Client-Side Storage

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Client-Side Storage

- Two Intertwined Threads
  - Client-Side Storage
    - Need to maintain state
    - Need for cacheing/offline storage
    - Need to share information among websites
  - Privacy Considerations
    - Client-side information is valuable for tracking behavior and, thus, encourages thievery
    - Large amounts of persistent information makes the situation worse
    - Other ways of tracking client behavior

Cookies

- The Web is stateless
- Cookies were invented by Netscape to add state
  - Allow, for example, session tracking and personalization
  - Does personalization (different views of same resource) break WebArch? i.e. compromise our ability to give URIs to things which can be distributed effectively?
- What are the properties of these two types of systems?
- Session cookies and persistent cookies
- Third-party cookies
- IETF drafts on cookies

Privacy Problems

- Cookies contain valuable tracking information and are much coveted by marketeers
- Subject to hijacking
- Same Origin Policy is supposed to prevent against this
  - Problems with SOP
- Sandboxing and security
- Why does encrypting cookies not work?

Limitations of Cookies/New Requirements

- Cacheing and offline usage
- Access from multiple websites
- Management of personal storage -- pruning, query
- Large amounts of storage
- Control over what is transmitted with each request

Responses to These Requirements

- CORS and UMP
- Other means of making Cross Domain Requests
- Web Storage
- Web Indexed DB

Privacy Problems

- Persistence and Large Amounts of Storage Exacerbates Privacy Issues
- Evercookie
- Private vs. Public Machines
- Other means of tracking
  - Clickjacking, mouse movements …
  - This discussion forks the thread