Cookies

- Way to maintain state for HTTP
- Necessary because each page and each image may be separate HTTP connection
- Sent by a site; returned to that site
- Can hold arbitrary state data, with arbitrary expiration time
Cookies Going to a Web Server

GET / HTTP/1.1
Host: gg1.cs.columbia.edu
User-Agent: Mozilla/5.0 (X11; U; NetBSD i386; en-US; rv:1.7.5)
Accept: text/xml,application/xml,application/xhtml+xml,text/html;q=0.9,text/plain;q=0.8,image/png,*/*;q=0.5
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 300
Connection: keep-alive
Cookie: Max-Age=60; Flavor="Chocolate-chip"; Size="Large"; Who
Playing with Cookies

- Note what else your browser leaks
- What wonderful information for evil websites that want to exploit browser bugs...
- Connect to http://gg1.cs.columbia.edu and try it.
- Also connect to it via http://www.anonymizer.com
- Note: my privacy policy is not atypical
Doubleclick

- Very explicit privacy policy
- Explains how they use cookies to track you across sites: ad images on sites point to doubleclick.com.
- Sites visited are tracked; this is used to build up an interest profile
- Opt-out cookie available
- Explains things like email-tracking and clear GIFs (“web bugs”)
Google/Orkut

- Cookies used to track search users, trends, and search patterns
- “We may share such information . . . [if] we . . . have a good faith belief that access . . . is reasonably necessary to protect . . . the public”.
- “If you have an account, we may share the information submitted under your account among all of our services ”
- Gmail: scans your email, too, to deliver ads — but advertisers don’t get personally identifiable information
- Orkut: shares personally identifiable information with Google
Amazon/A9

- “We receive and store any information you enter on our Web site or give us in any other way”
- “Examples of the information we collect and analyze include ... purchase history, ... products you viewed or searched for”
- Personal opinion: Amazon does an excellent job of tracking your purchases and figuring out what else you might want to buy
- A9: “we might receive information about you from other sources and add it to our information.”
- A9: “A9.COM IS A WHOLLY OWNED SUBSIDIARY OF AMAZON.COM, INC. IF YOU HAVE AN ACCOUNT ON AMAZON.COM AND AN AMAZON.COM COOKIE, INFORMATION GATHERED BY A9.COM ... MAY BE CORRELATED WITH ANY PERSONALLY IDENTIFIABLE INFORMATION THAT AMAZON.COM HAS”