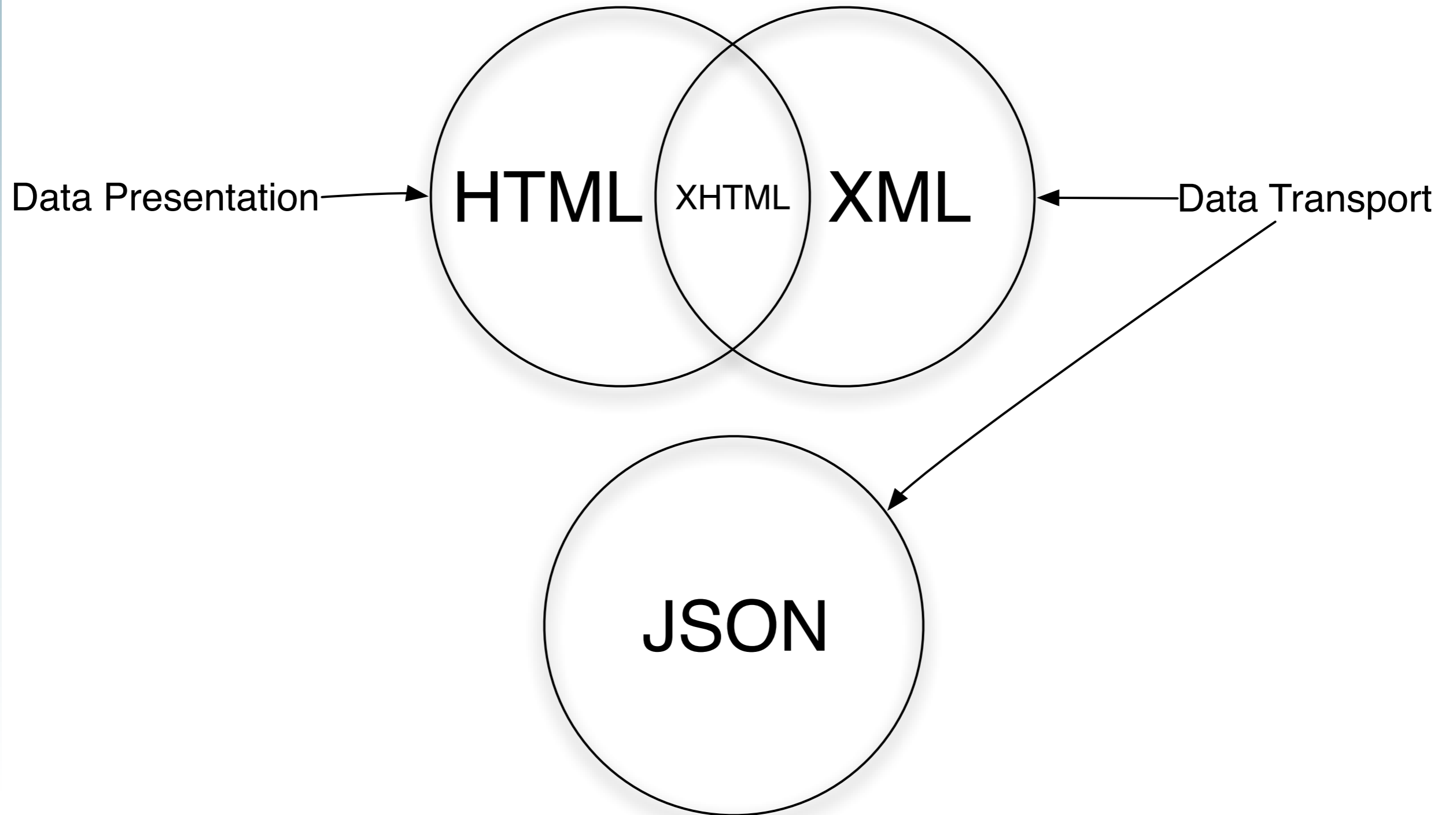


# User Interaction: AJAX Basics

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INF 133 Fall 2013



# 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

- 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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**More Items to Consider**

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★★★★☆ (236)  
\$59.00 \$38.00

  
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\$40.13

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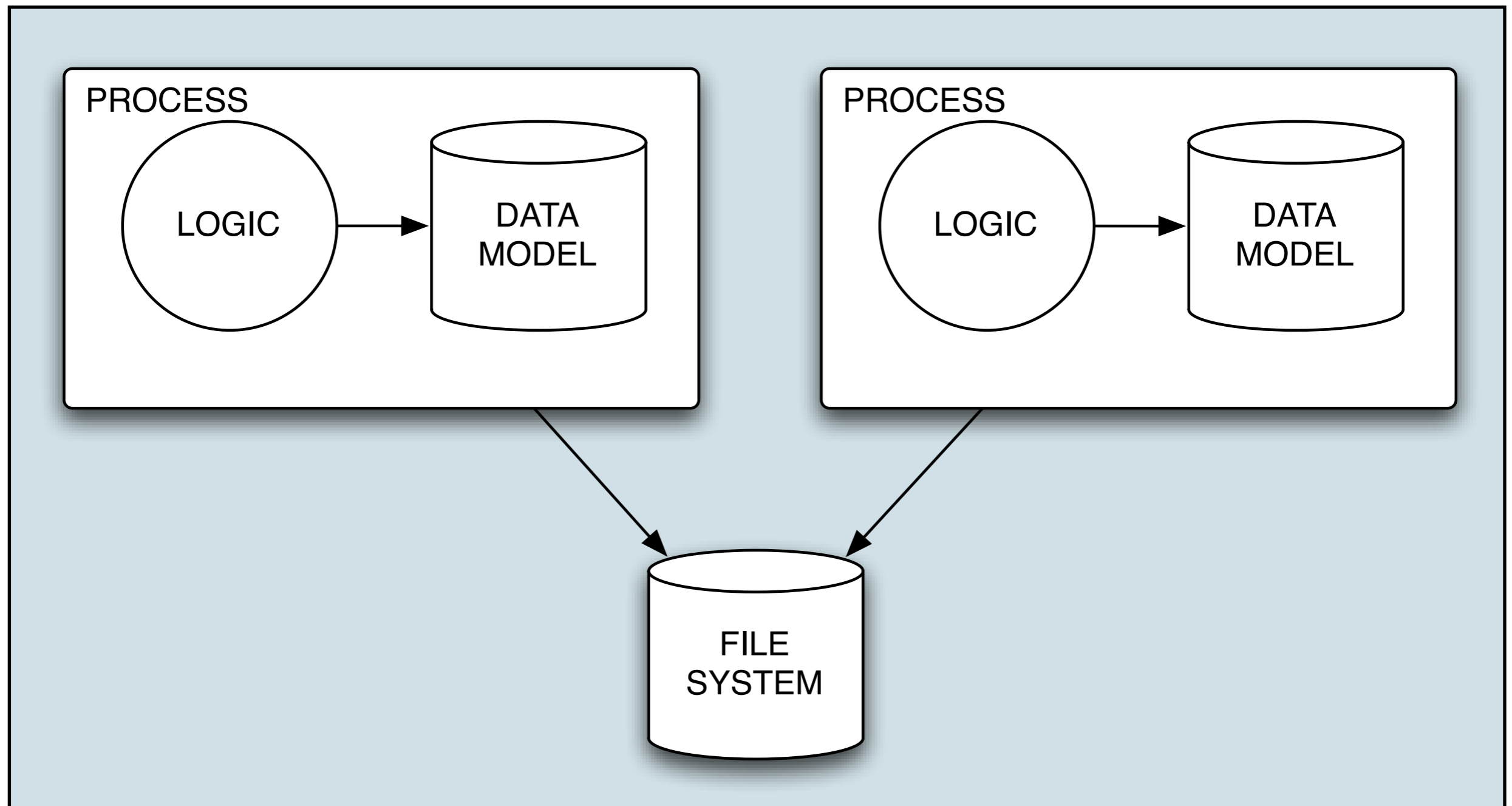
1. ASICS Women's GT-1000 Running Shoe  
ASICS
2. ASICS Women's Gel-Nimbus 14 Running Shoe  
ASICS
3. ASICS Women's GEL-Noosa Tri 8 Running Shoe  
ASICS

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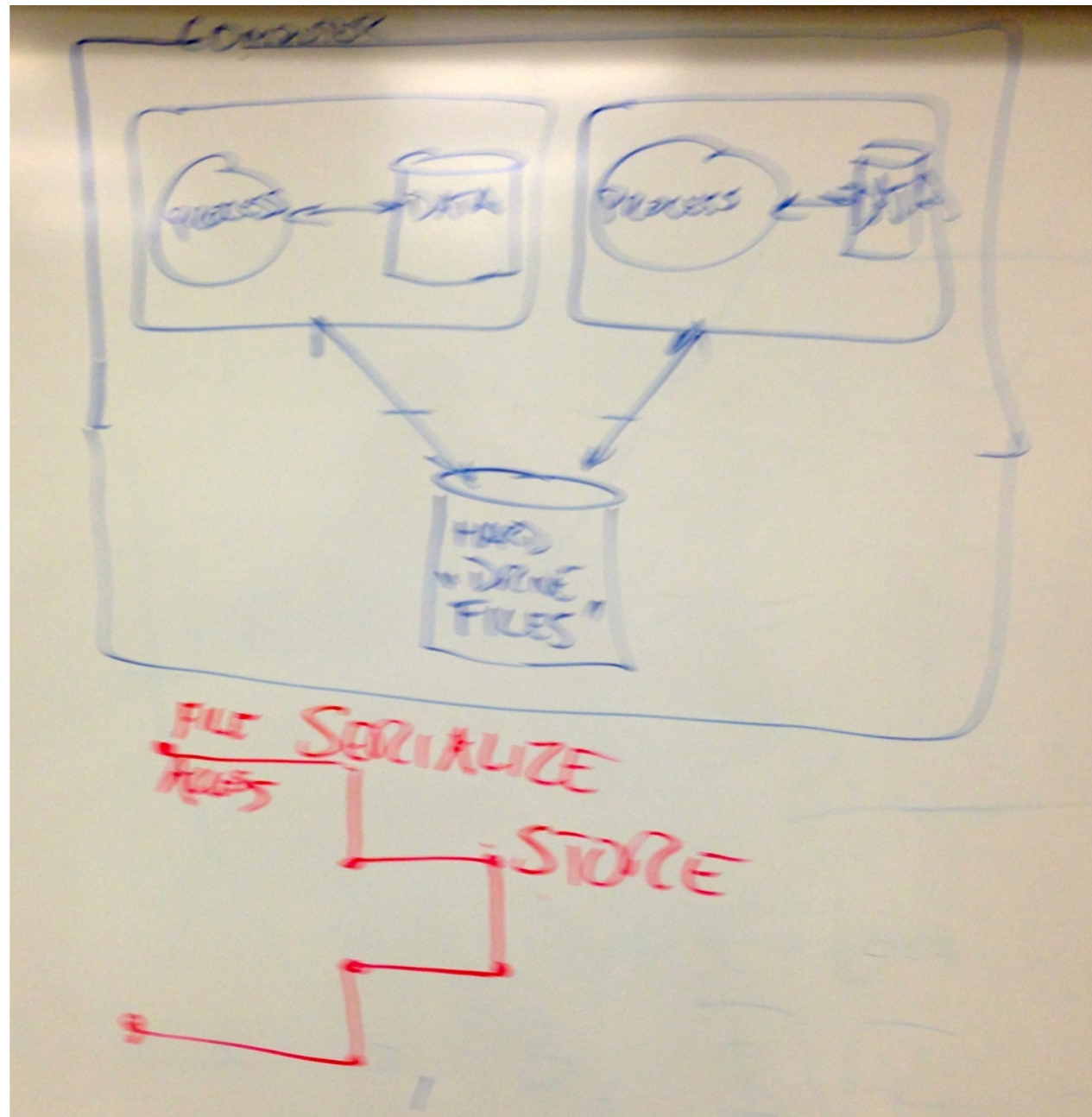
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- Desktop/Laptop World

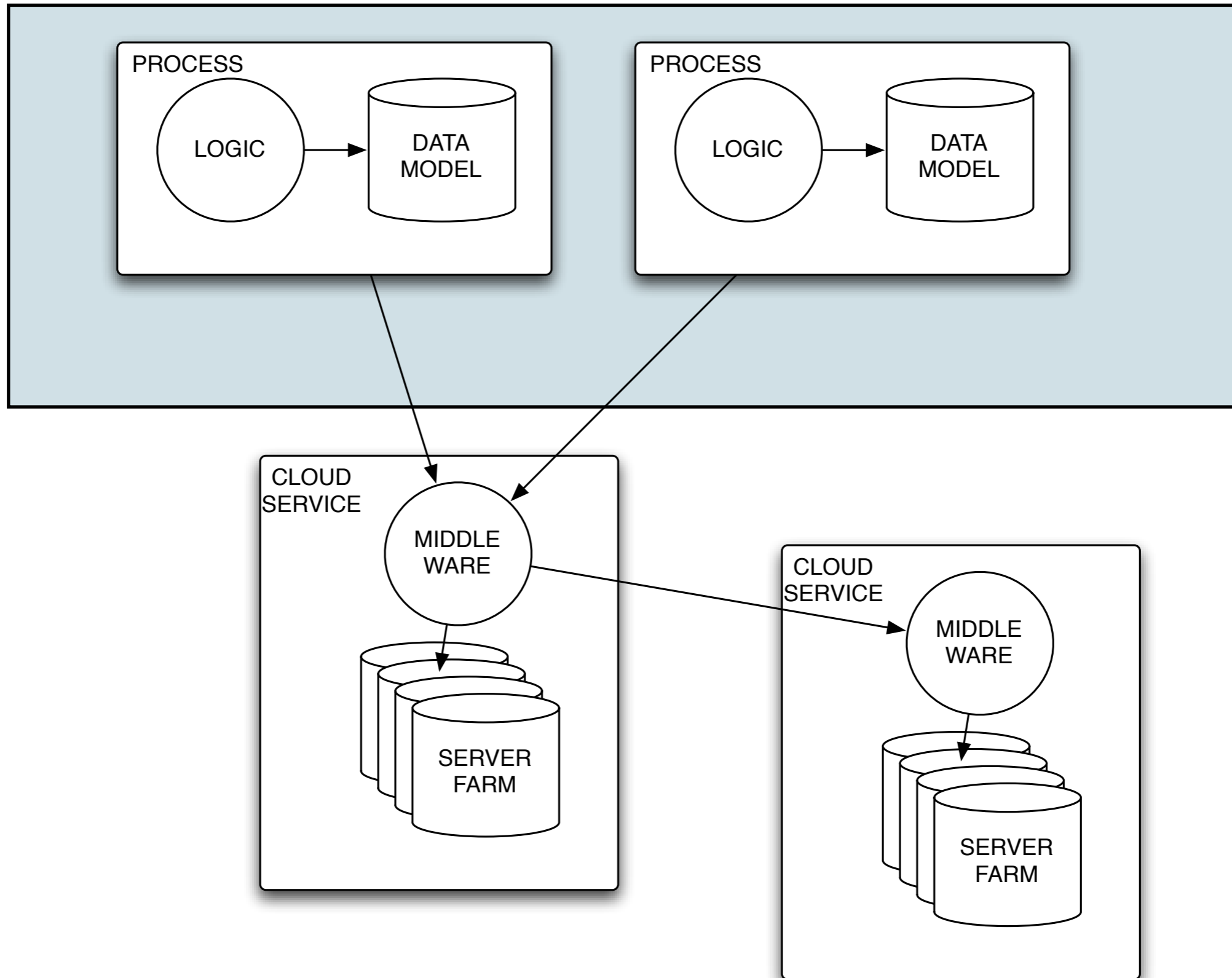


- Desktop World





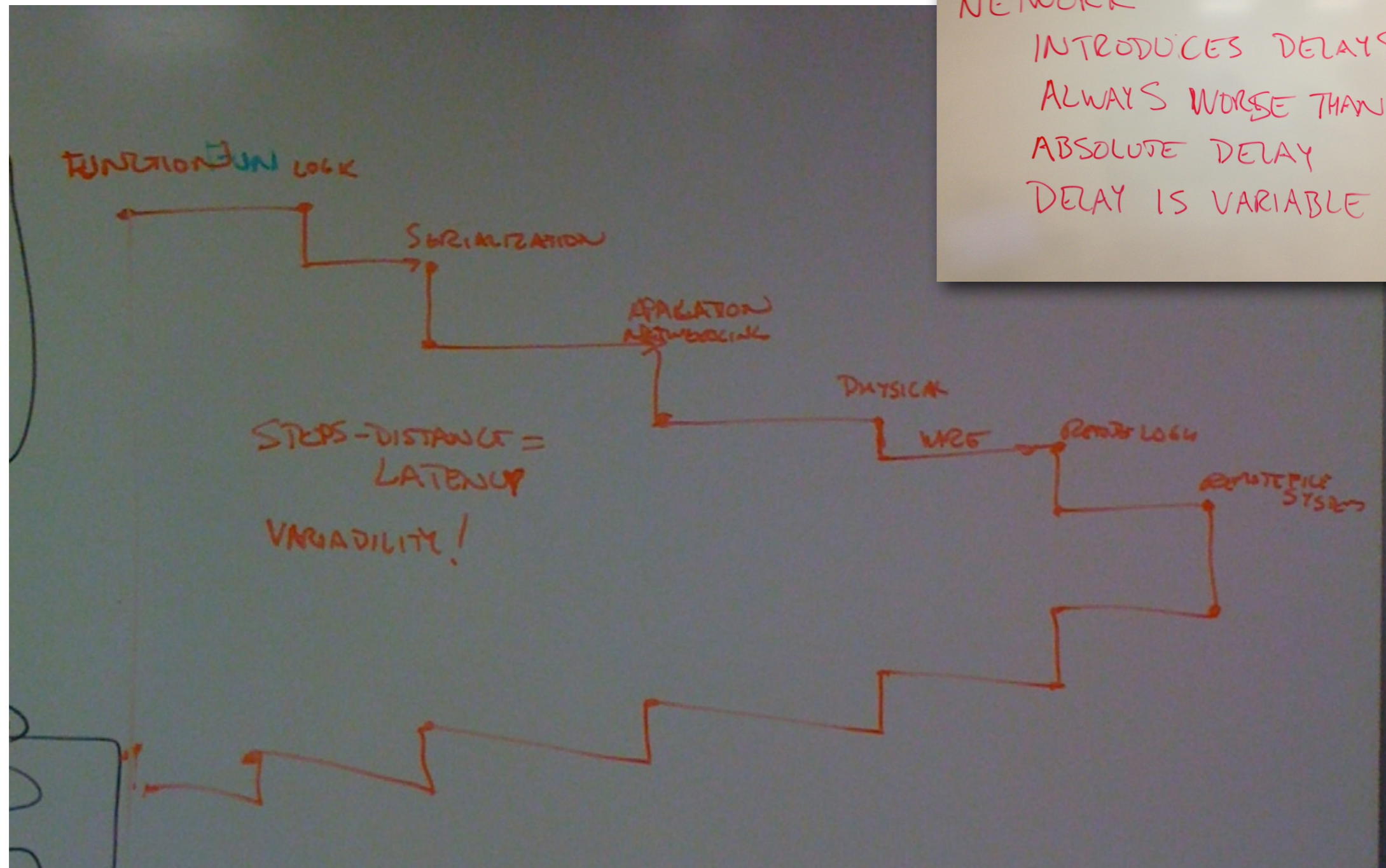
• Cloud Computing World



- Cloud Computing World



- Network induces variable delays, always worse than local



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

rich client

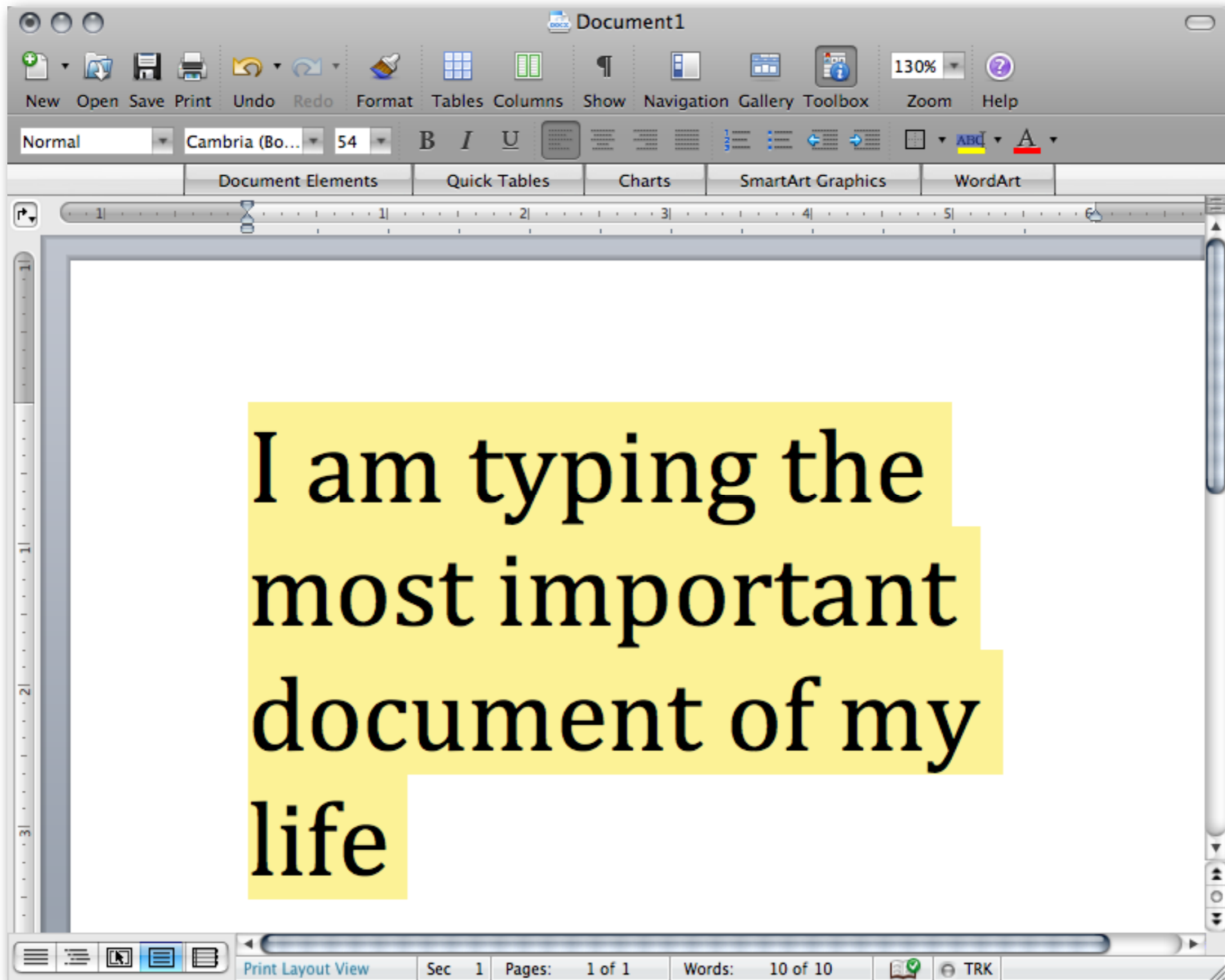
rich client

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

What limits our ability to create rich web clients?

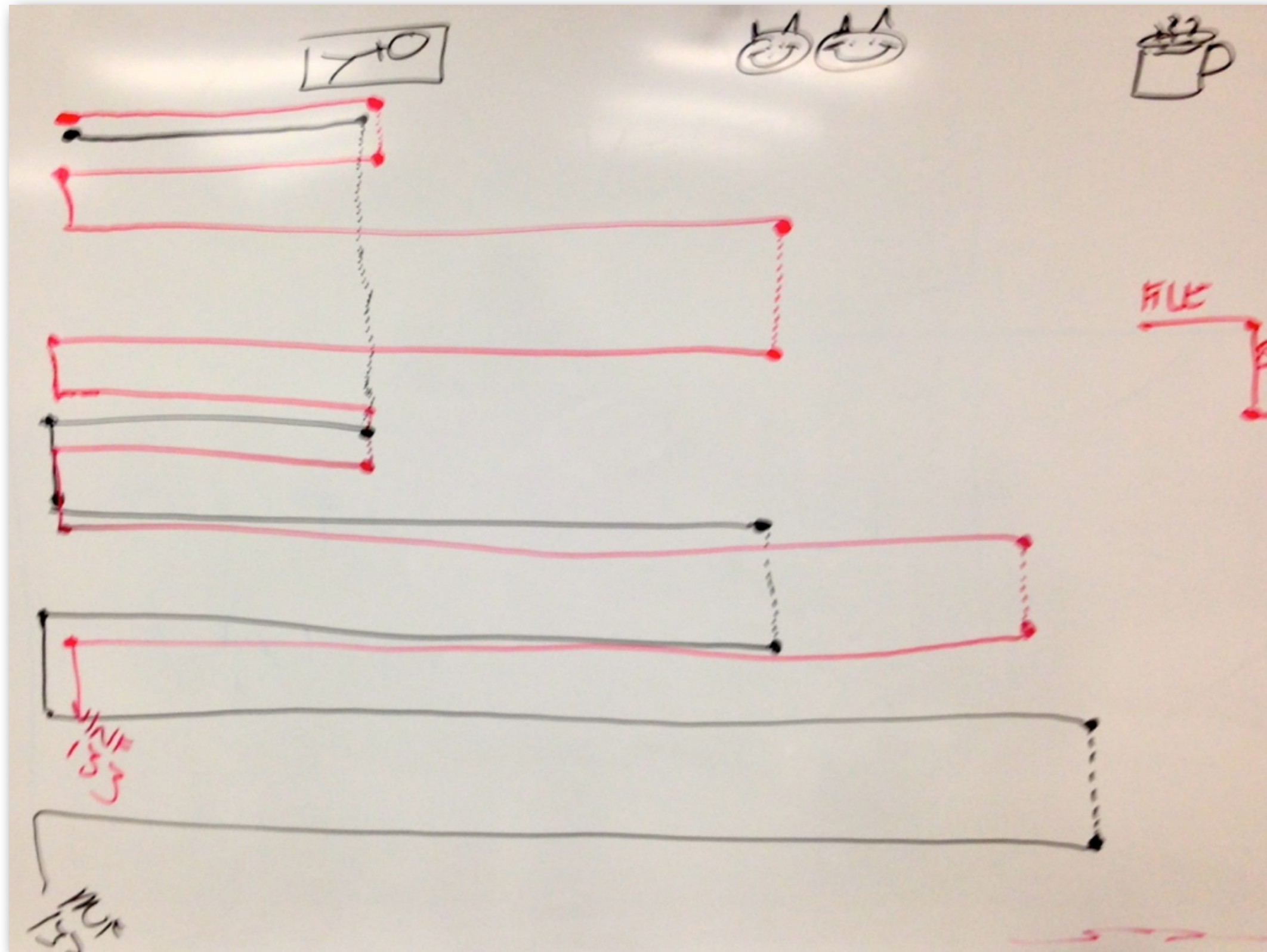


- Sovereign Application vs.
- Transient Application



What can we do to overcome network latency?

- Asynchronousness



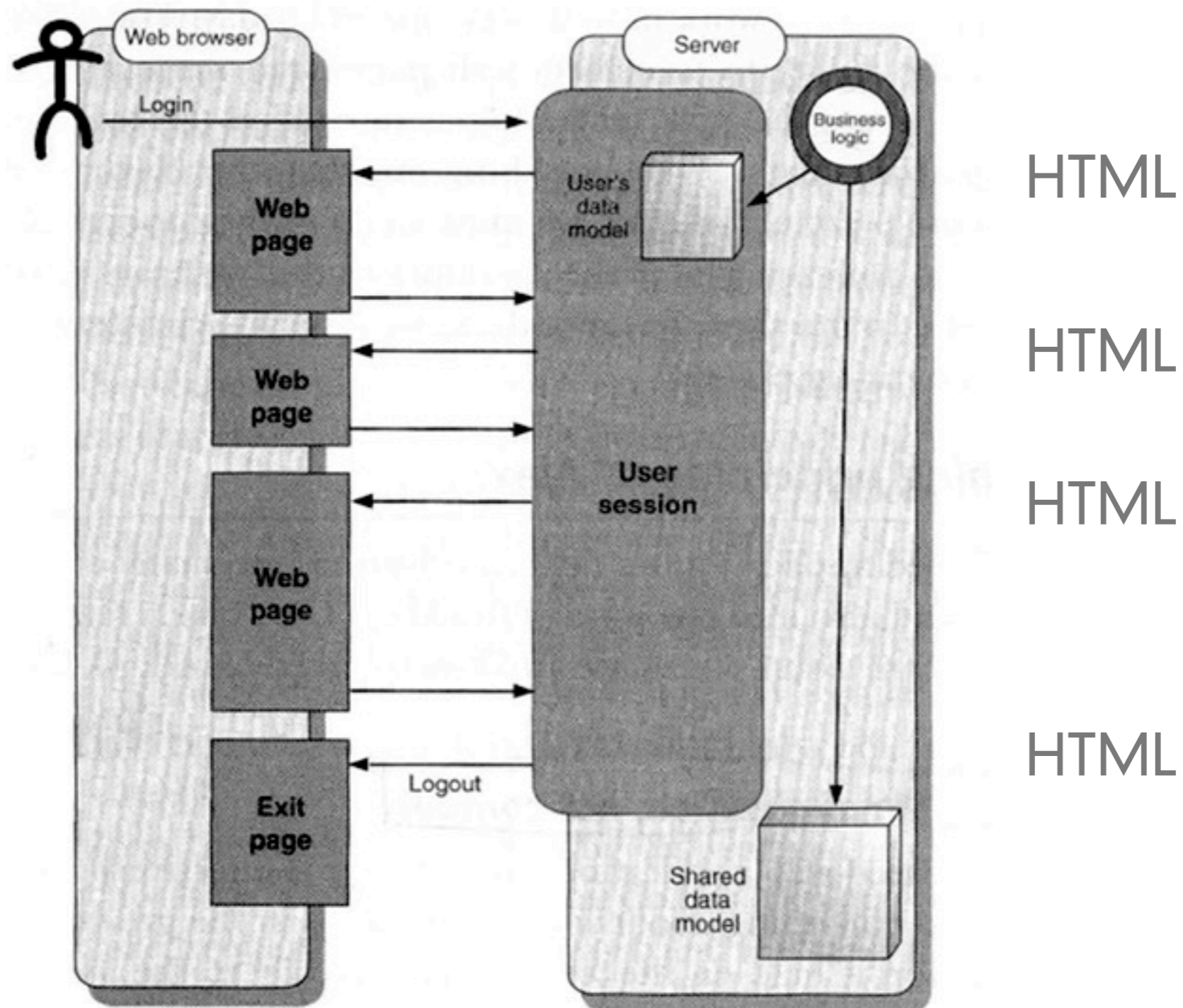
What does this enable?

- 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 Web model
    - every page is new content
  - vs**
  - Real-time Web 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

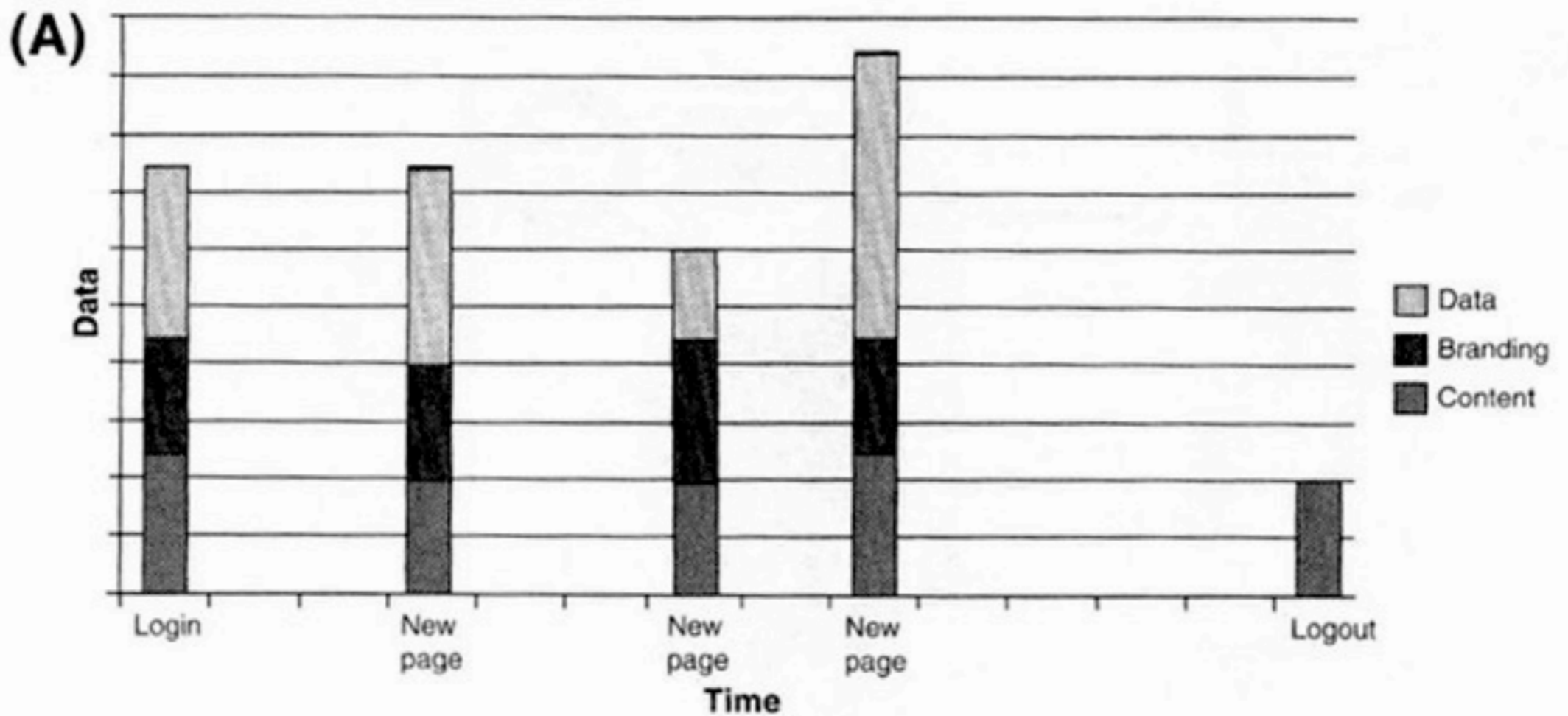
# 1. Browser hosts an application, not content





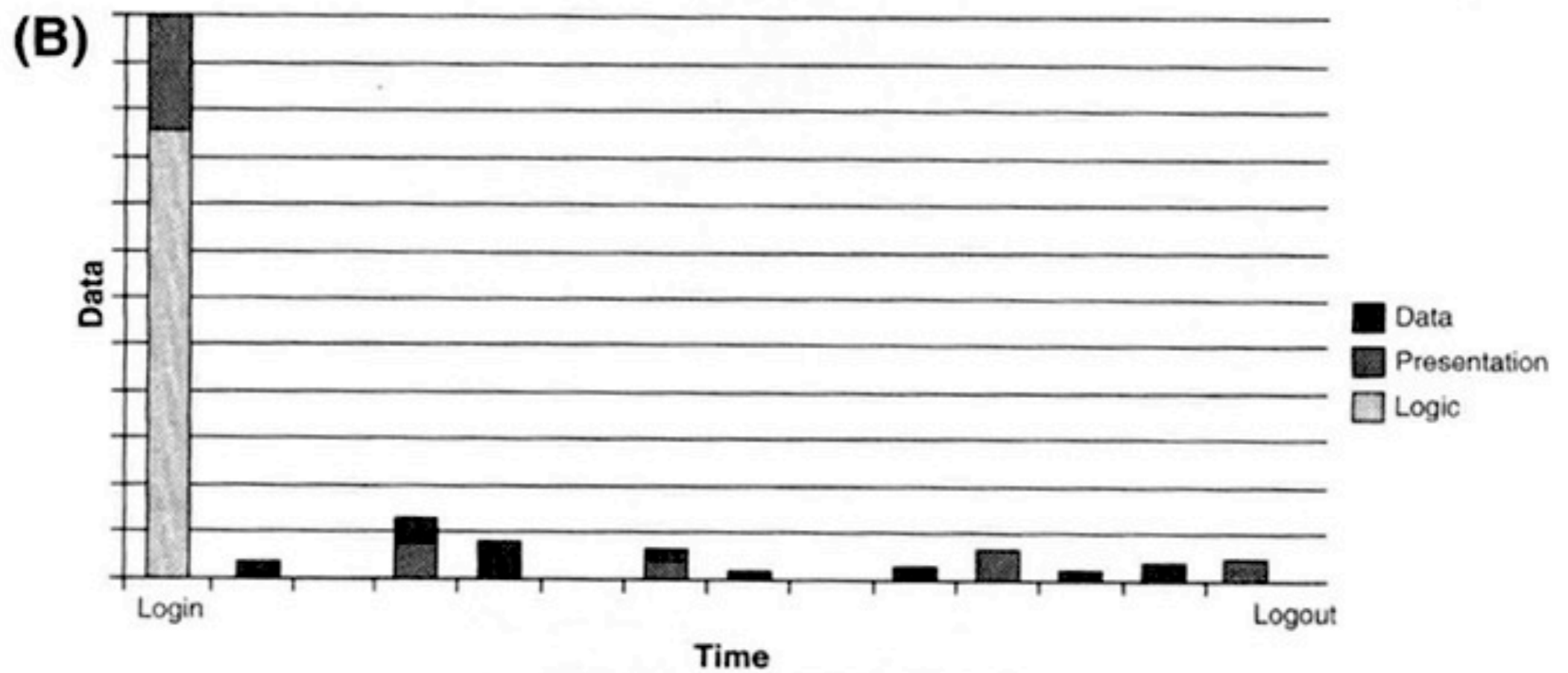


## 2. Server delivers data not content



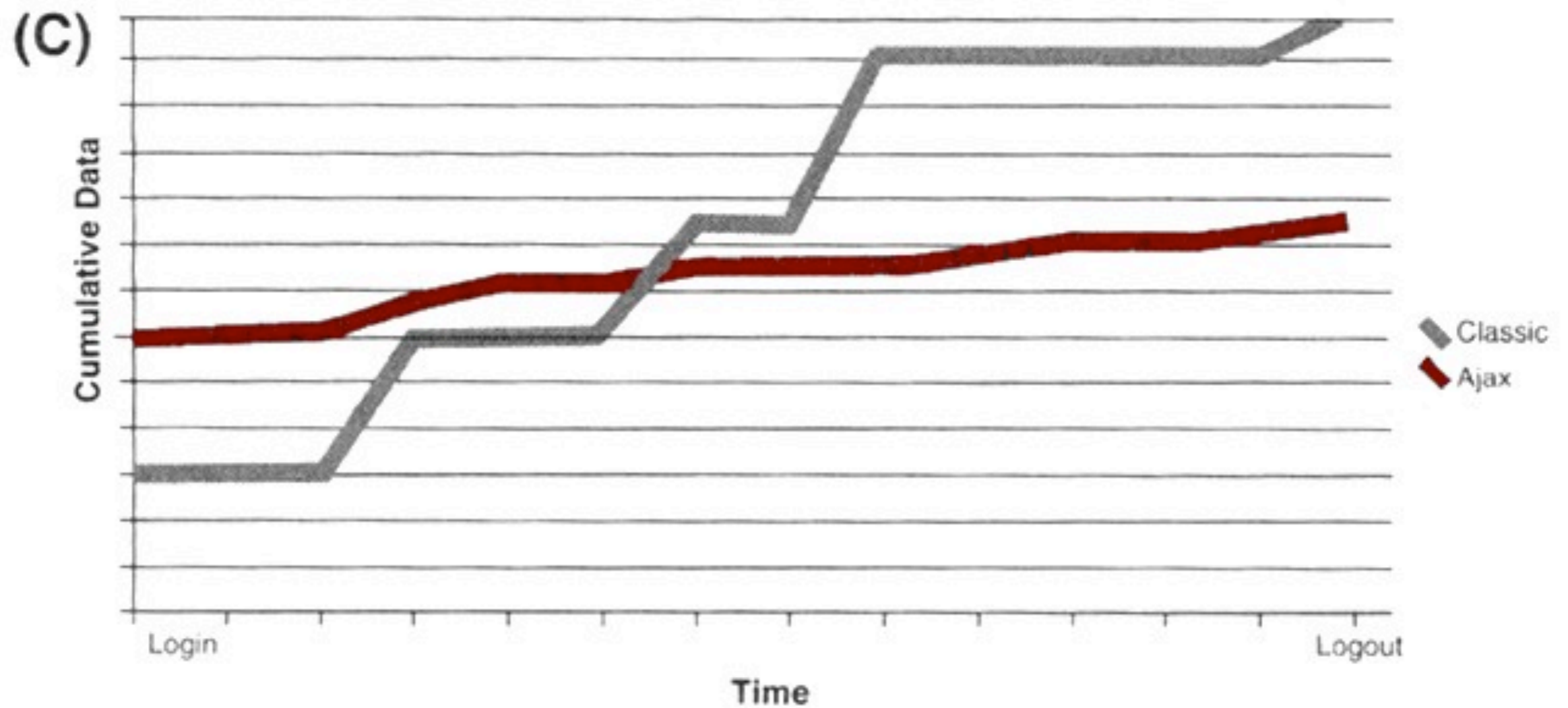
Web 1.0

## 2. Server delivers data not content



Web 2.0

## 2. Server delivers data not content

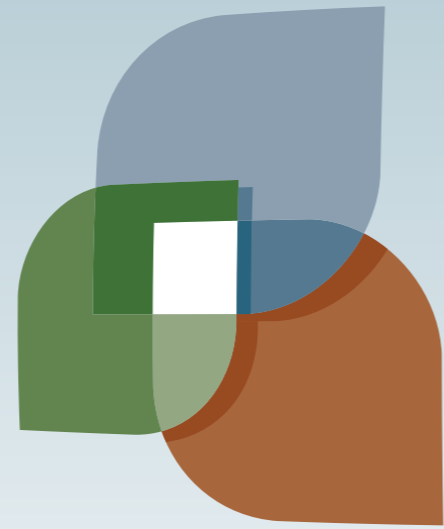


3. User interaction with the application can be fluid and continuous
  - Typically when a page is submitting data, the user is in limbo
    - Use the shopping cart example
    - Google Suggest
  - Sovereign versus Transient Applications

## 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/>)

- Some good resources
- [http://www.ibm.com/developerworks/views/xml/libraryview.jsp?search\\_by=XML+processing+in+Ajax](http://www.ibm.com/developerworks/views/xml/libraryview.jsp?search_by=XML+processing+in+Ajax)



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