Lecture 5-2
Privacy

Addison-Wesley
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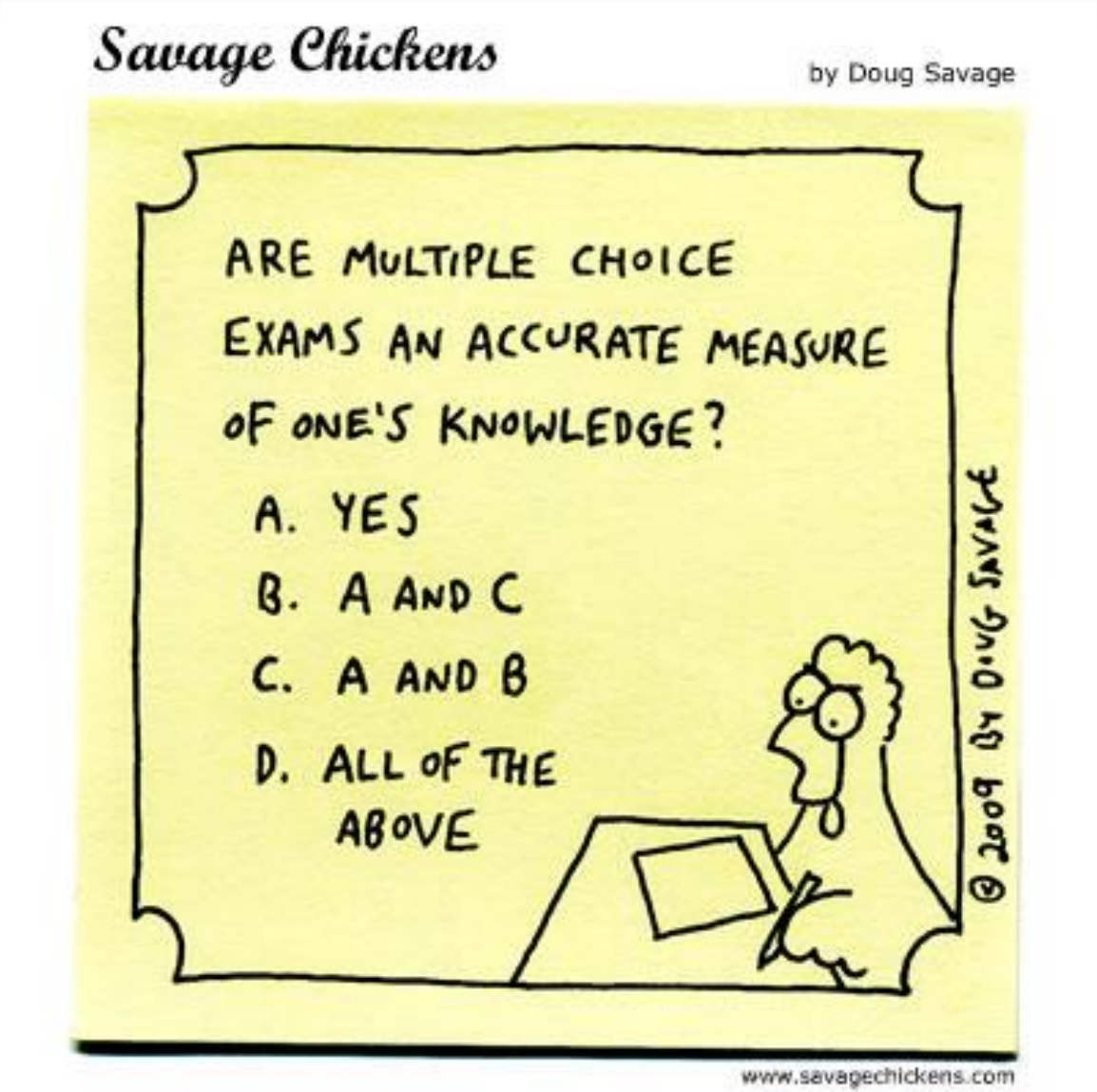
Participation Quiz



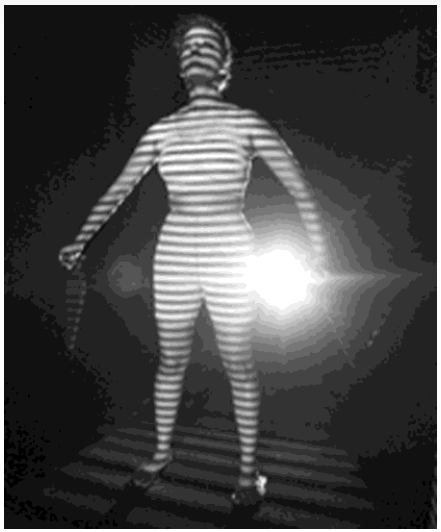
Privacy and Trust

- Modern life more private
- Challenge: living among strangers
- Remedy: establishing reputations
  - Ordeal, such as lie detector test or drug test
  - Credential, such as driver's license, key, ID card, college degree
- Establishing reputation is done at the cost of reducing privacy

Ways Information Becomes Public

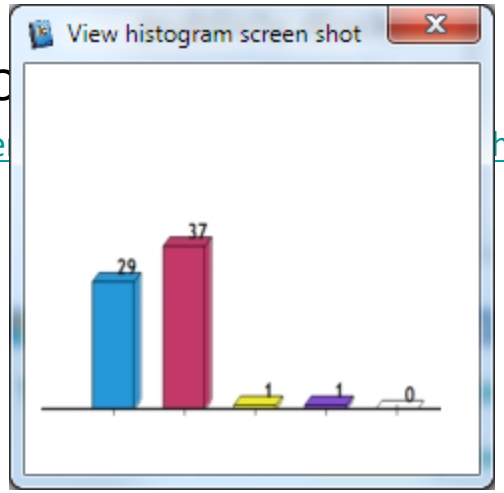
- Rewards or loyalty programs
- Body scanners
- Digital video recorders
- Automobile “black boxes”
- Enhanced 911 service
- RFIDs
- Implanted chips
- Cookies
- Spyware

…can you think of others?



Information Privacy

"It should be illegal for a search engine to publicly disclose users' search histories, even in anonymized form."



AC 2006

http://e h_data_leak

Data Mining

- Data mining
  - Searching for patterns or relationships in one or more databases
  - This info typically provided by the customer for another purpose
- Many internet services are essentially provided as an opportunity to gather valuable data
  - Google; Facebook; free online courses
- Also performed by the government
  - Efforts to detect terrorism via phone, bank, travel records
  - Tax audits
- *Questions:*
  - *Ownership: do you have any rights over information arising from transactions in which you participated?*
  - *Ethics: what data mining activities are unethical? Which are ethical?*
  - *Does it make a difference whether DM is opt-in or opt-out?*
  - *At what point does DM become "creepy"?*
  - *Should we worry about ending up in a "personalization bubble"?*

Strong Encryption

- Strong encryption: encryption at a level that is believed not to be breakable by any other than sender/receiver
  - e.g., 256-bit AES
  - mathematical reasons to believe governments can't break it either
- Availability of strong encryption
  - Previously classified as a munition by US, regulated
  - 1991: US Senate passed a law requiring all encryption systems to include a "back door"
  - In response, Phil Zimmerman created PGP
  - Government tried to shut it down
  - 1999, 2000: courts ruled that these restrictions are illegal, encryption protects privacy and free speech
- *Questions*
  - *Should there be laws against use/distribution of strong encryption?*
  - *How should governments respond to its existence?*