



Privacy and Online Social Networks

TGI Course,
Dept. of Computer Science,
University College Cork
29th September 2014
TGI Module Code: TGI_S09
Balachander Krishnamurthy
AT&T Labs--Research

This short course begins with a discussion of the origin of the privacy problem. I will contrast privacy, security, and anonymity, focusing on why gains in security have not yielded similar degrees of success in privacy. A deeper look at the technology used by various tracking companies and the ways by which we can identify leakage and linkage follows. I will then discuss Online Social Networks (OSNs) - both traditional and mobile - as well as several special purpose OSNs such as Pinterest, SnapChat etc. I will discuss a few papers that I've written on privacy settings in OSNs and leakage of personally identifiable information via OSNs. Examining privacy protection next, I will walk through various solutions, the critical role of usability, and some startup company efforts. I will end with a brief look at economics of privacy.

Detailed Outline

1. Introduction to privacy and OSNs

History and definition of Privacy
Vocabulary, history, terms, types of consumers, privacy
Introduction to OSNs

2. Privacy, security, anonymity

Duality of privacy and security
Privacy and security
The role of usability
Crypto and its failure
Privacy and anonymity
Anonymization techniques
Why hasn't privacy/security duality yielded more?

3. Technology

Terminology and key players
Technologies for tracking
Technical vectors of leakage and ways of identifying them
Role of JavaScript
Role of protocols
Linkage
Semantics and the compositional problem
Collateral Damage of Privacy
People search engines

4. Online Social Networks: a detailed look

Mobile OSNs
Special purpose OSNs: Pinterest, SnapChat, Ask.fm, WhatsApp
Privacy settings in OSNs
PII leakage in OSNs

5. Privacy Protection

Early methods
Cat and Mouse game
Clever techniques
Role of usability
Complex technologies
Startup solutions
Thinning/source quenching
Role of crowdsourcing
Differential Privacy

6. Deployment Issues

Practical issues
Limitations
Countermeasures
Incentives

7. Economics of Privacy

Biography

Balachander Krishnamurthy is a member of technical staff at AT&T Labs--Research. His focus of research is in the areas of Internet privacy, Online Social Networks, and Internet measurements. He has authored and edited ten books, published over 100 technical papers, holds fifty two patents, and has given invited talks in over thirty five countries. He co-founded the successful Internet Measurement Conference and in 2013 the Conference on Online Social Networks (<http://cosn.acm.org>). He has been on the thesis committee of several PhD students, collaborated with over seventy five researchers worldwide, and given tutorials at several industrial sites and conferences.

His most recent book "Internet Measurements: Infrastructure, Traffic and Applications" (525pp, Wiley, with Mark Crovella), was published in July 2006 and is the first book focusing on Internet Measurement. His previous book 'Web Protocols and Practice: HTTP/1.1, Networking Protocols, Caching, and Traffic Measurement' (672 pp, Addison-Wesley, with Jennifer Rexford) is the first in-depth book on the technology underlying the World Wide Web, and has been translated into Portuguese, Japanese, Russian, and Chinese. Bala is homepageless and not on any OSN but many of his papers can be found at <http://www.research.att.com/~bala/papers>

TO REGISTER FOR THIS COURSE PLEASE COMPLETE FORM ON NEXT PAGE



An Roinn Fiontar, Trádála agus Nuálaíochta
Department of Enterprise, Trade and Innovation



Investing in your future.



REGISTRATION FORM
Privacy and Online Social Networks
TGI Course
Dept. of Computer Science
University College Cork
TGI Module Code: TGI_S09
29th September 2014

Last Name		First Name	
Email Address		Student ID	
Dept/School and Institution			
Address			
Phone Number			
Current Status (eg. Student)			
Degree and Subject for which currently registered		Year	
Name of Supervisor(s)			
Email(s)			
Does your Supervisor approve this module registration?	Yes <input type="checkbox"/> No <input type="checkbox"/>		
Current area(s) of research			
Signature			

Email completed form to m.noonan@cs.ucc.ie
For Accommodation details, please visit <https://www.uccconferencing.ie/accommodation/>