

## Privacy

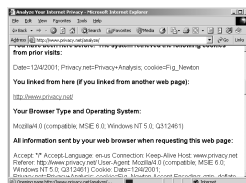


What can other people discover about you online? Why should you care?

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## What can a Web server learn about you?

- ❖ How much information is available about you when you use a Web browser?
- ❖ Have a look at [www.privacy.net](http://www.privacy.net)



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## Cookies

- ❖ A cookie is a small text file placed on your computer by Web sites that you visit
  - RMID80a9929c1c6a3bcbac99f6c3nytimes.com/10249228908802952109545594968029447670\*NYT-S10j...
- ❖ The cookie can contain any information the Web site chooses to put there:
  - a code identifying you
  - a list of items purchased (shopping cart)
  - how many times you've visited the site in the past, and when
- ❖ Strictly speaking, a Web site is only supposed to be able to see information about your visit to that particular site. But there are various ways around this . . .

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## Collecting information across sites



- ❖ Banner ad networks, like DoubleClick track users across multiple sites
- ❖ The banner ad (at the top of a page) is a Trojan horse, which allows the Web site producing the banner ad to place a cookie on your machine
- ❖ There are even ways to get your email address!
- ❖ See <http://www.privacy.net/track/>

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## Collecting information across sites

### Web Sites Visited for Cookie id=8676721453666

128.208.100.91 - 5/15/01 - 7:48:04 PM - .net.asp?siteid=ms.as-center.com  
 128.208.100.91 - 5/15/01 - 7:48:04 PM - .net.asp?siteid=ms.as-center.com  
 128.208.100.91 - 5/15/01 - 7:48:22 PM - .net.asp?siteid=ms.cop.net  
 128.208.100.91 - 5/15/01 - 7:48:26 PM - .net.asp?siteid=ms.cop.net  
 128.208.100.91 - 5/15/01 - 7:48:30 PM - .net.asp?siteid=ms.cofsa-ivser.com  
 128.208.100.91 - 5/15/01 - 7:48:34 PM - .net.asp?siteid=ms.cofsa-ivser.com  
 128.208.100.91 - 5/15/01 - 7:50:31 PM - .Email\_Opened.asp?openid=ms@bnetmail.com, E-mail Client: Mozilla/0 [compatible; MSIE  
 128.208.100.91 - 5/22/01 - 12:21:30 PM - .Email\_Opened.asp?openid=ms@bnetmail.com, E-mail Client: Mozilla/0 [compatible; MSIE  
 128.208.100.91 - 5/22/01 - 6:06:45 PM - .net.asp?siteid=ms.cop.net  
 128.208.100.91 - 5/22/01 - 6:07:01 PM - .net.asp?siteid=ms.cofsa-ivser.com  
 128.208.100.91 - 5/22/01 - 6:08:08 PM - .net.asp?siteid=ms.cofsa-ivser.com  
 128.208.100.91 - 5/22/01 - 6:08:38 PM - .net.asp?siteid=ms.cofsa-ivser.com  
 Who have your identity from register.kiddies.net, user name: Gino  
 128.208.100.91 - 5/22/01 - 6:10:17 PM - .Email\_Opened.asp?openid=ms@bnetmail.com, E-mail Client: Mozilla/0 [compatible; MSIE

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- ❖ The result: a complex database identifying you and your habits!

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## Collating online and offline data

### Web Sites Visited for Cookie id=8676721453666

128.208.100.91 - 5/15/01 - 7:48:04 PM - .net.asp?siteid=ms.as-center.com  
 128.208.100.91 - 5/15/01 - 7:48:18 PM - .net.asp?siteid=ms.as-center.com  
 128.208.100.91 - 5/15/01 - 7:48:22 PM - .net.asp?siteid=ms.cop.net  
 128.208.100.91 - 5/15/01 - 7:48:26 PM - .net.asp?siteid=ms.cop.net  
 128.208.100.91 - 5/15/01 - 7:48:30 PM - .net.asp?siteid=ms.cofsa-ivser.com  
 128.208.100.91 - 5/15/01 - 7:48:34 PM - .net.asp?siteid=ms.cofsa-ivser.com  
 128.208.100.91 - 5/15/01 - 7:50:31 PM - .Email\_Opened.asp?openid=ms@bnetmail.com, E-mail Client: Mozilla/0 [compatible; MSIE  
 128.208.100.91 - 5/22/01 - 12:21:30 PM - .Email\_Opened.asp?openid=ms@bnetmail.com, E-mail Client: Mozilla/0 [compatible; MSIE  
 128.208.100.91 - 5/22/01 - 6:06:45 PM - .net.asp?siteid=ms.cop.net  
 128.208.100.91 - 5/22/01 - 6:07:01 PM - .net.asp?siteid=ms.cofsa-ivser.com  
 128.208.100.91 - 5/22/01 - 6:08:08 PM - .net.asp?siteid=ms.cofsa-ivser.com  
 128.208.100.91 - 5/22/01 - 6:08:38 PM - .net.asp?siteid=ms.cofsa-ivser.com  
 Who have your identity from register.kiddies.net, user name: Gino  
 128.208.100.91 - 5/22/01 - 6:10:17 PM - .Email\_Opened.asp?openid=ms@bnetmail.com, E-mail Client: Mozilla/0 [compatible; MSIE

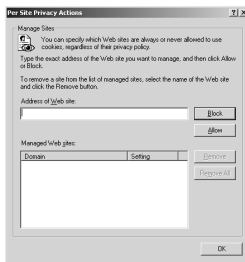
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- ❖ Online and offline data can be combined
- ❖ "When [transactional information is] correlated with other sources of personal information, including marketing databases, phone books, voter registration lists, etc, a detailed profile of your online activities can be created without your knowledge or consent." ([CDT Privacy Demonstration Page](#), Center for Democracy and Technology, March 18, 1998)

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## No Cookies



- ❖ There are ways to prevent cookies from being put on your computer
- ❖ Most browsers give you a way to say "no thanks" – to accept no cookies at all or to accept them selectively

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## No Cookies

- ❖ But Web sites can collect information on you even without the use of cookies!
- ❖ How can they do that?

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## **FIT 100** No Cookies

- ❖ But Web sites can collect information on you even without the use of cookies
- ❖ How can they do that?
- ❖ Web sites store information about the requests they receive in log files. These files contain detailed information about every single request the site receives, including where the request came from, what time the visitor showed up, and what pages he or she looked at.

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## **FIT 100** Anonymity

- ❖ Users can prevent their IP address from being known (spy vs spy)



- ❖ What place should the legal system play vs. technology?

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## **FIT 100** What Are Our Strongest Privacy Protections?

- ❖ Historically, they have not been legal protections
- ❖ It was simply the fact that it took too much time, effort, and resources to collect and manipulate information that was otherwise "publicly" available
- ❖ With new technologies continually decreasing the amount of time, effort, and resources needed to collect and manipulate information, we see a corresponding increase in the public's concern with privacy and the need for legal protections

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## **FIT 100** Challenges to Privacy from IT

- ❖ Privacy Protections for information in the public domain that are based on the difficulty and expense of collecting and manipulating information are diminished
- ❖ Data collected for one purpose is readily available and can be used for other purposes
  - Student computer use to "identify" student effort
- ❖ Data collection can occur "invisibly", without the person's knowledge
  - Cookies, video cameras, etc.
- ❖ Information flows readily across cultural and international boundaries; cultural understanding about privacy and privacy protections from one cultural environment may not carry over to others.

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## Who has the right to what information?

- ❖ When should you have the right to keep information to yourself?
- ❖ When should the government have the right to prevent information from being made public?
  - "Since Sept. 11, it has become much harder to get such information from the federal government, a growing number of states and public libraries as heightened concern about national security has often trumped the public's 'right to know.'"
  - "The popularity of the Internet has made sensitive information even easier to come by in recent years, but the events of Sept. 11 are now fueling a new debate in Washington: How much do Americans need to know?" (Los Angeles Times, 11/18/01)

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## What do you think?

Imagine you're at home eating a TV dinner you just purchased from your local grocery. Suddenly a sly-looking store clerk appears in your dining room window and starts taking pictures of you.

"Hey, buddy!" you complain, angrily pointing at the camera. "What gives you the right to come in here with that thing? This is private property."

"Well," he replies, "you bought those groceries at my store, you see - and we have a right to keep our shelves stocked with the latest in popular consumer products. It's for your own good, you understand." He grins, and continues taking pictures of your lawn, your bathroom, your bedroom, your pantry, etc.

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