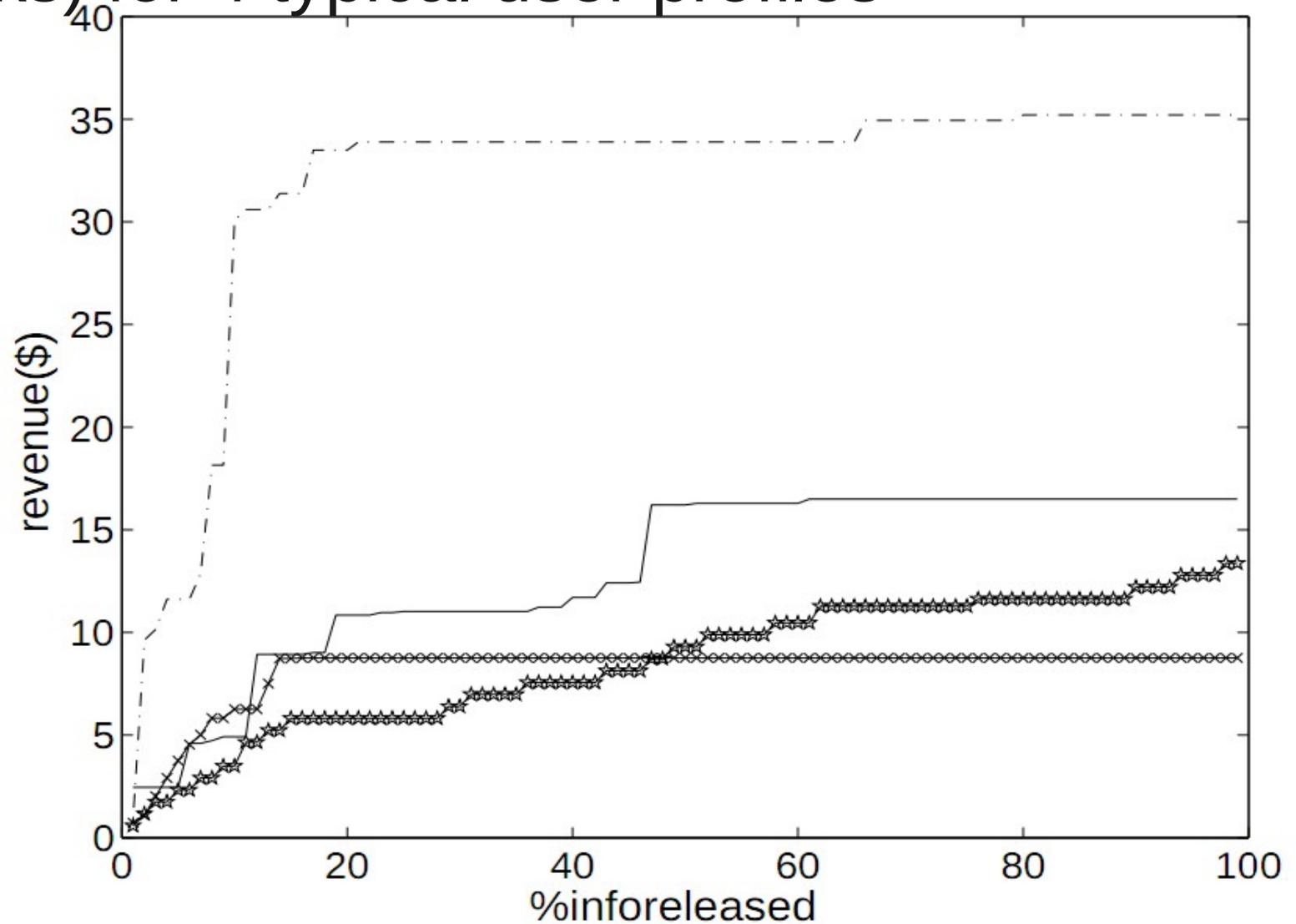


Transaction Privacy: Study Case

- Browsing behavior on mobile phone (real data - large European capital)
 - Profiles users behavior: number of pages, fraction of time spent, classify categories of sites
 - The user release its information by decrease order of site popularity
 - The user is advised of the risk of be identified by release access information of unpopular sites (k-anonymity)
- Monitoring online coupon aggregators
 - Get the value of deals and possible profits to estimate the value of PII to each site category
 - Estimate users revenue by their PII (by browser pattern) and the proportion of information release

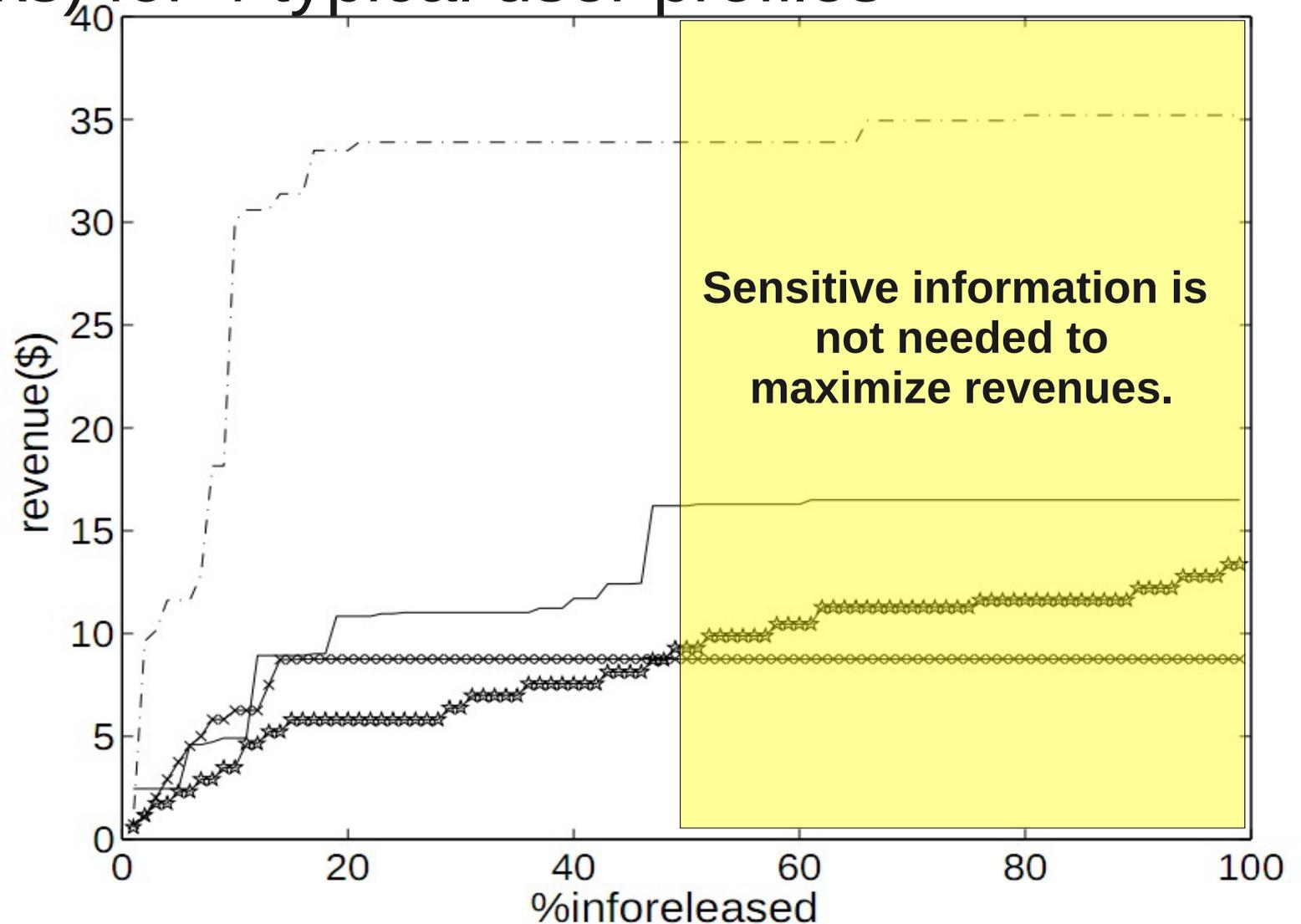
Transaction Privacy: Study Case

- Variation of the amount the information release (1% blocks) for 4 typical user profiles



Transaction Privacy: Study Case

- Variation of the amount the information release (1% blocks) for 4 typical user profiles



Consideration

- Model Benefits:
 - End-user: balance between customization and privacy (and get profits by your exposition)
 - Aggregators: can use information without encumbrance of lawsuits
- Problems:
 - Privacy Information Market:
 - Trustable entity?
 - Proxies use x overheads
 - Manipulation of information value by Aggregators
 - How to get users and advertisers to use this system?

References/Links

- [1] For Sale : Your Data By : You", C. Riederer, V. Erramilli, A. Chaintreau, P. Rodriguez, and B. Krishnamurthy, ACM/HOTNETS 2011.
- Google gets close to 'the creepy line': <http://goo.gl/DWXB8>
- 'Scrapers' Dig Deep for Data on Web: <http://goo.gl/QwJdJ>

More interesting things:

- How Advertisers Use Internet Cookies to Track You: <http://goo.gl/tLVHv>
- TEDxBarcelona - Pablo Rodríguez - My data soul: http://youtu.be/cVeP_zXwEYI
- The Web's New Gold Mine: Your Secrets: <http://goo.gl/o1nmE>
- A Web Pioneer Profiles Users by Name: <http://goo.gl/sFwez>
- White House to Push Privacy Bill: <http://goo.gl/YEHJr>
- I know what you will do next summer: <http://www2.research.att.com/~bala/papers/ccr10-priv.pdf>