HTML5

SET09103 Advanced Web Technologies

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HTML: history

- ▶ "HTML tags", Berners-Lee, first mentioned in 1991
- ▶ HTML 2, 1995 - 1997 (basic tags, forms, tables, image maps)
- ▶ HTML 3, 1995 - 1997 (browser-specific tags, browser wars)
- ▶ HTML 4, 1997 - 2000 (stylesheets instead of visual markup)
- ▶ XHTML 1, 2000 - 2001 (XML precision)
- ▶ HTML 5 and XHTML 5, 2008 -

HTML5: Deprecated features

- ▶ font, center, dir, big (to be replaced by stylesheets)
- ▶ presentational attributes: align, etc (to be replaced by stylesheets)
- ▶ frame, frameset (replaced by iframe, PHP/Ajax ?)
- ▶ applet (replaced by object)

HTML5: New features

- ▶ new elements: audio, video, canvas, figure
- ▶ new form controls: date, time, url, email, search
- ▶ structuring: article, section, footer, details, summary, nav
- ▶ web storage
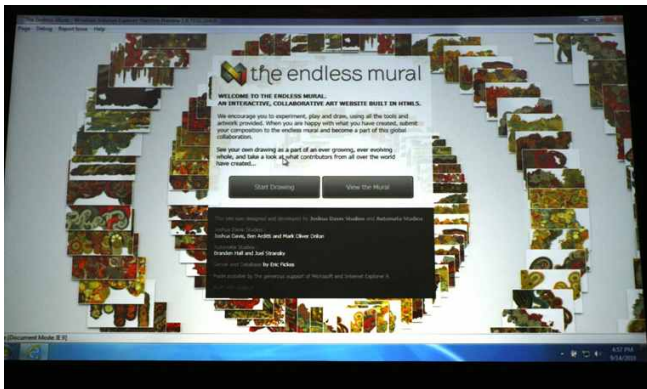- ▶ DOM scripting

HTML5: New APIs

- ▶ geolocation
- ▶ playing audio and video
- ▶ offline web applications
- ▶ drag and drop
- ▶ history (reading the history, control of the back button)

Example: article tag in Safari Reader

`http://www.apple.com/safari/whats-new.html`

Example: collaborative drawing (IE9)

http://www.microsoft.com/presspass/presskits/
internetexplorer/ImageGallery.aspx

Web Storage and DOM Storage

- persistent, client-side storage
- modern version of "cookies"
- client-side scripting (Javascript)
- local and session storage (per-page-per-window)
- associative array, hash

Web SQL Database

Similar to Web Storage, but uses an SQL database (SQLite).

Accessed via Javascript.

At the moment: not supported by all browsers.

How much control does the user have?
(e.g. turn off database storage, determine size)

SQLite

```
:)sqlite3 search.sqlite
SQLite version 3.6.22
Enter ".help" for instructions
sqlite> .tables
engine_data
sqlite> select * from engine_data;
8|[profile]/sourceforge.xml|order|8
10|[app]/google.xml|order|1
11|[app]/yahoo.xml|order|2
12|[app]/amazondotcom.xml|order|3
13|[app]/answers.xml|order|4
14|[app]/creativecommons.xml|order|5
15|[app]/eBay.xml|order|6
16|[app]/wikipedia.xml|order|7
17|[app]/google.xml|used|0
sqlite> .quit
```

Firefox: Indexed Database API

SQLite used for cookies, downloads, permissions, search, etc

JSON used for bookmarkbackups, search, etc

RDF used for localstore

Kamkar: "Evercookie"

Creating a cookie that cannot be deleted.

Using flash cookies, Silverlight cookies,
and three different types of HTML5 storage.

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To delete this cookie in Safari:

Reset, restart + script to delete from folders,
in the databases and in LocalStorage.

In iPhone this requires a jailbreak.

New commercial uses: DoubleClick++

RLDGUID: Ring Leader Digital Globally Unique ID

- ▶ made by a mobile advertising company
- ▶ globally unique ID!
- ▶ this ID cannot (easily) be deleted
- ▶ opt out is possibly but cannot be verified

If one of RLDG's customers knows your name
$\implies$ all participating websites know
who you are when you visit their site!

From the user's viewpoint

- ▶ More functionality (Web 2.0)
- ▶ More transparency needed
  for example: "private mode browsing" and LocalStorage?
- ▶ Browser extensions may give users more control