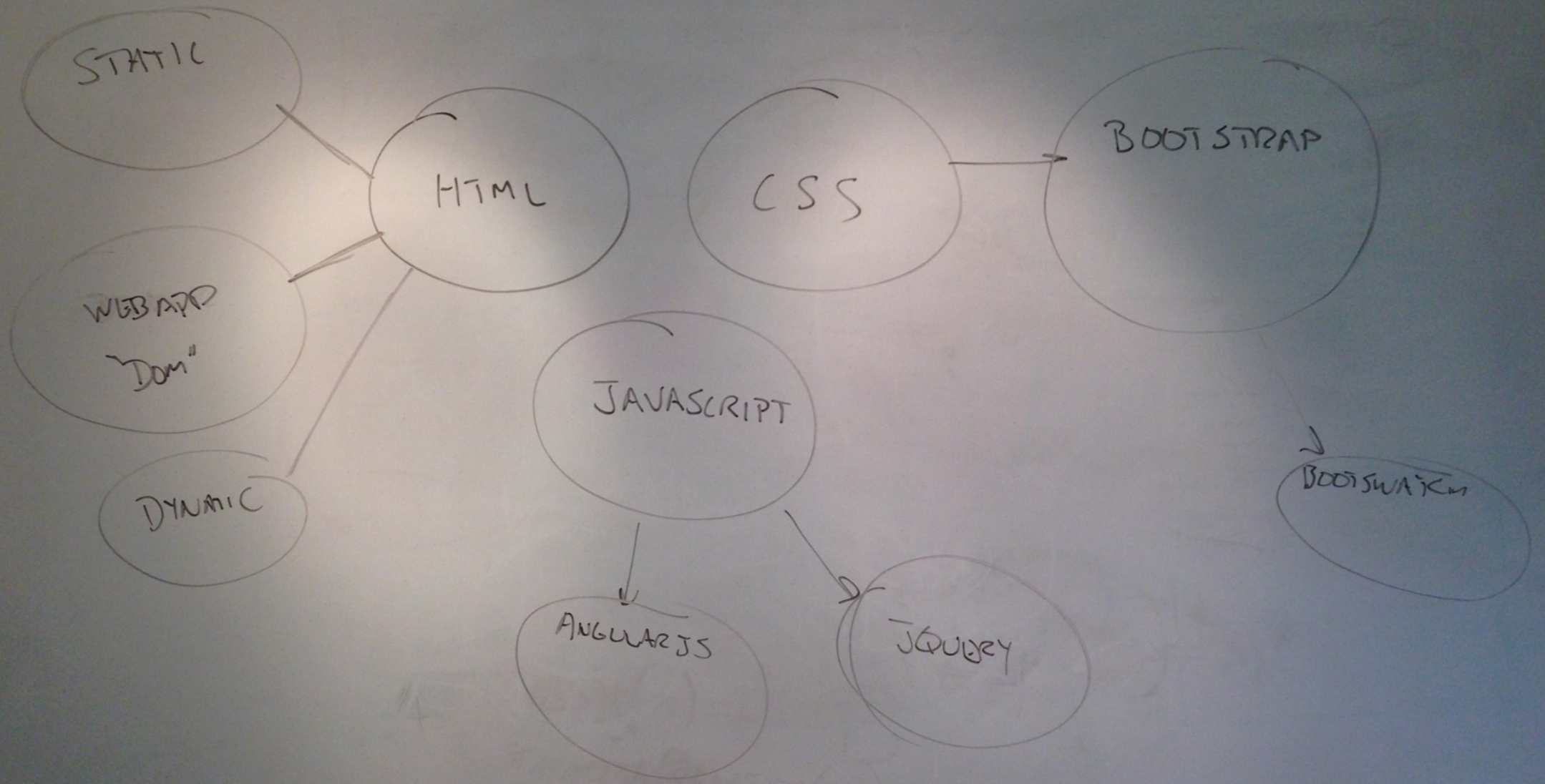


User Interaction: AJAX Basics / Observer Pattern

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INF 133 Fall 2014







- 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/ web apps

- 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

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	 Porlex JP-30 Stainless Steel Coffee... 100pcs ★★★★★☆ (75) \$40.13

> View or edit your browsing history

Related to Items You've Viewed

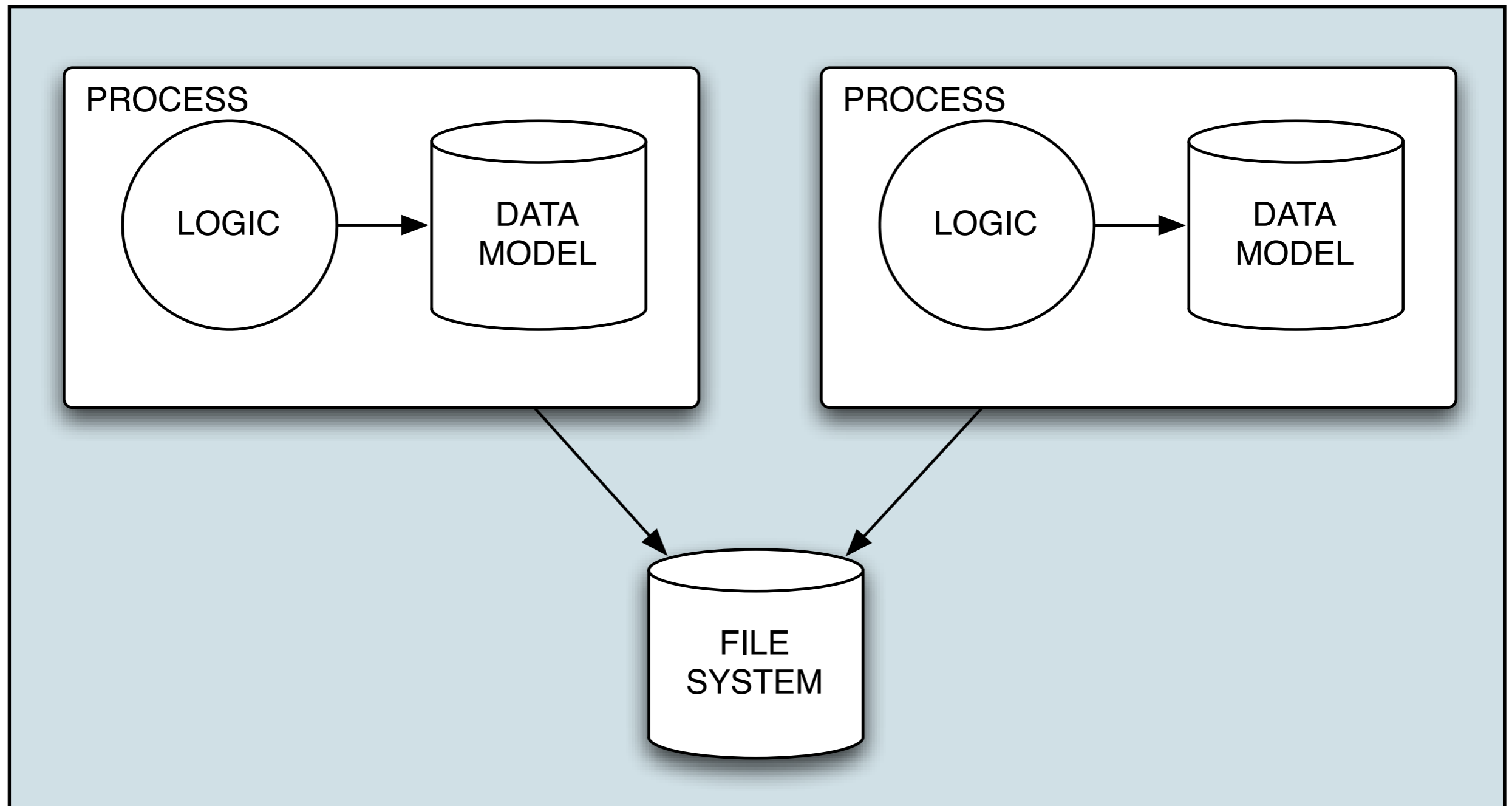
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Splash of Color Unlocked iPhone 5c
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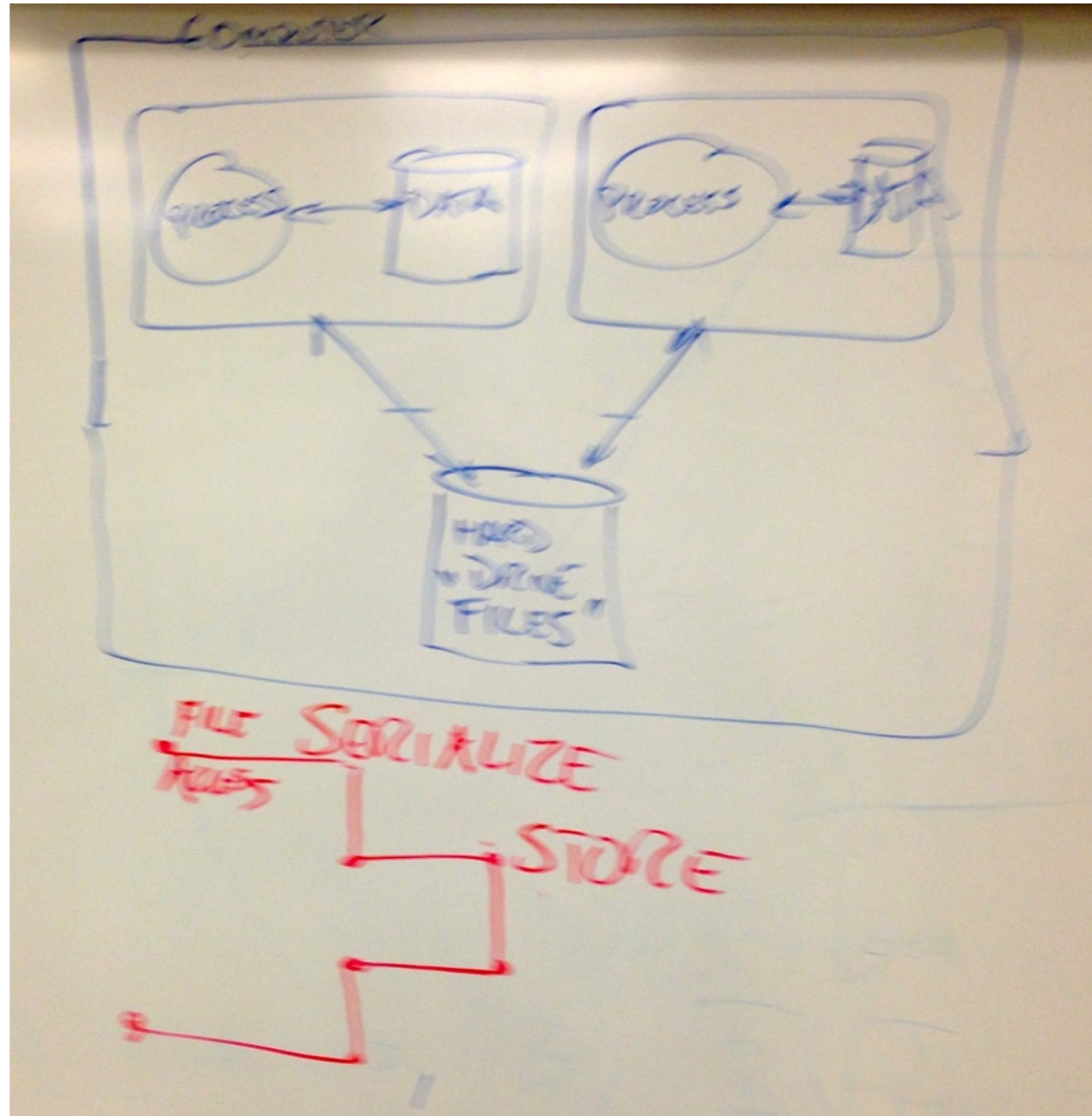
Best Sellers
Shoes : Women's Running
Updated hourly

- ASICS Women's GT-1000 Running Shoe ASICS
- ASICS Women's Gel-Nimbus 14 Running Shoe ASICS
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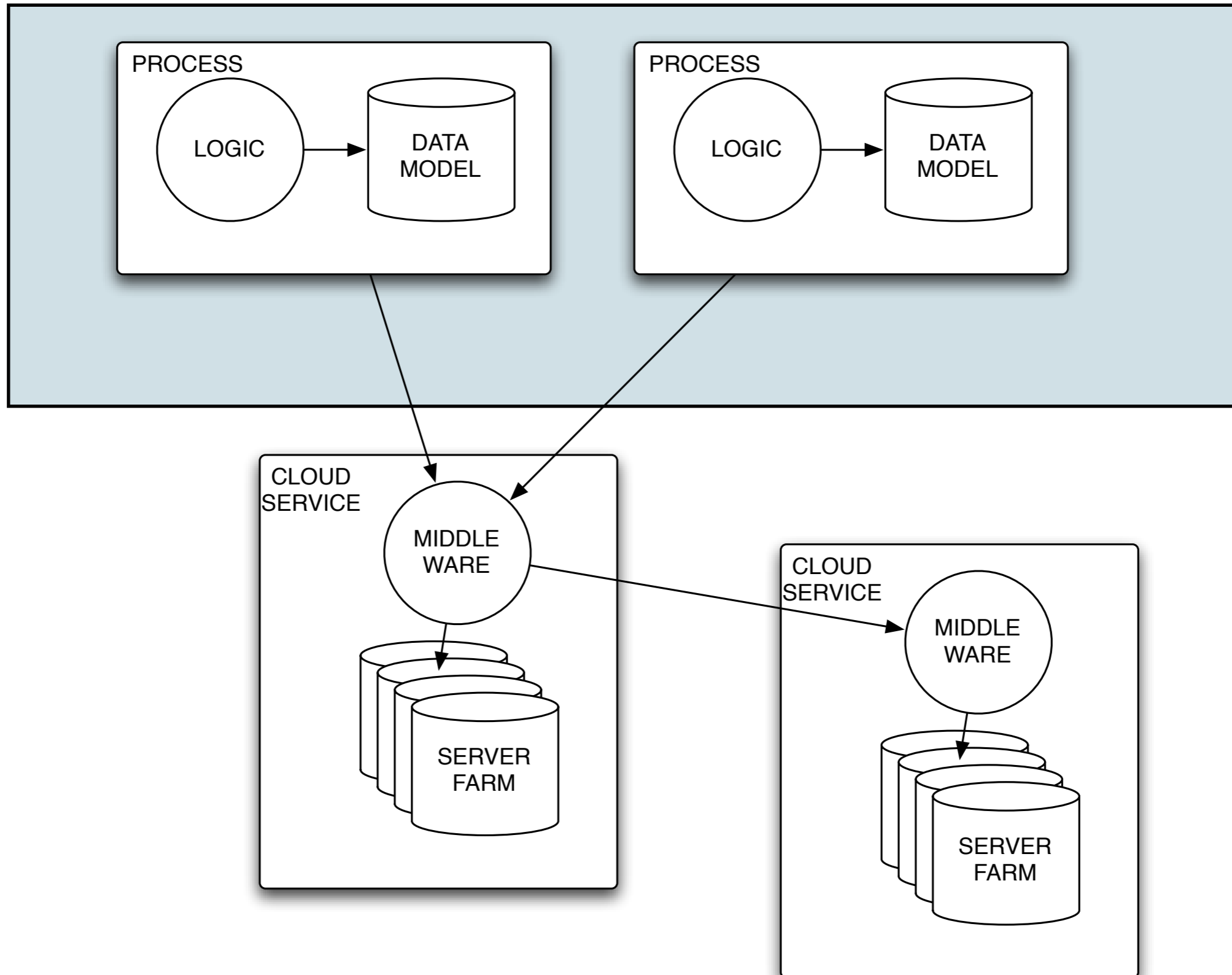
- Desktop/Laptop World

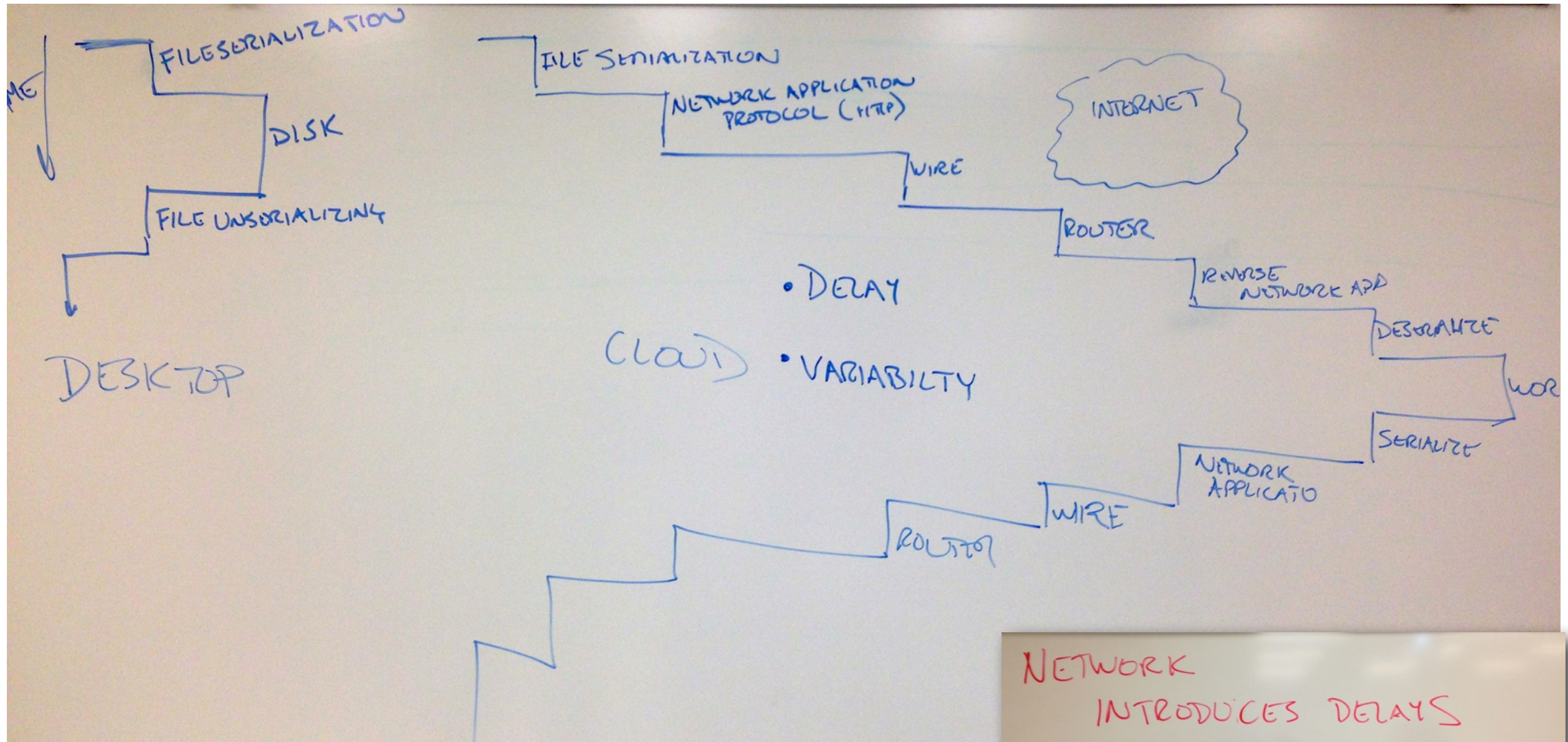


- Desktop World



- Cloud Computing World





NETWORK

INTRODUCES DELAYS
 ALWAYS WORSE THAN LOCAL
 ABSOLUTE DELAY
 DELAY IS VARIABLE

Building a **rich client** is harder than building a web page

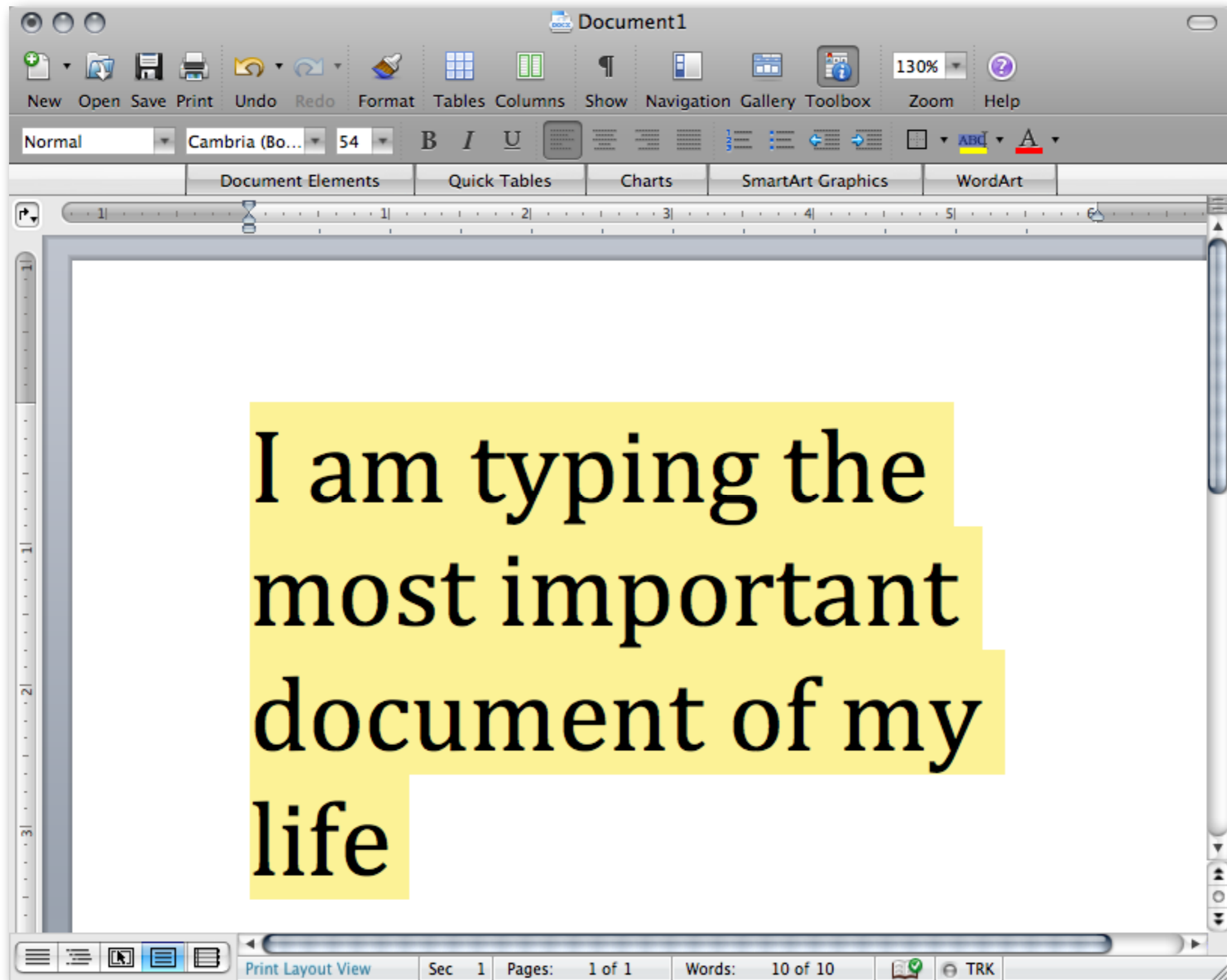
rich client

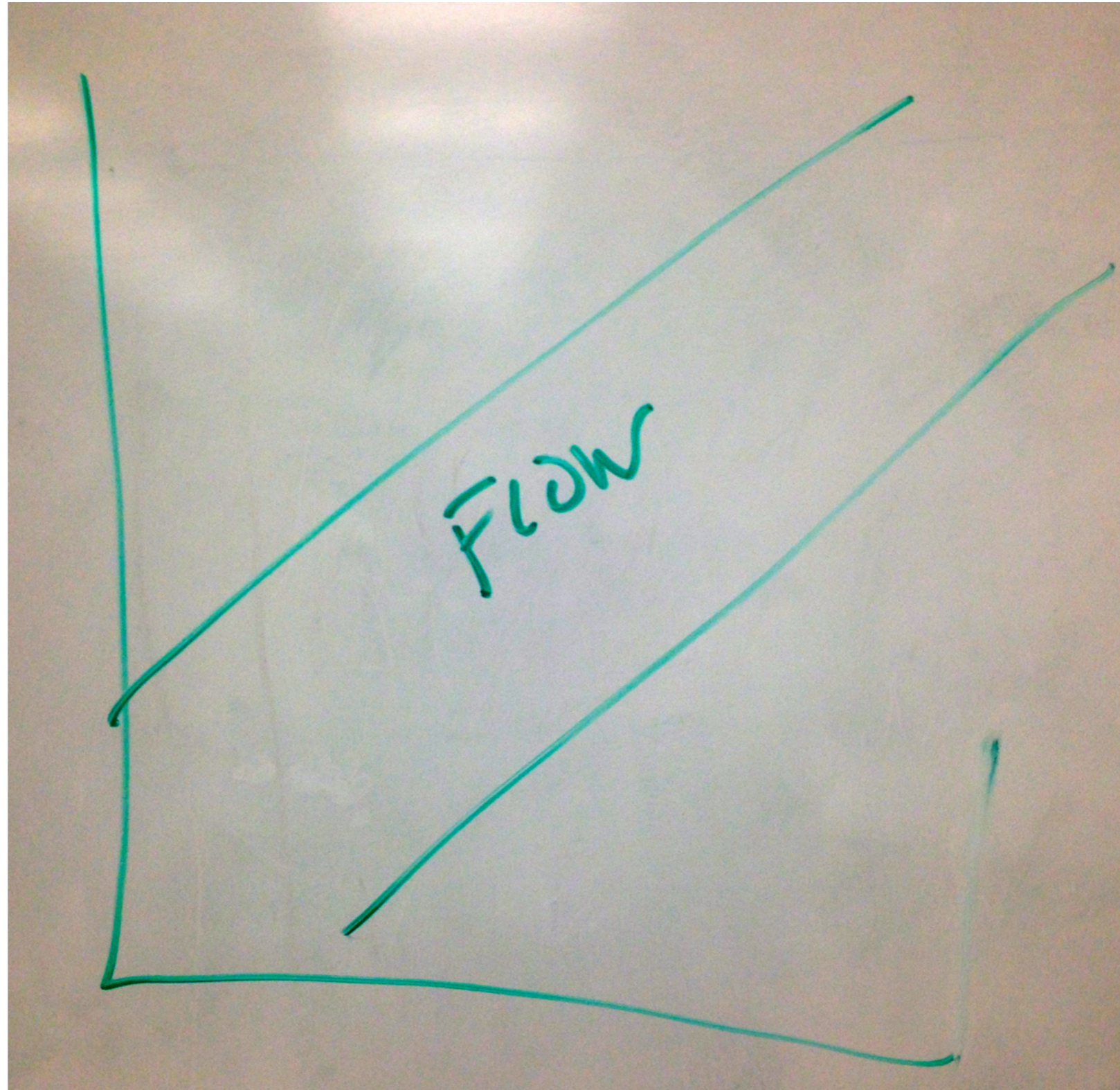
rich client

Why have so many non-rich web pages been successful?

What limits our ability to create rich web clients?

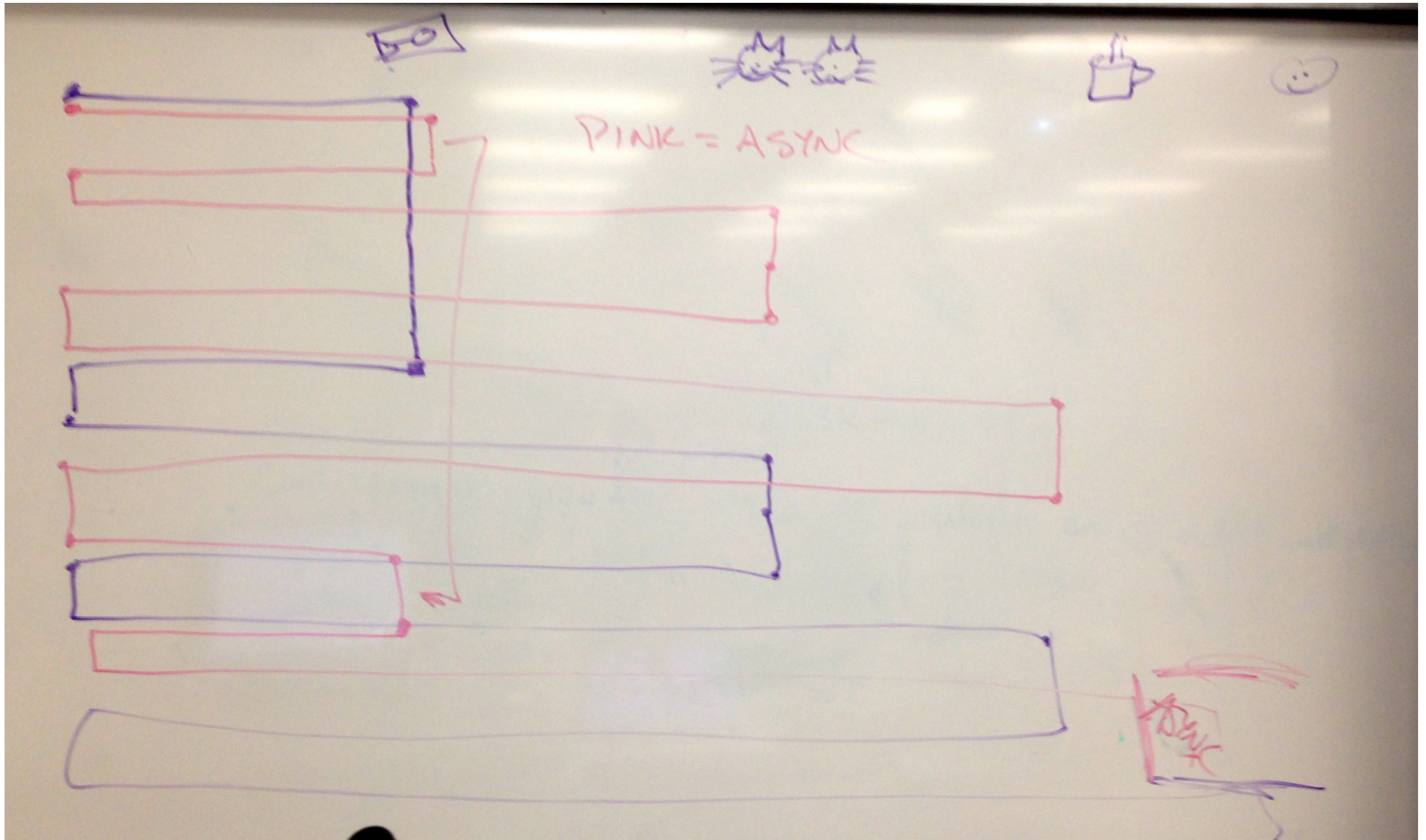
- Sovereign Application vs.
- Transient Application





What can we do to overcome network latency?

- Asynchronousness



What does this enable?

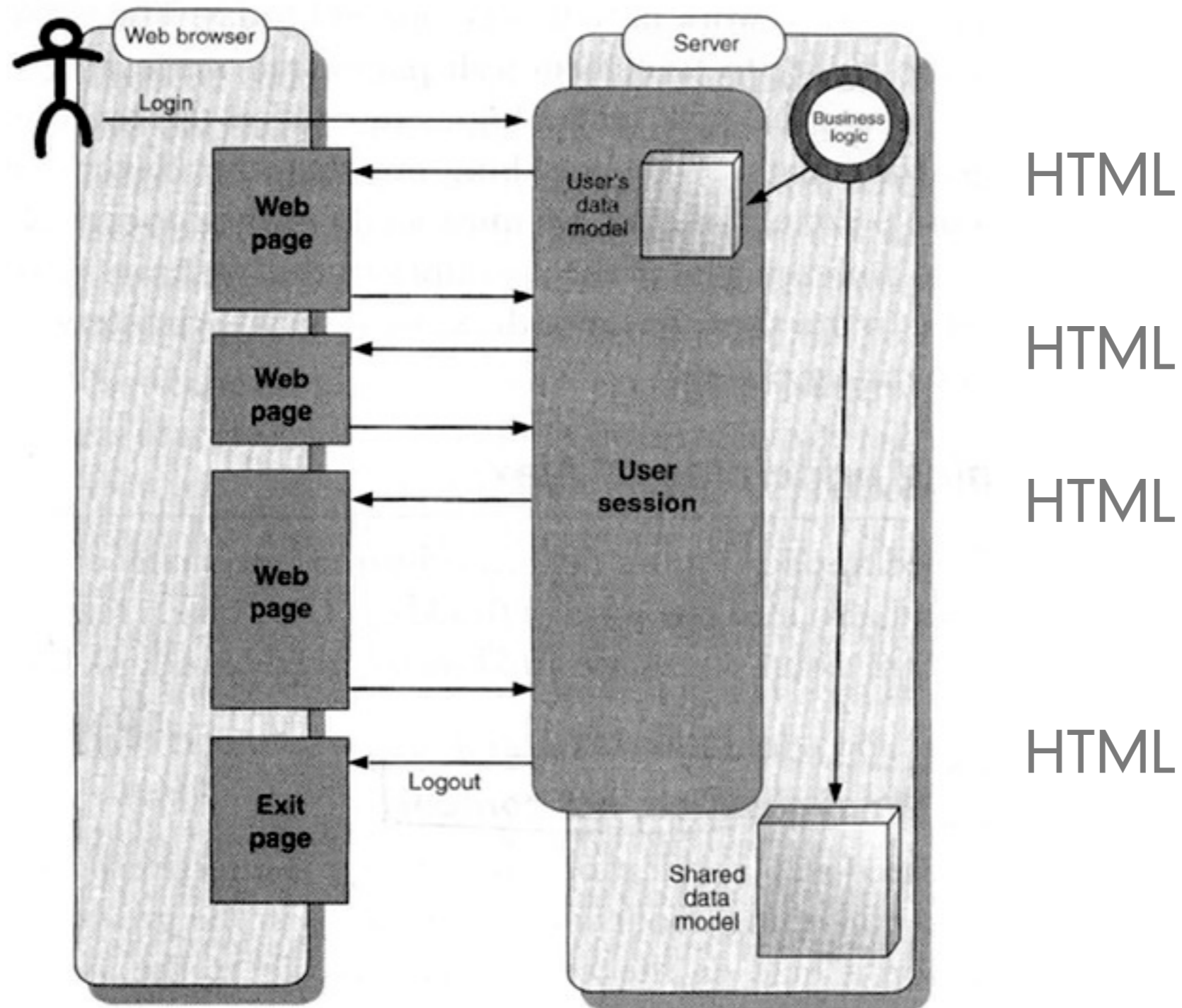
- Defining principles of AJAX

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

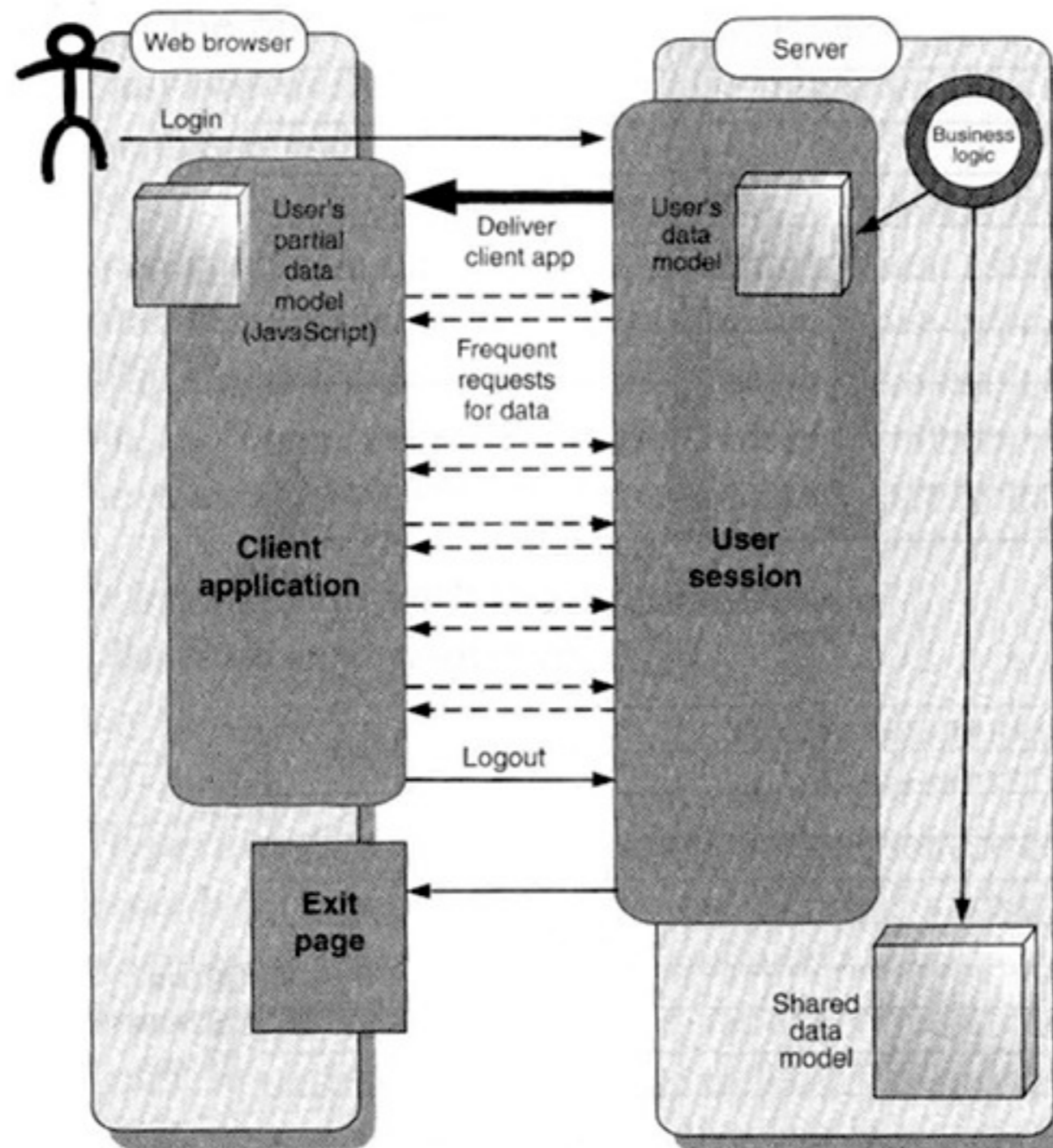
1. Browser hosts an application, not content

- Static/Dynamic Web model
 - every **page** is new content
- vs**
- Real-time Web model
 - download a program at first
 - new **data** replaces elements on one page
 - 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

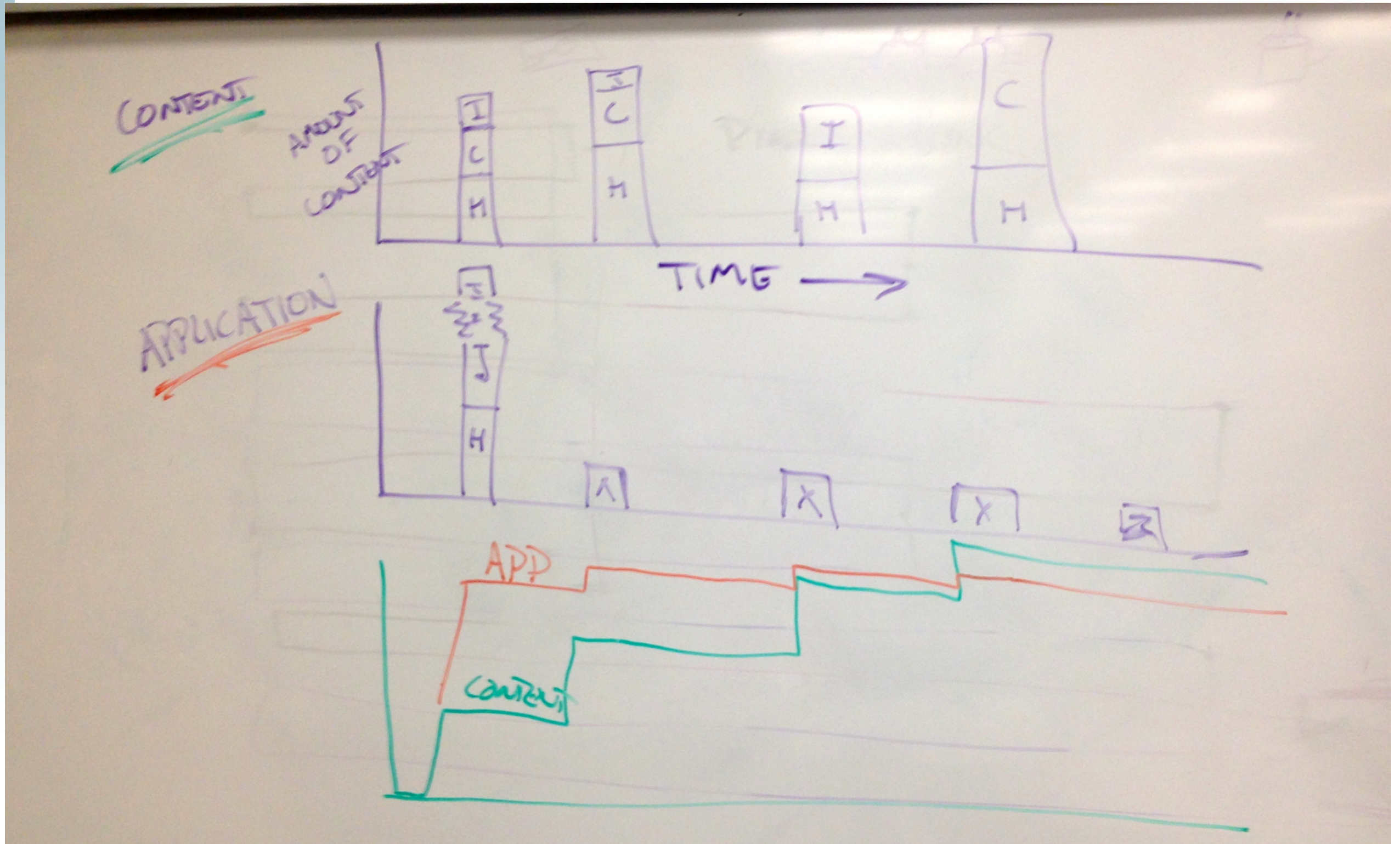
XML

XML

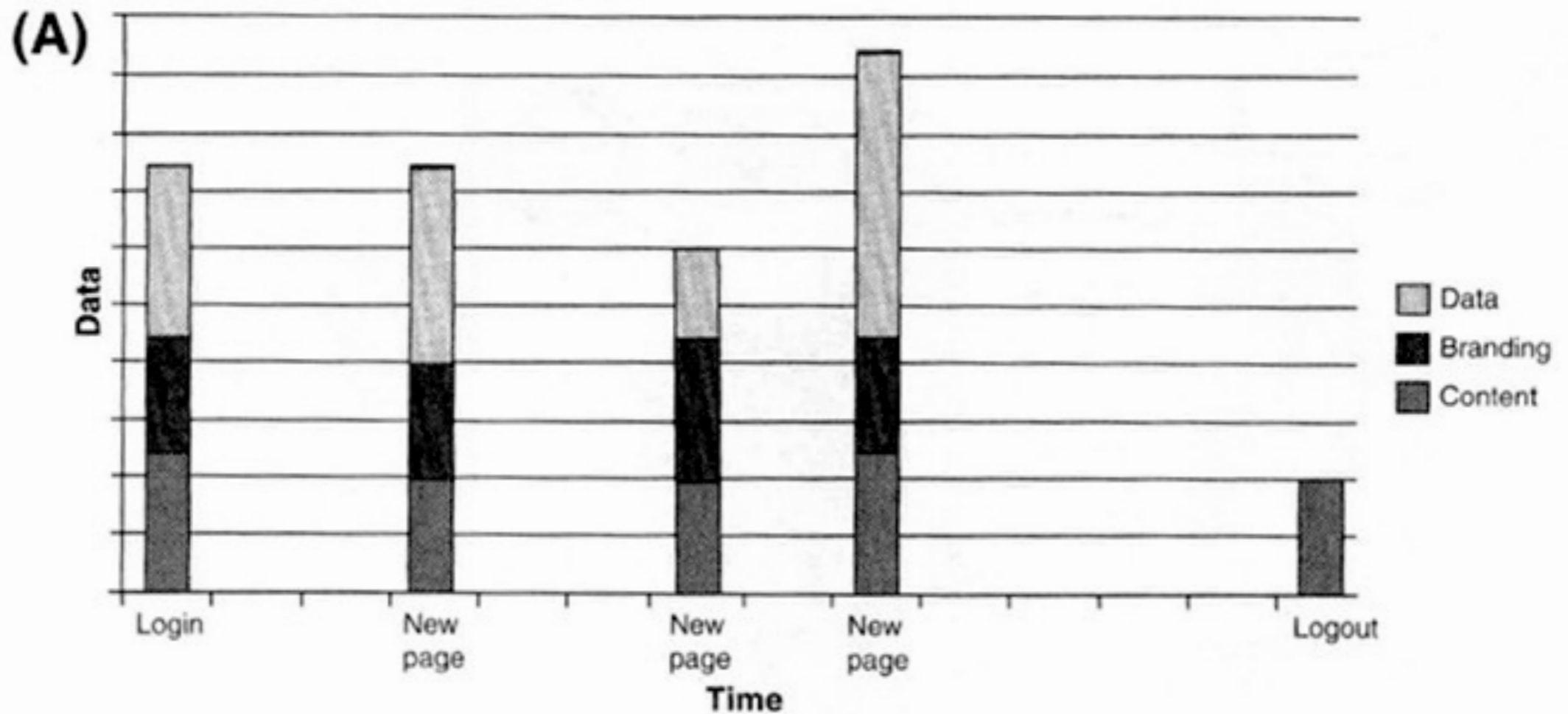
XML

HTML

2. Server delivers data not content

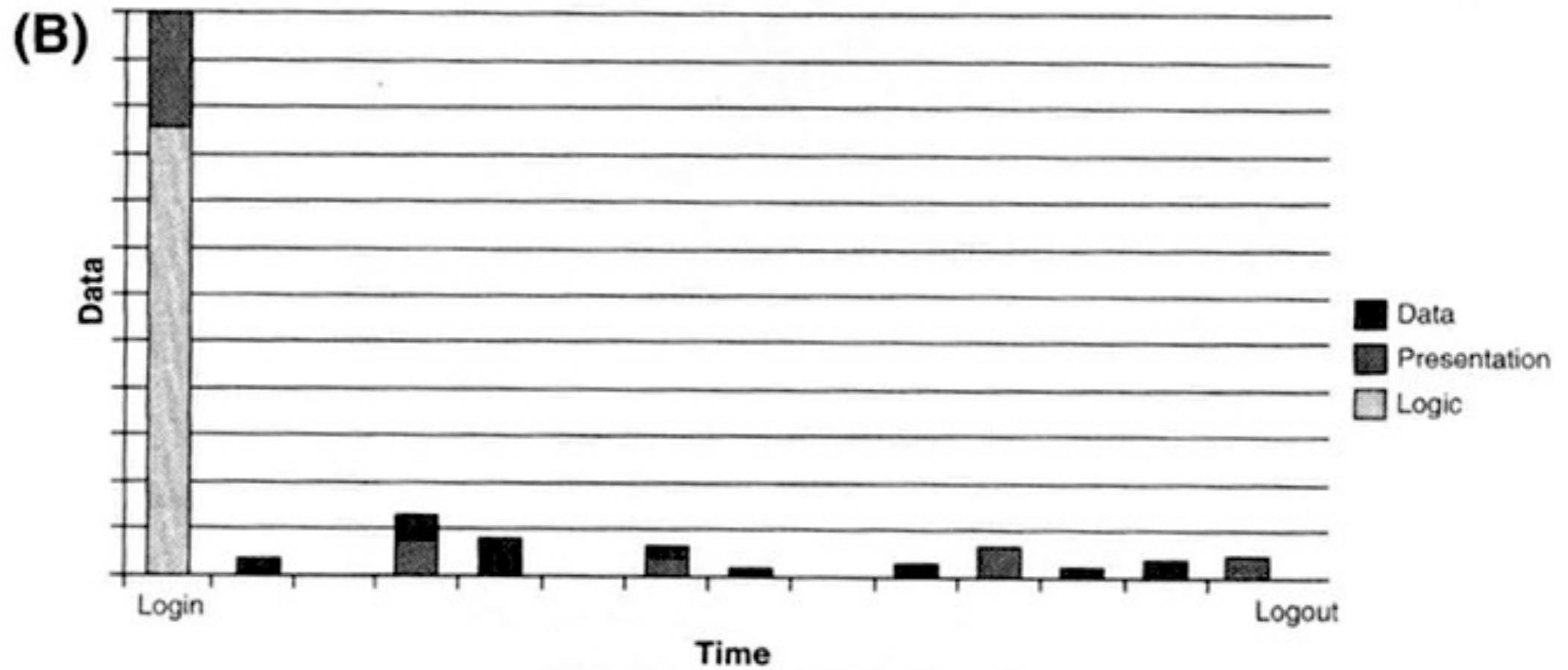


2.Server delivers data not content



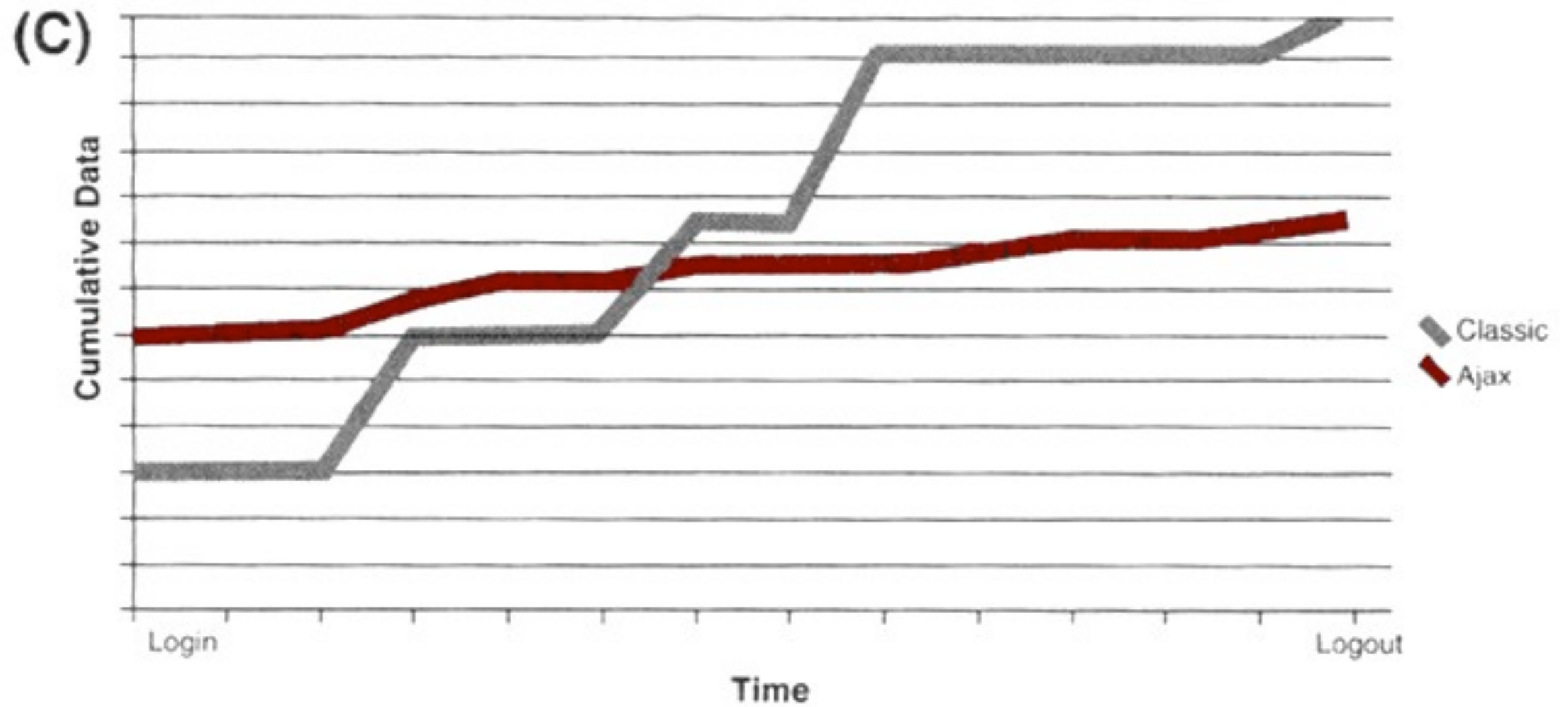
Web 1.0

2.Server delivers data not content



Web 2.0

2.Server delivers data not content



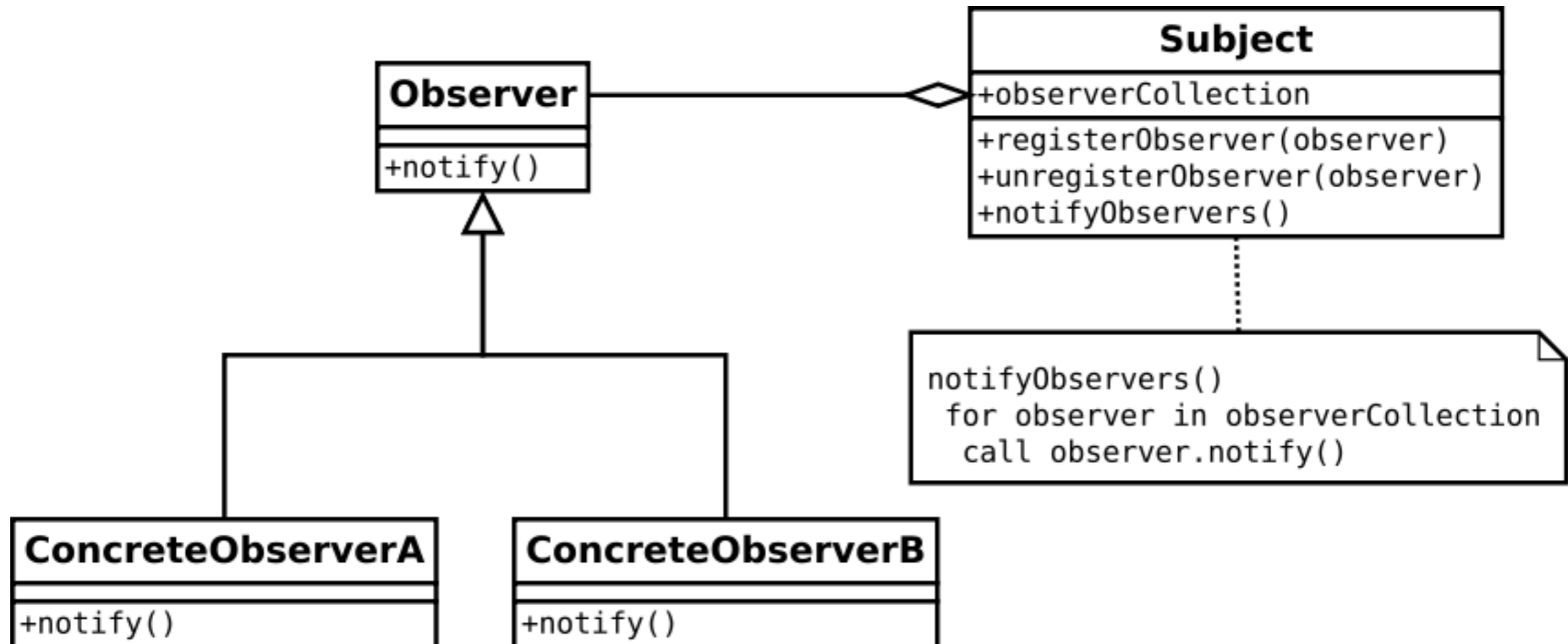
3. User interaction with the application can be fluid and continuous

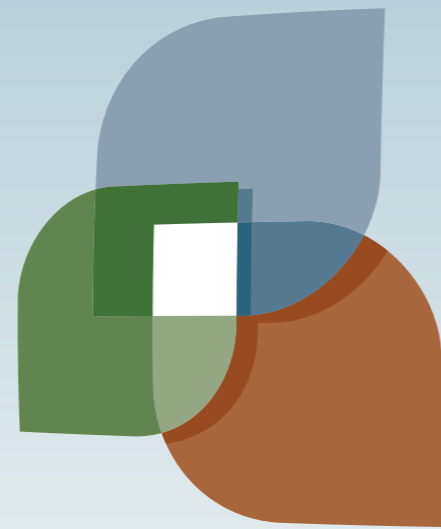
- Typically when a page is submitting data, the user is in limbo
 - Use the shopping cart example
 - Google Suggest
- Sovereign versus Transient Applications

4.This is real coding

- jQuery (<http://jquery.com>)
- Angularjs (<http://angularjs.org/>)
- Backbonejs (<http://backbonejs.org/>)
- emberjs (<http://emberjs.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/>)

- Observer Pattern





L U C I

