

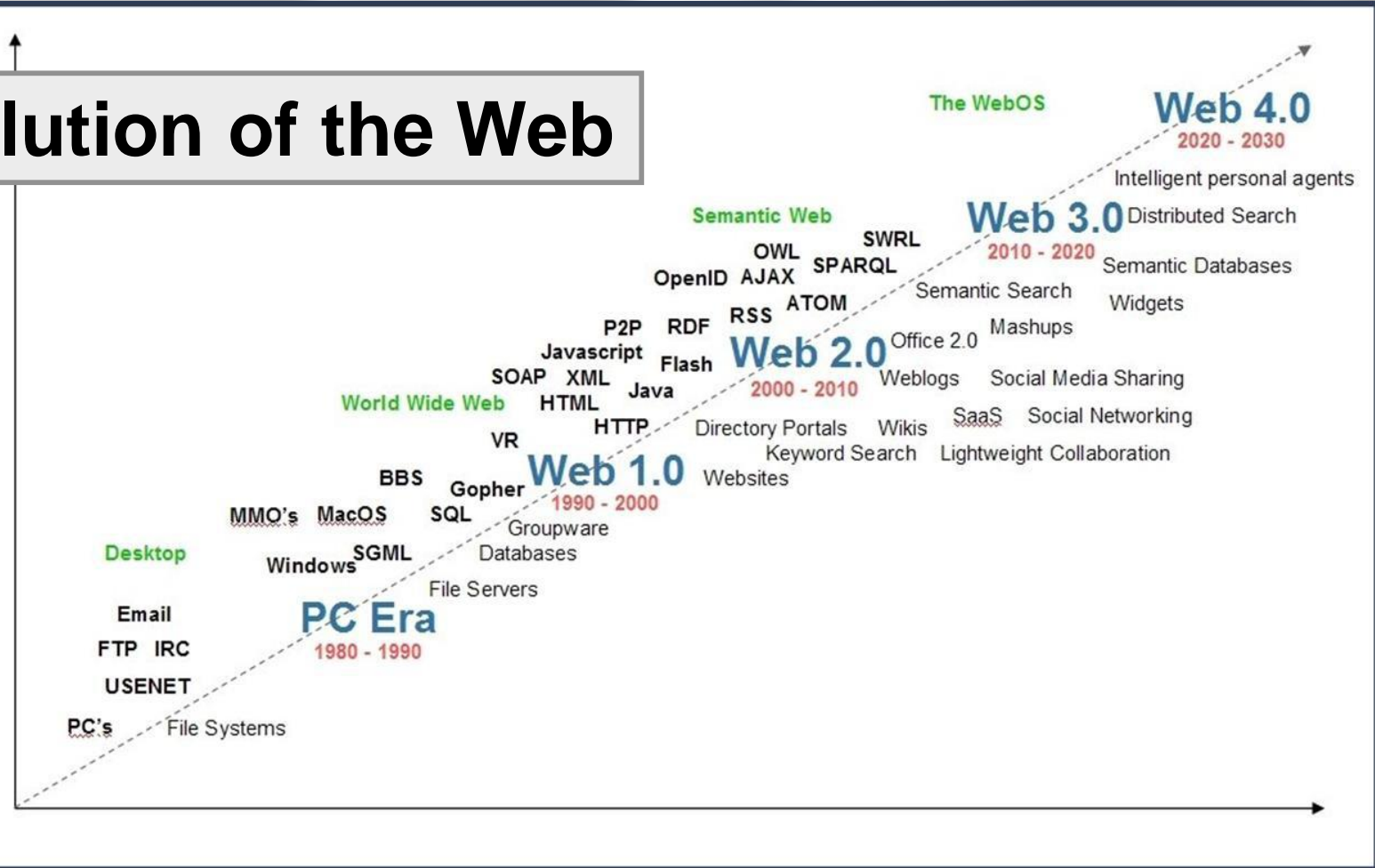
COMS 465

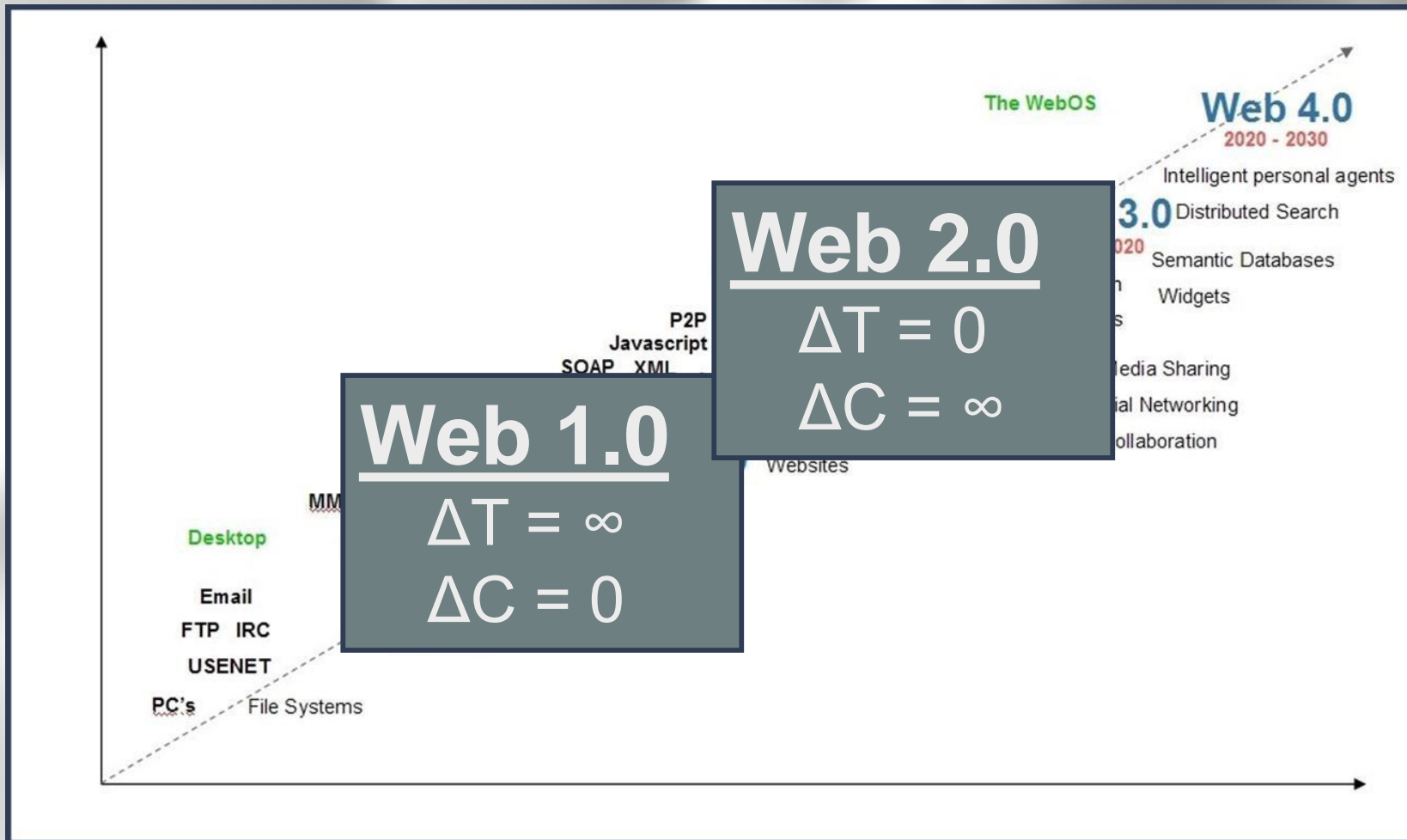
Computer Mediated Communication

Plan

- Review
- Broadband Technology & Policy
- Preview

Evolution of the Web





Web 1.0

$$\Delta T = \infty$$

$$\Delta C = 0$$

Web 1.0

World Wide Web

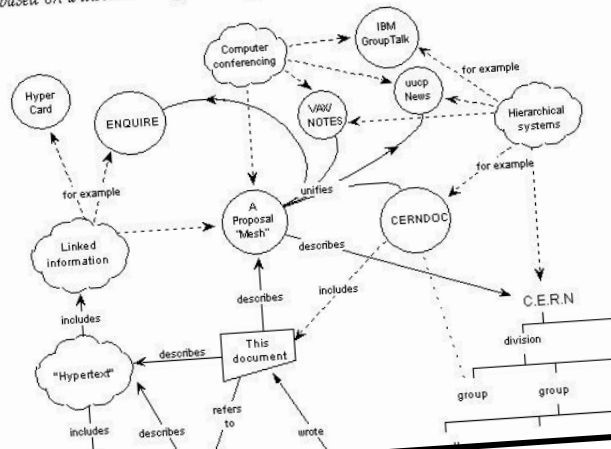
Proposed by Tim Berners-Lee in 1989 as a system for organizing documents for physicists

Operational in 1991; released to Internet

Development overseen by the World Wide Web Consortium (W3C) - 1994

proposal

This proposal concerns the management of general information about accelerators and experiments at CERN. It discusses the problems of loss of information about complex evolving systems and derives a solution based on a distributed hypertext system.



Web 1.0

```
Notepad++ - C:\1-DavidStuff\niu-classes\coms469\spring2004\studentprojects\matt_larowe2010\larowe_proj1\frames...
File Edit Search View Format Language Settings Macro Run Plugins ?
frames.html
1 <html>
2 <head>
3   <title>Hypertext Markup Language</title>
4 </head>
5
6 <body>
7 <p>Hypertext Markup Language is a language used for creating web content. It is based on a set of
  tags, like <b>for bold</b> that are used to format text in a browser.</p>
8
9 <p align="right">Tags can also include attributes to change their appearance. This paragraph uses the
  align attribute to justify text to the right.</p>
10
11 <p style="background-color:#0a12b4">Cascading Style Sheets (CSS) is a W3C standard for describing the
  formatting information for HTML elements. This paragraph uses the style attribute to apply a background color and margin
  to the text.</p>
12
13 </body>
14 </html>
```

Content Development

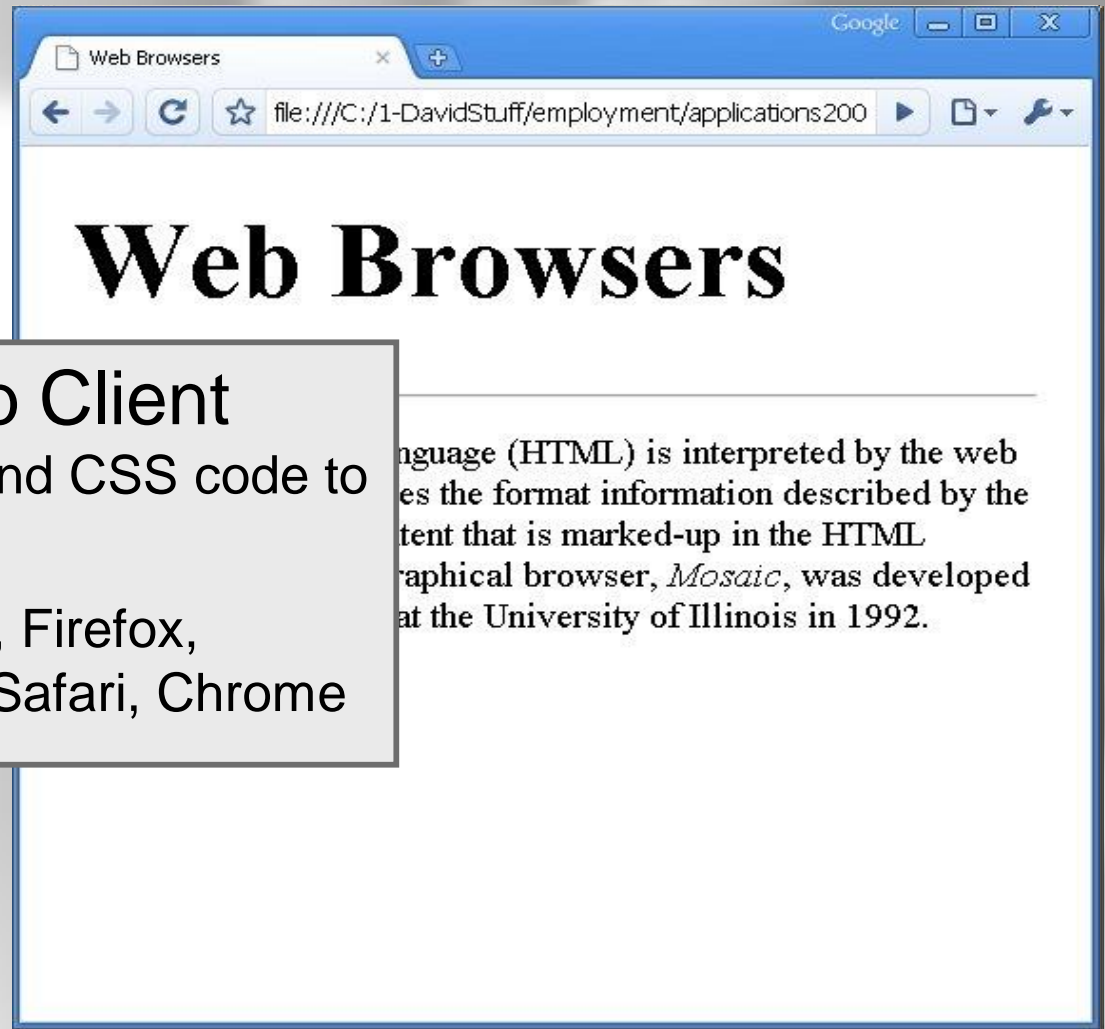
HTML – Hypertext Markup Language

A set of mark-up tags used to specify the appearance of text, images, hypertext links, and multimedia elements.

CSS – Cascading Style Sheets

A style sheet language used to specify the format or appearance of HTML elements

Web 1.0



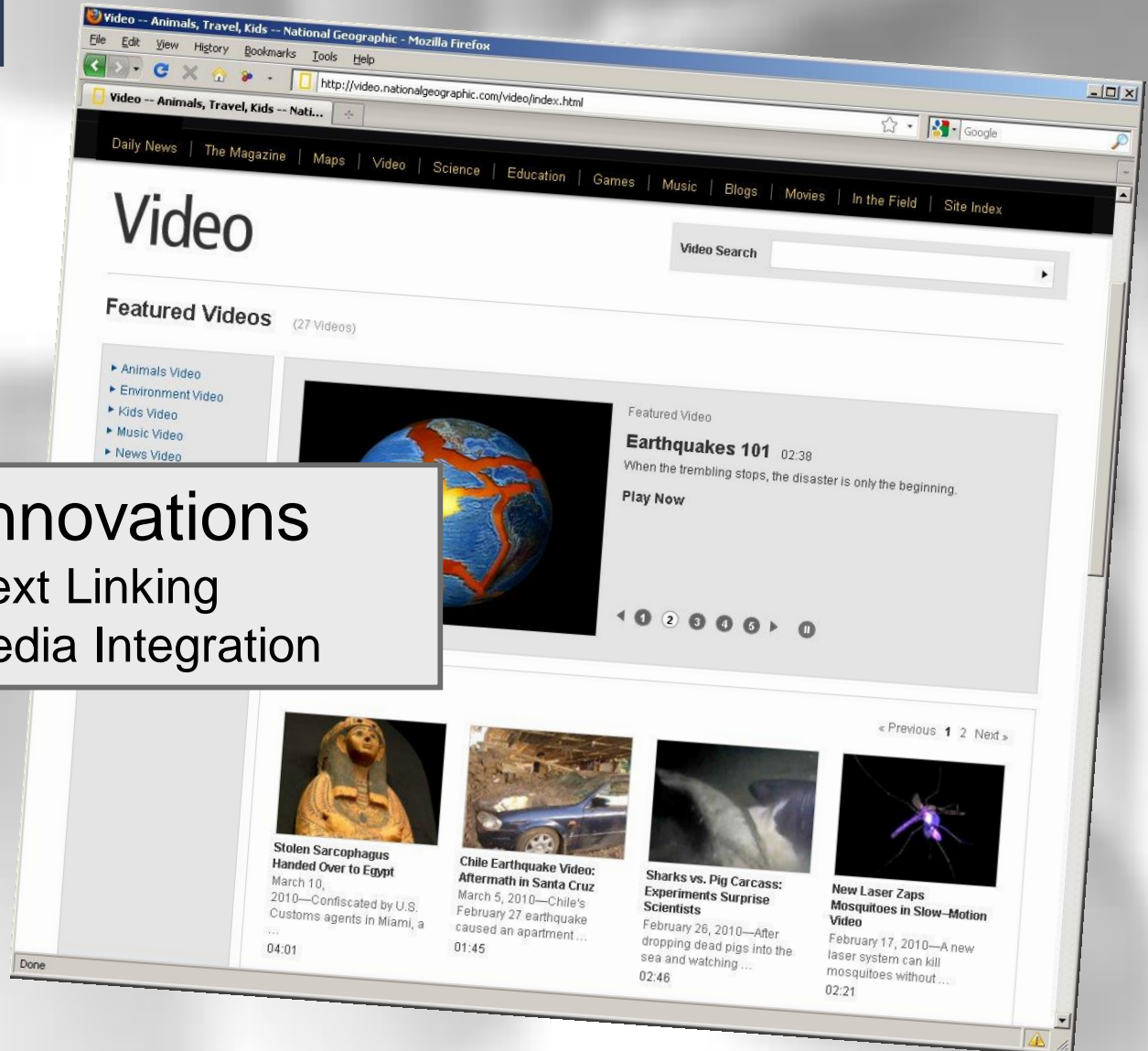
Browsers – Web Client

Interprets HTML and CSS code to display content

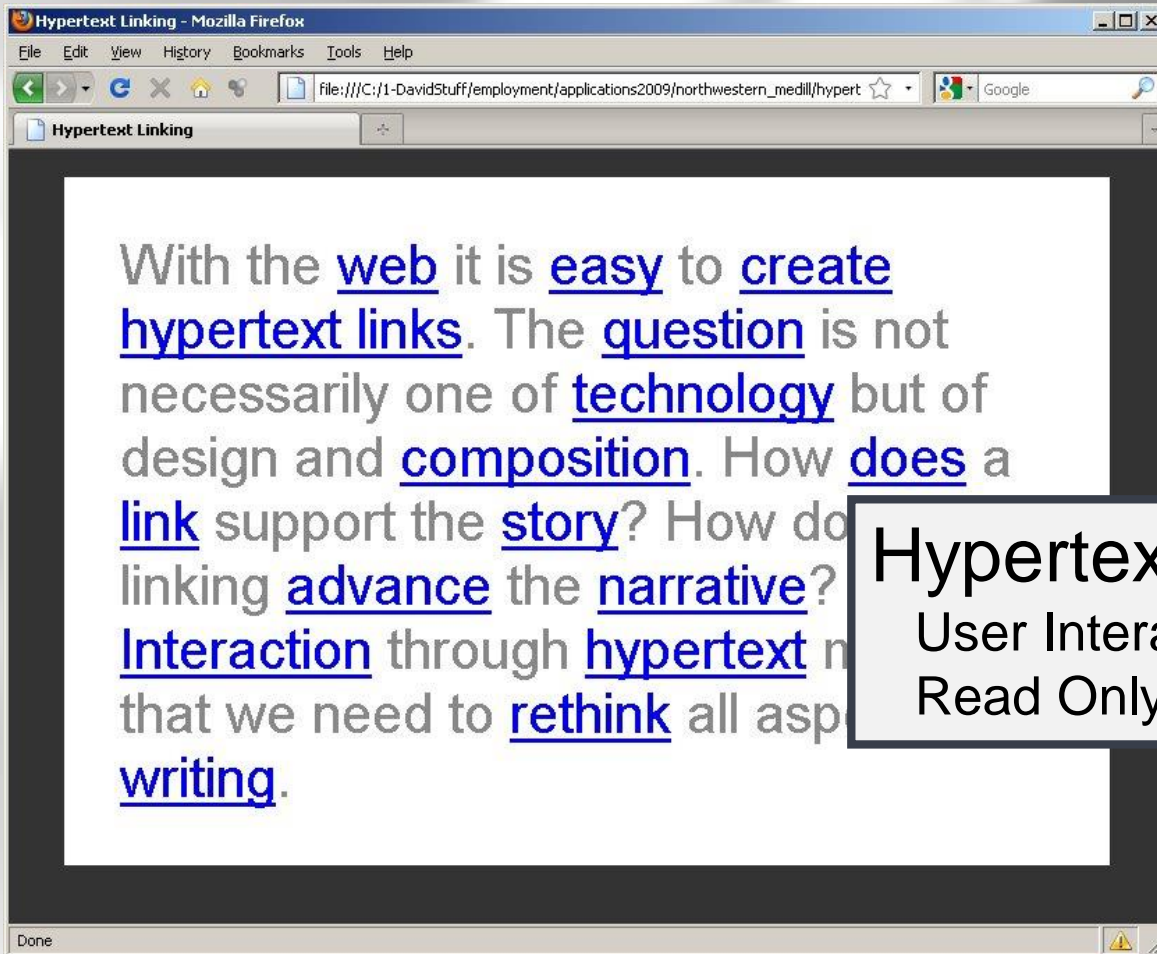
Mosaic, Netscape, Firefox, Internet Explorer, Safari, Chrome

Web 1.0

Media Innovations
Hypertext Linking
Multimedia Integration



Web 1.0



Hypertext

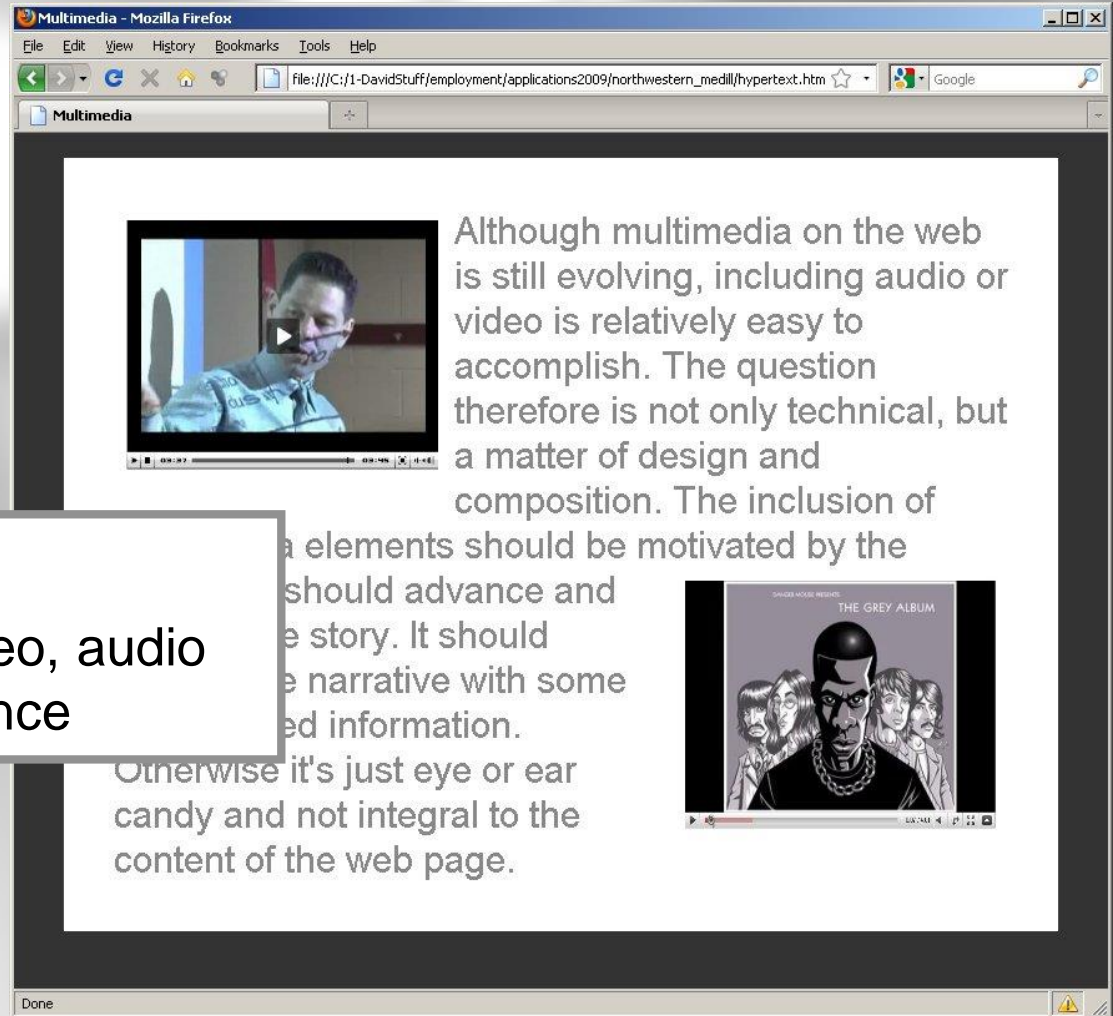
User Interaction

Read Only Experience

Web 1.0

Multimedia

Text, images, video, audio
Digital Convergence



Multimedia - Mozilla Firefox

File Edit View History Bookmarks Tools Help

file:///C:/1-DavidStuff/employment/applications2009/northwestern_medill/hypertext.htm

Multimedia

Although multimedia on the web is still evolving, including audio or video is relatively easy to accomplish. The question therefore is not only technical, but a matter of design and composition. The inclusion of multimedia elements should be motivated by the content they should advance and the story. It should be integrated with some additional information. Otherwise it's just eye or ear candy and not integral to the content of the web page.

THE GREY ALBUM

Done

Web 1.0



Web of Documents



Web 1.0



Web of Documents

Publishing Model

Web provided a means for creating and distributing documents: *web pages*.

“Content is king”

Producer/Consumer

Documents created by professional content providers, made available over the Internet, and accessed by consumers of information.

Hypertext

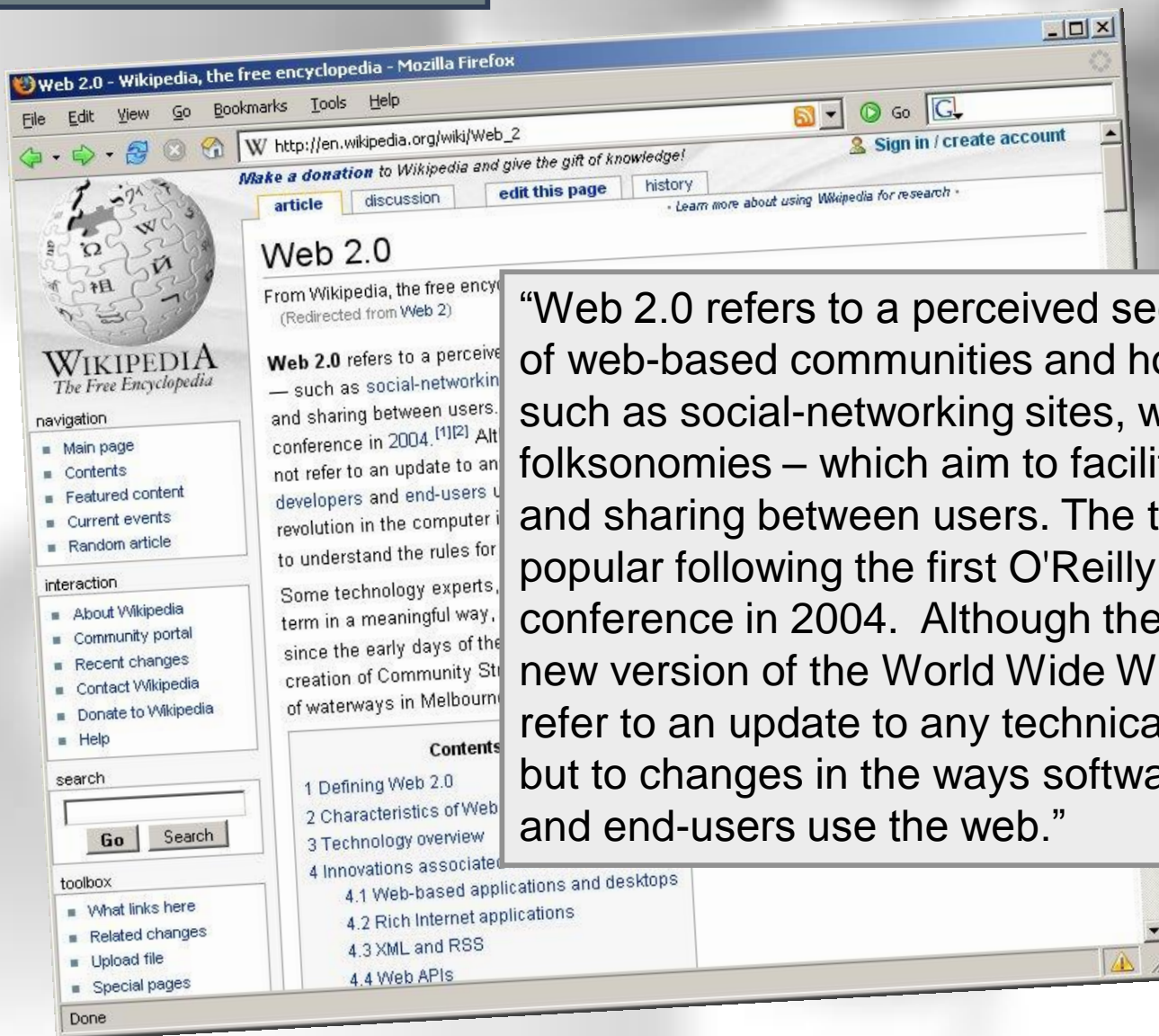
Interaction is created by linking documents to each other and permitting users to follow these links. Read-only experience.

Web 2.0

$$\Delta T = 0$$

$$\Delta C = \infty$$

Web 2.0



“Web 2.0 refers to a perceived second generation of web-based communities and hosted services – such as social-networking sites, wikis and folksonomies – which aim to facilitate collaboration and sharing between users. The term became popular following the first O'Reilly Media Web 2.0 conference in 2004. Although the term suggests a new version of the World Wide Web, it does not refer to an update to any technical specifications, but to changes in the ways software developers and end-users use the web.”

Web 2.0

Participation Platform

Provide a platform for users to collaborate, share, and contribute. "Community is king."
Web of People.

Prosumer

User generated content. Content is not produced by professionals but created by users for users. Amateur-to-amateur model.

Read/Write Interaction

Rewriting/editing information, commenting, and tagging. Collaborative intelligence.

Web 1.0

"the mostly read-only Web"

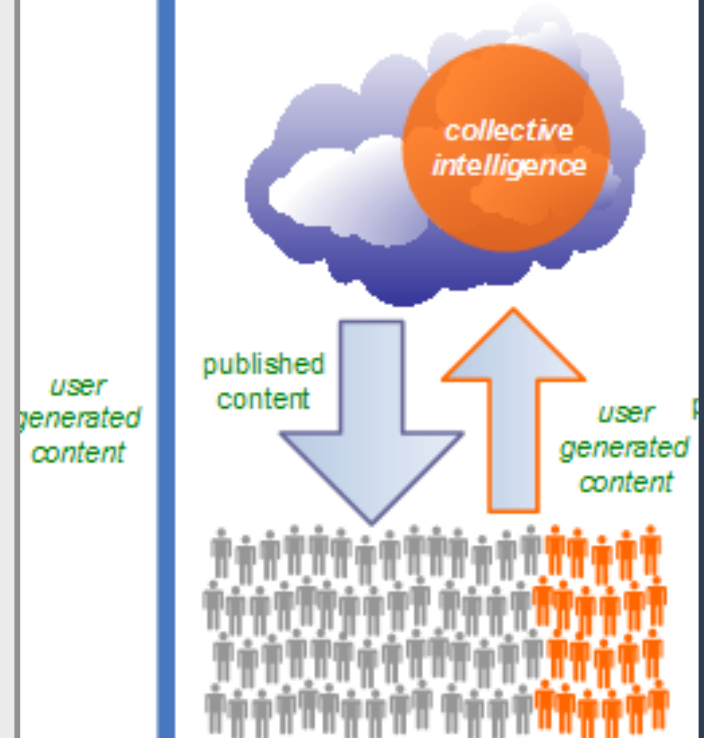
45 million global users

1996

Web 2.0

"the wildly read-write Web"

80,000,000 sites



1 billion+ global users

2006

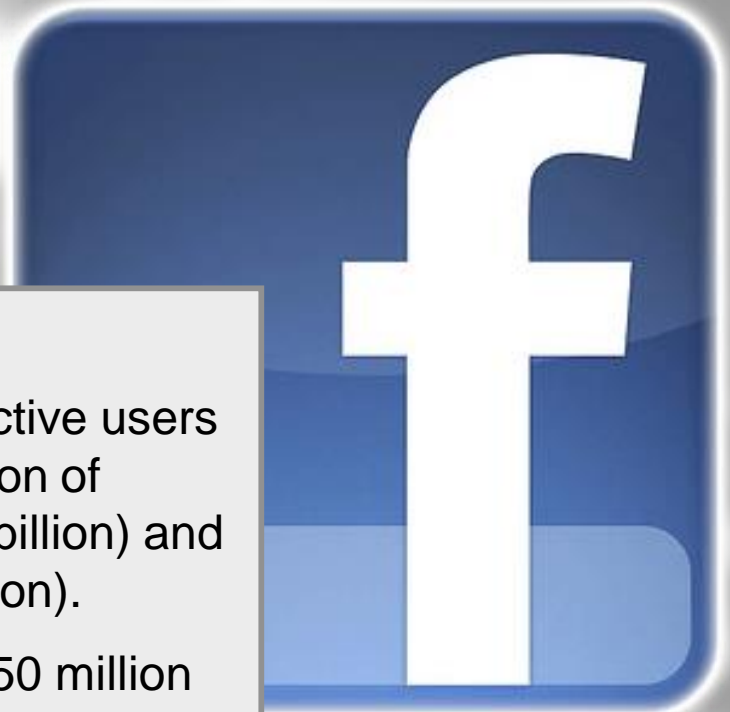
Web 2.0

Facebook Stats

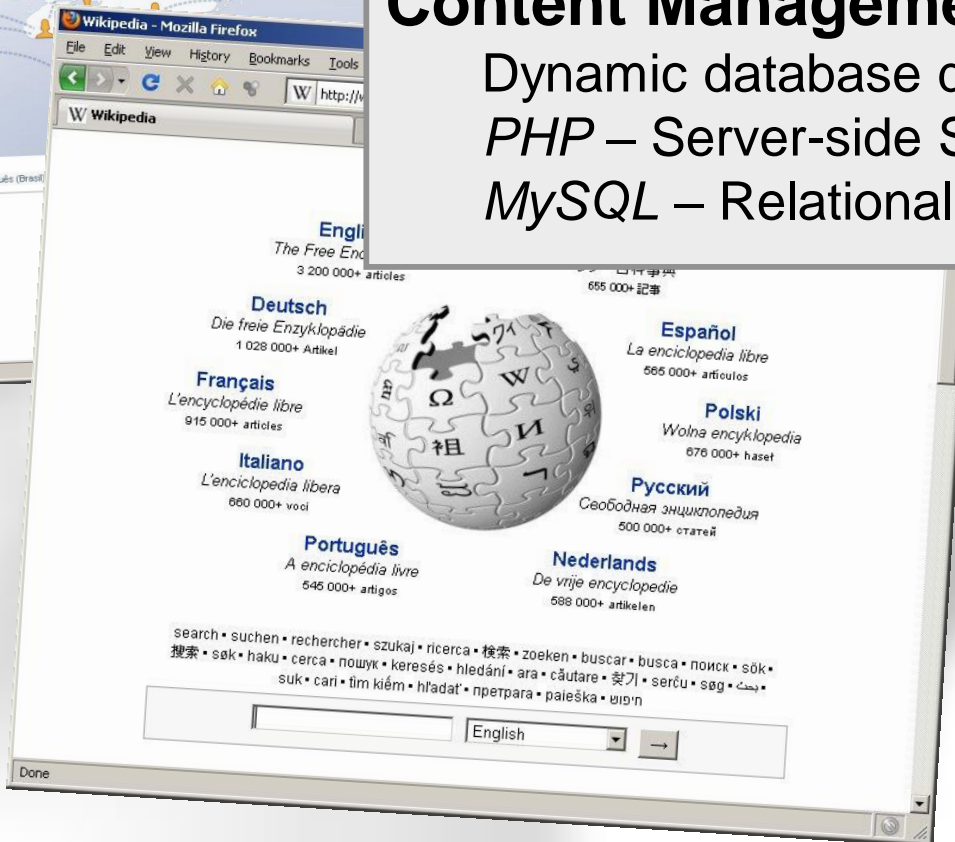
More than 1.5 billion monthly active users as of December 2015; Population of Facebook exceeds India (1.25 billion) and the continent of Africa (1.11 billion).

250 billion total photographs; 350 million photos uploaded daily; 4.5 billion “Likes” every day

Average user spends more than 50 minutes a day on Facebook



Web 2.0



Content Management System (CMS)

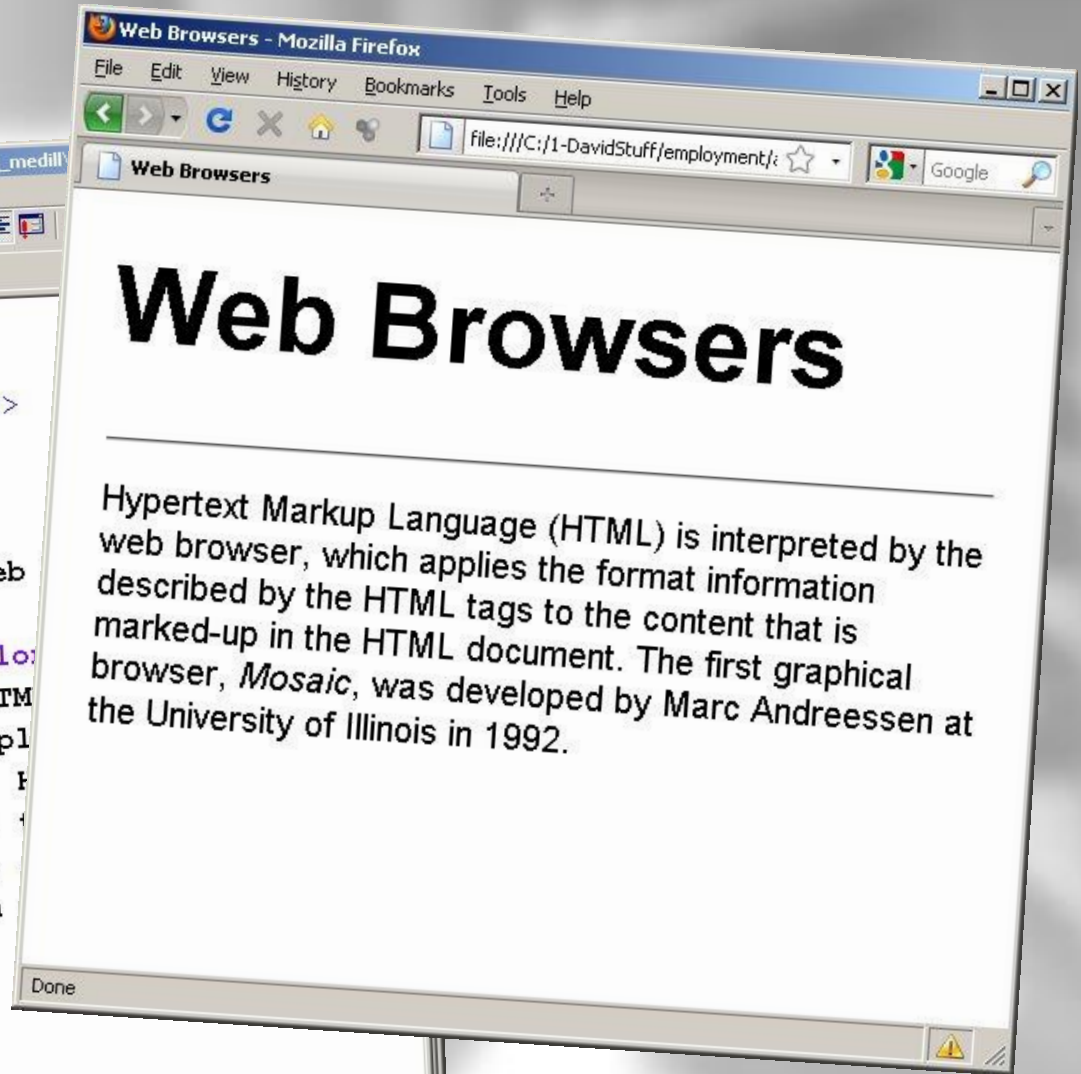
Dynamic database driven content

PHP – Server-side Scripting Language

MySQL – Relational Database

Web 2.0

```
Notepad++ - C:\1-DavidStuff\employment\applications2009\northwestern_medill
File Edit Search View Format Language Settings Macro Run Plugins ?
html_page.html
1 <html>
2 <head>
3   <title>Web Browsers</title>
4 </head>
5
6 <body style="padding:20px">
7 <h1 style="font-size:60px">Web
8 <hr>
9 <p style="font-size:20px; color:
Hypertext Markup Language (HTM
by the web browser, which appl
information described by the f
content that is marked-up in
The first graphical browser,
developed by Marc Andreessen
of Illinois in 1992.</p>
10
11 </body>
12 </html>
```



Static HTML

Web 2.0

```
1 <?php
2 include "adminheader.inc";
3 echo "<h2>Add News</h2><hr>";
4 function handleform()
5 {
6     global $day, $month, $year, $news_item;
7     $dbh=mysql_connect ("localhost","news_data","46&Mn2xW");
8     if (!$dbh)
9     {
10        die ("Failed to open");
11    }
12    mysql_select_db("gunkel");
13    if(mysql_errno())
14    {
15        die ("<br>" . mysql_
16    );
17    }
18    $query = "INSERT INTO
19             VALUES ('$day
20    $result = mysql_query(
21    if (mysql_errno())
22    {
23        die ("<br>" . mysql_
24    }
25    else
26    {
27        echo "Database has
28    }
```

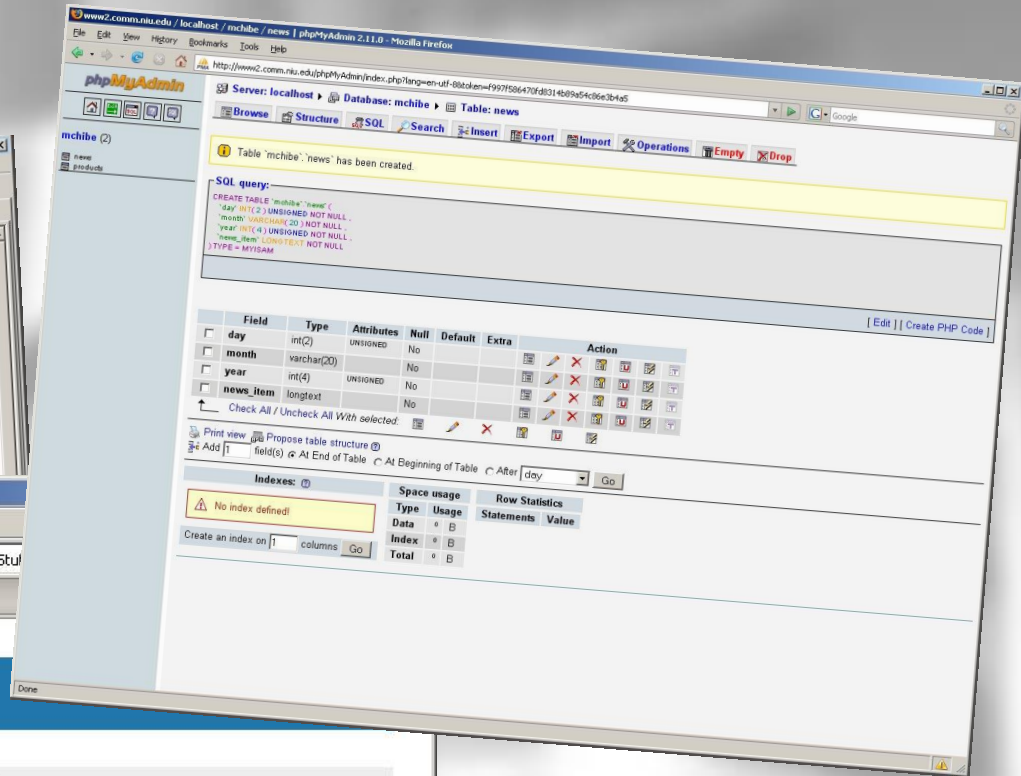


Add News

Name:

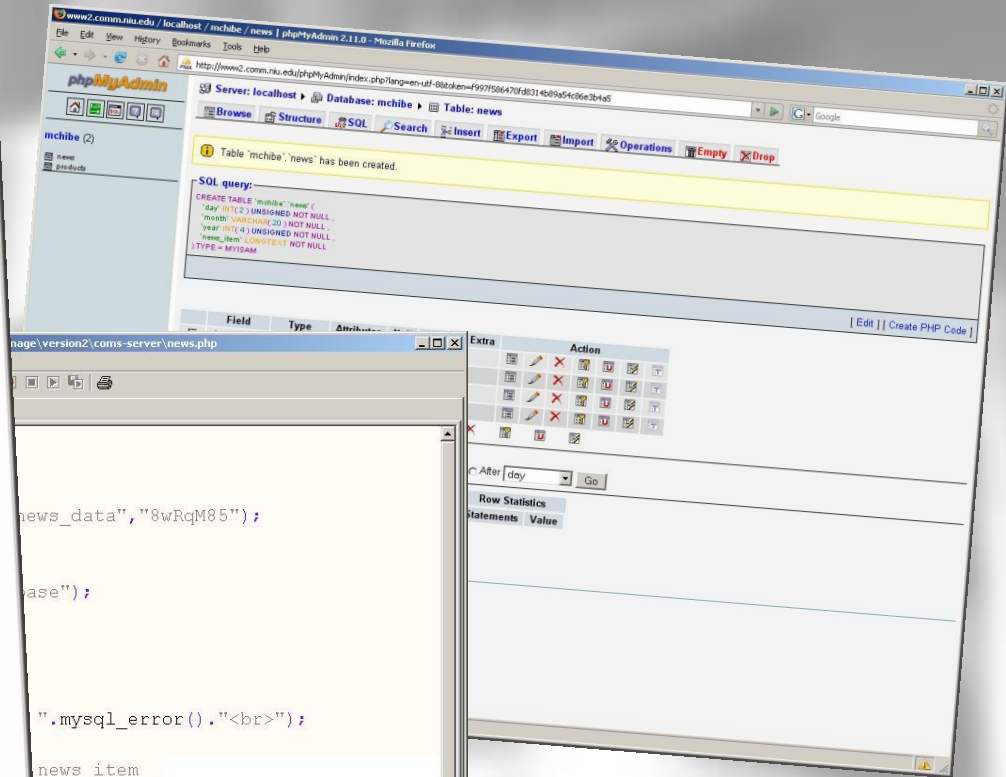
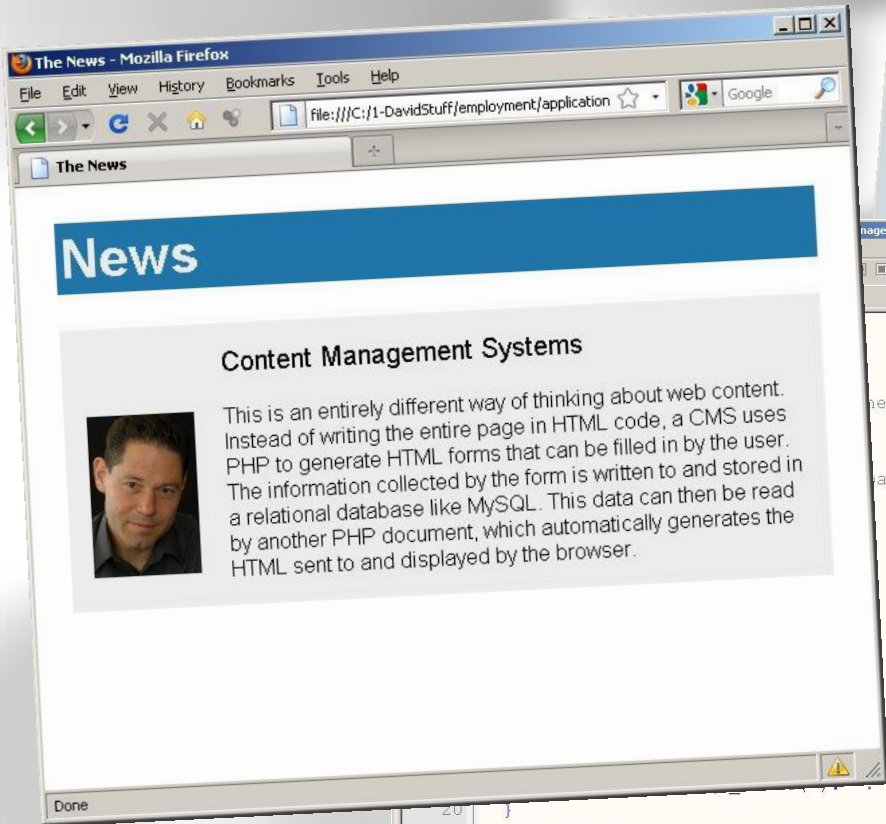
Subject:

This is an entirely different way of thinking about web content. Instead of writing the entire page in HTML code, a CMS uses PHP to generate HTML forms that can be filled in by the user. The information collected by the form is written to and stored in a relational database like MySQL. This data can then be read by another PHP document, which automatically generates the HTML sent to and displayed by the browser.



Dynamic database driven content

Web 2.0



```
20 }
21 echo "<table width='600' align='left' cellspacing='7'
cellpadding='5'>";
22 while ($row = mysql_fetch_row($result))
23 if (mysql_errno())
24 {
25     die("<br>" . mysql_errno() . ": " . mysql_error() . "<br>");
26 }
27 else
28 {
29     echo "<tr><td align='left'><b>$row[0] $row[1] $row[2]</b>";
30     echo "<br>$row[3]</td></tr>";
```

Dynamic database driven content

Web 2.0



Static Publication

Web 1.0

Computer & Browser



Dynamic Participation

Web 2.0

Mobile Device & Aps

Web 2.0

Summary

Web 2.0 is not a new kind of web; it is not a new technology. It designates new ways to use existing technology—new ways to develop and use web content.



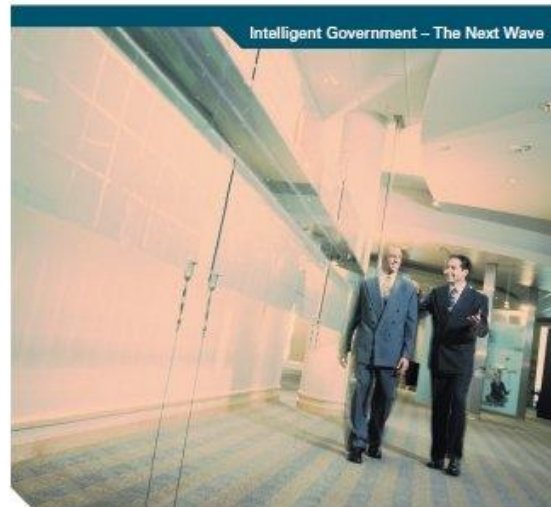
Today

An [Overly] Simplified Overview of Emerging Networked Computational Technologies

Steven N. Goldstein, PhD.

Retired

Formerly: Program Director for International Networking
U.S. National Science Foundation



The importance of
Broadband Policy in
productivity growth and social
and governmental progress



Cisco Public Services Summit @ Nobel Week 2002

...e available, to share with you my simplified way of
advances and trends in networked computational
the National Science Foundation (NSF) in January, 2003,
years of my career there on an assignment in the
re I was not in daily contact with the efforts that NSP's
Science and Engineering Directorate (CISE) was
ast thing that I would want to do would be to represent
erson for NSF. On the other hand, I spent most of the
the academic world, that is education and research
, to the education and research networks of the U.S.
uccessful international networking projects still underway
atch, so I am not unknowledgeable of the current

...portion of scientific research involves distributed
and remote resources such as supercomputers, data
devices such as earthquake simulators, particle
telescopes and computationally-based simulators.
ks are the glue that ties all this together, but a better
pening is to think of all the elements just mentioned as
es that bear a functional resemblance to the computers
he key words are: Grid, middleware, lambda, optical
aker, Cyberinfrastructure.

...ted resources

...the country, you probably get your electricity, water,
e TV through a network that can be national, or even
y from Canada) in scope. These networks have been
you hook into the grids, you have no idea, and probably
ir deliverables (electricity, water, programming) come
way to you; you just turn on the switch or the tap, and
f the computational "Grid" is the same: you plug into it
, and you really don't care where many of the services
urse. If you are using an experimental device like a
e about that), as long as the results that you need arrive
our computer, your printer, etc.).

Preview

Study Guide

Networks

10 February
Computer Networks

LaBerta, ch. 8 - Wired & Wireless
LaBerta, ch. 7 - Networks
LaBerta, Spotlight 5: Cloud Computing

**Lecture Slides
Presentation**

15 February
Internet & Web

LaBerta, ch. 6 - Internet & WWW
LaBerta, Spotlight 4: Web 2.0
History of the World Wide Web

17 February
HTML Exercise

LaBerta, ch. 6 - Internet & WWW

22 February
Broadband & Broadband
Policy

**Importance of Broadband Policy
Emerging Network Technologies**

Midterm Examination

24 February
Mid-Term Exam
Preparation

Mid-Term Exam Study Guide

29 February
Mid-Term Examination