

# Web Design and Heuristics

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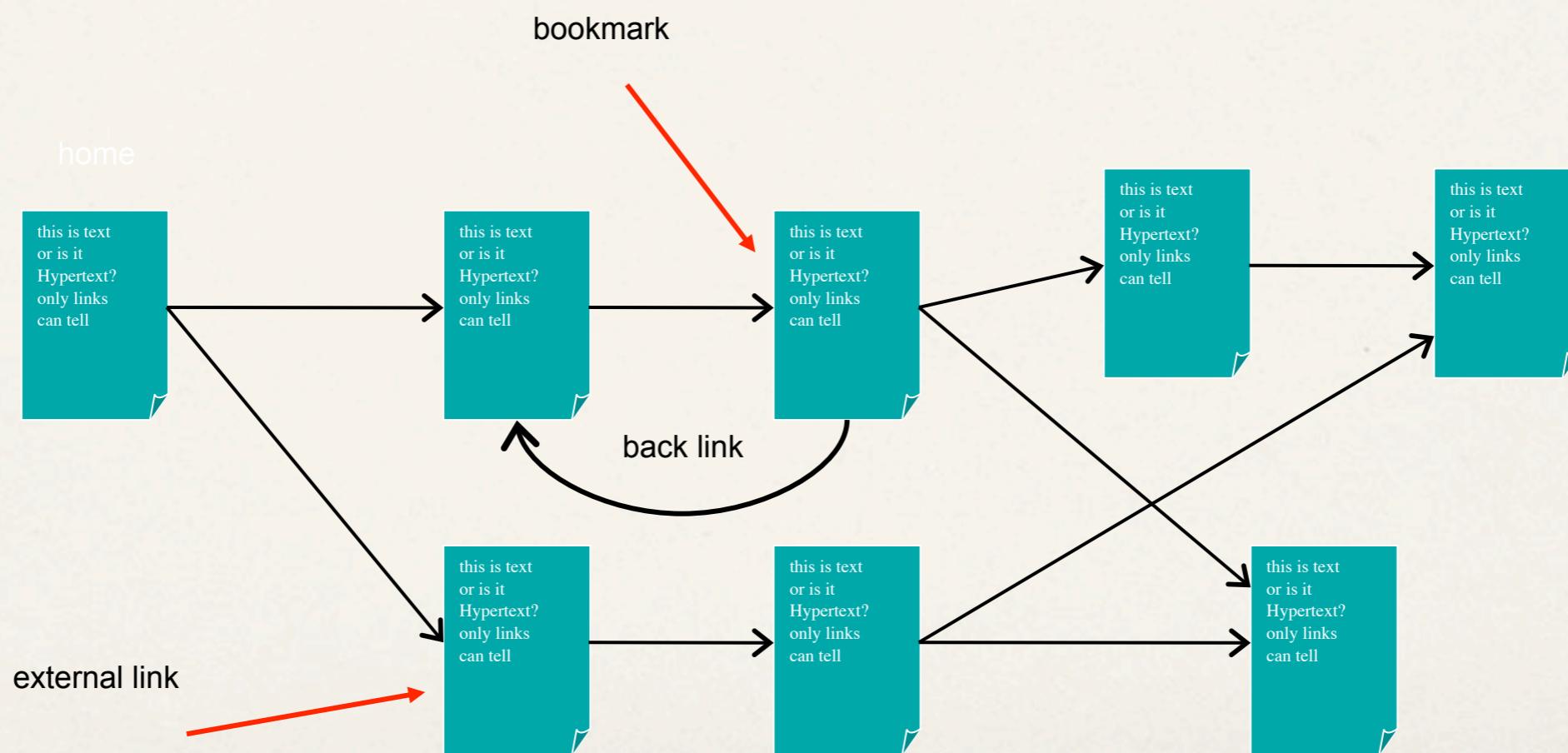
# Web Designs -- Concerns

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- ❖ Hypertext and Hypermedia
- ❖ Hardware and Software Constraints
- ❖ Basic Web Interface Design
- ❖ Dealing with Multimedia

# Hypertext and Hypermedia

- Hypertext is text which contains links to other texts. The term was invented by Ted Nelson around 1965.



# Hypertext and Hypermedia

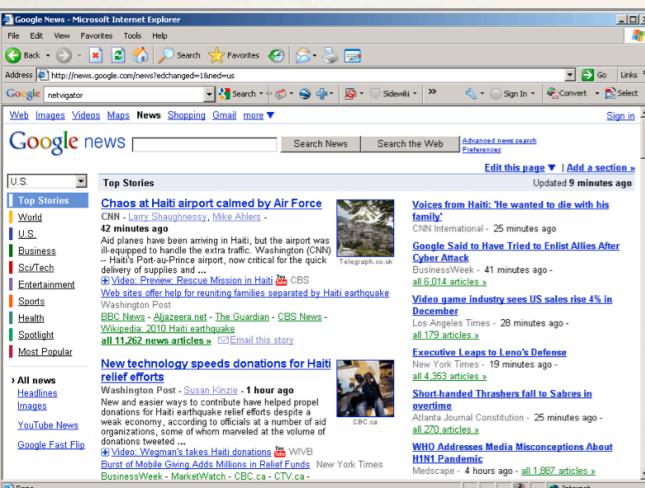
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- ❖ First coined by Ted Nelson (also) in 1965.
- ❖ Hypermedia: a logical extension of the term hypertext, in which graphics, audio, video, plain text and hyperlinks intertwine to create a generally non-linear medium of information.
- ❖ The World Wide Web (WWW) is the best example of hypermedia applications.

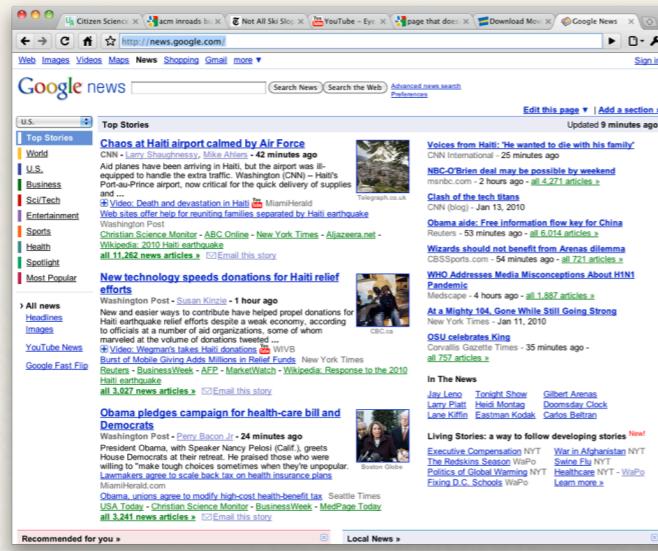
# Hardware and Software Constraints

- Browsers

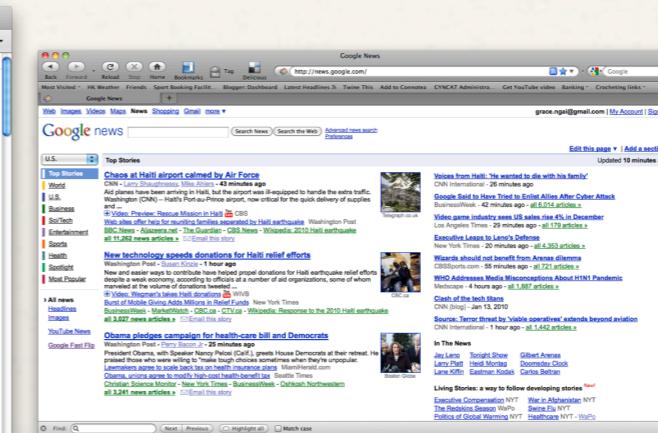
- People use many different browsers
  - Netscape, Firefox, IE, Safari, Opera, Lynx, Neoplanet...
  - And increasingly people are accessing the web using mobile devices like iPhones and Blackberrys



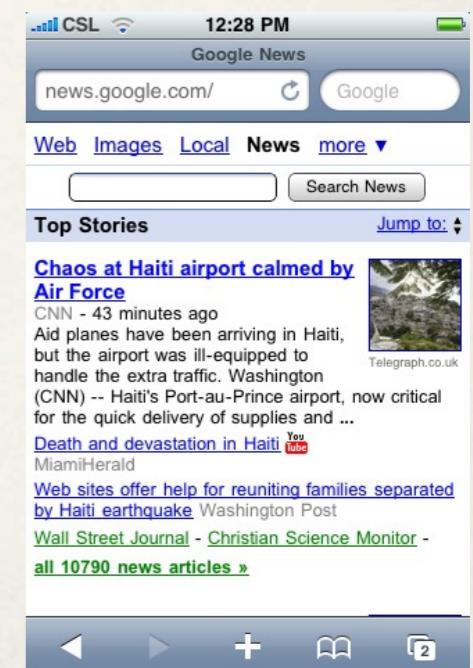
IE6



Google Chrome



Firefox



iPhone Safari

# Web Browser Usage Statistics

- ✿ (source: w3schools)

<b>2009</b>	<b>IE8</b>	<b>IE7</b>	<b>IE6</b>	<b>Firefox</b>	<b>Chrome</b>	<b>Safari</b>	<b>Opera</b>
December	13.5%	12.8%	10.9%	46.4%	9.8%	3.6%	2.3%
November	13.3%	13.3%	11.1%	47.0%	8.5%	3.8%	2.3%
October	12.8%	14.1%	10.6%	47.5%	8.0%	3.8%	2.3%
September	12.2%	15.3%	12.1%	46.6%	7.1%	3.6%	2.2%
August	10.6%	15.1%	13.6%	47.4%	7.0%	3.3%	2.1%
July	9.1%	15.9%	14.4%	47.9%	6.5%	3.3%	2.1%
June	7.1%	18.7%	14.9%	47.3%	6.0%	3.1%	2.1%
May	5.2%	21.3%	14.5%	47.7%	5.5%	3.0%	2.2%
April	3.5%	23.2%	15.4%	47.1%	4.9%	3.0%	2.2%
March	1.4%	24.9%	17.0%	46.5%	4.2%	3.1%	2.3%
February	0.8%	25.4%	17.4%	46.4%	4.0%	3.0%	2.2%
January	0.6%	25.7%	18.5%	45.5%	3.9%	3.0%	2.3%

# Problems with Browsers

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- ❖ Incompatibility
  - ❖ Each browser may have its own set of supported standards
    - ❖ Lynx does not display graphics at all
  - ❖ Many browsers may add some of their own tags
    - ❖ E.g., the <marquee> tag is supported by Internet Explorer Browser, but not a part of HTML standard
    - ❖ The <colgroup> is a part of HTML standard, but not supported by Netscape Navigator
  - ❖ The standards of cascading style sheets (CSS) and JavaScript make the incompatibility problem even worse

# Browser Plugins

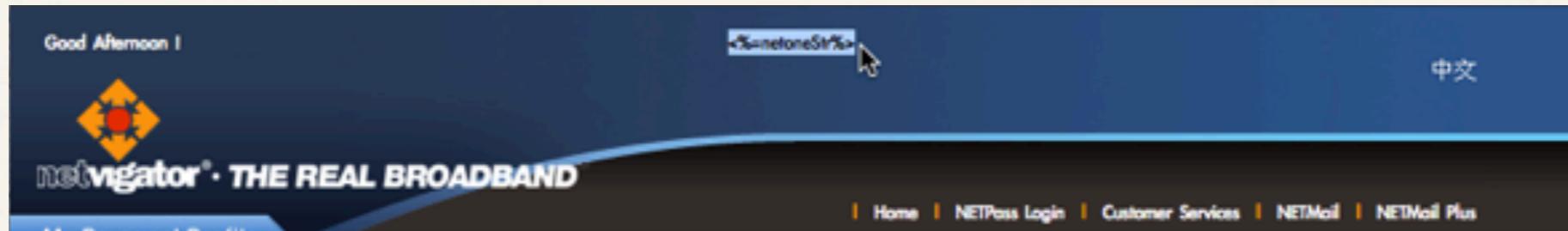
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- ❖ Plug-ins
  - ❖ Definition: A computer program that interacts with a main (or host) application to provide a certain, usually very specific, function on demand.
  - ❖ Examples:
    - ❖ Quicktime
    - ❖ Windows Media Player
    - ❖ Flash Player
    - ❖ Java Applets

# When Plugins don't work...

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- If the supporting program is not available, plug-ins can produce unpredictable results...



netvigator.com, on Firefox for Mac



NYTimes.com, on IE6

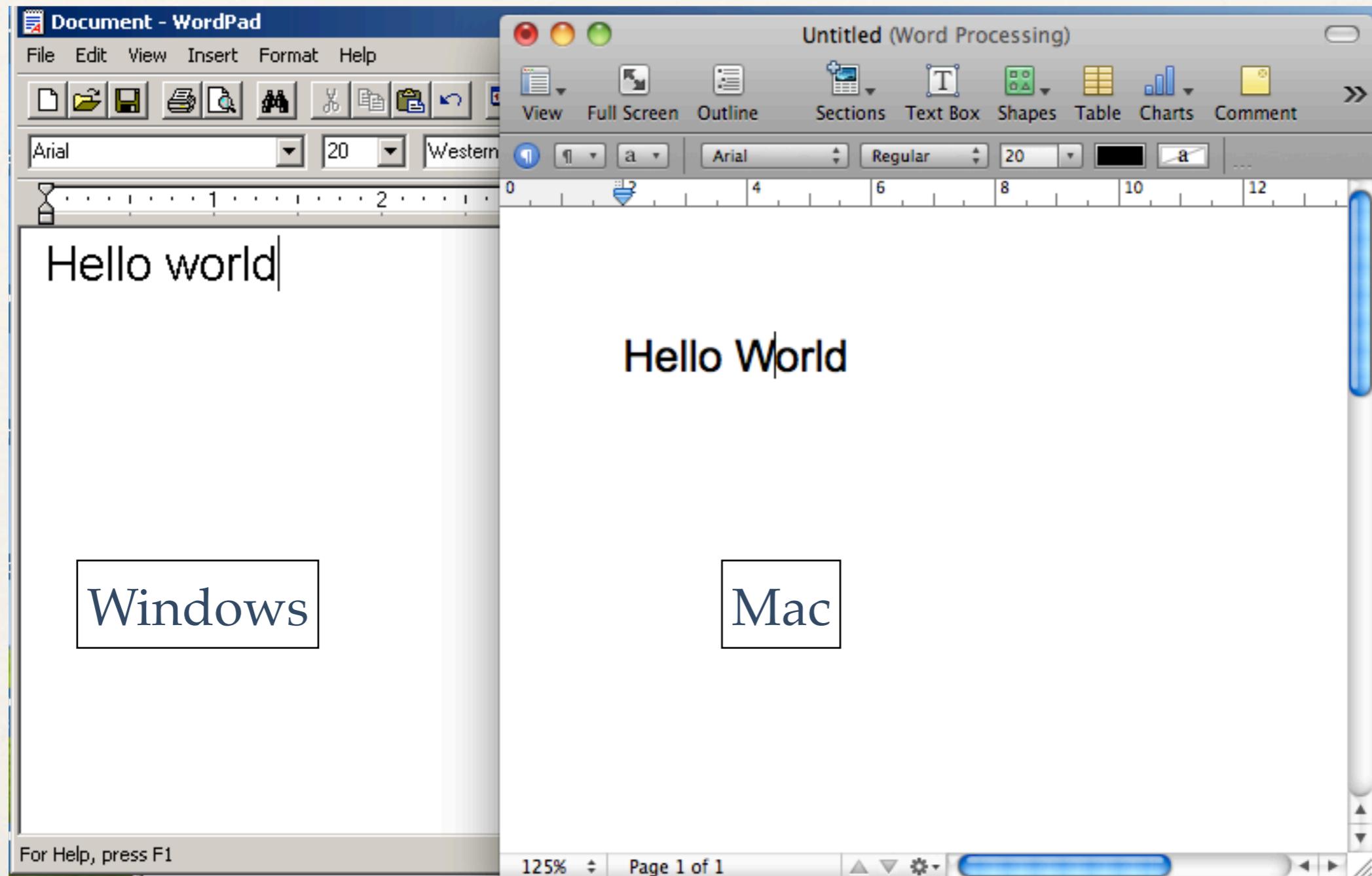
# Platform Issues...

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- ❖ Software Platforms
  - ❖ Most PCs run on Windows
  - ❖ But an increasingly significant portion view the web from Mac/Unix/Linux platforms.
  - ❖ Mobile platforms (iPhone, Blackberry) are also becoming more popular.
- ❖ Each operating system has its own characteristics
  - ❖ e.g. Windows machines and Macs render font differently, thus the same font size will appear larger on Windows machines than on Macs.
  - ❖ Browser and plug-in releases for Macs tend to lag behind the Windows versions.

# Fonts on different machines...

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# Languages and Text

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- ❖ Languages and Text Encoding Methods
  - ❖ Character Set: a collection of characters.
    - ❖ ASCII: 128 characters, including the standard Latin set, numerals, symbols and other control characters.
    - ❖ Big5: Chinese character set (13,000 characters) used in HK and Taiwan.
    - ❖ GB: Chinese character set (7000 characters) used in China and Singapore.
    - ❖ Unicode: International character set encompassing characters from different languages all over the world. Encodes > 20,000 Chinese characters.

# Character Encoding Issues

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- Character Encoding: transforming character codes into sequences of octets for computer processing.
- The encoding schemes for the different character sets are different and not compatible.
- There is also not always a one-to-one correspondence between two characters in two different sets. (e.g. one GB character may map to more than one Big5 character)

# Screen Issues

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- ❖ Screen Resolution
  - ✿ Definition: Number of pixels per inch
  - ✿ Standard Resolution:
    - ✿ 300 dots per inch (dpi) for print
    - ✿ 72 dpi for web.
  - ✿ Need to consider other end uses:
    - ✿ A 72 dpi web graphic will result in a blocky printed image
    - ✿ Better to use vector graphics (no loss of quality) or create high-resolution images for printing.

# File Formats

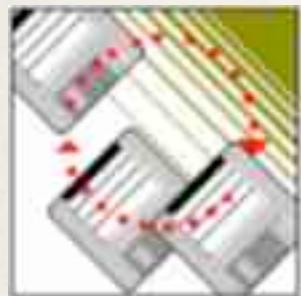
---

- ✿ Name files properly
  - ✿ GIF files have the suffix .gif, JPEG files have either .jpg or .jpeg as suffixes and PNG files end in .png.
  - ✿ The browser depends on the suffix to recognize the files -- an incorrectly suffixed file will not display.

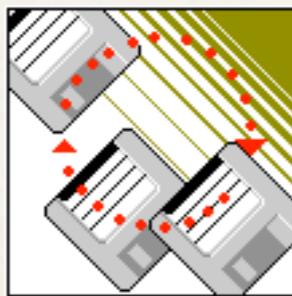
# Graphics -- when to use what

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- ❖ Web graphics highlights
  - ❖ Save images with flat areas of color and hard edges in GIF format
  - ❖ Save photographic images in JPEG format
  - ❖ Web graphics should be created in RGB color mode instead of CMYK
  - ❖ The only meaningful measurement for web graphics is pixels
  - ❖ Consider access with different devices
    - ❖ Desktop monitors, PDAs, mobile phones, kiosks of different colour compatibility and resolution support



jpg



gif



gif



jpg

# Bandwidth Considerations

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- ❖ Speed was No. 1 priority for the majority of web users
  - ❖ With broadband, less critical
  - ❖ But not everyone has broadband
- ❖ Design for speed consideration
  - ❖ Don't make assumptions on the user bandwidth connection!
  - ❖ Users may have different accesses through mobile devices, dial-up modems, etc.

# Other Hardware Constraints

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- ❖ Computational power
  - ❖ Multimedia presentations take up much CPU/GPU power.
  - ❖ Not everybody is viewing the page on a powerful desktop.
  - ❖ Netbooks and mobile devices tend to be less powerful.
- ❖ Storage Capacity
  - ❖ Data retrieval speed, volume, hierarchy of the storage media

# Basic Web Interface Design

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- ❖ Four Golden Rules.
- ❖ Users like to:
  - ❖ Know where they are
  - ❖ Know what they can do
  - ❖ Know where they are going
    - ❖ (or what will happen)
  - ❖ Know where they have been
    - ❖ (or what they have done)

# Web Content Design

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- ❖ Facts: specific information in the form of a statement or data. They are unique, requiring no explanation.
- ❖ Concepts: understanding what something is and what it is not.
- ❖ Procedures: represents a sequential number of steps that tell you how to do something specific.
- ❖ Processes: explains how something works. They involve a flow of multiple events that describe how a system works.
- ❖ Principles: are general advice given by experts who have developed a knack for doing something well.

# Acquiring Information

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- ❖ Most information is acquired via reading.
- ❖ Reading involves saccades (scanning) and fixations.
  - ❖ Perception and comprehension takes place only during fixations.
  - ❖ Word shape (and subsequently, fonts) is important to recognition

# Word Shapes are Enough...

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- ❖ Aoccdrnig to a rschearch at an Elingsh uinervtisy, it deosn't mttaer in waht oredr the ltteers in a wrod are, the olny iprmoetnt tihng is taht frist and lsat ltteer is at the rghit pclae. The rset can be a toatl mses and you can sitll raed it wouthit porbelm. Tihs is bcuseae we do not raed ervey lteter by it slef but the wrod as a wlohe.

# Word Shape Causes Problems...

---

Saerin

*vs*

Seaine

gholam

*vs*

grolm

parameter

*vs*

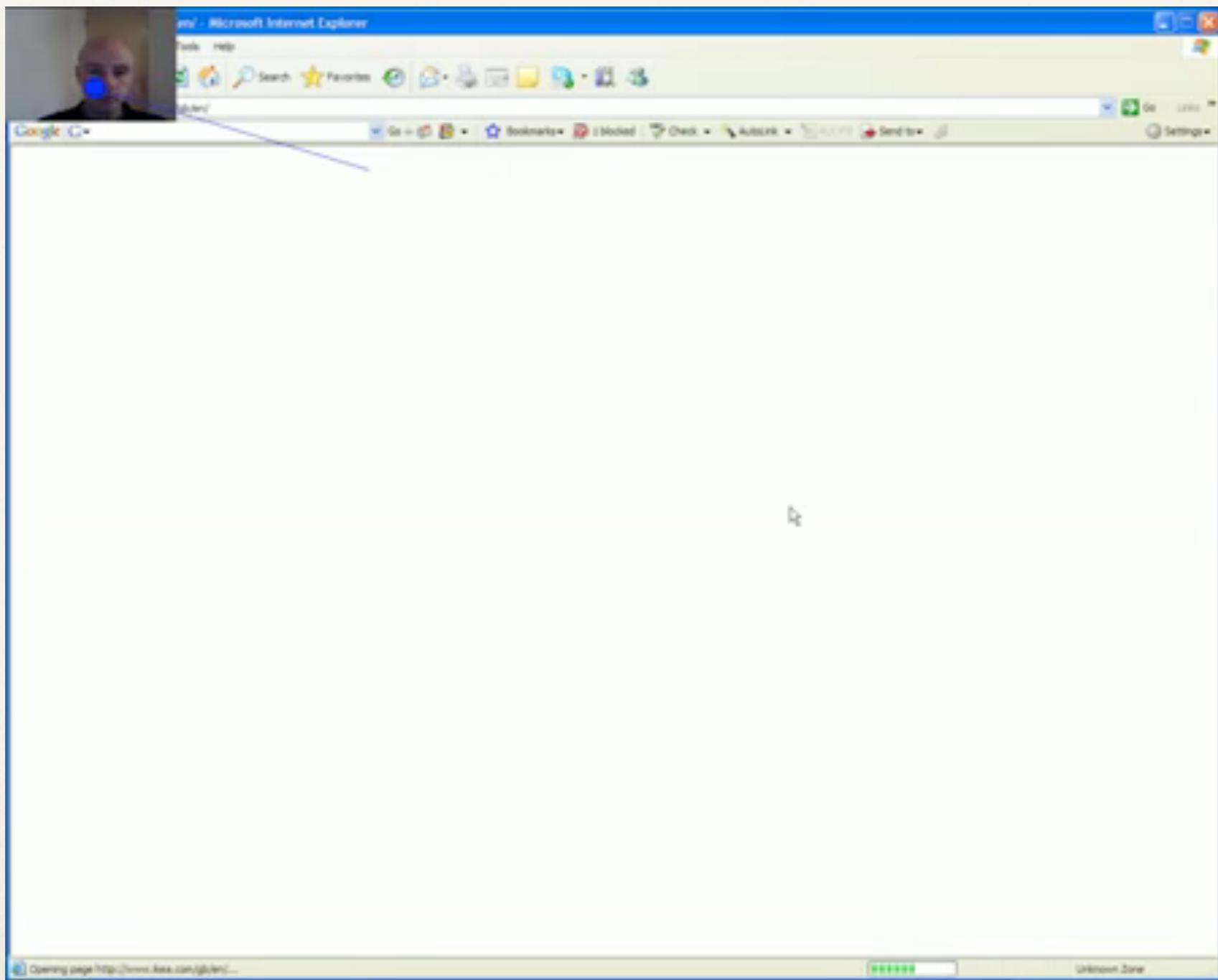
perimeter

# How people read on the web

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# How people read on the web

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# In other words...

**WHAT WE DESIGN FOR... THE REALITY...**

Read

Read

Read

Read

[Pause for reflection]

Finally, click on a carefully chosen link

Look around feverishly for anything that

- is interesting, or vaguely resembles what you're looking for, and
- is clickable.

As soon as you find a halfway-decent match, click.

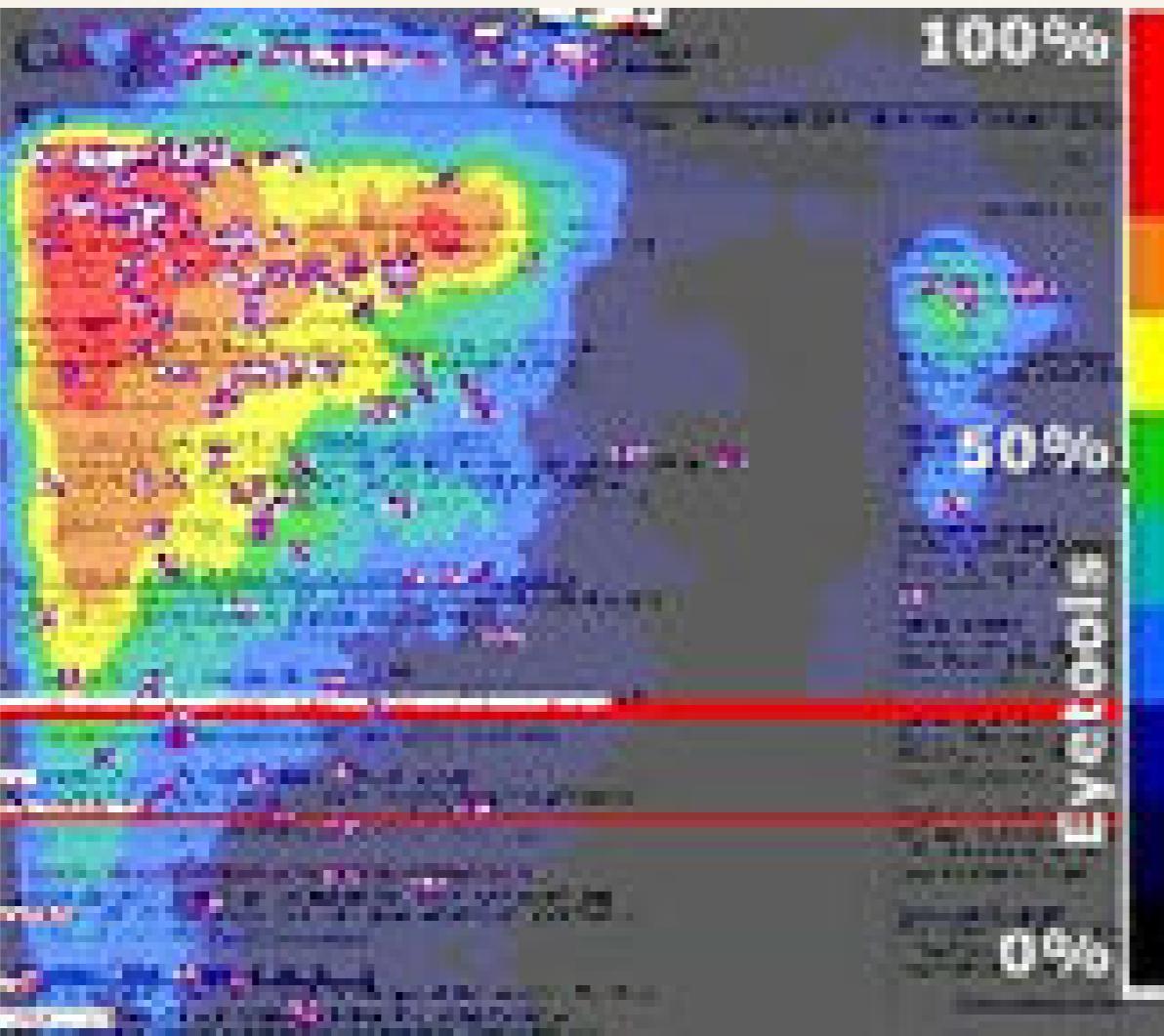
If it doesn't pan out, click the Back button and try again.

# The “Golden Triangle”



# More Golden Triangle

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- Rank 1 – 100%
- Rank 2 – 100%
- Rank 3 – 100%
- Rank 4 – 85%
- Rank 5 – 60%
- Rank 6 – 50%
- Rank 7 – 50%
- Rank 8 – 30%
- Rank 9 – 30%
- Rank 10 – 20%

Eyetools.com study of Google's page

# What it means...

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- ❖ People do not read web pages in the same way as they do a book
- ❖ Put your key message first. Use an inverted pyramid approach, starting with the conclusion
- ❖ Include one idea per paragraph. Highlight the keywords.
- ❖ Use summary descriptions, subheads, bulleted lists and short paragraphs.
- ❖ Use half the word count (or less) than conventional writing.

# Fonts

---

- \* Fonts
  - \* Generic styles universal: serif, sans, fixed, bold, italic
  - \* Specific fonts too, but vary between platforms
  - \* Color is often abused -- do not be too colorful!

Arial bold and Arial Black

**Web Dev** **Web Dev**

Arial and Impact

**Web Dev** **Web Dev**

Arial and Comic Sans

**Web Dev** **Web Dev**

Arial and Trebuchet

**Web Dev** **Web Dev**

# When fonts make a difference...

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Graphic from New York Times

# Fonts

---

- ❖ Fonts for the Web
  - ❖ Use relative font sizes (e.g. large, 120%, 1.5em) so users can enlarge the font from the browser if necessary (especially IE users)
  - ❖ Avoid CAPITALIZED LETTERS and exclamation marks!
  - ❖ Never use underlining for emphasis
  - ❖ Don't use images to display text unless it's absolutely necessary for branding

# When Fonts Go Bad...

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- ✿ Fonts imply a tone of voice...

If you wish to add/change network information, please select one of the following options.

- I WANT TO CONNECT TO AN EXISTING TIME & CHAOS WORKGROUP OR MODIFY THE CONNECTION SETTINGS.
- I WANT TO BUILD A BRAND NEW WORKGROUP.

**These choices must be really important,  
or are they?**

Time & Chaos

# Good Typography and Textual Hierarchy can tell us a lot!



This headline spans these two columns, therefore this must be the title for this story.

This must be the most important information

This is at the top, therefore it must be the biggest story

# Graphics and Color

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- ❖ Use only a few main colors on your website
- ❖ Text and background must have enough contrast but the colors should not strain the eyes
- ❖ Use meaningful graphics to show real content
- ❖ Optimize images with appropriate size and compression

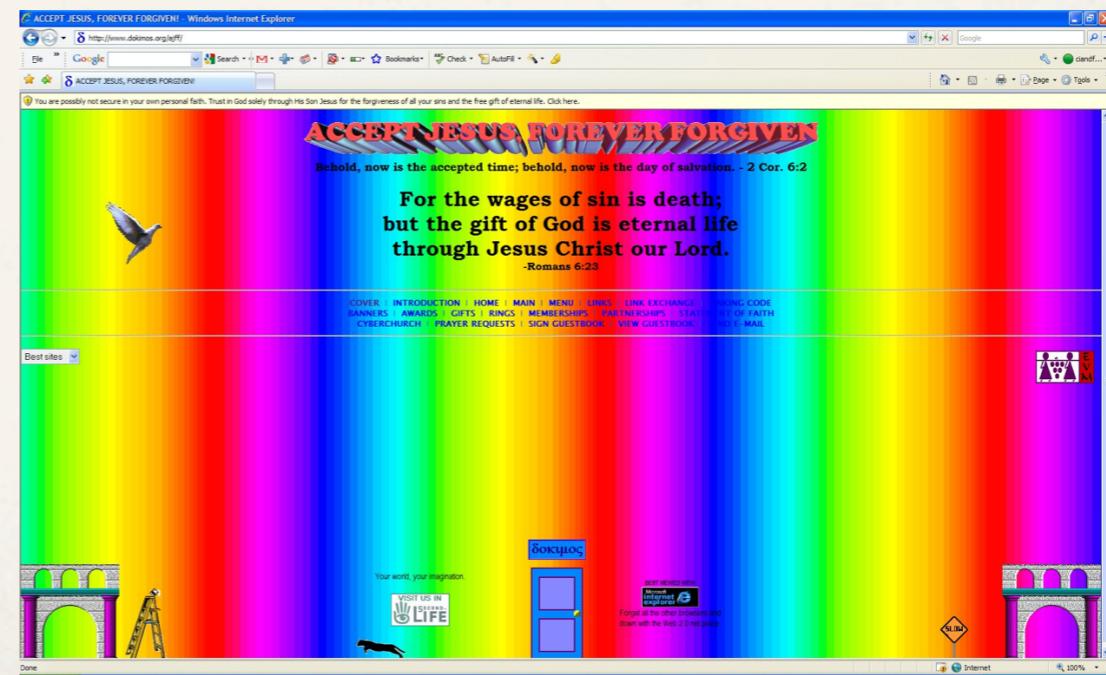
# Graphics and Color

---

- Keep illustrations simple and have short and simple text descriptions if not self-explanatory
- Use relative page layouts and stylesheets instead of hard coded tables, images and frames
- Provide a sentence between tables and text and avoid making users scroll when viewing a table.

# Graphics and Color

- Have a significant lightness difference between the information (text) and the background.
- Choose a neutral background color, like white, black, or gray if a lot of different-colored text is used.



# Flash Animation

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- ❖ Flash is not a standard but very popular
- ❖ Requires external plug-in
- ❖ 200 million downloaded from Macromedia
- ❖ Why not GIFs and DHTML?
  - ❖ Vector based → easier to scale and render
  - ❖ Smaller file size → download faster

# Flash problems

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- ❖ When not to use Flash?
  - ❖ Informational vs. entertaining
    - ❖ Difficult to update
  - ❖ Multimedia Flash
    - ❖ Bandwidth requirement
  - ❖ Give alternative when Flash plug-in doesn't exist!
  - ❖ Check plug-in compatibility and browser support



# Screen Size

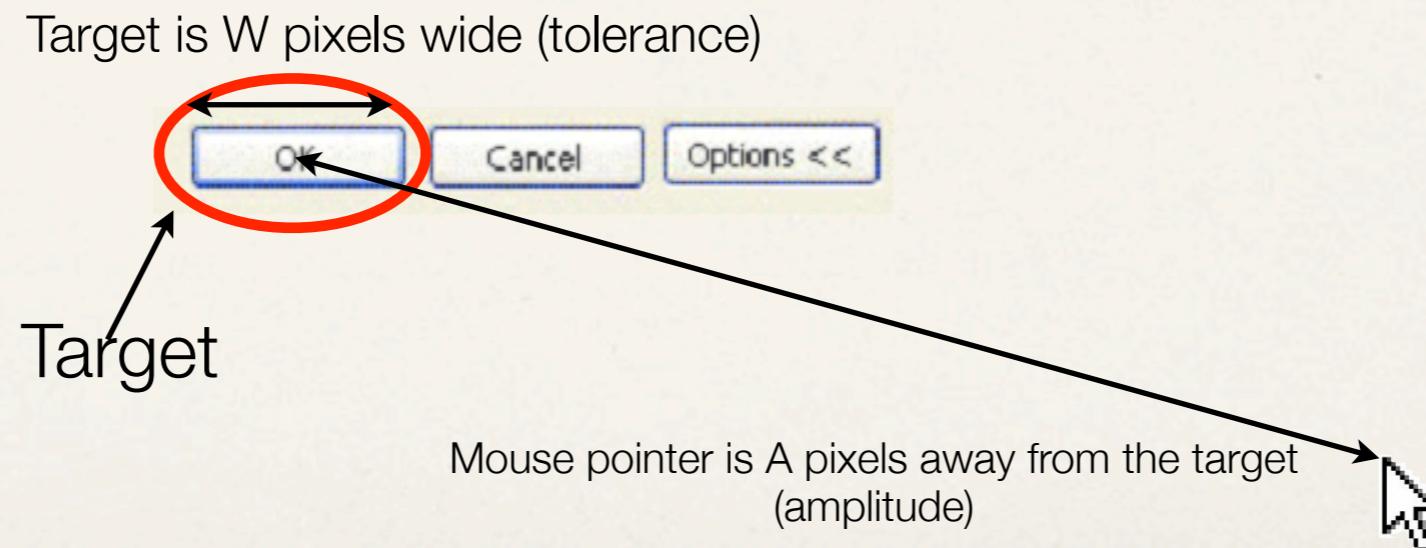
---

- ❖ Is 800x600 a standard?
  - ❖ Many monitors: still at 640x480
  - ❖ iPhone: 480x320
- ❖ No scroll at homepage at all
  - ❖ [www.useit.com/alertbox/9605.html](http://www.useit.com/alertbox/9605.html)
  - ❖ Most people never scroll “past the fold”

# Button Size

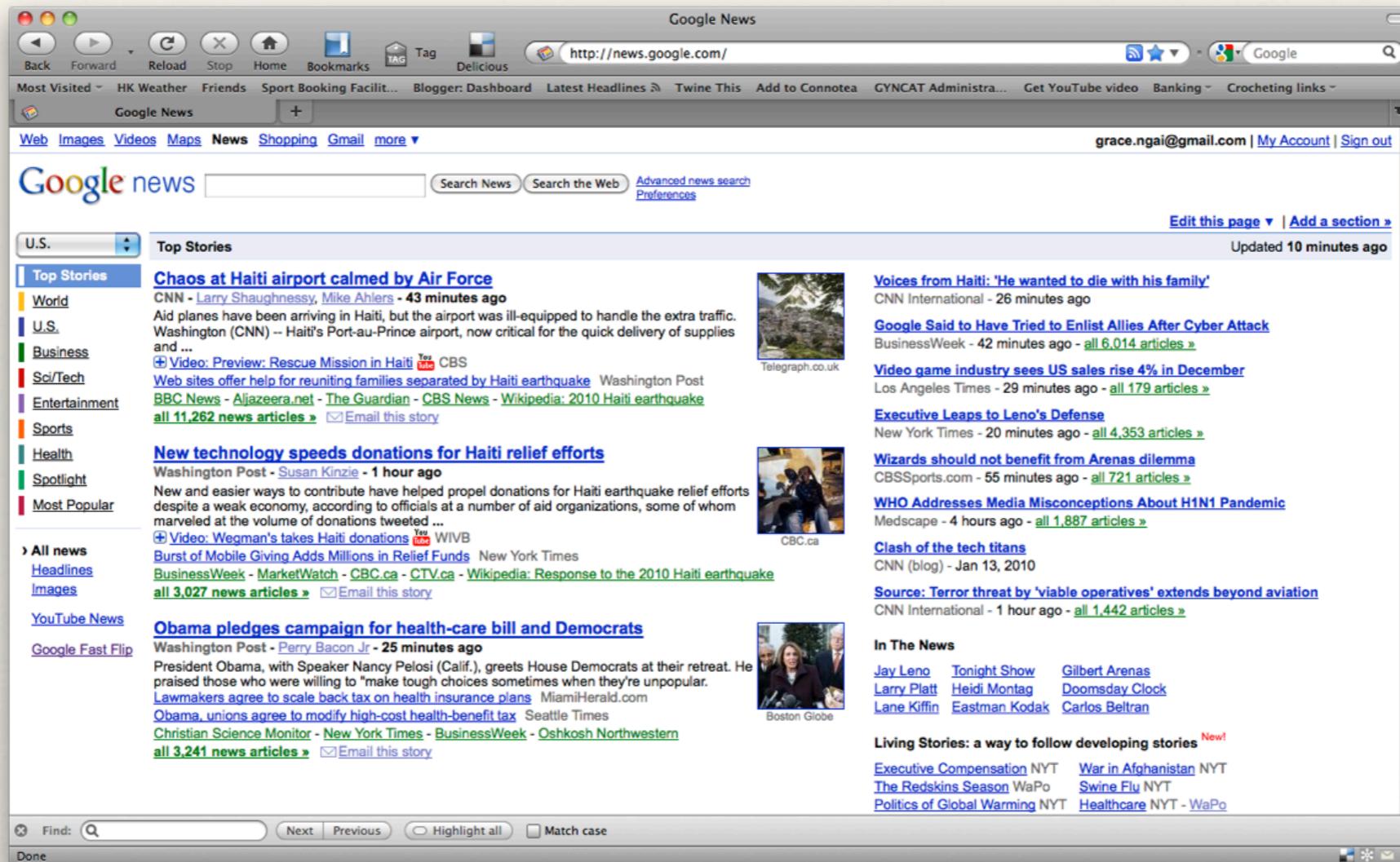
---

- ❖ Fitts' Law
  - ❖ Probably the *only* widely accepted law in HCI.
  - ❖ Quantifies difficulty of clicking on a target =  $ID = \log_2(2A/W)$



# Fitts' Law for the web...

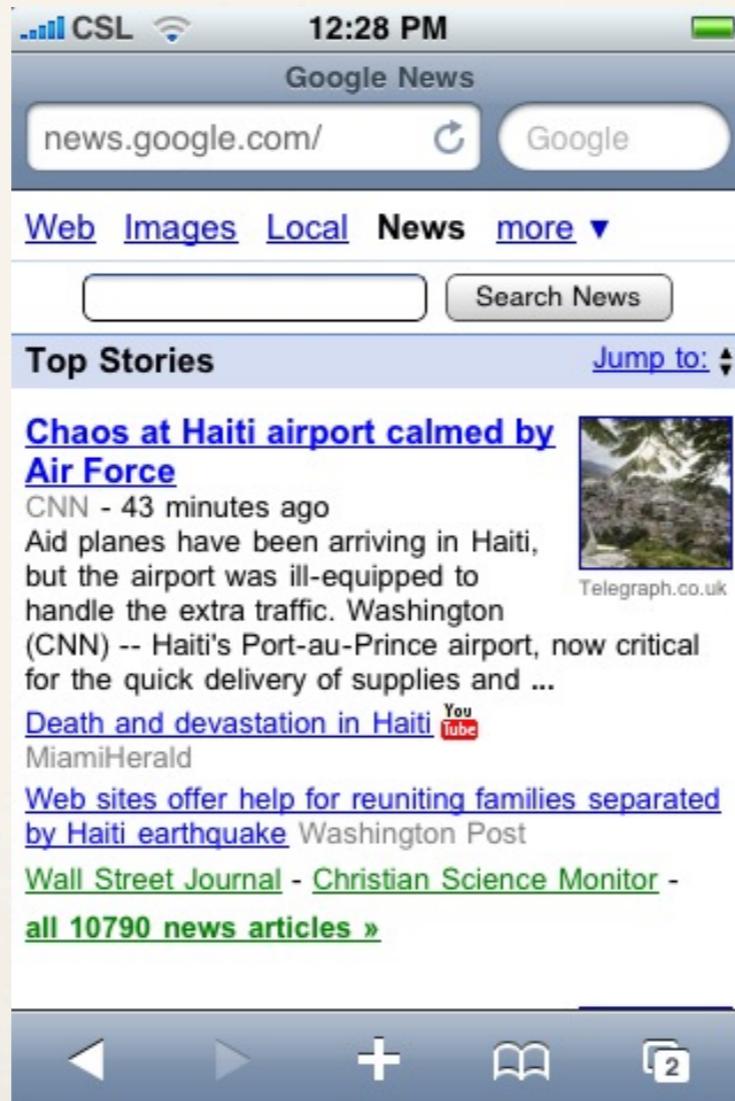
- Imagine navigating this page on an iPhone...



# Fitts' Law for the Web...

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- ❖ Thank goodness Google knows HCI!



# USPS iPhone App

**Look Up a ZIP Code™**

- ZIP Code by Address >
- ZIP Codes by City >
- Cities in a ZIP Code >

Your Current ZIP Code:  
**94104**

**Locations**   **ZIP**   **ZIP Codes™**   **Track**   **More**

**Track & Confirm**

Edit   **C**

Enter Your Tracking Number

24946432576797453364   IN-TRANSIT

58942052730481015577   IN-TRANSIT

20012278335772494090   DELIVERED

**Locations**   **ZIP**   **ZIP Codes™**   **Track**   **More**

**Locations**

What are you looking for?

**Post Office™ Locations**

**Automated Postal Centers®**

**Collection Boxes®**

After you see your results, you can change your location type by hitting the location type icon in the upper-right of the map view.

**Locations**   **ZIP**   **ZIP Codes™**   **Track**   **More**

Back

**Georgetown**

**Details**   **Hours**

**Get Directions**

**Add to Contacts**

**Call (800) ASK-USPS**

Distance: **0.21mi**

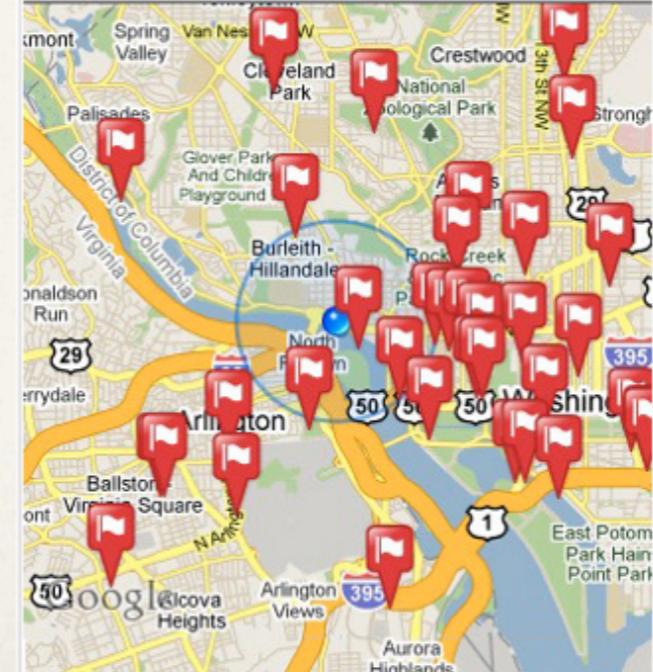
Address: 1215 31ST ST NW  
WASHINGTON, DC 20007-3423

Services: POBOXONLINE

**Locations**   **ZIP**   **ZIP Codes™**   **Track**   **More**

**Map**   **List**

Enter an Address



**Locations**   **ZIP**   **ZIP Codes™**   **Track**   **More**

# Printing

---

- ❖ An extra printer-friendly version of the web page which opens in a separate browser window
- ❖ Printable version contains no frames and navigation bars
- ❖ Use a standard one-column format
- ❖ Background color is usually white
- ❖ Scripts or style sheets can be used to create a printer-friendly page automatically

# Bad Printing Example

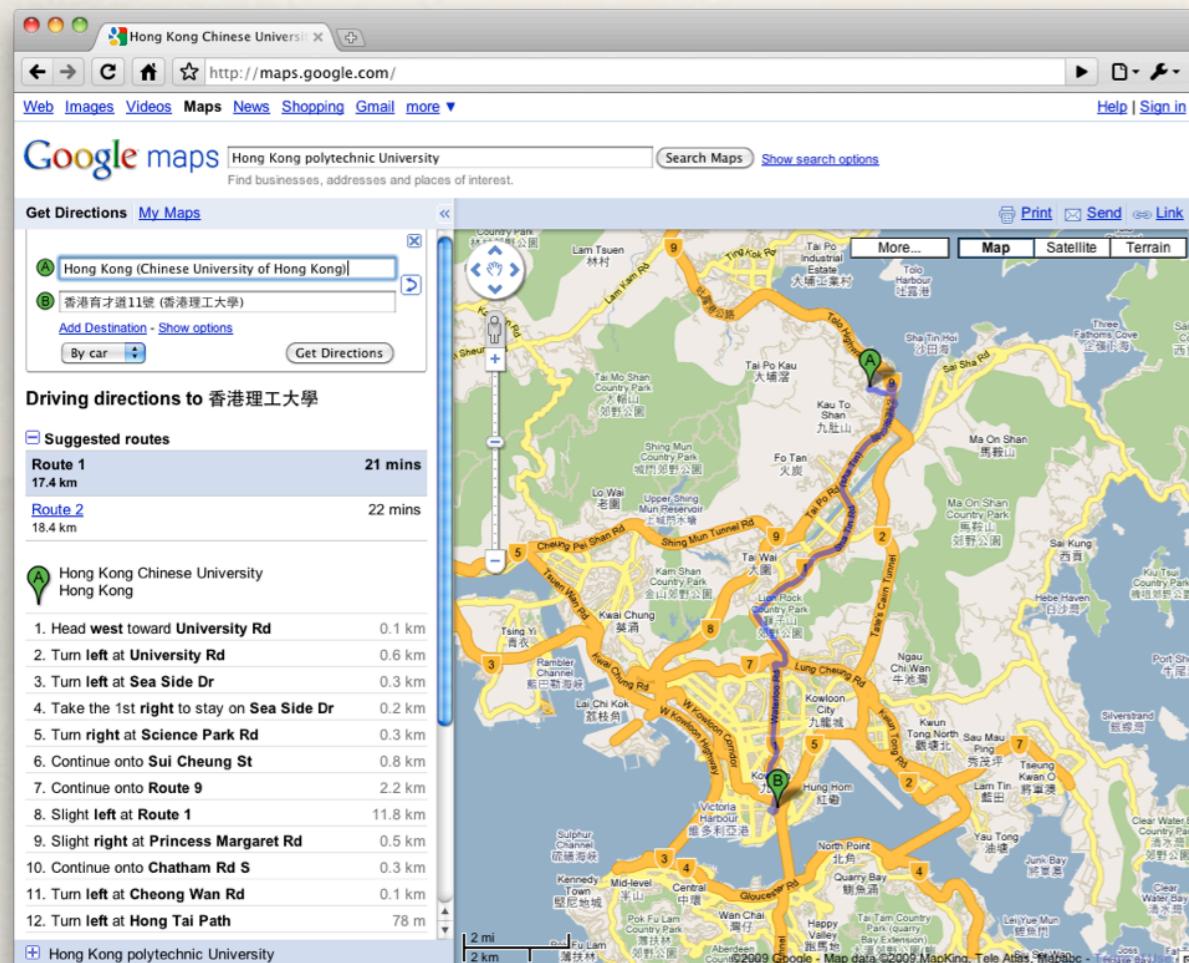
Address  <http://www.faqs.org/docs/htmltut/frames/nestedfs.html>

## Great Recipes

CONTENTS	
<a href="#">Breakfast Tacos</a>	<b>Breakfast Tacos</b>
<a href="#">Greek Salad</a>	<ul style="list-style-type: none"><li>• two good sized red potatoes</li><li>• small onion</li><li>• bell pepper</li><li>• green onions</li><li>• dash of: cumin, chili powder, garlic, oregano, basil, pepper</li><li>• pinch of salt</li><li>• fresh cilantro</li><li>• bit of oil</li><li>• tomatoes</li><li>• whole wheat tortillas</li><li>• salsa (optional)</li><li>• lime (optional)</li></ul>
<a href="#">Mexican Beans and Rice</a>	Dice up potatoes and cook in pan that has been lightly covered with oil (I use olive
<a href="#">Refried Beans</a>	pepper, and green onions. Brown. Add spices. Add diced tomatoes. Cook until pot
<a href="#">Sweet &amp; Sour Bean Dish</a>	cilantro.
<a href="#">Credit</a>	Warm tortillas, add potato mixture. (I warm my tortillas on the stove top with foil
<a href="#">Back to Tutorial</a>	gas stove, or a tortilla warmer, you're lucky!) Optional are added fresh lime juice to
<small><a href="#">About the Author</a> Copyright 1997-2002 Idocs Inc. Content in this guide is offered freely to the public under the terms of the <a href="#">Open Content License</a> and the <a href="#">Open Publication License</a>. Contents may be redistributed or republished freely under these terms so long as credit to the original creator and contributors is maintained.</small>	<small>Comments 0   Log In</small>

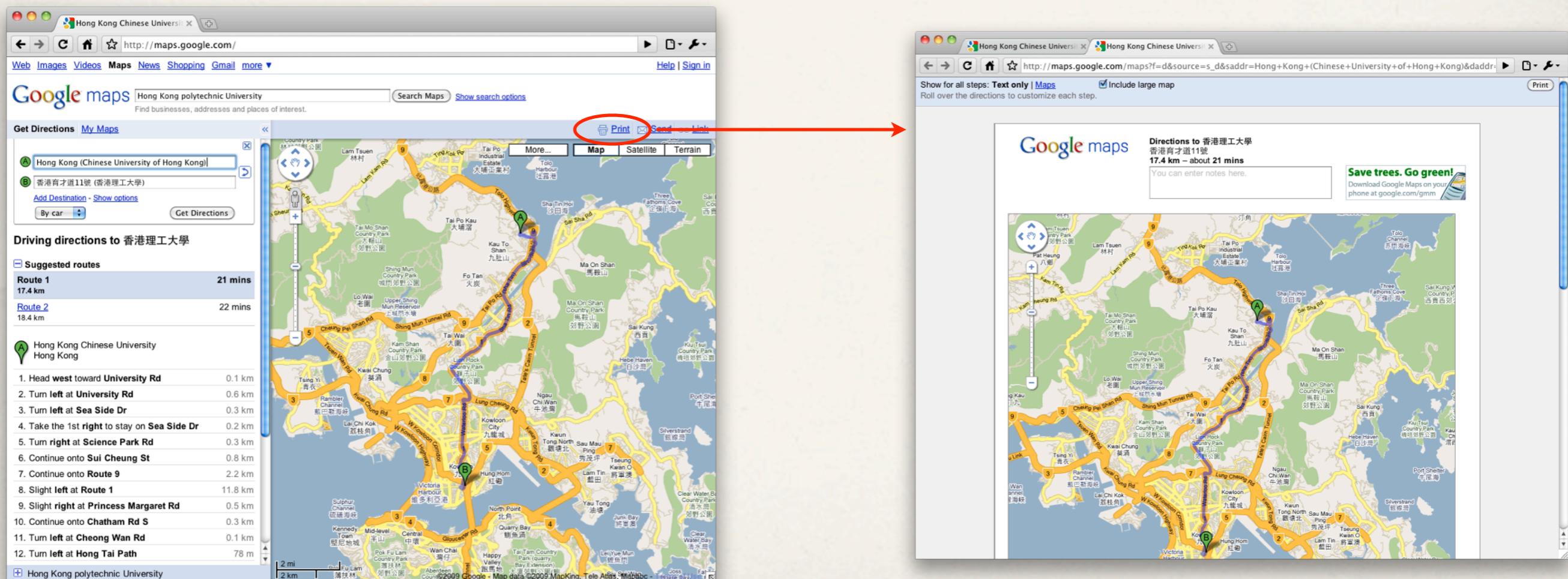
# Include a “Print this” option

- And make sure that what comes out is really printer-friendly!



# Include a “Print this” option

- And make sure that what comes out is really printer-friendly!



# Another good printing example

For Google, a Threat to China With Little Revenue at Stake

By MIGUEL HELFT  
Published: January 14, 2010

SAN FRANCISCO — Google has said principle drove its threat to back out of China unless the government there allowed it to run its search engine without censorship.

[Enlarge This Image](#)



Google's Chinese headquarters in Beijing. The company's revenue in the country last year was \$300 million, a tiny slice of its more than \$22 billion in global sales.

**Related**

Follow the Law, China Tells Internet Companies (January 15, 2010)

Analysts say that inevitably, the decision was a business calculation, too.

Google's business in China, for now, remains small. Estimates put Google's China revenue last year at about \$300 million, a tiny fraction of its more than \$22 billion in global sales.

Still, Google's investment in China includes building a staff of more than 600 people there, many of them highly paid engineers. And in October, Eric E. Schmidt, Google's chief executive, predicted that China would become a dominant market for online businesses, saying that in five years, the Internet "will be more non-English, it will be Chinese."

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# Another good printing example

The screenshot shows a web browser window with the following details:

- Title Bar:** "For Google, a Threat to China" (with a small logo icon).
- Address Bar:** "http://www.nytimes.com/2010/01/15/world/asia/15google.html?ref=technology&pagewanted=print"
- Page Content:**
  - Header:** "The New York Times".
  - Text:** "This copy is for your personal, noncommercial use only. You can order presentation-ready copies for distribution to your colleagues, clients or customers [here](#) or use the "Reprints" tool that appears next to any article. Visit [www.nytreprints.com](#) for samples and additional information. [Order a reprint of this article now.](#)"
  - Date:** "January 15, 2010".
  - Title:** "For Google, a Threat to China With Little Revenue at Stake".
  - Byline:** "By [MIGUEL HELFT](#)".
  - Text:** "SAN FRANCISCO — [Google](#) has said principle drove its threat to back out of [China](#) unless the government there allowed it to run its search engine without censorship."
  - Text:** "Analysts say that inevitably, the decision was a business calculation, too."
  - Text:** "Google's business in China, for now, remains small. Estimates put Google's China revenue last year at about \$300 million, a tiny fraction of its more than \$22 billion in global sales."
  - Text:** "Still, Google's investment in China includes building a staff of more than 600 people there, many of them highly paid engineers. And in October, [Eric E. Schmidt](#), Google's chief executive, predicted that China would become a dominant market for online businesses, saying that in five years, the Internet "will be more non-English, it will be Chinese." Clearly, Google has high hopes for its business there."
  - Text:** "But there is also an economic value, even if it is hard to gauge, of the good will that Google's decision has earned it. And it comes at an opportune moment."
  - Text:** "For much of the last year, the company has been under attack for disregarding the rights of individual authors as it builds an immense digital library and bookstore. The company, which needs users of its Gmail and other services to trust it with their data, has been criticized for its privacy practices. And the federal government began multiple antitrust investigations into its business."
  - Text:** "Lately, it has been difficult to find anyone in Silicon Valley who would utter Google's "Don't be evil" motto without a bit of a ..."- Right Sidebar:** "GOLDEN GLOBE® NOMINATIONS" (SPONSORED BY)

# Navigation Design

- ❖ A website is like a building, just one where one wrong step lands you in another building.
- ❖ Use persistent navigation to remind users of “where they are”.
- ❖ Like the name of the building.

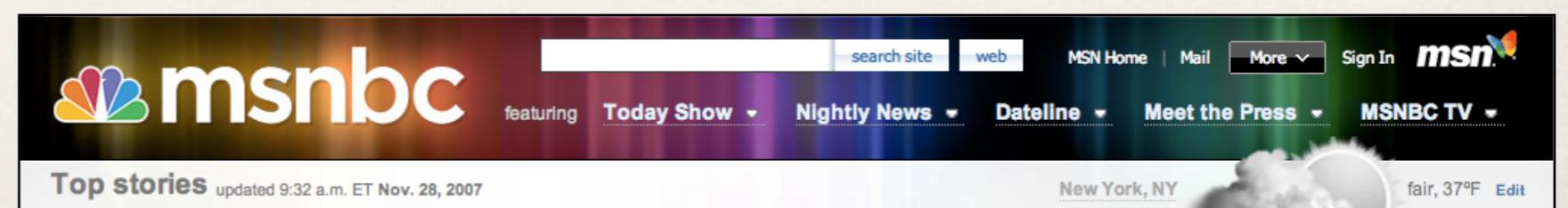
Inside NYTimes.com



Still inside NYTimes.com



Now inside MSNBC



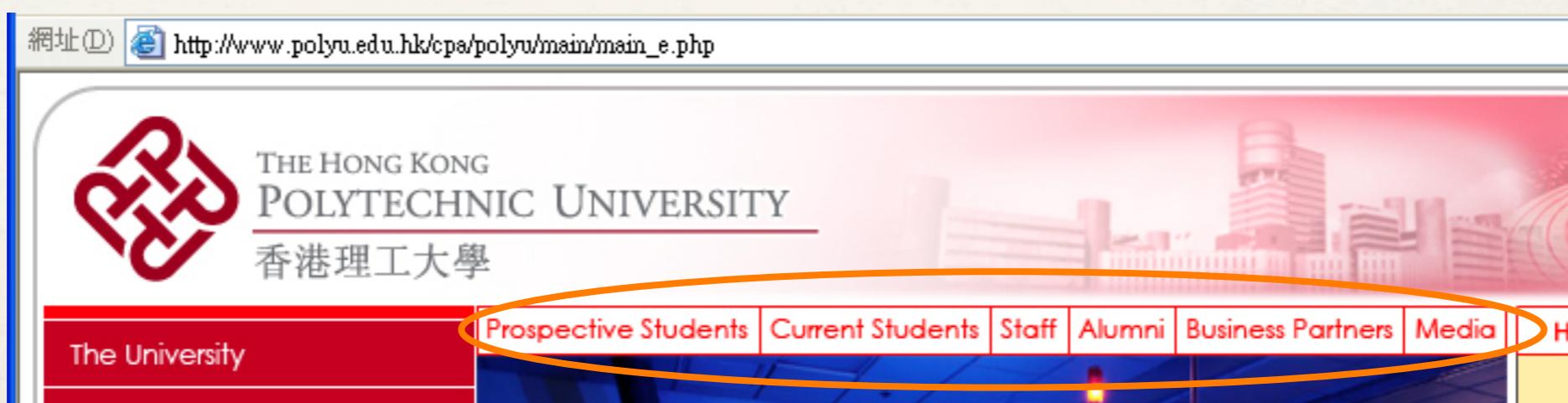
# Navigation Design

- ❖ Sectional navigation
  - ❖ Web pages are grouped into different sections
  - ❖ Indexes provide for different content sections
  - ❖ E.g., press sites group news into local news, international, financial, education, etc



# Navigation Design

- ❖ Audience-splitting
  - ❖ Web pages for specified user populations are grouped together
  - ❖ E.g., The Hong Kong Polytechnic University Web Site organizes web pages according to user roles (prospective students, current students, staff, alumni etc.)



# Navigation Design

- ❖ Whatever you do -- don't overdo it.



# Navigation Design

---

- ❖ Breadcrumbs
  - ❖ Shows the location of the page within the site hierarchy.
  - ❖ Not necessarily “the path that got us here”

The screenshot shows a travel website's navigation bar and search results. The breadcrumb trail at the top reads: Travel > Guides > North America > United States > New York > New York City > Things to do. Below this, the main title is "Things to do in New York City (547)". On the left, there's a "REFINE RESULTS BY" section with a "City" dropdown menu showing "Boston (153)". On the right, there's a "SORT BY:" section with options "Popularity | Name | Distance". At the bottom, there's a list of items, with the first one being "Central Park". A "Play" button with a play icon is located in the bottom right corner.

Travel > Guides > North America > United States > New York > New York City > Things to do

**Things to do in New York City (547)**

REFINE RESULTS BY

CITY

Boston (153)

SORT BY: Popularity | Name | Distance

Play ►

Central Park

# Navigation Design

---

- ❖ Layout Design
  - ❖ Use a consistent layout. Define global and individual page templates
  - ❖ Use a clean visual design
  - ❖ Use headings, lists and consistent structure to increase legibility
  - ❖ Use consistent CSS for layout and style where possible

# Layout Design

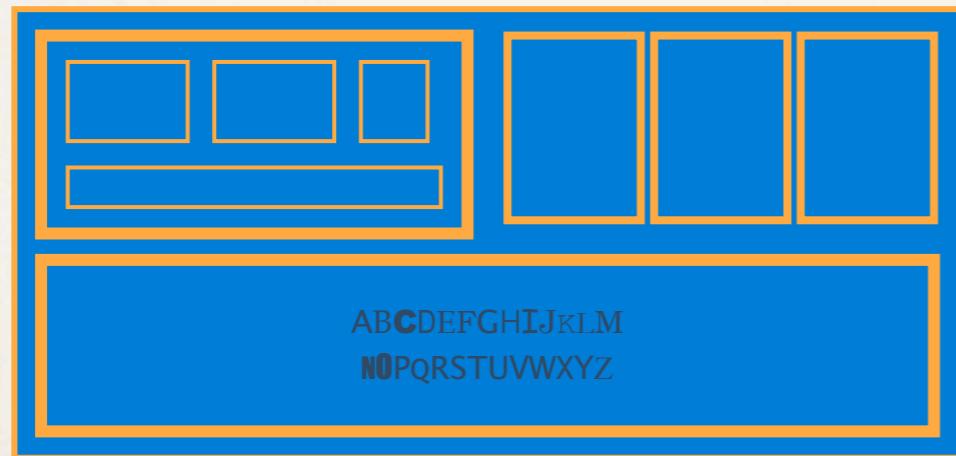
---

- \* Use tables
- \* Logically together vs. physically together

# Layout Design

---

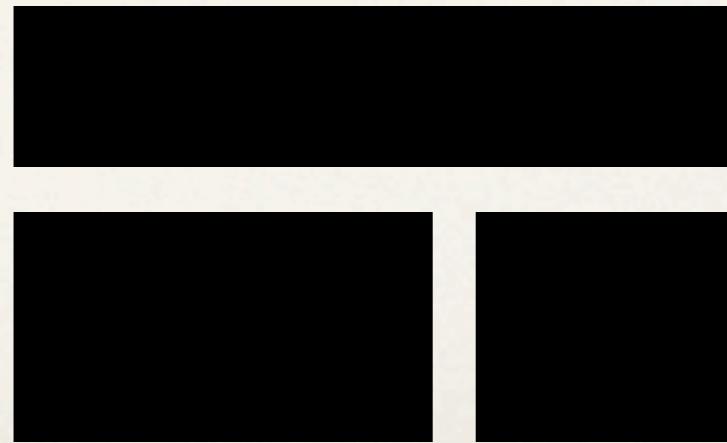
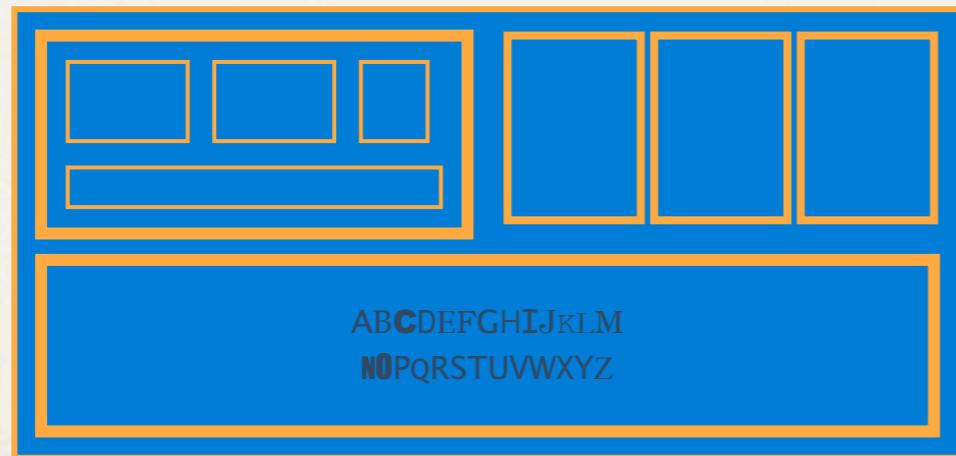
- \* Use tables
- \* Logically together vs. physically together



# Layout Design

---

- \* Use tables
- \* Logically together vs. physically together



# Layout Design

- Using of tables - examples

Hong Kong SAR Government Information Centre - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Favorites Go Address <http://www.info.gov.hk/eindex.htm>

繁體 簡體 [Text Only Index](#)

Wednesday, March 21, 2007

**Hong Kong Special Administrative Region of the People's Republic of China**

21°C

Weather

Traffic Conditions

Sitemap

What's New

Search

Contact us

**Government**

- Bureaux/Departments
- Government Structure
- Email Addresses
- Telephone Directory
- Recommended Sites

**Government Services**

- E-Government
- Electronic Services
- Employment
- Business
- Leisure, Culture

**General Information**

- A to Z Index
- About Hong Kong
- Gazette
- Laws
- Tenders
- Govt Vacancies

**News**

- Press Releases [RSS](#)
- Webcast
- News in Focus
- Archives
- Consultation Papers

Visit GovHK, the new HKSAR Government portal, for a full range of online government information and services.

Chief Executive Election 2007-08 The Budget ACTION AGENDA GovHK 10th Anniversary news.gov.hk

YPIP & YWEIS Trainee Recruitment ESD Copyright Protection in Digital Environment 5 天工作 Tax Reform HONG KONG

Best viewed with Internet Explorer 5.0 / Netscape 4.7 or above and with 800 x 600 resolution

HOME PAGE MY TIMES TODAY'S PAPER VIDEO MOST POPULAR TIMES TOPICS TimesSelect Free 14-Day Trial Log In Register Now

EXTRADE

Tuesday, August 14, 2007 Last Update: 2:02 PM ET

MATTEL ISSUES NEW RECALL OF CHINESE TOYS

By RANDI RAFFERTY and CHRISTOPHER STOLLER 20 minutes ago

The world's largest toy company announced its second major recall of toys from China contaminated with lead paint.

- Recall Information From Mattel -  
- Mattel Recalls About 46 Million  
- Better 7:30 AM ET  
- Times Topic: Product Safety

U.S. Allocates \$354 Million to Reduce New York Traffic

By ANDREW SITTICK and WILLIAM NEUMAN 11:57 AM ET

The U.S. Department of Transportation will help finance Mayor Michael R. Bloomberg's plan to reduce traffic in Manhattan.

- More From City Room  
- Times Topic: New York  
- Times Topic: Michael Bloomberg  
- Times Topic: Transportation

PHIL RIZZUTO, YANKEES SHORTSTOP, DIES AT 89

By JEREMY GARNER 11:44 AM ET

The sure-handed Hall of Fame shortstop, nicknamed the Boomer, went on to become a beloved broadcaster. Born 1918, Rizzuto at Old-Timers' Day at Yankee Stadium in 2004.

- Times Topic: The Yankees' Finest Hour  
- Times Topic: Phil Rizzuto

IMAM AND CBS REACH SETTLEMENT OF THREATENED Suit

By THE ASSOCIATED PRESS 10 minutes ago

Iran is reportedly in negotiations with WABC radio in New York to resume hit broadcasting career cleric.

- More From City Room | Times Topic: Iran  
- Times Topic: Religion

DUSTED THAI LEADER SLANTS PUNTA

By SCOTT MULHOLLAN 11:35 AM ET

From exile in London, Thaksin Shinawatra is watching and, perhaps, waiting for his moment to return.

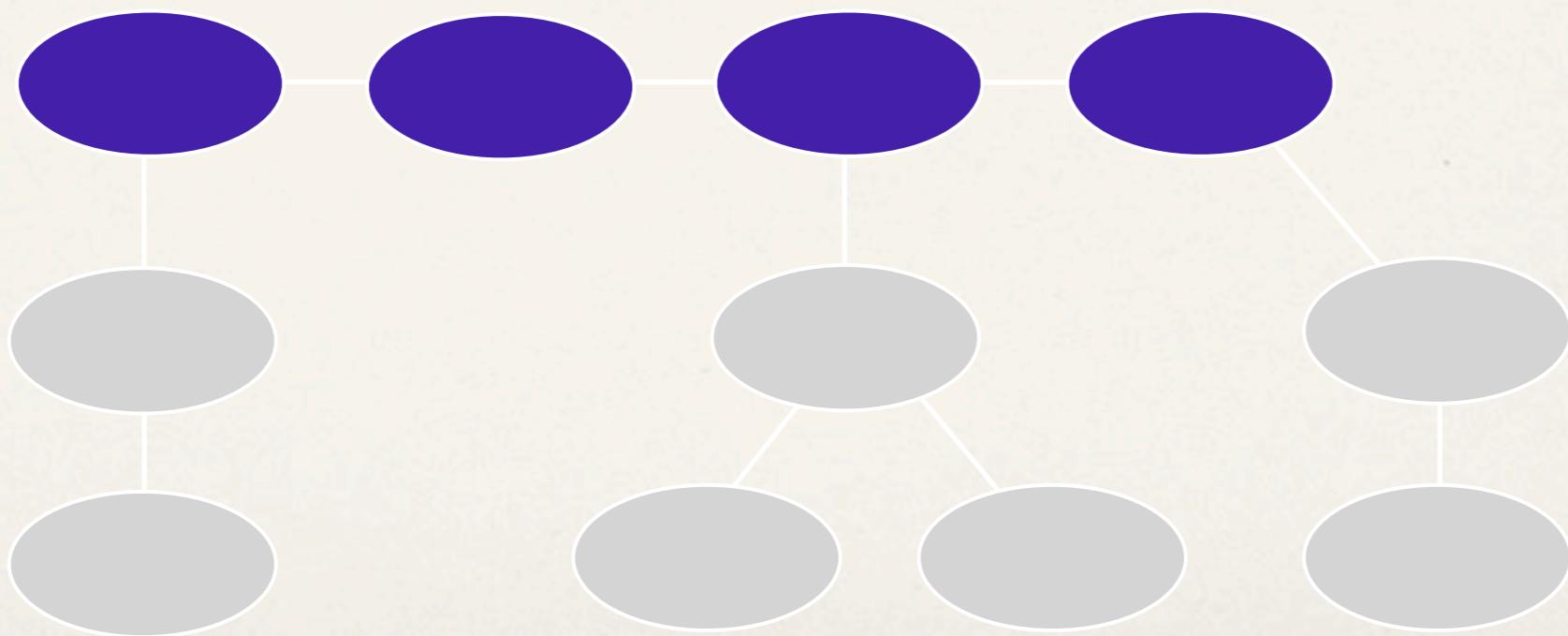
MORE NEWS

THE ST. REGIS NEW YORK OWN

# Navigation Design

---

- ❖ Site maps
- ❖ Definition: A list of the contents of the site, organized to reflect the structure of the site by section and subsection



# Web Structure

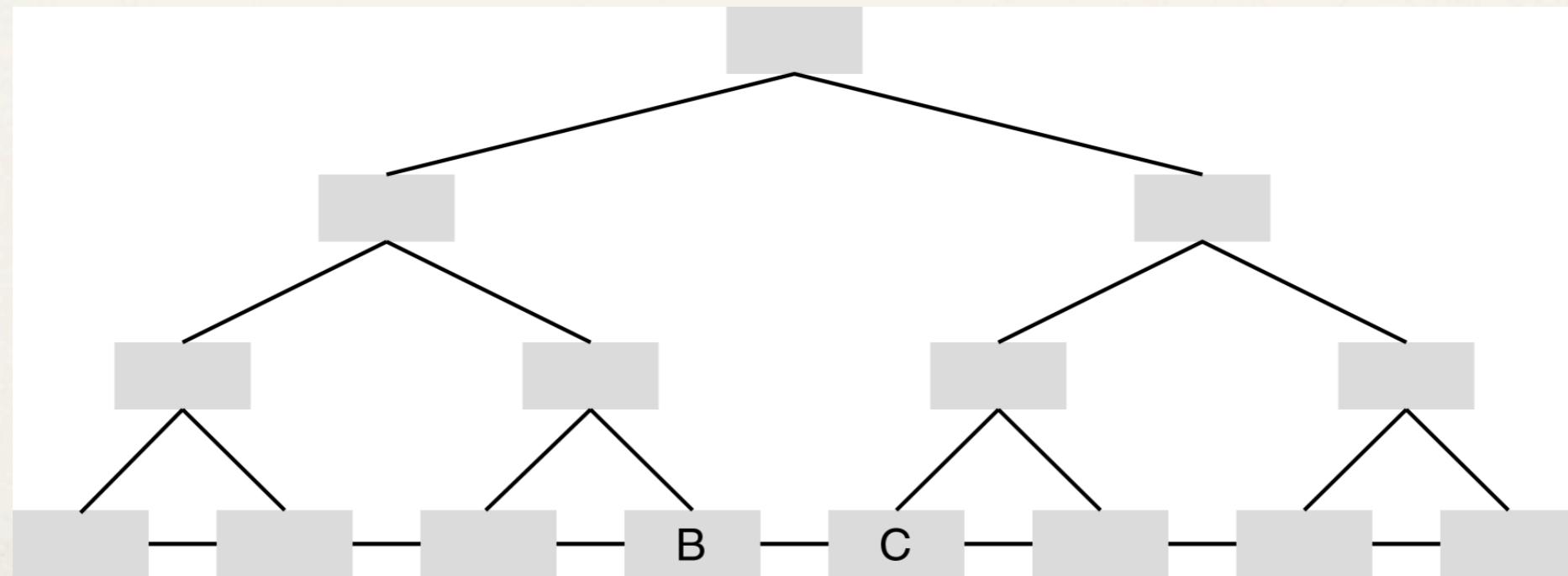
---

- ❖ Four types of organization of information on the web site:
- ❖ Linear
  - ❖ E.g. process flows, prioritized lists
- ❖ Hierarchical
  - ❖ E.g. computer directories, taxonomy classification
- ❖ Network
  - ❖ Requires lots of user memory on the path navigated
- ❖ Grid
  - ❖ E.g. databases, multi-parent hierarchical models

# Web Structure

---

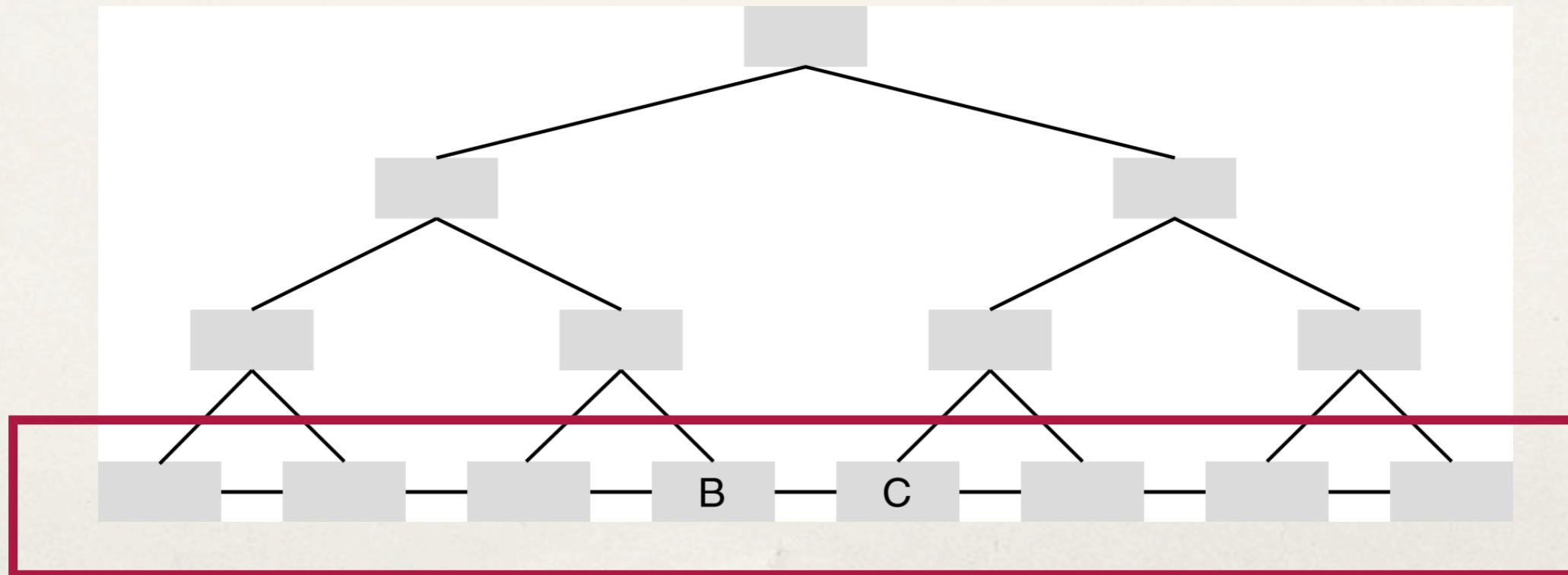
- ❖ Rare to use only one
- ❖ Most websites build on a judicious combination of these four, with one dominant theme
  - ❖ Hierarchical plus networks very common
  - ❖ We add links to facilitate moving around the hierarchy without going all the way to the top; note extra links at bottom level



# Web Structure

---

- ❖ Rare to use only one
- ❖ Most websites build on a judicious combination of these four, with one dominant theme
  - ❖ Hierarchical plus networks very common
  - ❖ We add links to facilitate moving around the hierarchy without going all the way to the top; note extra links at bottom level



# Web Structure

- For a small site, it may be possible to show all main links from all pages...



# Search

- ❖ Most important feature on the homepage of a site.
- ❖ Many users look for this immediately
- ❖ Make searching functionality as good as it can be (use meta-tags to anticipate user variations), and make searching options obvious.

The screenshot shows a search interface with the following elements:

- Search Types:** Keyword, Title, Author, Author+Title, Subject, Call No., ISBN/ISSN.
- Search Modes:** Basic (selected) and Advanced.
- Search Fields:** A large input field for keywords with placeholder text "Type the keyword(s) in the box below then press Submit." Below it are buttons for "View Entire Collection" and "Submit".
- Example:** "Type the keyword you want to find. For example:
  - good to great
  - Indian cooking"
- Links:** Locating Library Materials.
- Other Searches:** HKALL & Other Libraries, Course Reserves.
- Quick Links:** myRecord, Library PIN, Renew & Request, Loan Privileges, New Additions, Catalogue User Guide.
- Help:** Need Search Tips?

A black callout box with a white border is positioned over the search fields. It contains the text: "What's a keyword? Is it the same as a title?" A black arrow points from the top-left of this callout box towards the "Basic" search mode button.

# Forms

---

- \* Allow bi-directional interactivity
  - \* But — must be painless for users to actually use them!
- \* Always put the “Submit” button at the bottom or the beginning of all information.
- \* Size the input fields to reflect the length of the expected information
- \* Put comments for input fields in the same place for all data items. Don’t mix right and left
- \* Group related fields together
- \* Limit user choices (and work!)

# Forms

---

- ❖ If you must use multi-level forms, follow conventions for “Next” and “Back”



Please create your login ID and password:

Login ID:  @netvigator.com  
(max 10 characters, including letters or numbers)

Password:    
(max 10 characters, including letters or numbers)

Re-type Password:

Two large blue circular icons are positioned at the bottom left of the form.

# Forms

---

- ❖ If you must use multi-level forms, follow conventions for “Next” and “Back”



Please create your login ID and password:

Login ID:  @netvigator.com  
(max 10 characters, including letters or numbers)

Password:  (max 10 characters, including letters or numbers)

Re-type Password:

**Next** **Back**

# Vertical Global Navigation Bar

- ✿ Pretty much a standard nowadays

Global  
navigation



 **GovHK 香港政府一站通**

[Home](#) [About Hong Kong](#) [Government Directory](#) [Online Services](#) [RSS Feeds](#) [Help Desk](#)

Home > Residents

**For Residents**

- [Communications & Technology](#)  
Anti-spam, Public Facilities >
- [Culture, Leisure & Sports](#)  
Fun in HK, Library, Overseas Travel >
- [Education & Training](#)  
Special Services, Financial Assistance, Exams >
- [Employment](#)  
Job Search, Recruitment, Compensation, MPF >
- [Environment](#)  
Green Living, Conservation, Complaints >
- [Government, Law & Order](#)  
Elections, Rights, Publications, Crime Prevention >

**About**

- [Health & Medical Services](#)  
Hospitals, Health Advice, Nutrient Info
- [Housing & Social Services](#)  
Home Safety, Moving Home, Family S
- [Immigration Services](#)  
ID Card, Birth/Death/Marriage, Travel I
- [Taxes & Duties](#)  
Tax Filing, Business Registration, Dut
- [Transport & Motoring](#)  
Driving Licence, Vehicle Registration,

# Contextual Links

---

- ❖ Recommended rather than to insert URLs directly to web pages
- ❖ Reveals to surfers something about the content of the linked web pages

# Navigational Control

---

- ❖ The web site should provide the following navigational control, whenever possible:
  - ❖ Table of contents
  - ❖ Taxonomy
  - ❖ Vocabulary-limited indexes
  - ❖ Search
  - ❖ Site map
  - ❖ Location identification (or path navigation, breadcrumbs)
  - ❖ Navigational control panel for all HTML pages

# Principles of Successful Navigation

---

- ❖ Be easily learned
- ❖ Remain consistent
- ❖ Provide feedback
- ❖ Appear in context
- ❖ Offer alternatives

# Principles of Successful Navigation

---

- ❖ Require an economy of action and time
- ❖ Provide clear visual messages
- ❖ Use clear and understandable labels
- ❖ Be appropriate to the site's purpose
- ❖ Support user's goals and behavior

# Multimedia Issues

---

- ✿ Don't over-use graphics and animations. Graphics and animations tend to occupy large portion of areas in most pages. Proportionally, there is less space to convey a message in text
- ✿ Graphics need to be designed so that they will not degrade performance and viewability on low-end systems.
- ✿ Don't design specifically for one browser or platform

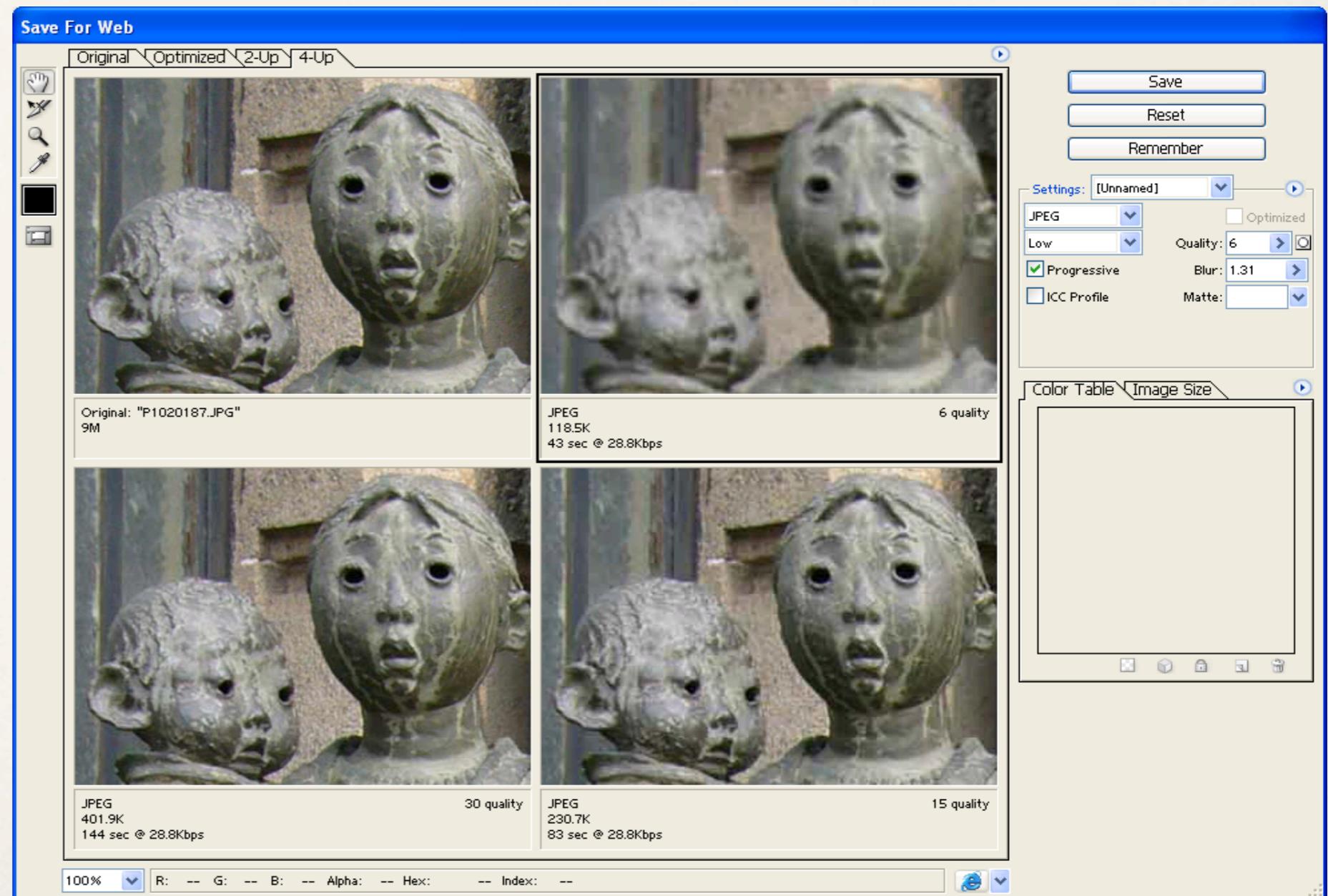
# Dealing with Multimedia

---

- ❖ Delivery Concerns
  - ❖ Speed Issues
    - ❖ User starts to wonder after 10 seconds.
    - ❖ Jacob Nielsen, [www.useit.com](http://www.useit.com)
  - ❖ Progress loading
    - ❖ Use of progressive JPEG files, progress indicators
    - ❖ E.g. [www.islandpress.com](http://www.islandpress.com)

# Delivery Concerns

- ❖ Progressive JPG



# Delivery Concerns

- \* Progress Indicator



# Dealing with Multimedia

---

- ❖ Visual Communications Concerns
  - ❖ Use graphics only when they add value
  - ❖ Graphics need to be designed so that they will not degrade performance, and viewability on low-end systems.
  - ❖ Don't make graphics look like buttons but don't link to anything
  - ❖ Provide alternate text for every graphic. Alternate text displays in the event that the graphic doesn't

# Dealing with Multimedia

---

- Visual Communication Concerns

- Use anti-aliasing for most text in graphics as it makes graphics look more polished and professional.
- However, for type under 10 points, it's better to turn off anti-aliasing for small text as it may blur the whole letter shape and make the text less readable



aliased



anti-aliased

# Dealing with Multimedia

---

- ❖ Visual Communication Concerns
  - ❖ Don't use too many colors as it's visually chaotic and makes it difficult to prioritize the information
  - ❖ Don't use wild background tile patterns as it makes it difficult to read the text on the page.

# “Trunk Test” for a web page

---

- ❖ How quickly/easily can you figure out the key contents on a web page?
  - ❖ What site is this? (Site ID)
  - ❖ What page am I on? (Page Name)
  - ❖ What are the major sections of this site? (Site Sections)
  - ❖ Where am I in this site, and what are my options at this level? (Local Navigation)
  - ❖ Can I search?
- ❖ A well-designed site should let you find these elements quickly with minimum effort.



Grace's Amazon.com

Today's Deals

Gifts &amp; Wish Lists

Gift Cards

Your Account | Help

Shop All Departments

Search **Photographs**

GO



Your Lists

Home &amp; Garden

Browse Brands &amp; Products

Bestsellers

Bedding &amp; Bath

Vacuums

Kitchen &amp; Dining

Patio &amp; Garden

Outlet

**Category**

- < Home & Garden
- < Furniture & Décor
- < Home Décor
- < Artwork

**Photographs**

- Limited Edition Photographs (549)

**Frame Type**

- Any Frame Type**
- Framed (32)
- Unframed (8,570)

**Color Type**

- Any Color Type**
- Black & White (117)
- Color (343)

**Style**

- Any Artwork Style**
- Ancient & Classic Art (6)
- Pre-Raphaelite Art (28)
- Realism (38)
- Modern Art (41)
- Contemporary Art (45)

**Subject****Home & Garden > Furniture & Décor > Home Décor > Artwork > Photographs**

Showing 1 - 24 of 63,156 Results

&lt; Previous | Page: 1 2 3 ... | Next »

Sort by Bestselling

1.

**Boston Red Sox 2007 World Series Champions Newspaper Collage**Buy new: \$20.99 **\$26.99**

In Stock

(1)

2.

**Boston Red Sox 2007 World Series Champions Team Sit Down picture**Buy new: \$7.00 **\$5.49**

In Stock

(2)

3.

**1918 Boston Red Sox World Series Champions**Buy new: \$7.00 **\$4.99**

In Stock

(1)

4.



5.



6.



# Site ID

**amazon.com** Hello, Grace Ngai. We have [recommendations](#) for you. (Not Grace Ngai?)

It's never too early to shop  and get FREE Super Saver Shipping  
Restrictions Apply

Grace's Amazon.com Today's Deals  Gifts & Wish Lists  Gift Cards  Your Account | Help

Shop All Departments  Search **Photographs**  Cart

Home & Garden Browse Brands & Products Bestsellers Bedding & Bath Vacuums Kitchen & Dining Patio & Garden Outlet

**Category**

- < Home & Garden
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Home & Garden > Furniture & Décor > Home Décor > Artwork > **Photographs**

Showing 1 - 24 of 63,156 Results « Previous | Page: 1 2 3 ... | Next » Sort by Bestselling

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Buy new: \$7.00 **\$4.99**  
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4.   
5.   
6. 

# Site ID

**amazon.com** Hello, Grace Ngai. We have [recommendations](#) for you. (Not Grace Ngai?) It's never too early to shop  and get FREE Super Saver Shipping Restrictions Apply

Grace's Amazon.com Today's Deals  Cart Your Account | Help

Shop All Departments Search **Photographs**  Your Lists

Home & Garden Browse Brands & Products Bestsellers Bedding & Bath Vacuums Kitchen & Dining Patio & Garden Outlet

**Category**  
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< Home Décor  
< Artwork  
**Photographs**  
Limited Edition Photographs (549)

**Frame Type**  
**Any Frame Type**  
Framed (32)  
Unframed (8,570)

**Color Type**  
**Any Color Type**  
Black & White (117)  
Color (343)

**Style**  
**Any Artwork Style**  
Ancient & Classic Art (6)  
Pre-Raphaelite Art (28)  
Realism (38)  
Modern Art (41)  
Contemporary Art (45)

**Subject**

**Page Name**

Home & Garden > Furniture & Décor > Home Décor > Artwork > **Photographs**

Showing 1 - 24 of 63,156 Results « Previous | **Page: 1 2 3 .. | Next »** Sort by Bestselling

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In Stock   
4.   
5.   
6. 

# Site ID

**amazon.com** Hello, Grace Ngai. We have [recommendations](#) for you. (Not Grace Ngai?) It's never too early to shop  and get FREE Super Saver Shipping Restrictions Apply

Grace's Amazon.com Today's Deals Gifts & Wish Lists Gift Cards Your Account | Help

Shop All Departments Search Photographs GO Cart Your Lists

Home & Garden Browse Brands & Products Bestsellers Bedding & Bath Vacuums Kitchen & Dining Patio & Garden Outlet

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Color (343)

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Realism (38)  
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Contemporary Art (45)

**Subject**

Home & Garden > Furniture & Décor > Home Décor > Artwork > **Photographs** Page Name

Showing 1 - 24 of 63,156 Results « Previous | **Page: 1 2 3 .. | Next »** Sort by Bestselling

1. Boston Red Sox 2007 World Series Champions Newspaper Collage  
Buy new: \$20.00 **\$26.99**  
In Stock  
★★★★★ (1)

2. Boston Red Sox 2007 World Series Champions Team Sit Down picture  
Buy new: \$7.00 **\$5.49**  
In Stock  
★★★★★ (2)

3. 1918 Boston Red Sox World Series Champions  
Buy new: \$7.00 **\$4.99**  
In Stock  
★★★★★ (1)

4. Basketball player in action

5. Basketball player dunking the ball

6. Basketball team celebrating

Sections

# Site ID

The screenshot of the Amazon.com website illustrates several key components of site architecture:

- Site ID:** The logo "amazon.com" is circled in red at the top left.
- Search:** The search bar is highlighted with a red oval, showing the word "Search" and the dropdown menu "Photographs".
- Page Name:** The breadcrumb navigation path "Home & Garden > Furniture & Décor > Home Décor > Artwork > Photographs" is circled in red at the top right.
- Sections:** A large red oval on the left side groups the sidebar categories: "Category", "Frame Type", "Color Type", "Style", and "Subject".
- Page Number:** The page navigation "Page: 1 2 3" is circled in red in the center of the page.
- Product Listings:** Six product items are shown in a grid:
  - Boston Red Sox 2007 World Series Champions Newspaper Collage**: \$26.99, In Stock, 1 review.
  - Boston Red Sox 2007 World Series Champions Team Sit Down picture**: \$5.49, In Stock, 2 reviews.
  - 1918 Boston Red Sox World Series Champions**: \$4.99, In Stock, 1 review.
  - Contemporary Art**: A person playing a guitar.
  - Basketball Action**: A player dunking a basketball.
  - Team Celebration**: A group of people celebrating on a field.

Site ID

The screenshot of the Amazon.com website illustrates various web design elements:

- Site ID:** The logo "amazon.com" is circled in red at the top left.
- Hello, Grace Ngai:** A greeting message is displayed, followed by a note about recommendations.
- Search:** The search bar is highlighted with a red oval, showing the term "Photographs".
- GO button:** The "GO" button in the search bar is circled in red.
- Category sidebar:** A large red oval encloses the sidebar on the left containing filters for Category, Frame Type, Color Type, Style, and Subject.
- Page Name:** The breadcrumb trail "Photographs" is circled in red.
- Local Navigation:** The page title "Local Navigation" is centered above the product grid.
- Sections:** The word "Sections" is positioned below the sidebar category filters.
- Product Grid:** Six products are listed:
  - Boston Red Sox 2007 World Series Champions Newspaper Collage:** \$26.99, In Stock, 1 review.
  - Boston Red Sox 2007 World Series Champions Team Sit Down picture:** \$5.49, In Stock, 2 reviews.
  - 1918 Boston Red Sox World Series Champions:** \$4.99, In Stock, 1 review.
  - Contemporary Art:** An image of a man playing a guitar.
  - Basketball Action:** An image of a basketball player dunking.
  - Team Celebration:** An image of a baseball team being celebrated.

# These must be special deals

These must be product categories

The screenshot shows the Amazon.com homepage with several key elements highlighted:

- Shop All Departments**: A sidebar menu on the left side listing categories like Books, Movies, Music & Games, Digital Downloads, Electronics & Computers, Home & Garden, Grocery, Toys, Kids & Baby, Apparel, Shoes & Jewelry, Health & Beauty, Sports & Outdoors, and Tools, Auto & Industrial.
- Today's Deals**: A banner at the top right advertising "Save up to 50% on Outdoor and Indoor Essentials". It features images of a turkey fryer, a weather station, and a garden globe.
- Amazon Customers Vote**: A section titled "Round 6 Deals" showing three winners:
  - 1st PLACE: A television for \$719
  - 2nd PLACE: A griddle for \$129
  - 3rd PLACE: A garden tool for \$129
- Introducing Kindle**: A large banner featuring the new Amazon Kindle device, described as a "Revolutionary Wireless Reading Device". It includes a brief description and a "Learn More" link.
- Advertisement**: A movie advertisement for "Sweeney Todd: The Demon Barber of Fleet Street" starring Johnny Depp.
- Help a Child in Need**: A Toy Drive banner encouraging users to "Donate an item from the...".

# Web Design Poisons

---

- ❖ Links that don't change color after visiting
- ❖ Breaking the "back" button
- ❖ Resizing the browser window
- ❖ Opening a new browser window
- ❖ Pop-up windows
- ❖ Design elements that look like advertisement