

COMS 465

Computer Mediated Communication

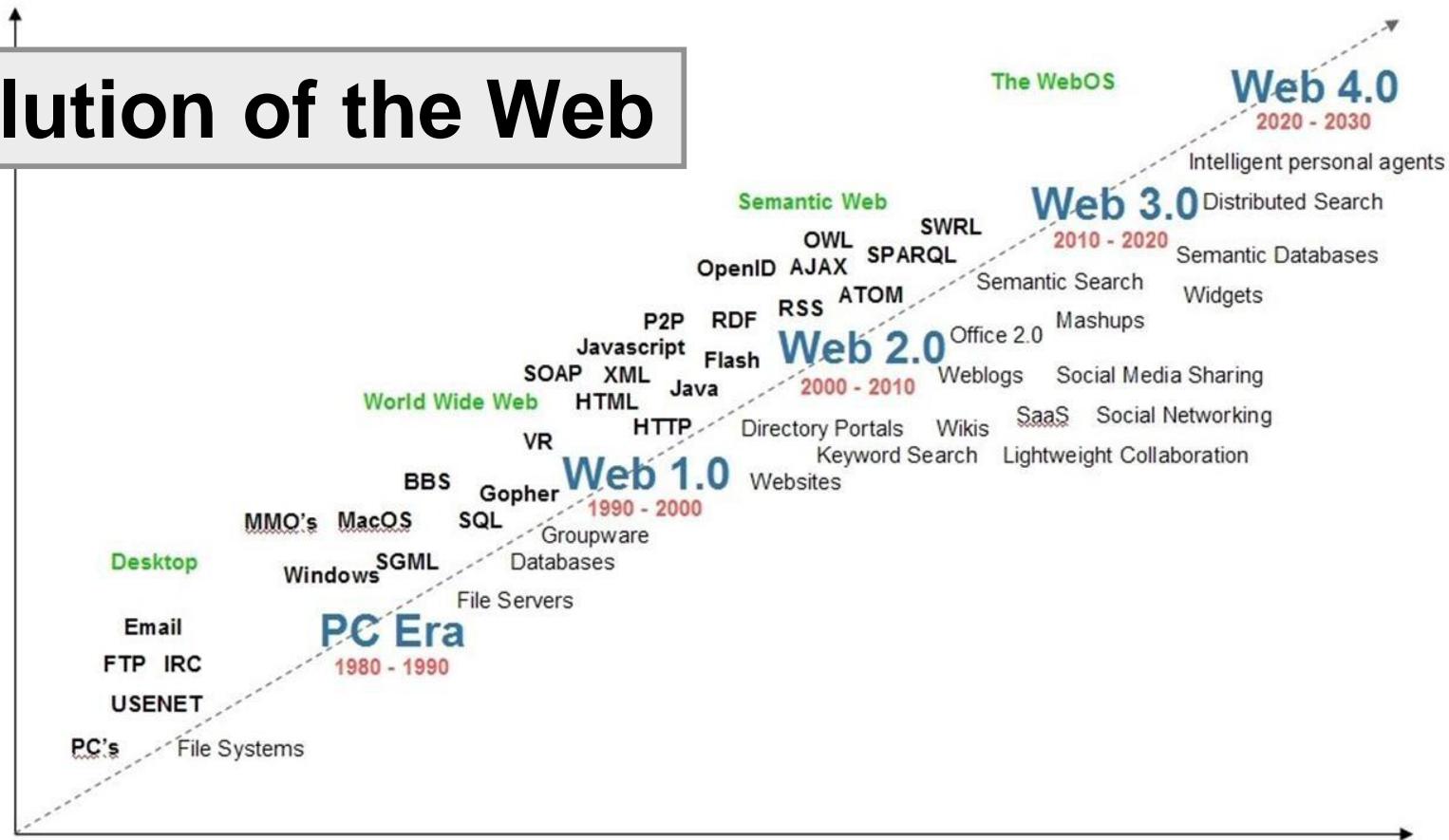


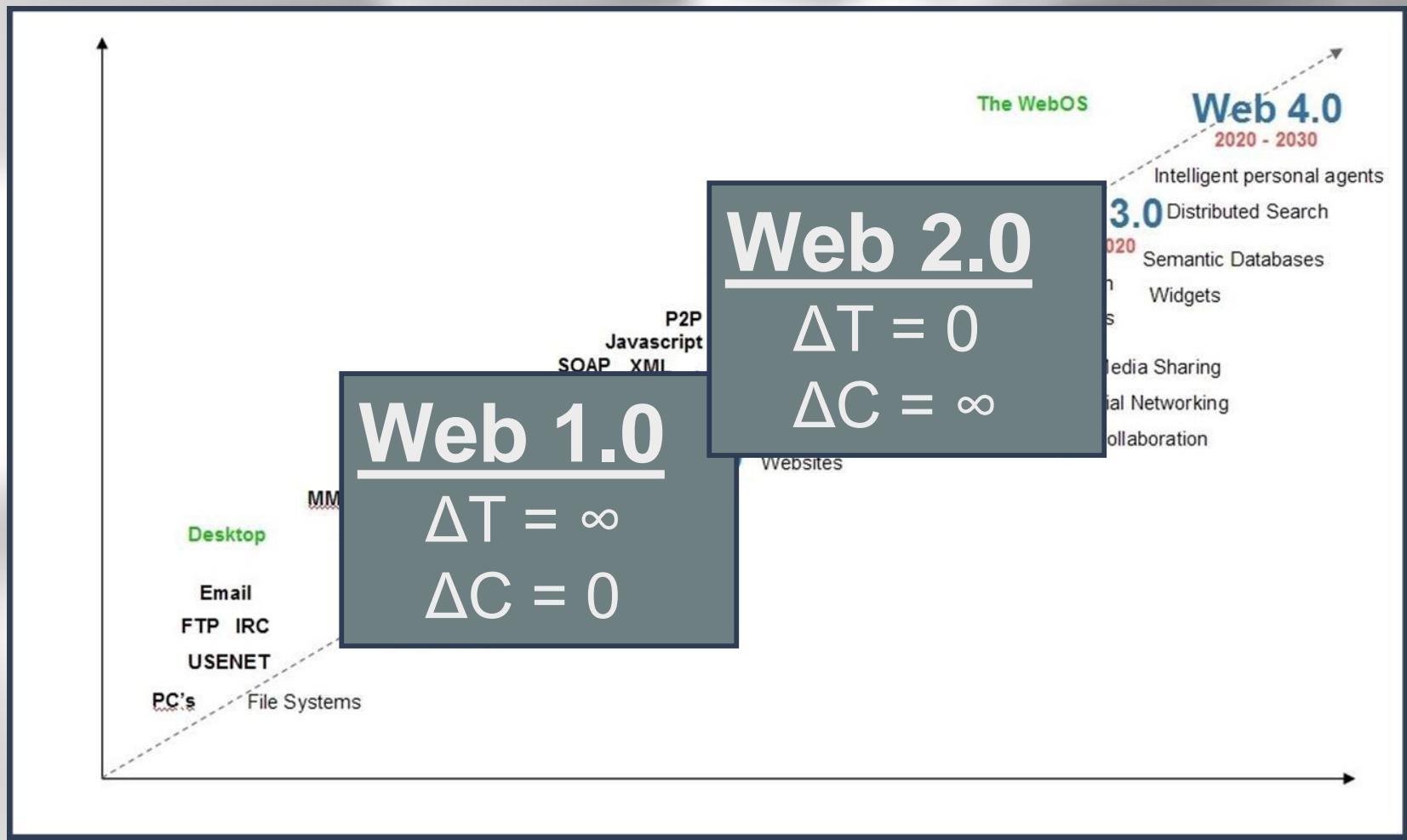
Plan

- Review
- Broadband Technology & Policy
- Preview



Evolution of the Web





Web 1.0

$\Delta T = \infty$

$\Delta C = 0$

Web 1.0

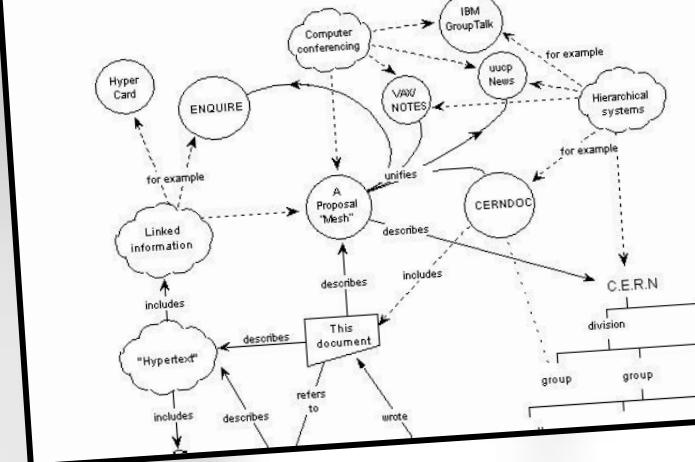
World Wide Web

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

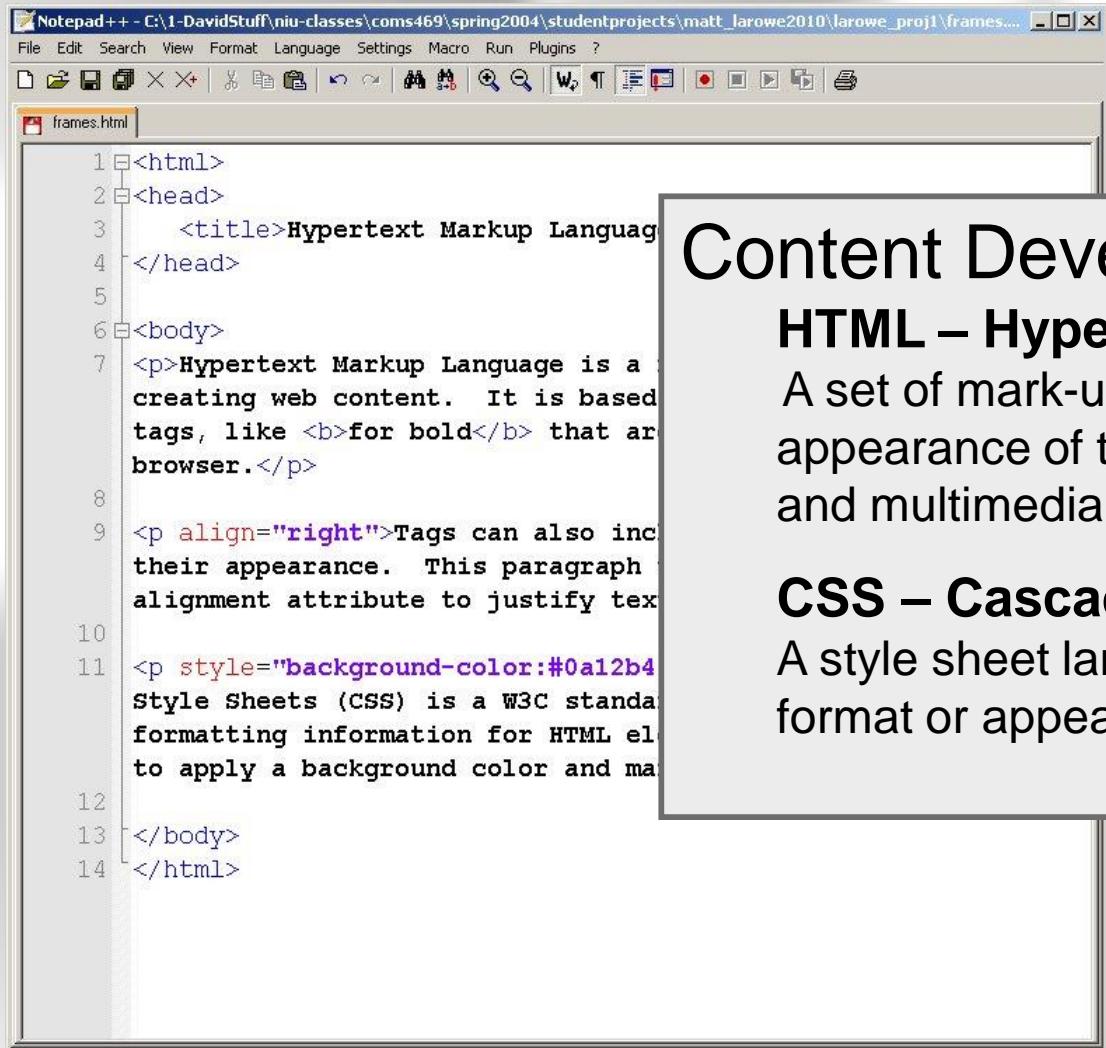
Operational in 1991; released to Internet

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

This proposal concerns the management of general information about particle 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



The screenshot shows a Notepad++ window with the title bar "Notepad++ - C:\1-DavidStuff\niu-classes\coms469\spring2004\studentprojects\matt_larowe2010\larowe_proj1\frames.html". The menu bar includes File, Edit, Search, View, Format, Language, Settings, Macro, Run, Plugins, and Help. The toolbar below has icons for New, Open, Save, Find, Replace, Cut, Copy, Paste, Select All, Undo, Redo, and others. The main editor area contains the following HTML code:

```
1 <html>
2 <head>
3   <title>Hypertext Markup Language</title>
4 </head>
5
6 <body>
7   <p>Hypertext Markup Language is a standard markup language for creating web content. It is based on simple elements in XML. It uses HTML tags, like <b>for bold</b> that are interpreted by the browser.</p>
8
9   <p align="right">Tags can also include attributes that affect their appearance. This paragraph uses the alignment attribute to justify text.
10
11  <p style="background-color:#0a12b4; color:white;">Cascading Style Sheets (CSS) is a W3C standard for describing the presentation of a document written in HTML or XML. It describes how an element is to be displayed by applying a background color and making the text white.
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



Web Browsers

Browsers – Web Client

Interprets HTML and CSS code to display content

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

language (HTML) is interpreted by the web browser. It uses the format information described by the language (HTML). The first graphical browser, *Mosaic*, was developed at the University of Illinois in 1992.

Web 1.0

Media Innovations
Hypertext Linking
Multimedia Integration

The screenshot shows a Mozilla Firefox browser window displaying the National Geographic Video section. The title bar reads "Video -- Animals, Travel, Kids -- National Geographic - Mozilla Firefox". The address bar shows the URL "http://video.nationalgeographic.com/video/index.html". The main content area features a large "Video" heading and a "Featured Videos" section with a thumbnail for "Earthquakes 101" (02:38). Below this are several other video thumbnails, each with a title, date, and duration. A sidebar on the left lists categories like Animals Video, Environment Video, Kids Video, Music Video, and News Video. A "Video Search" bar is at the top right.

Featured Videos (27 Videos)

- Animals Video
- Environment Video
- Kids Video
- Music Video
- News Video

Featured Video

Earthquakes 101 02:38

When the trembling stops, the disaster is only the beginning.

[Play Now](#)

◀ 1 2 3 4 5 ▶ ⏸

Stolen Sarcophagus Handed Over to Egypt
March 10, 2010—Confiscated by U.S. Customs agents in Miami, a ...
04:01

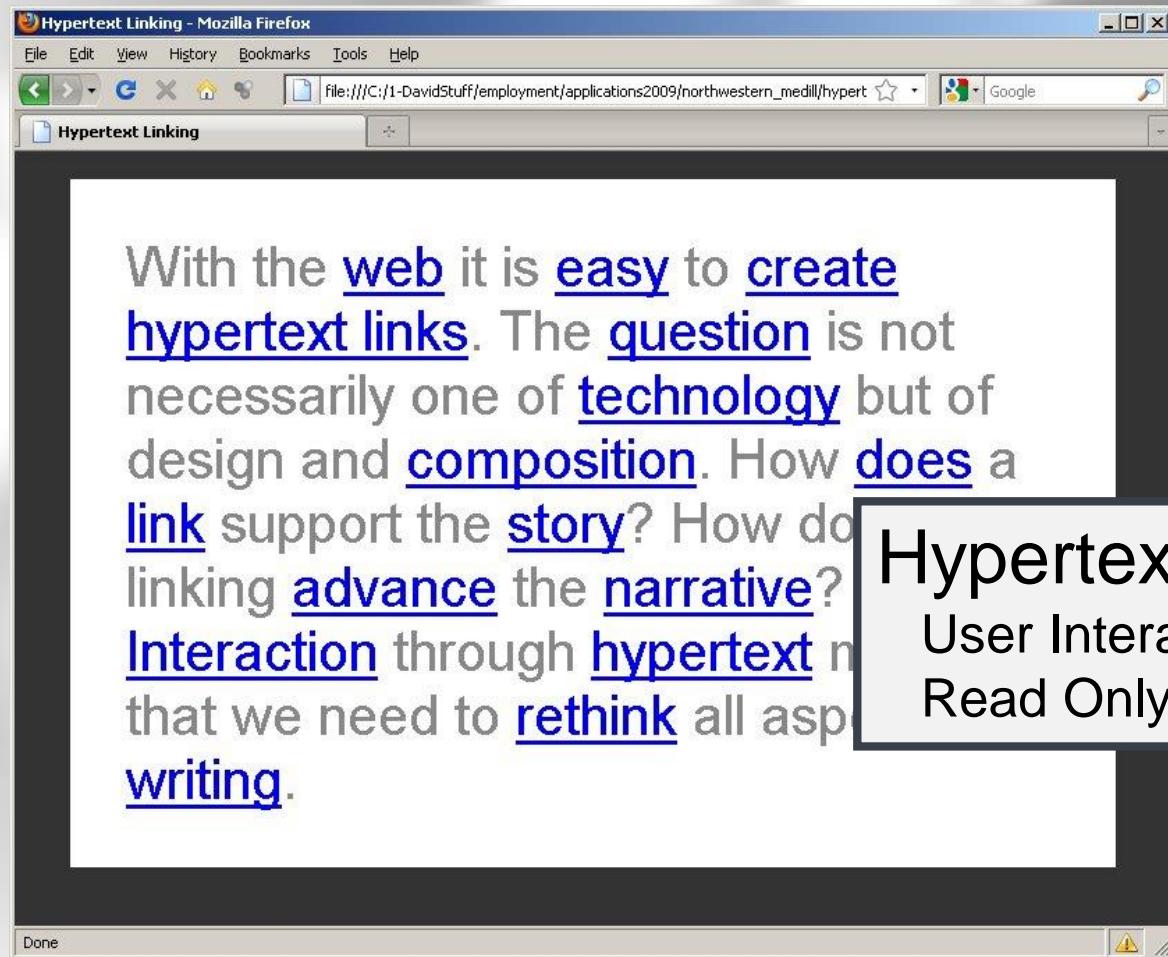
Chile Earthquake Video: Aftermath in Santa Cruz
March 5, 2010—Chile's February 27 earthquake caused an apartment ...
01:45

Sharks vs. Pig Carcass: Experiments Surprise Scientists
February 26, 2010—After dropping dead pigs into the sea and watching ...
02:46

New Laser Zaps Mosquitoes in Slow-Motion Video
February 17, 2010—A new laser system can kill mosquitoes without ...
02:21

« Previous 1 2 Next »

Web 1.0



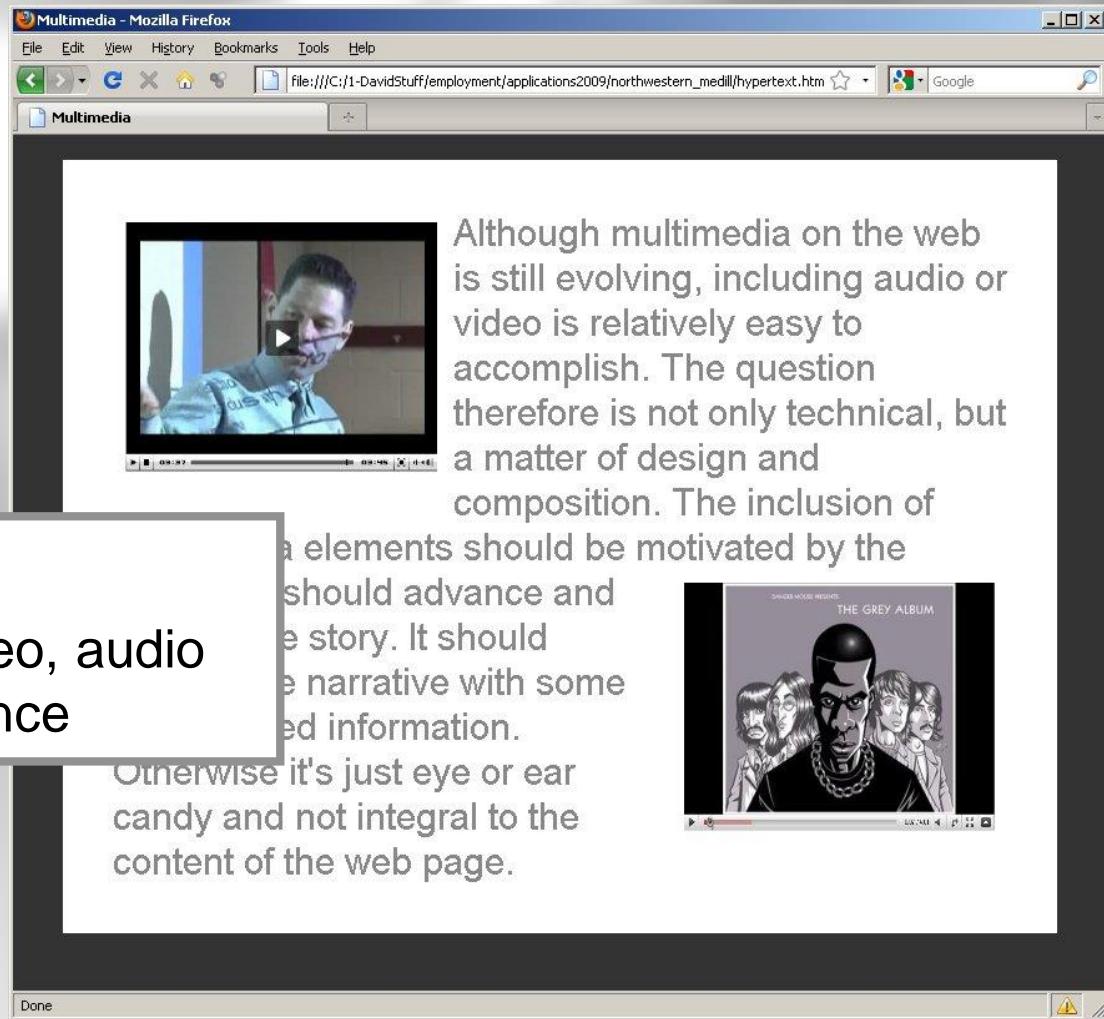
Web 1.0

Multimedia

Text, images, video, audio
Digital Convergence

a elements should be motivated by the
should advance and
the story. It should
be narrative with some
ed information.

Otherwise it's just eye or ear
candy and not integral to the
content of the web page.



Web 1.0



Web of Documents

The image displays three separate web browser windows side-by-side, each representing a different aspect of the Web 1.0 era:

- Top Window (Apple Store):** Shows the Apple Store website for the PowerBook G4. The page features a large image of the laptop, navigation links for iPod, iMac, and Mac accessories, and a sidebar with links like "Welcome", "More Stores", and "Top Sellers".
- Middle Window (CSS Zen Garden):** Shows the CSS Zen Garden website, which is a collection of CSS designs. It features a sunset background and a sidebar with links to various CSS designs by authors like Bob Ross, Zorba Asad, and others.
- Bottom Window (One Laptop per Child):** Shows the OLPC website. The main headline reads "One Laptop per Child (OLPC), a \$100 laptop for the world's children's education". Below it, there's a large image of a child holding a laptop, and text encouraging people to give a laptop or learn more about the project.

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

The screenshot shows a Mozilla Firefox window displaying the Wikipedia article on Web 2.0. The title bar reads "Web 2.0 - Wikipedia, the free encyclopedia - Mozilla Firefox". The main content area shows the article's lead section and a portion of the "Contents" sidebar. The sidebar includes sections for "navigation", "interaction", "search", and "toolbox". The "navigation" section lists links like "Main page", "Contents", and "Featured content". The "interaction" section lists links like "About Wikipedia", "Community portal", and "Recent changes". The "search" section has "Go" and "Search" buttons. The "toolbox" section lists links like "What links here", "Related changes", "Upload file", and "Special pages". At the bottom left is a "Done" button.

Web 2.0

From Wikipedia, the free encyclopedia
(Redirected from Web 2)

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.^{[1][2]} Although it does not refer to an update to any technical specifications, it does refer to changes in the ways software developers and end-users use the web.

1 Defining Web 2.0

2 Characteristics of Web 2.0

3 Technology overview

4 Innovations associated with Web 2.0

4.1 Web-based applications and desktops

4.2 Rich Internet applications

4.3 XML and RSS

4.4 Web APIs

Web 2.0

Web 1.0

"the mostly read-only Web"

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.

45 million global users

1996

Web 2.0

"the wildly read-write Web"

80,000,000 sites



1 billion+ global users

2006



Facebook Stats

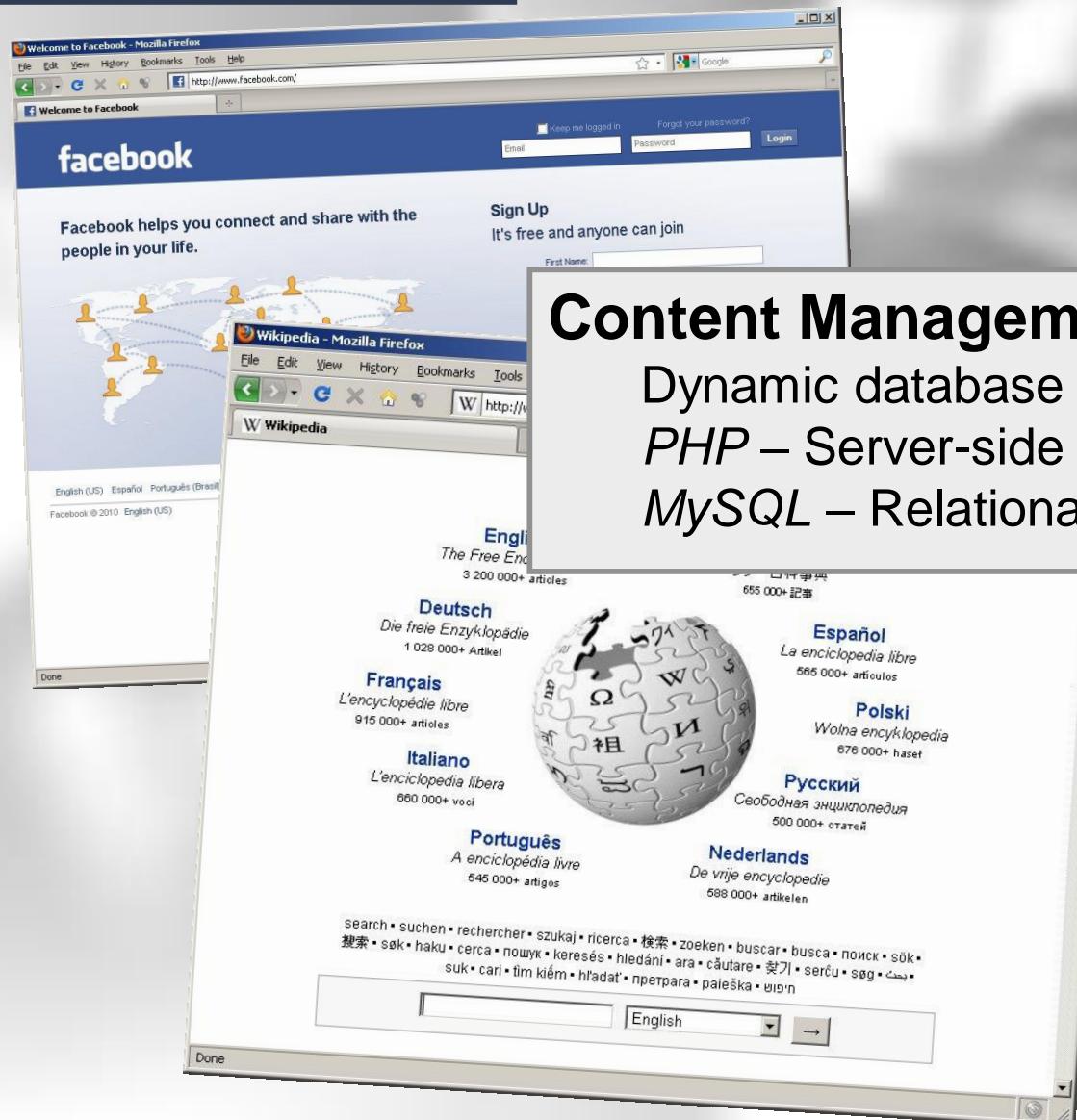
More than 1.5 billion monthly active users as of December 2015; Population of Facebook exceeds India (1.25 billion) and the continent of Africa (1.11 billion).

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



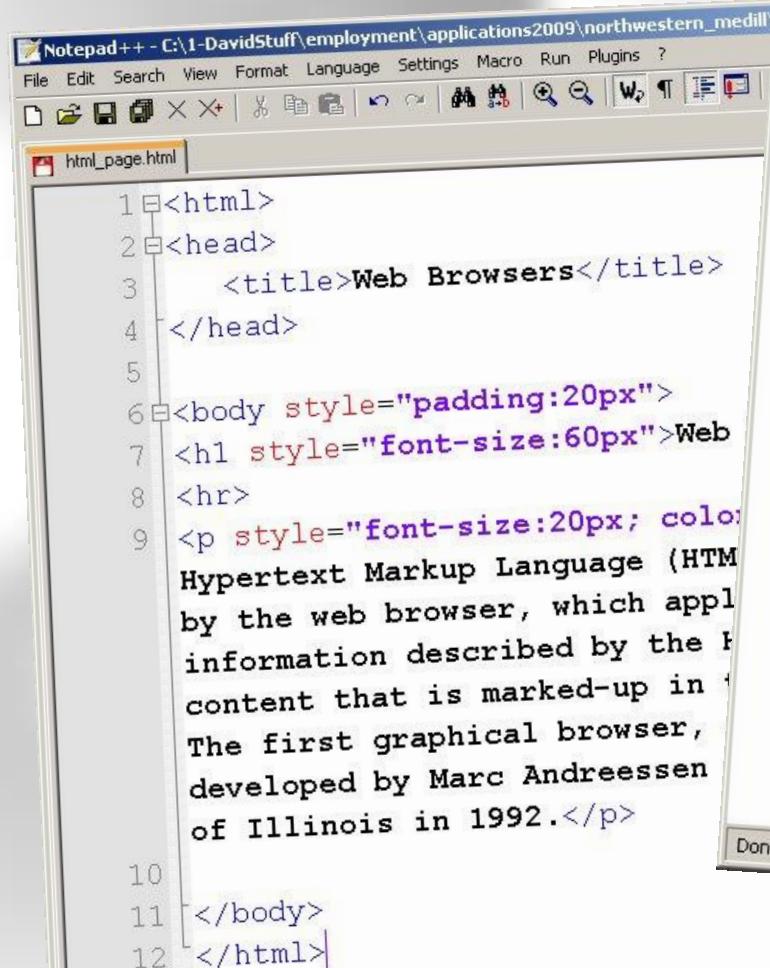
Web 2.0



Content Management System (CMS)

Dynamic database driven content
PHP – Server-side Scripting Language
MySQL – Relational Database

Web 2.0

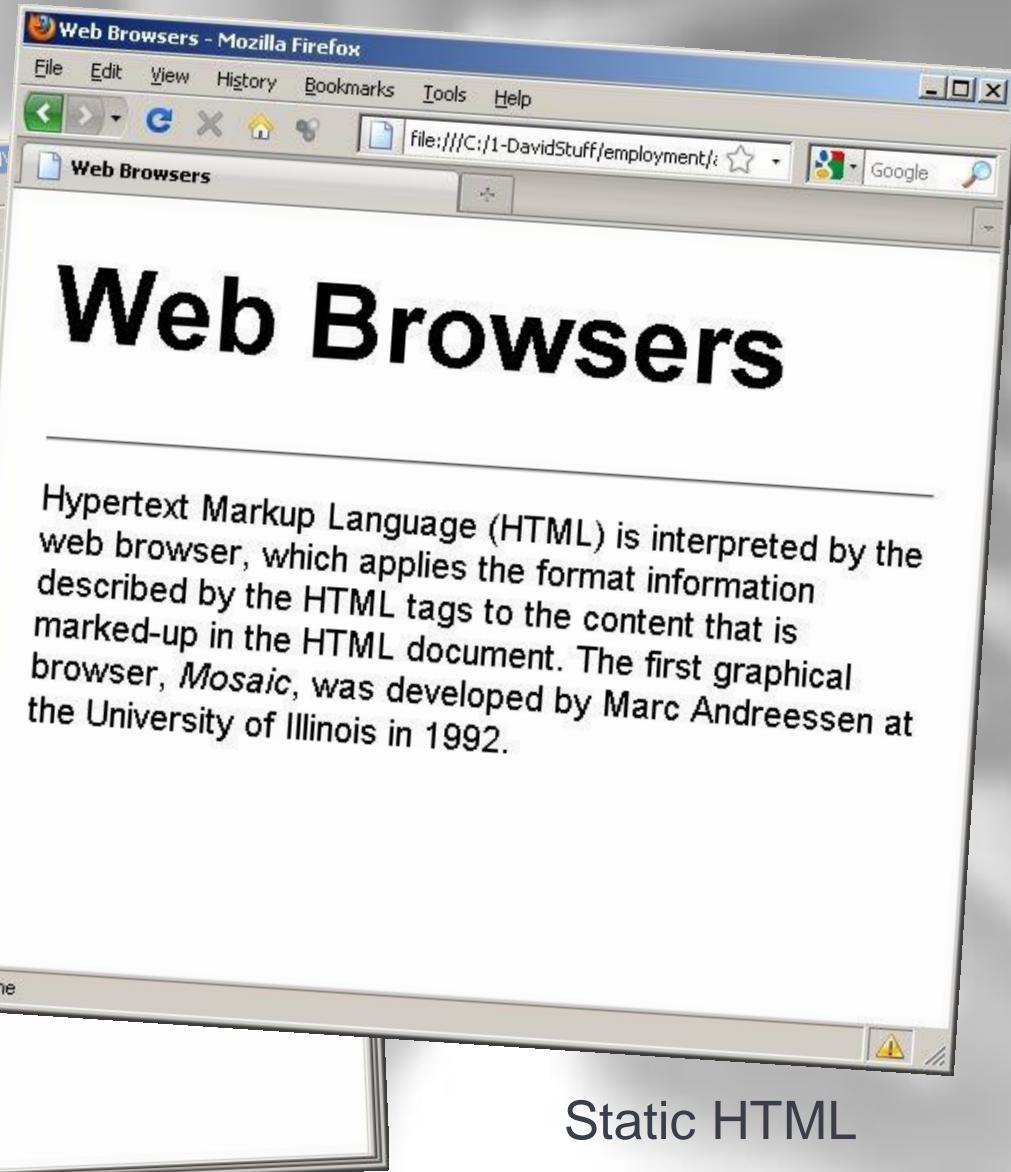


Notepad++ - C:\1-DavidStuff\employment\applications2009\northwestern_medill\

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:#0000ff">Hypertext Markup Language (HTML) is interpreted by the web browser, which applies the format information described by the HTML tags to the content that is marked-up in the HTML document. The first graphical browser, Mosaic, was developed by Marc Andreessen at the University of Illinois in 1992.</p>
10
11 </body>
12 </html>
```



Web 2.0

The image shows a desktop environment with four windows:

- Notepad++:** A code editor window titled "addnews.php" containing PHP code for adding news items to a MySQL database.
- Mozilla Firefox:** A browser window titled "Add News Item" showing a form to add a news item with fields for Name and Subject.
- Mozilla Firefox:** A browser window titled "phpMyAdmin 2.11.0 - Mozilla Firefox" showing the "Structure" tab for a "news" table in the "mchibe" database. It displays the table definition and a grid for managing columns.
- Mozilla Firefox:** A browser window titled "www2.comm.niu.edu / localhost / mchibe / news | phpMyAdmin 2.11.0 - Mozilla Firefox" showing the "Operations" tab for the "news" table, where a new row has been inserted.

Dynamic database
driven content

Web 2.0

The News - Mozilla Firefox

The News

Content Management Systems

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.

A small portrait of a man is displayed on the left side of the page.

```
20 } . mysql_error( ) . "<br>");  
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] $row[2]</b></td>  
echo "<br>$row[3]</td></tr>";  
30 }
```

www2.comm.niu.edu / localhost / mchibe / news | phpMyAdmin 2.11.0 - Mozilla Firefox

Server: localhost > Database: mchibe > Table: news

Table 'mchibe`.`news' has been created.

SQL query:

```
CREATE TABLE `mchibe`.`news` (  
`id` INT(2) UNSIGNED NOT NULL,  
`month` INT(2) UNSIGNED NOT NULL,  
`year` INT(4) UNSIGNED NOT NULL,  
`news_item` LONGTEXT NOT NULL  
)TYPE=MYISAM
```

Field Type Attributes Extra Action

news_data", "8wRqM85");
base");
".mysql_error() . "
");
news_item

Dynamic database
driven content

Web 2.0



Static Publication

Web 1.0

Computer & Browser



Dynamic Participation



Web 2.0

Mobile Device & Apps



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.



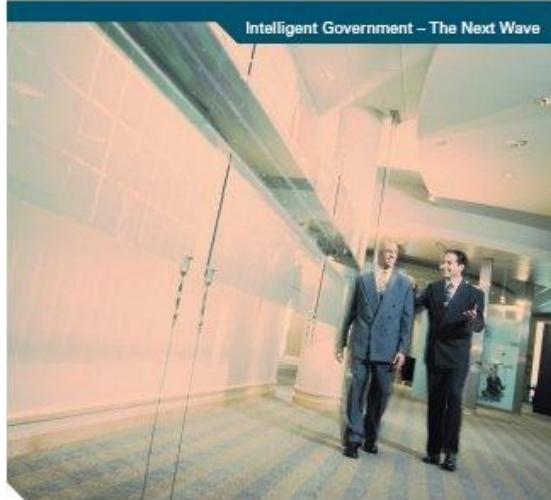
Today

An [Overly] Simplified Overview of Emerging Networked Computational Technologies

Steven N. Goldstein, PhD.

Retired

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



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

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 NSPs Science and Engineering Directorate (CISE) was ast thing that I would want to do would be to represent person for NSF. On the other hand, I spent most of the academic world, that is education and research , to the education and research networks of the U.S. cessful 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 barker, Cyberinfrastructure.

led 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 ur deliverables (electricity, water, programming) come 'way to you; you just turn on the switch or the tap, and if the computational "Grid" is the same: you plug into it , and you really don't care where many of the services nuse. 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

