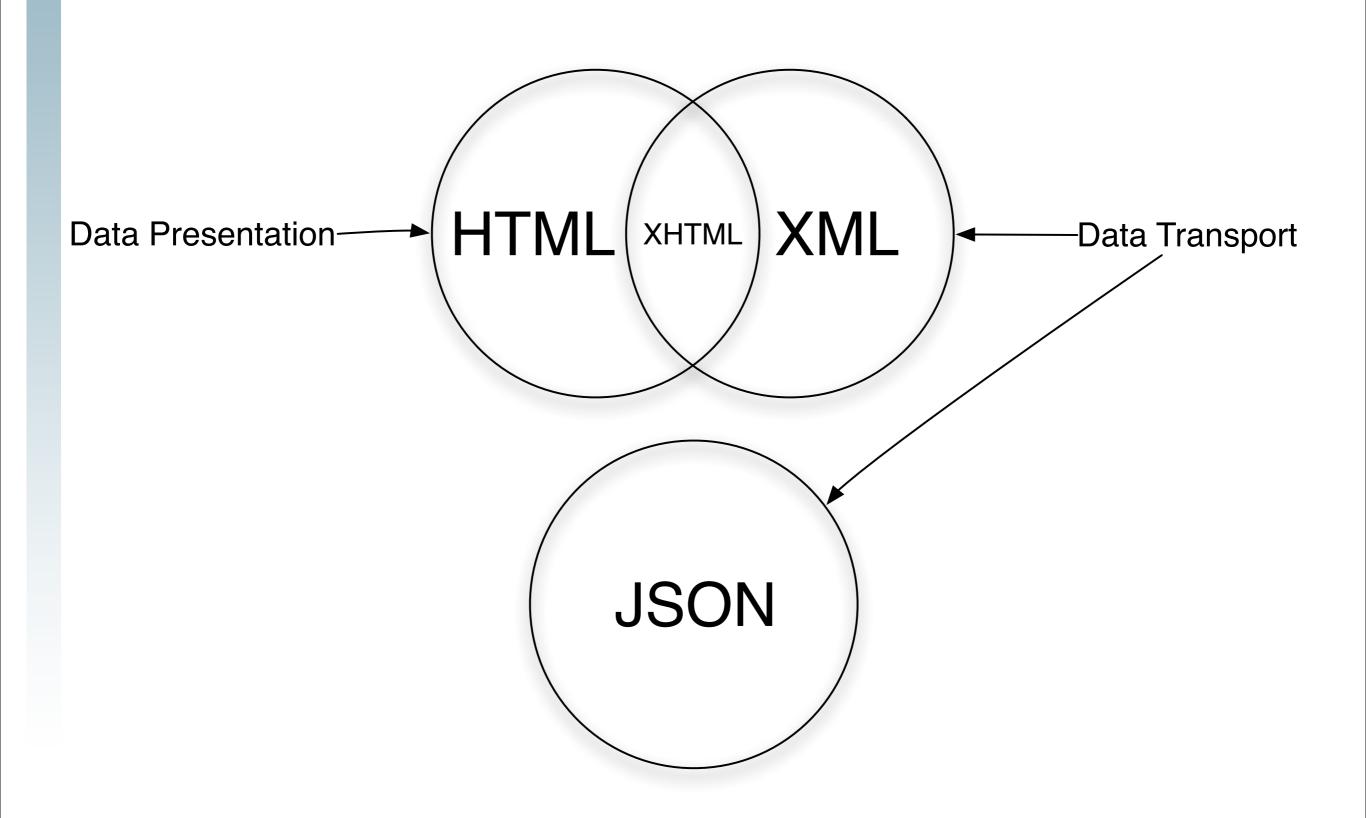
User Interaction: AJAX Basics

Asst. Professor Donald J. Patterson INF 133 Fall 2010



Follow up from last class



AJAX

- "Asynchronous Javascript and XML"
 - although XML can be replaced with any data format
- Developed to support "rich clients"
- One of the big enablers of Web 2.0

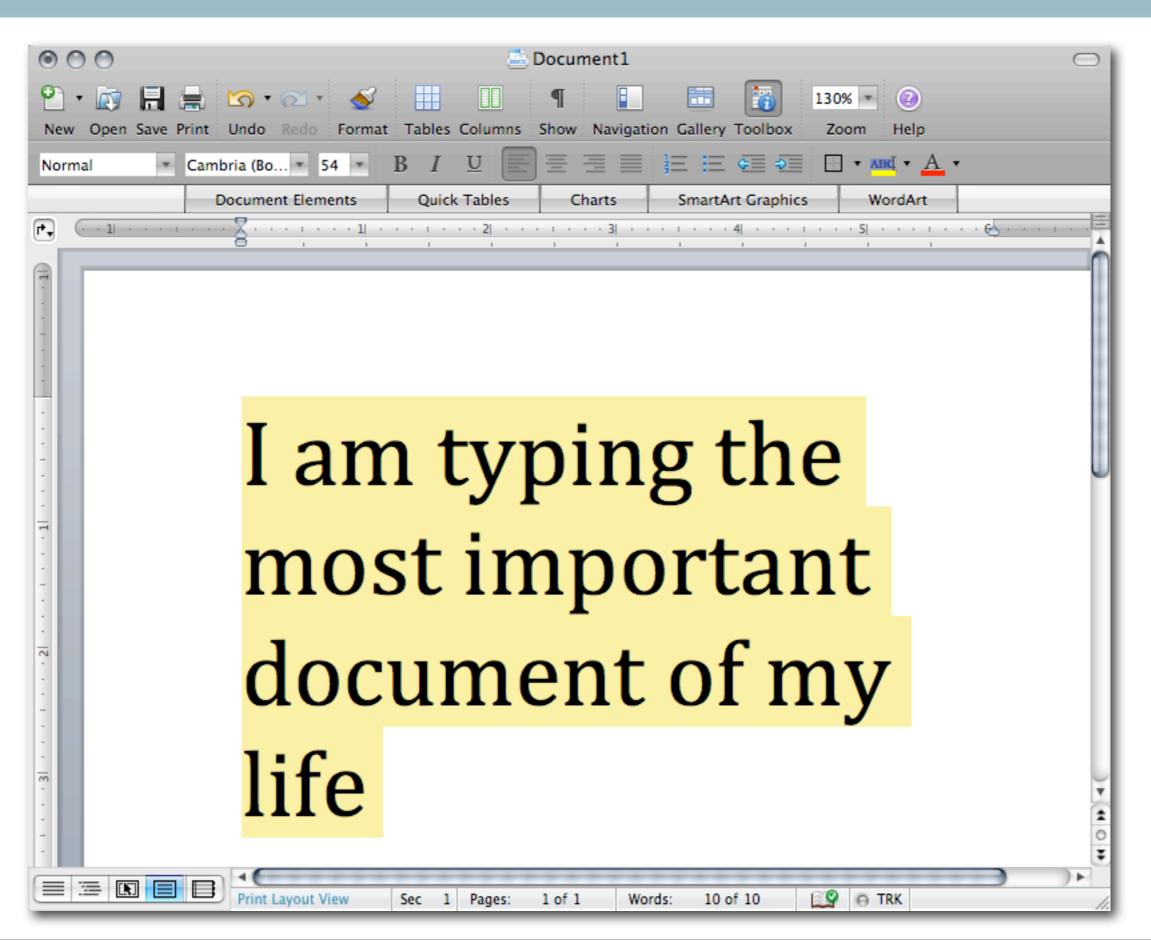
AJAX

- Consider a spreadsheet, once can
 - Edit data in place
 - Changes are updated in real-time
 - Dependencies across the document
 - Feedback from the mouse and cursor
 - Cells highlight
 - Overall a pretty rich user interface experience

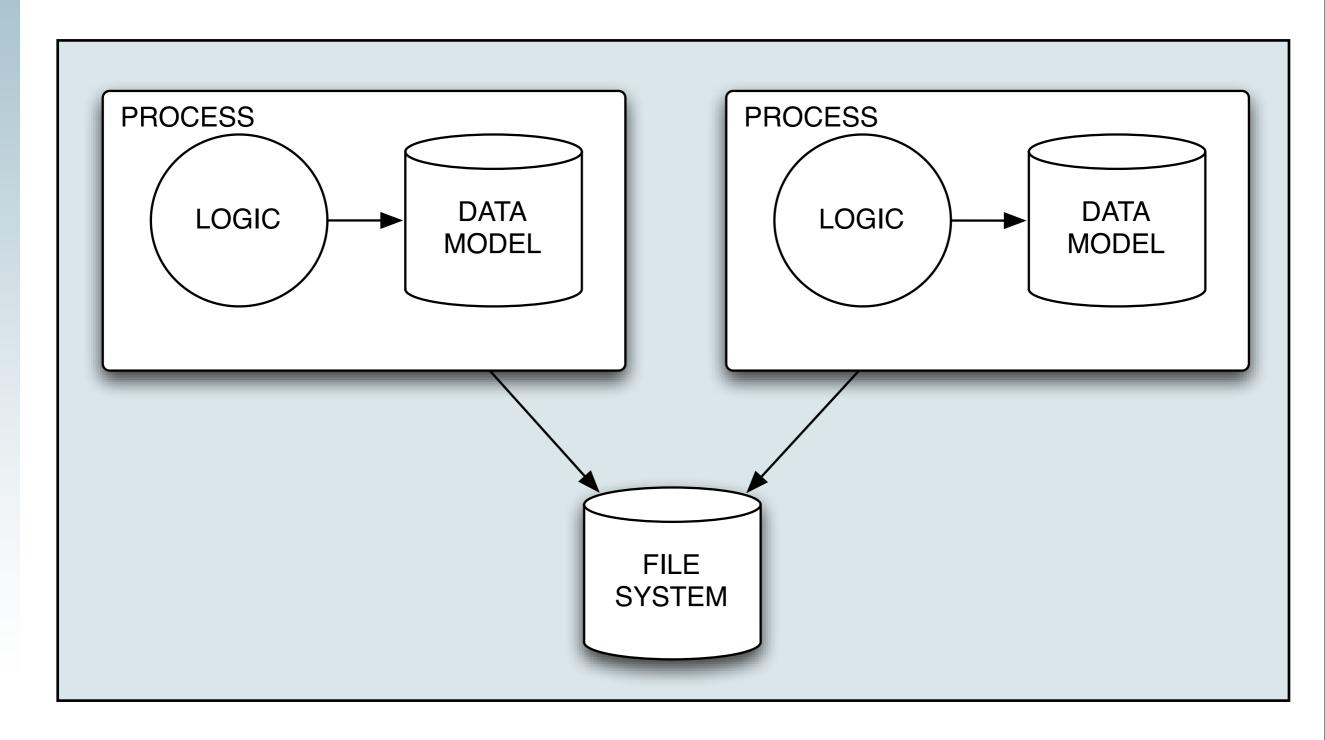
- "Rich Client"
 - Rich
 - In the U/I sense
 - "Spread-sheet" like
 - Client
 - Lives in a networked world
- Sovereign Application vs.
- Transient Application

AJAX in action:Crane

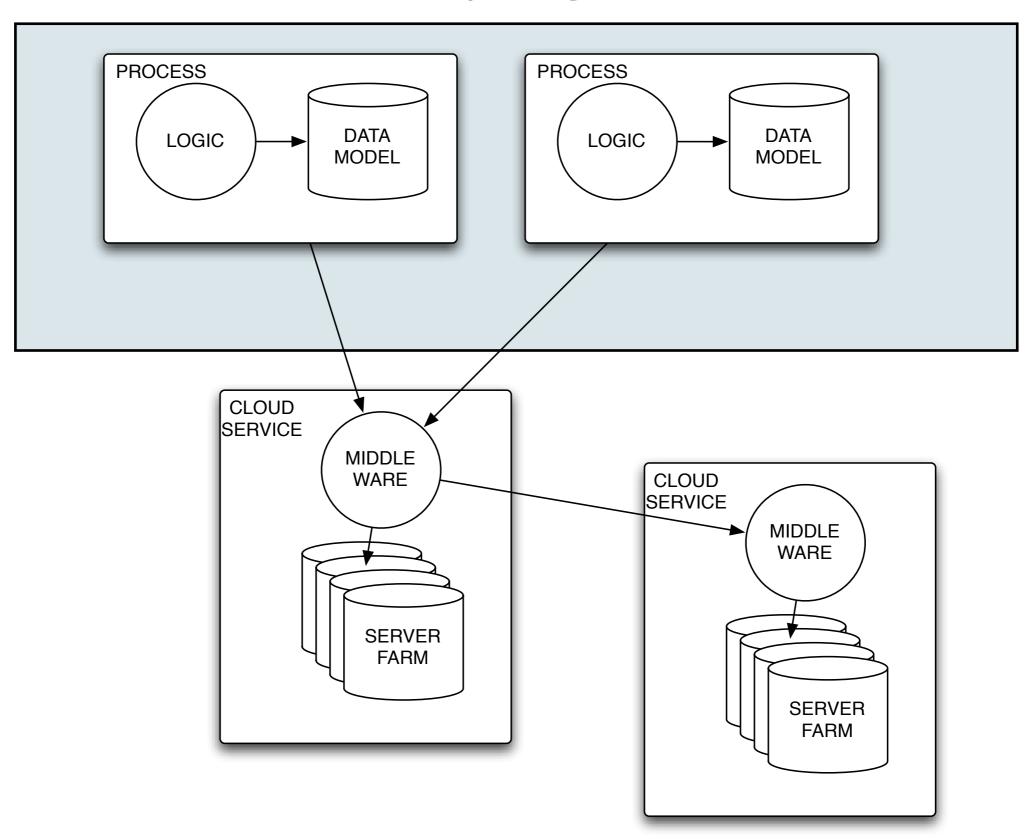




Desktop World



Cloud Computing World



AJAX in action:Crane

- Network induces variable delays, always worse than local
- Cut to whiteboard

AJAX in action:Crane

- Asynchronousness
- Cut to whiteboard

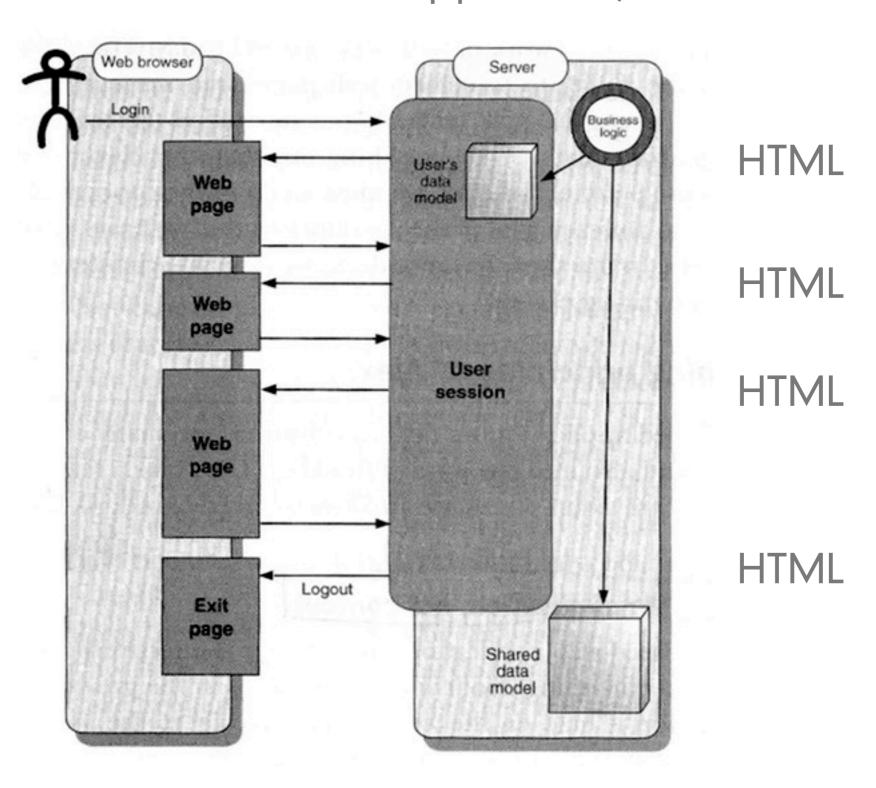
Defining principles of AJAX

- 1. Browser hosts an application, not content
- 2. Server delivers data not content
- 3. User interaction with the application can be fluid and continuous
- 4. This is real coding

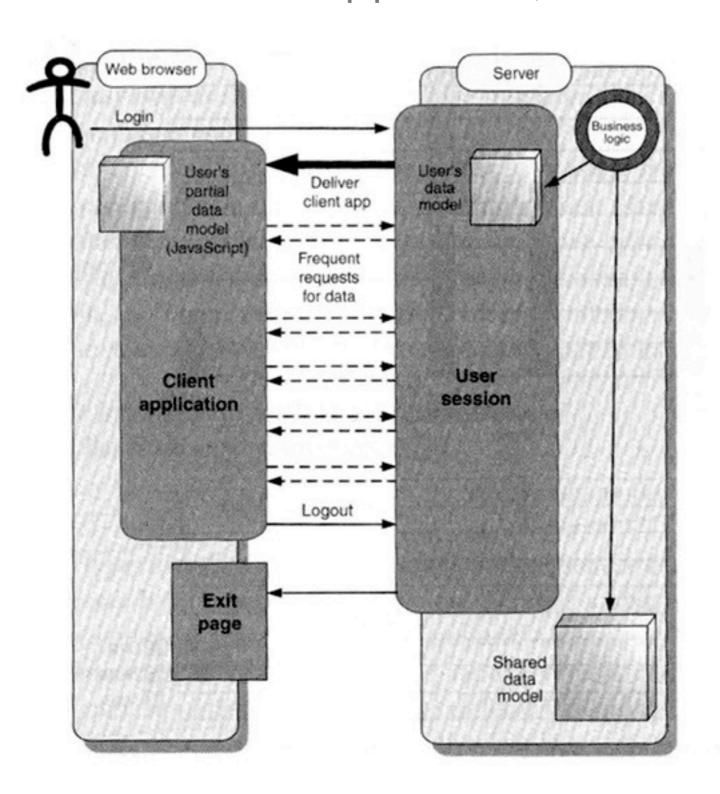
1. Browser hosts an application, not content

- Web 1.0 model
 - every page is new content
- Web 2.0 model
 - download a program at first
 - every page is new data
- Some server functionality is moved to browser
 - example, the shopping basket is in the client

1. Browser hosts an application, not content



• Browser hosts an application, not content



HTML Javascript

XML

XML

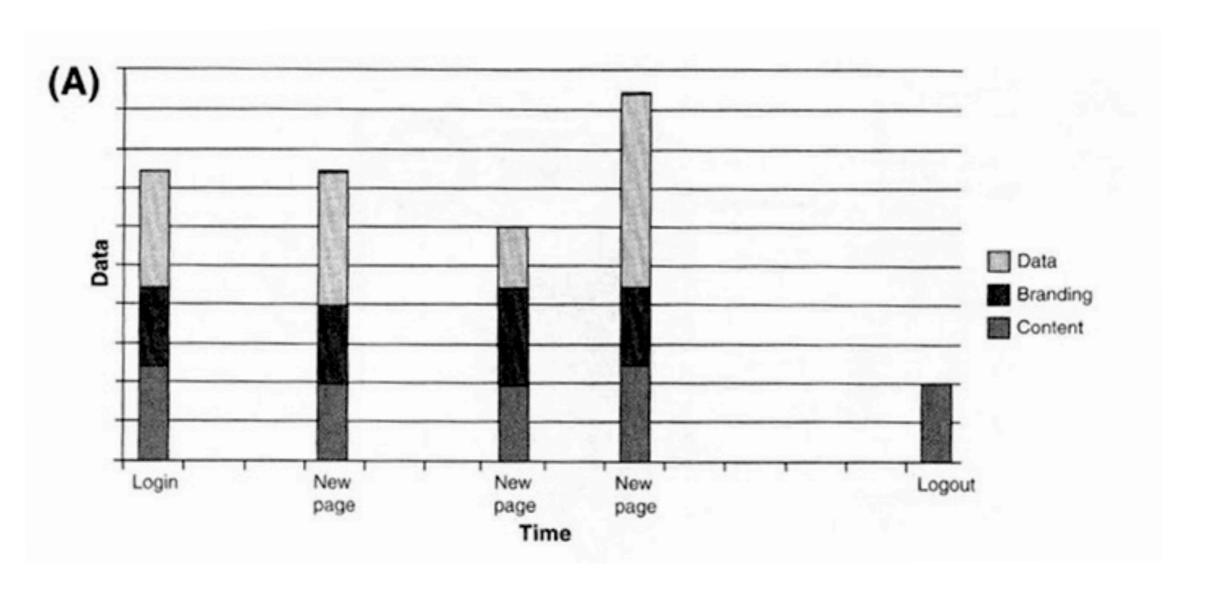
XML

XML

XML

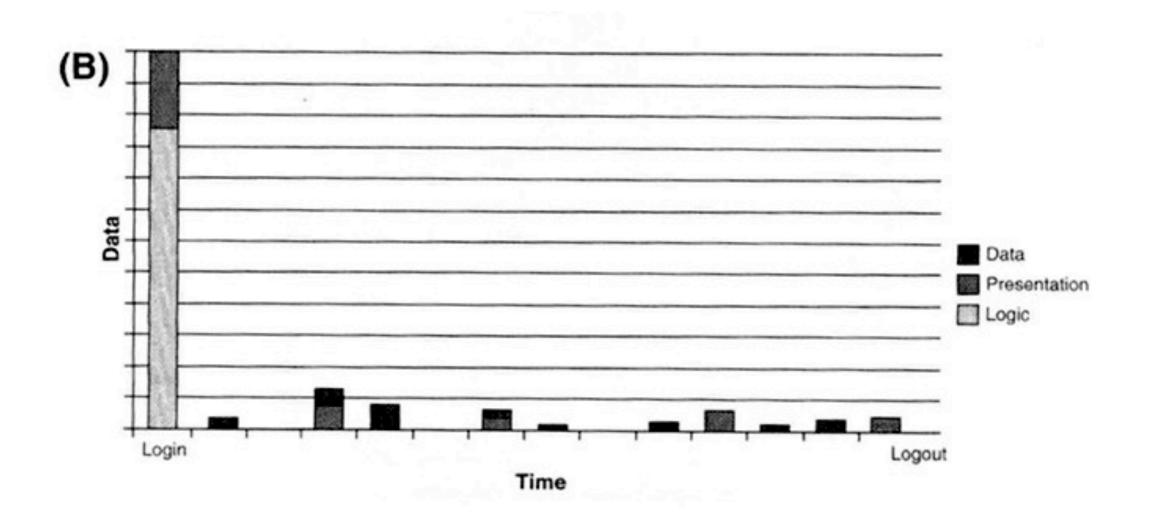
HTML

2. Server delivers data not content



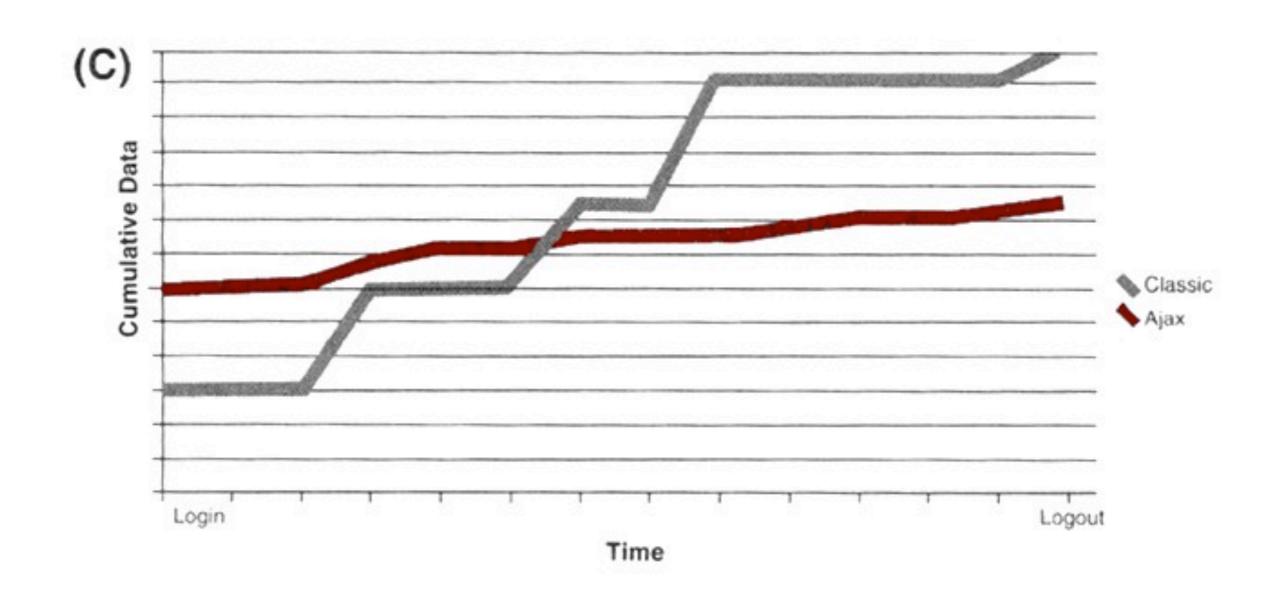
Web 1.0

2. Server delivers data not content



Web 2.0

2. Server delivers data not content



3. User interaction with the application can be fluid and continuous

- Typically when a page is submitting data, the user is in limbo
 - Use the shopping cart example
 - Google Suggest
- Sovereign versus Transient Applications

4. This is real coding

- jQuery (http://jquery.com)
- Prototype (http://www.prototypejs.org/)
- ExtJS (http://www.extjs.com/)
 - very good for prebuilt themes and controls, but not very customizable
- YUI (http://developer.yahoo.com/yui/)
- MooTools (http://mootools.net/) very compact, much smaller than the others
- Dojo (http://dojotoolkit.org/)

Some good resources

• http://www.ibm.com/developerworks/views/xml/libraryview.jsp?search_by=XML+processing+in+Ajax

