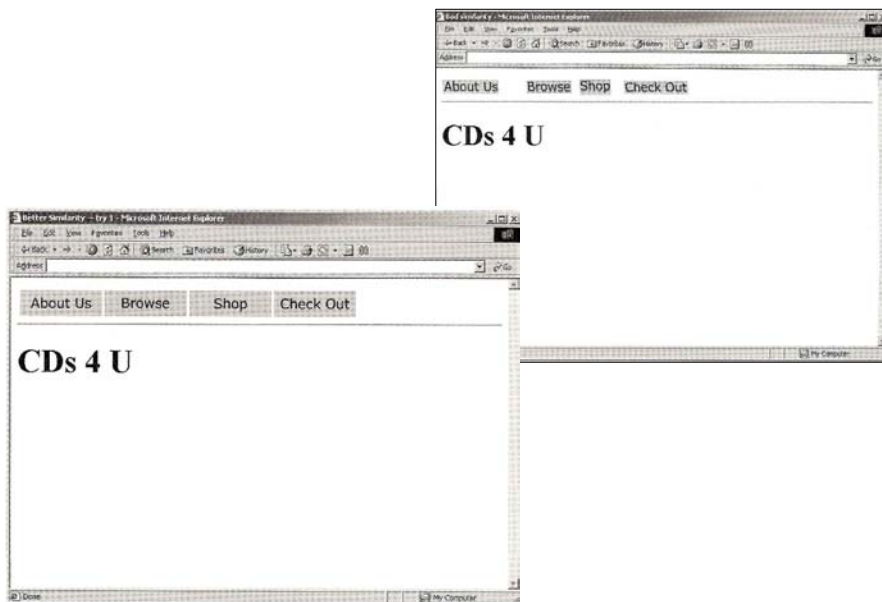


# HCI And Web Design

A quick introduction into web design and how some of the principles of usability that you've already learned can be applied.

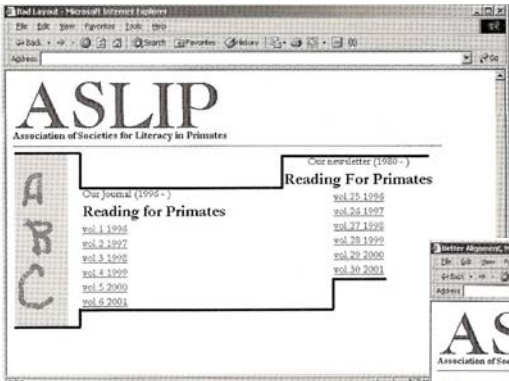
James Tam

## Gestalt Principle: Similarity

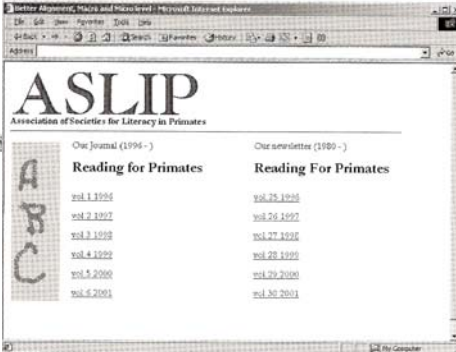


James Tam

# Gestalt Principle: Continuity



Inconsistent alignment: Lack of continuity

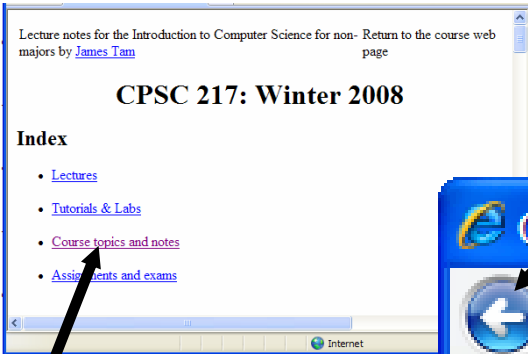


The two axis provide strong continuity

James Tam

# Nielsen's Heuristic: Minimize Memory Load

- Interruptions occur: Current conventions used to help web surfers remember where they might have "left off"



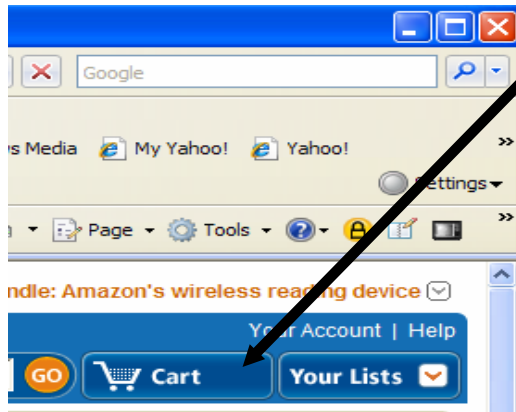
Previously navigated links



The 'back' button

James Tam

## Nielsen's Heuristic: Minimize Memory Load (2)



Features such as a shopping cart can ease the burden on the shopper's memory when resuming an interrupted task

James Tam

## User-Centered Design And The Web

An online banking system had 36 commands for querying data. In actual practice only four commands accounted for 75% of actual usage.

[Paraphrased from "*Towards the experimental study of usability: Ergonomics of user interface*" (1984) K.D. Eason]

James Tam

## **Determining Generic User Characterizations**

- **Learning style**
- **Tool preferences**
- **Physical differences**
- **Cultural differences**

James Tam

## **Learning Style**

**Which style do most of your users fit into:**

- Read then do?
- Do then read?

James Tam

## Tool Preferences

Will web visitors be more familiar with drop down menus and other web interaction techniques or are they in the tiny minority that are comfortable with Boolean algebra for forming compact and efficient search queries.

[From “*Search and you may find*” (1997) Nielsen J.]

### **Ways of determining tool preferences:**

- Determine what computers, interfaces and browsers that they use
- How familiar are they with these tools, how often are they used
- Are they familiar with technology similar to the ones used in your intended design (e.g., Do they understand frames, popup windows, search commands).

James Tam

## Physical Differences

- **Physical disabilities that can restrict movement**
- **Difficulty seeing small objects or reading small type**
- **Small children**

James Tam

## Physical Differences: Color

- **A portion of the population has some degree of color deficiency.**
- **Estimates:**
  - 8% of men
  - 0.5 of women
- **The most common form of color deficiency is red-green.**
- **Blue-yellow color deficiency exists although it's rare.**
- **Rules of thumb:**
  - Don't just use color as the sole means of representing information
  - Use other forms of representation (position, value, text etc.)
  - To determine the effects of color deficiency:
    - Print out the page and view it in black and white (extreme case)
    - Employ the services of sites that can simulate the effects of color deficiency when viewing your site e.g., <http://www.vischeck.com/>

James Tam

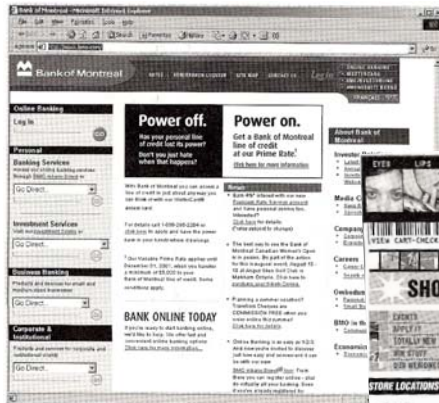
## Cultural Differences

- **Education**
  - When doubt the web site should have text at an 8<sup>th</sup> grade reading level (Social Security Administration, Benchmarking private sector policies and practices for distributing customer notices (1996): [www.ssa.gov/oig/96-61000.htm](http://www.ssa.gov/oig/96-61000.htm))
- **Profession**
  - Be cautious of using terms that have a specific meaning to a particular profession.
  - "Default" has different meanings to a banker than it does to a programmer.
- **Corporate style**
  - The web site should help to communicate their value system to their audience.

James Tam

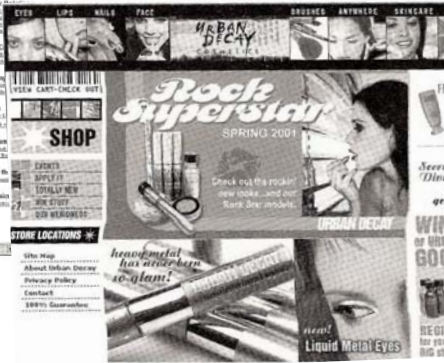
## Cultural Differences (2)

### Corporate style (continued)



The Bank of Montreal

Urban Decay cosmetics



James Tam

## Sources Of Information About Web Visitors

- As usual one of the best sources of information comes from prospective visitors.
- Other sources of information:
  - Technical support, customer service, the web master
  - Marketing

James Tam

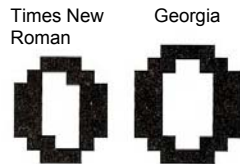
## Presentation: Typography (Serif Fonts)

- **Default serif font used**

- Serif e.g., Times New Roman
- Used since 1932 for the Times of London (works well with printed text).

- **Fonts on the web**

- What works for print may not work as well for the web
- Font choices for the web e.g., Georgia may make it easier to read with lower resolution displays
  - Heavier strokes
  - Slightly larger letters for a given font size
  - Less variation between thin and thick strokes in the characters (fewer 'jaggies' means that it's easier to read).



James Tam

## Presentation: Typography (Sans Serif Fonts)

Arial

Web Typography

Verdana

Web Typography

Arial Black

**Web Typography**

Impact

**Web Typography**

Comic Sans

Web Typography

James Tam



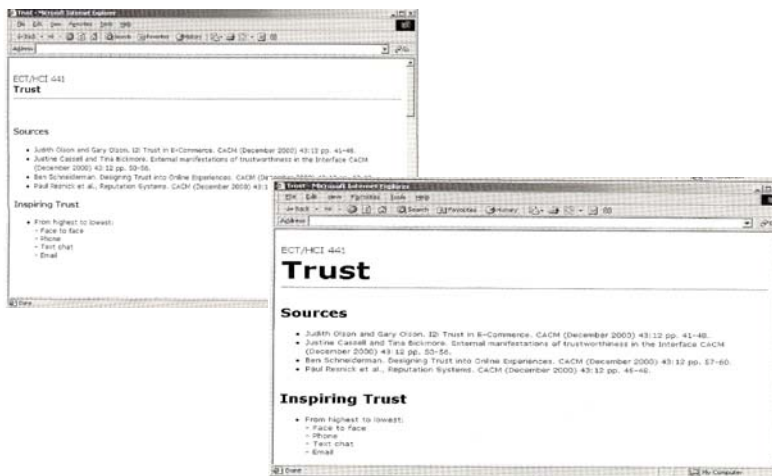
## Presentation: C.R.A.P.

Applying the design and evaluation tool C.R.A.P (Contrast, Repetition, Alignment, Proximity) to web design

James Tam

## Contrast

If you want headings and text to be different, make them really different.



James Tam

## Repetition (Also It Illustrates Another Use Of Grid)

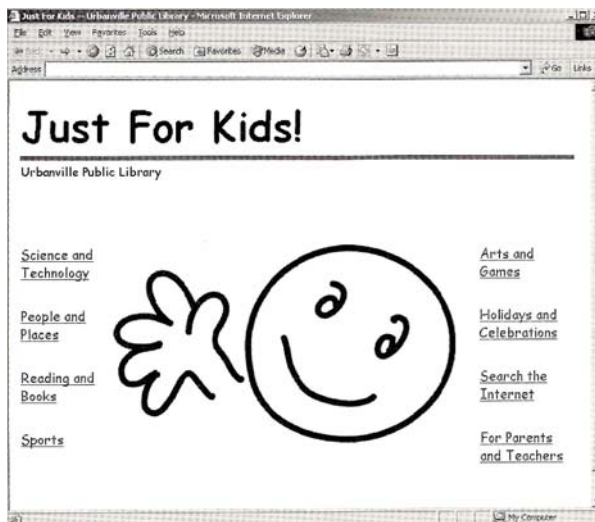
Example: a kid's web page for a public library site.

<b>Title</b>		
<b>Links</b>	<b>Graphic</b>	<b>Links</b>

James Tam

## Repetition (2)

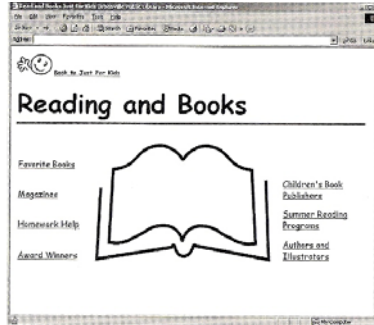
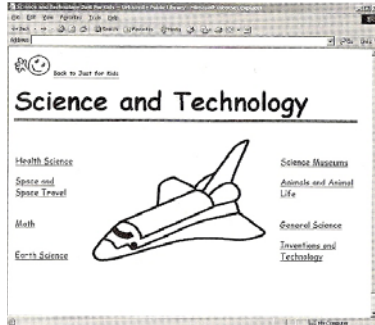
Home page



James Tam

## Repetition (3)

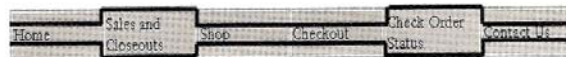
The two second level pages employ the same template



James Tam

## Alignment

A screenshot of a Microsoft Internet Explorer browser window displaying a form titled "Untitled Document". The form has fields for "Name:", "E-mail:", "Gender:" (with radio buttons for "Male" and "Female"), and "Age:" (with a dropdown menu showing "20 - 40").



James Tam

## Proximity

### Dan's Clothing Store

Checkout  
close out on pink socks  
Email us  
July specials  
Kid's clothes  
Men's clothes  
Open an account  
Sale on rain wear  
Special sizes  
Store locations  
Your account status  
Women's clothes

James Tam

## Proximity & And Also Task/User Design (2)

**After performing a task analysis it's determined that visitors go to the web site to find the following information / tasks to complete:**

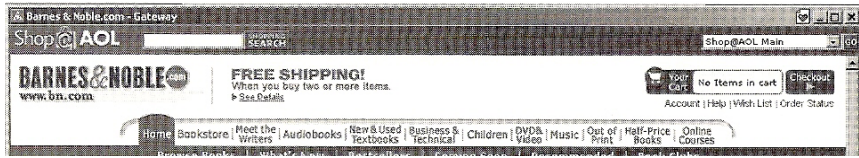
- Types of clothing
- Specials
- Store details
- Account information
- Checkout
- Find contact information

### Dan's Clothing Store

Women's clothes  
Men's clothes  
Kid's clothes  
Special Sizes  
  
July Specials  
Sale on Rainwear  
Closeout on pink socks  
  
Store locations  
Store hours  
  
Open an account  
Your account status  
  
Checkout  
  
Email us

James Tam

## Proximity (3)



James Tam

## Some Internationalization Issues

- Language
- Color
- Gestures and symbolism

James Tam

## Language

**Translating the *intended meaning* from one language to another is hard.**

- E.g., Canadian Mounted Police (English)
- Mountain soldier (literal translation into Cantonese)

**•The automated translation of text is often not an option:**

- E.g., using Babel fish in AltaVista
  - Original English phrase: “You look wonderful today!”
  - Translation into German: “Sie schauen heute wundervoll!”
  - German phrase translated back into English: “They look today wonderfully!”

James Tam

## Language (2)

**Things that are easy to mistranslate and should be avoided include:**

- Jargon
- Colloquialisms (sports metaphors, slang and marketing hype)

**•Example:**

- Original slogan (Coors): “Turn it loose!”



- Translation into Spanish: “Suffer from diarrhea!”



James Tam

## Language (3)

- **Dates: Avoid using a purely numeric form for expressing a date without an additional context**
  - Example date 03/10/2005
  - US interpretation: March 10, 2005 (month / day / year)
  - Interpretation in other parts of the world: 3<sup>rd</sup> of October, 2005 (day / month / year)
- **Time: be sure to include the appropriate time zone (e.g., Mountain standard time / MST)**
- **Cities: be sure to list the country as well as the state (US)**
  - Boston: Boston Massachusetts may be the most well known but there are 10 other cities in the US with this name, one in Ireland and one in England (Mapquest 2002)

James Tam

## Language (4)

### **Other examples of language differences:**

- In Arabic countries a day begins at sundown (not midnight).
  - In Western countries 13 may be unconsidered unlucky whereas some Asian countries feel that 4 is bad luck.
- **General approach:**
- Find a translator that knows both languages and the target culture
  - In addition this person should also be familiar with the subject matter of the web page.
  - (A second check may involve getting a second translator and retranslating the translated version back to English).
  - Use a method of encoding that allows for multiple languages (ASCII = 8 bit), Unicode: UTF-8 (8 bit), UTF-16 (16 bit), UTF-32 (32 bit – can express all characters of all known human languages).

James Tam

## Color

	<b>Egypt</b>	<b>China</b>	<b>Japan</b>	<b>India</b>	<b>France</b>
<b>Red</b>	•Death	•Happiness	•Anger, Danger	•Life, creativity	•Aristocracy, Freedom, Peace
<b>Blue</b>	•Virtue, Faith, Truth	•Heavens, Clouds	•Villainy		•Freedom, peace
<b>Green</b>	•Fertility, Strength	•Ming Dynasty, Heavens, Clouds	•Future, Youth, Energy	•Prosperity, Fertility	•Criminality
<b>Yellow</b>	•Happiness, Prosperity	•Birth, Wealth, Power	•Grace, Nobility	•Success	•Temporary
<b>White</b>	•Joy	•Death, Purity	•Death	•Death, Purity	•Neutrality

From "How Fluent is Your Interface? Designing for International Users" Proceedings of the INTERCHI'93. Russo P. and Boor S.

James Tam

## Color (2)

	<b>Arabia</b>	<b>China</b>	<b>Japan</b>	<b>India</b>	<b>Western Europe</b>
<b>Red</b>	•Strength	•Festivity, Enthusiasm	•Anger, Danger	•Auspicious	•Danger
<b>Blue</b>	•Truth	•Illusion	•Villainy		•Masculinity, authority
<b>Green Yellow</b>	•Happiness	•Life, Honor, Royalty, Pornography	•Youth, Energy, Grace, Nobility	•Life, Nature	•Safety, Sourness, Cowardice, Caution
<b>White</b>		•Death, Mourning, Purity	•Death, Mourning	•Purity (dress of a widow)	•Purity
<b>Black Orange Purple</b>		•Sober mind, Warmth, Female	•Evil	•Mourning, Protest, Rebellion, Fire	•Death

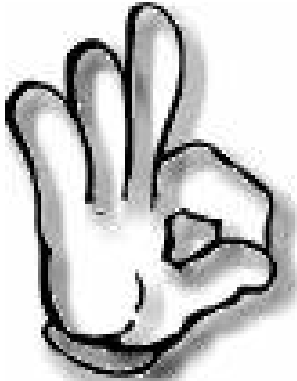
From "The Icon Book" by Horton W.

James Tam



## Gestures And Symbolism

**Some gestures may have different meanings between different cultures.**



This “universal” gesture may have a less than positive connotation in some cultures.

James Tam

## Gestures And Symbolism (2)

- **In some cases icons describes terms that don’t exist in a particular language:**
- **Example: the main page of a web site.**
  - English: Home page
  - France: Welcome page
  - Germany: Starting page
  - Spanish: Beginning or main page
- Using an icon of a house does not always convey the message: “Click here to go to the main page of this site”.

James Tam