

*“So, ... the Center will needs a website ...”*

## Usability Best Practices for Health & Research Information Websites

06 Oct 2006

*Presented by:*

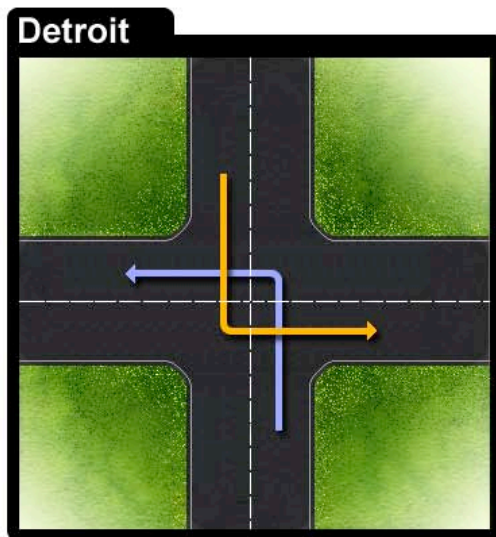
**Kath Straub, Ph. D.**  
**Chief Scientist**



- Designing good sites is hard ....
- Defining the objectives
- Elements of Usability
- Try this at home
- Q & As

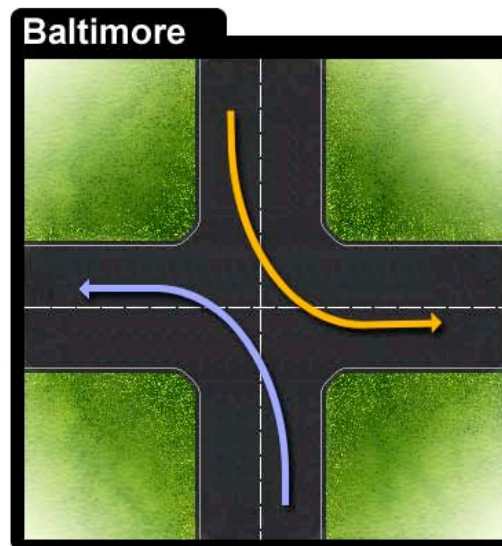
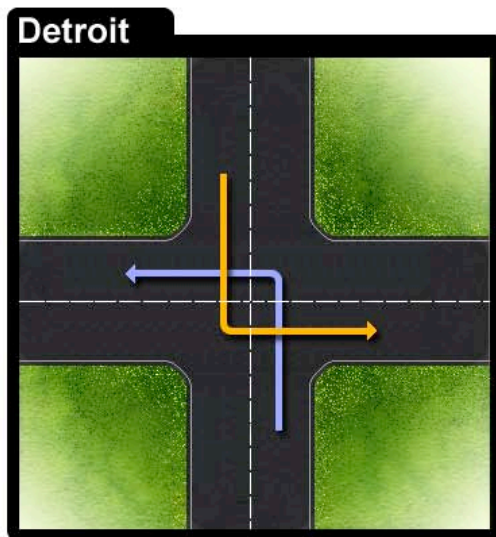


# Site Visitors may Think Differently





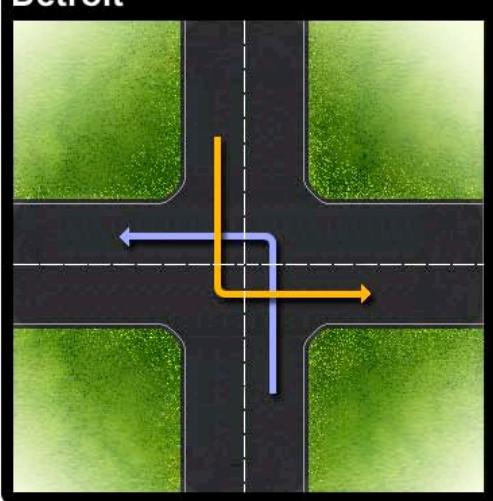
# Site Visitors may Think Differently



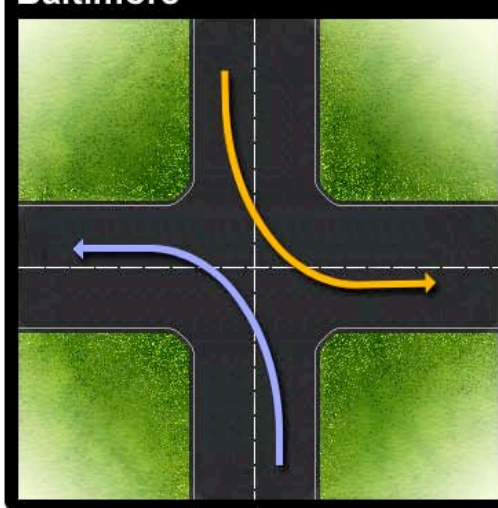


# Site Visitors may Think Differently

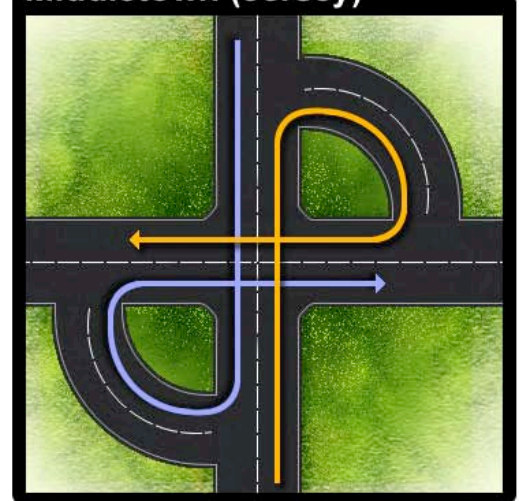
**Detroit**



**Baltimore**



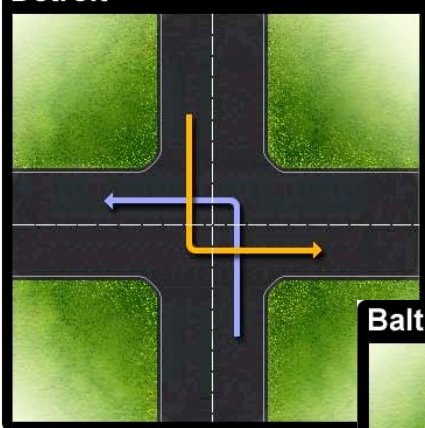
**Middletown (Jersey)**



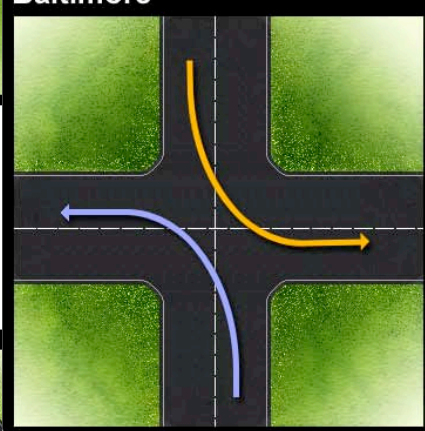


# Site Visitors may think differently

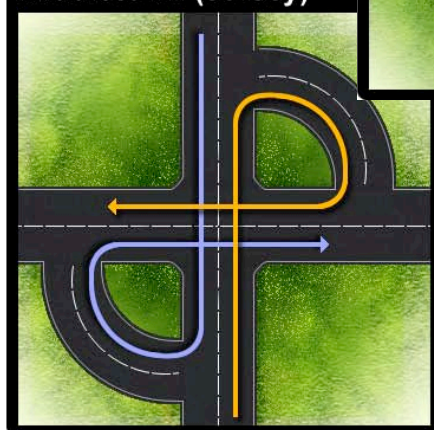
**Detroit**



**Baltimore**



**Middletown (Jersey)**



<http://video.google.com/videoplay?docid=-2063667852598904740&hl=en>



The FedEx logo is displayed in a large, bold, sans-serif font. The word "Fed" is in a vibrant purple color, while the word "Ex" is in a light gray color. The logo is centered horizontally on the slide.





If you designed it, you **know** how it works

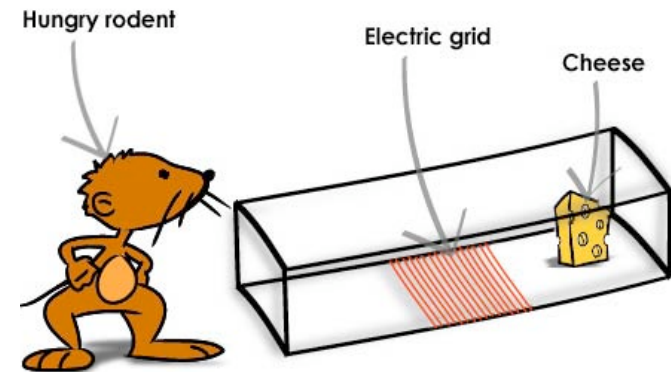


What is your center for?

1. Basic research
2. Clinical research
3. Clinical Trial recruiting
4. Education and Outreach
5. Focused specialization (e.g., Imaging)



1. Who will visit your website?
2. What do they want to learn?
3. What do they want to do?



4. What does your organization want them to learn / do?

Do you reach those people/serve those needs with other communications channels? If yes, could the web

- Augment
- Extend
- Replace



# Capturing the User Goals and Objectives: Personas

## California Courts Online

### Persona : Potential Juror



#### Robert Gutierrez

Robert Gutierrez is a 42 year-old, self-employed photographer. He completed his Bachelors degree as an adult, concurrently balancing his work, family responsibilities and studies. While he had some computer classes in college, he only worked to master those that were immediately relevant to his immediate needs (and then, only as was necessary to complete his immediate work). Currently, Robert is divorced and shares custody of his two children with his wife who lives in another county.

Though his underlying knowledge of technology is spotty, Robert is comfortable using a computer. He has a high speed connection both at work and at home. He considers himself an intermediate internet user. Email is a primary communication mode for him both at work and at home. Other than email, Robert uses the web for about 1 hour / day to surf and do research. He does not use the web for purchases.

Robert says that his mobile phone is his primary mode of communication, particularly with his children. However, he does not see himself using his mobile phone to access the web or other data services (such as text messaging).

#### What I want to learn ...

- What does it mean to serve?
- Is it possible to get out of jury duty?
- If I have to go, where will I park?
- Can I bring my phone & laptop with me?
- What cases are coming up? Big ones? Long ones that might be a problem?

#### Resulting tasks

- Learn about copyright infringement rights for digital assets.

#### What I want to do ...

- Try to get an exemption based on self-employment needs / pressures.
- Get directions to the right courthouse and parking instructions.
- See what a courtroom and hearing looks like on the web.

#### Resulting tasks

- If I serve, follow my own case online.

#### Design Implications

- ✓ Design content guided path em that users find in-line opportu
- ✓ Present inform the California C visitors to disco content, as well

## California Courts Online

### Persona : Press Reporter



#### Ross Day

Ross Day is a 40 year-old reporter for the San Francisco branch of the Associated Press (AP), a major wire service. He is married with children and his wife is also a reporter. The AP serves thousands of daily newspaper, radio, television and online customers with coverage in all media and news in all formats. It is the source of news, photos, graphics, audio and video for more than one billion people a day.

Ross covers very specific government areas for the AP. His bread and butter are cases from the California Supreme Court and the 9th U.S. Circuit Court of Appeals. He covers the U.S. Supreme Court as the court itself, as an institution.

Ross is a savvy computer and Internet user and, as a reporter, has been trained to find and use many different sources. Some sources are Courtinfo (opinions), Supreme Court and 9th Circuit Court of Appeals (own websites for opinions), Daily Journal online, Daily Recorder online, Law.com, state bar online, schools and universities websites, and The Law Library in the local Federal Building.

He writes about rulings and major cases for the AP, which goes to all media in the free world. He writes about California courts of Appeals decisions, federal courts decisions, and about rulings from immigration courts in S.F., L.A. And Sacramento.

#### What I want to learn ...

- Get rulings and opinions from many different courts like the Supreme Court, State Court of Appeals 1st District, Federal Appeals Court, etc.
- Get unpublished and published opinions.
- Get names of trial judge and lawyers in a case.
- What forthcoming cases are to be filed?
- Find out if there is case progression.
- What's on the oral arguments calendar?
- Read the court minutes for the last 7 days.
- Check Supreme Court grants to hear.

#### Resulting tasks

- Provide up to date information about cases.

#### What I want to do ...

- Write stories, especially on major cases of interest to a S.F. Bay Area audience.
- Get automatic email notification of a case change.
- Research old cases and get opinions and rulings applicable to a story on a current case.
- Access a variety of legal and government sources.
- Get court briefs online for a case from everyone involved in that case.

#### Resulting tasks

- Research old and new cases from different perspectives.

#### Design Implications

- ✓ Make it easy and accessible to get names of judges and lawyers associated with different cases.
- ✓ Fix the problem with email case change notification. It's not smooth now.
- ✓ Need role based access to case information.
- ✓ Gear the Press Center on Courtinfo to cater more to what the press is looking for on a day to day basis.



- Designing good sites is hard ....
- Defining the objectives
- **Elements of Usability**
- Try this at home
- Q & As



# Elements of Usability: Branding & Calls to Action



Effective naming (or branding) lets users know what you do in a way they will understand





# Elements of Usability: Branding & Calls to Action

Placement and highlighting grab user attention



## Studies Seeking Patients

- [What is a Clinical Trial?](#)
- [Find Clinical Trials](#)
- [Clinical Trials at NIH](#)

Patients with Parkinson's Disease can participate in [Neuroprotection Exploratory Trials in Parkinson's Disease](#) (NET - PD)

Using words users understand increases the likelihood that they will read further.

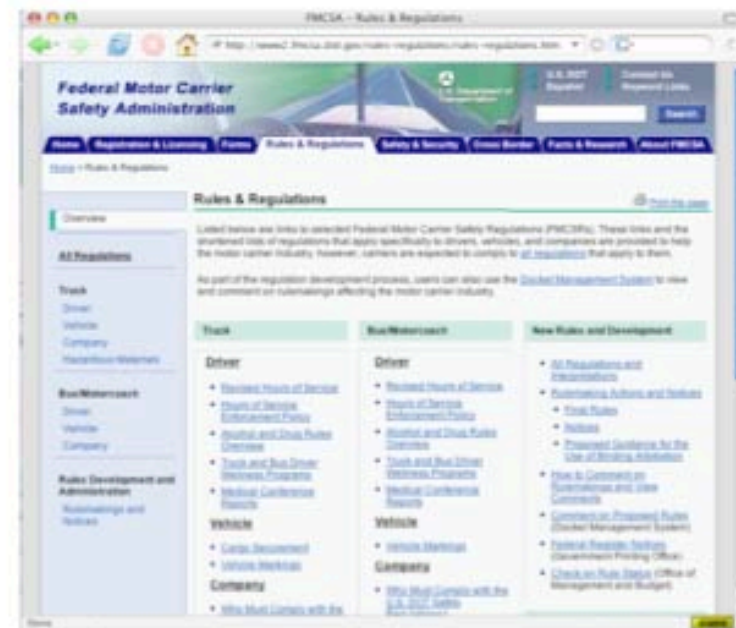
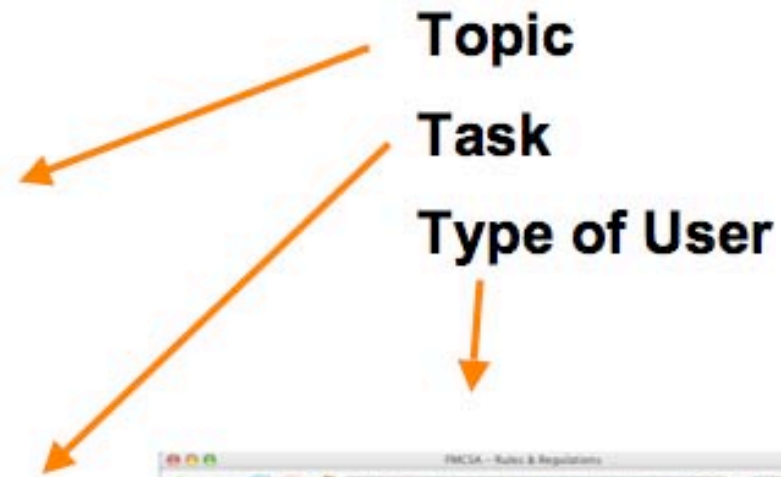
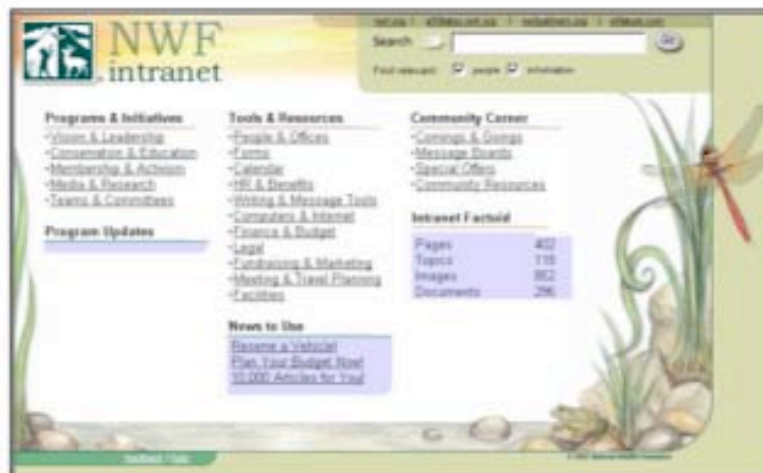


[Make an Appointment.](#)

The [Alzheimer Disease support center](#) is an online resource for caregiver questions and concerns.



# Elements of Usability: Information Architecture





# Elements of Usability: IA blends into Navigation

Can site users see:

- What information is here?
- What are my options?
- Do the words make sense?



 **UCSD** Official web page of the University of California, San Diego

For questions regarding this site, please contact [adrc@ucsd.edu](mailto:adrc@ucsd.edu).  
8950 Villa La Jolla Drive, Suite C129 La Jolla, CA 92037  
Phone: (858) 622-5800

## Events...

[Memory Walk 2006](#)

[2006 Events](#)

## Center Extra's...

[MCI information page...cont.](#)

[Aluminum and AD](#)

[More Center news...](#)

## Caregiver support...

[Bereavement Outreach](#)

Positive Aging website (En Espanol)...[cont.](#)

Download "Dementia Handout" ...[cont.](#)

Expert Consensus Guideline Series. Guides for Patients and Families...[cont.](#)

[More support...](#)

## Research Front...

[AFAR Gilbert grant 2007](#)

New Data Request Form ...[here](#)

Expert Guidelines for Clinicians...[www.psychguides.com](http://www.psychguides.com)

Vitamin E and Donepezil for the Treatment of Mild Cognitive Impairment...[cont.](#)

[More research front...](#)

## National News...

July 17, 2006  
[News from ICAD](#)

[More News...](#)

## Clinical Trials...

Alzheimer's Disease Neuroimaging Initiative. [more...](#)

[More Trials...](#)



# Elements of Usability: IA blends into Navigation



## Help users learn the mental model

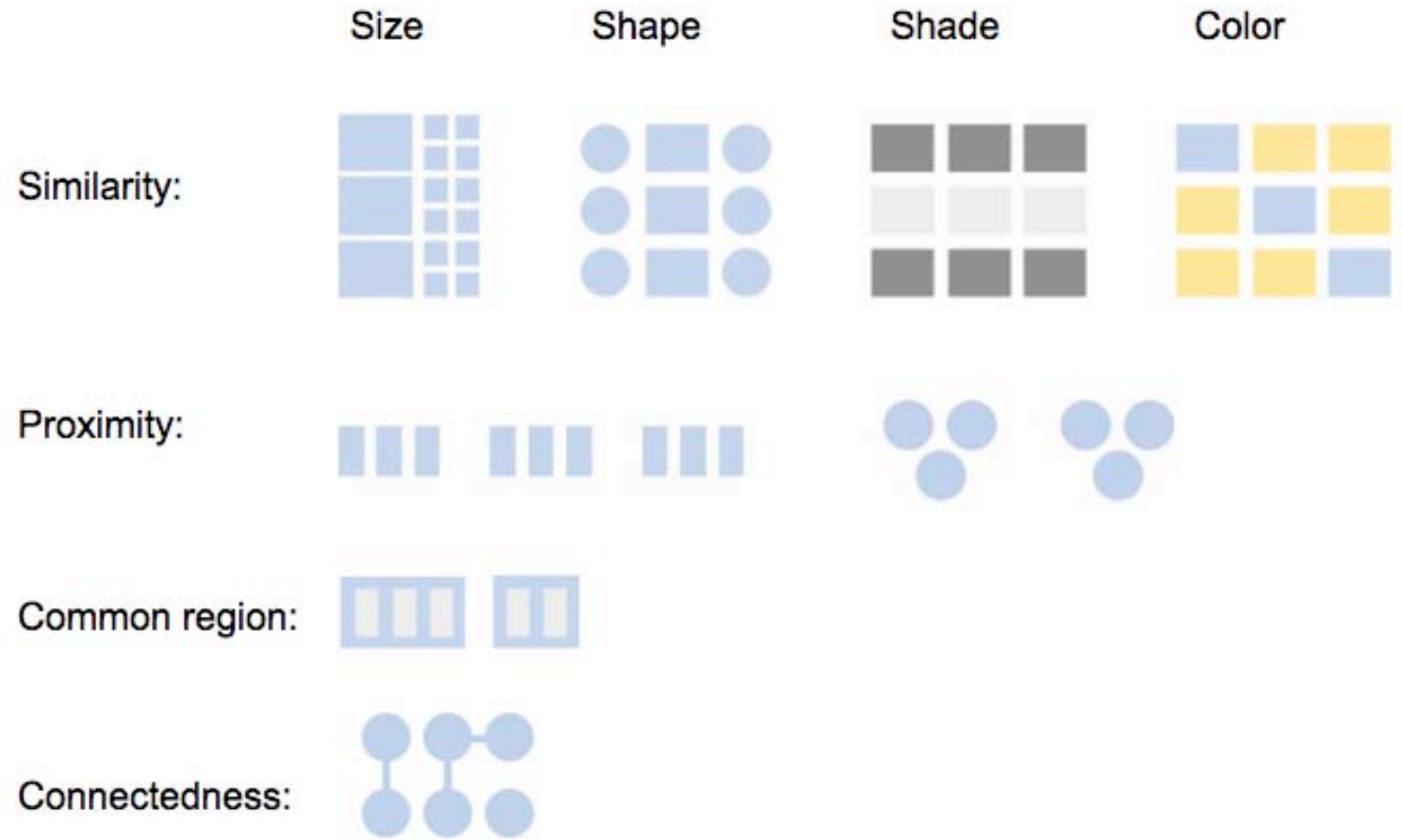
Site users can quickly see:

- Where am I?
- Where can I go from here?
- How can I go back?



Visual feedback on which items is selected helps users know where they are in the information structure and where else they can go.







# Elements of Usability: Using Color to Guide Users



Color is used to highlight and group and highlight content.

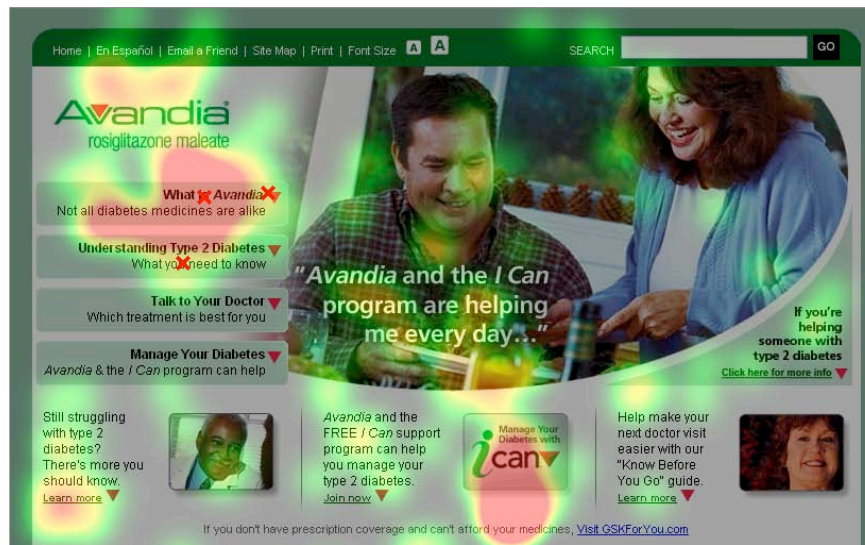


# Elements of Usability: Imagery Conveys Content

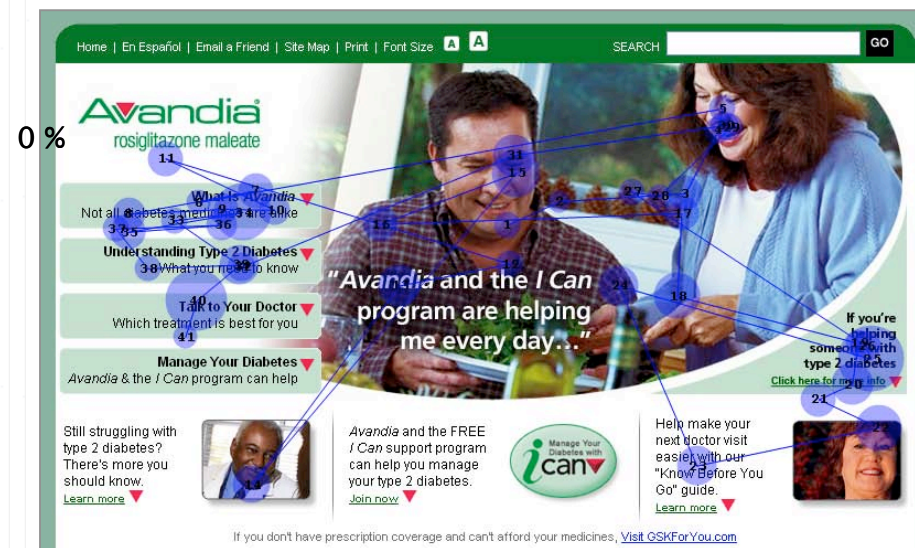




# Usability Testing: We can Track where Users Look



Heatmap: the “hotter” areas represent higher *fixation counts* - that is, where people focus the most. The red ‘X’s are where the participants clicked.

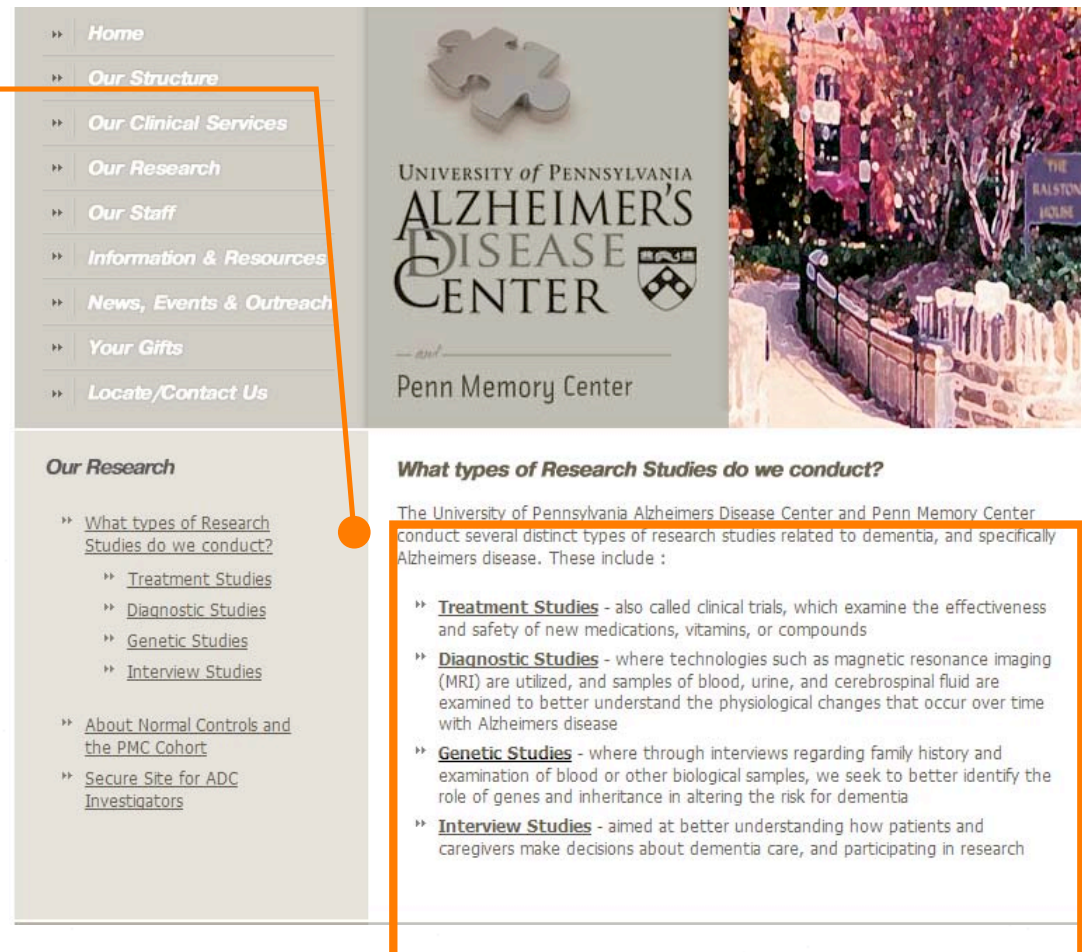


Scanpath: a series of fixations and saccades (rapid eye movements) – the numbers represent the order of fixations, the lines are the saccades from one point to the next, and the larger the circle the longer the fixation.



Use summaries and  
scannable bulleted lists  
where possible.

Use common words rather  
than technical terms



The screenshot shows the website of the University of Pennsylvania Alzheimer's Disease Center and Penn Memory Center. An orange line and dot highlight the 'Our Research' section in the left sidebar and the corresponding content on the main page. The sidebar lists navigation links: Home, Our Structure, Our Clinical Services, Our Research, Our Staff, Information & Resources, News, Events & Outreach, Your Gifts, and Locate/Contact Us. The main content area features a header with a puzzle piece logo and the center's name. Below, the 'Our Research' section is titled 'What types of Research Studies do we conduct?' and lists four types of studies: Treatment, Diagnostic, Genetic, and Interview. A detailed description of these studies is provided in a text box on the right, which is also highlighted by an orange border.

» [Home](#)

» [Our Structure](#)

» [Our Clinical Services](#)

» [Our Research](#)

» [Our Staff](#)

» [Information & Resources](#)

» [News, Events & Outreach](#)

» [Your Gifts](#)

» [Locate/Contact Us](#)

**Our Research**

» [What types of Research Studies do we conduct?](#)

» [Treatment Studies](#)

» [Diagnostic Studies](#)

» [Genetic Studies](#)

» [Interview Studies](#)

» [About Normal Controls and the PMC Cohort](#)

» [Secure Site for ADC Investigators](#)

**What types of Research Studies do we conduct?**

The University of Pennsylvania Alzheimers Disease Center and Penn Memory Center conduct several distinct types of research studies related to dementia, and specifically Alzheimers disease. These include :

» **Treatment Studies** - also called clinical trials, which examine the effectiveness and safety of new medications, vitamins, or compounds

» **Diagnostic Studies** - where technologies such as magnetic resonance imaging (MRI) are utilized, and samples of blood, urine, and cerebrospinal fluid are examined to better understand the physiological changes that occur over time with Alzheimers disease

» **Genetic Studies** - where through interviews regarding family history and examination of blood or other biological samples, we seek to better identify the role of genes and inheritance in altering the risk for dementia

» **Interview Studies** - aimed at better understanding how patients and caregivers make decisions about dementia care, and participating in research





**This is a Venti™ sweet,  
half-skim, maple  
macchiato extra dry.**

**But, what size is it?**

**Understanding Alzheimer's Disease** - a guide for families, friends & health care providers

**Research** - current projects & publications

**Health Care Resources** - sources of medical evaluation & diagnosis

**Educational Resources** - sources of information about Alzheimer's disease & caregiving

**Community Resources** - sources of patient & caregiver support

**Resources for Clinicians & Researchers**

Avoid jargon and technical terms to make users feel more confident with the material.

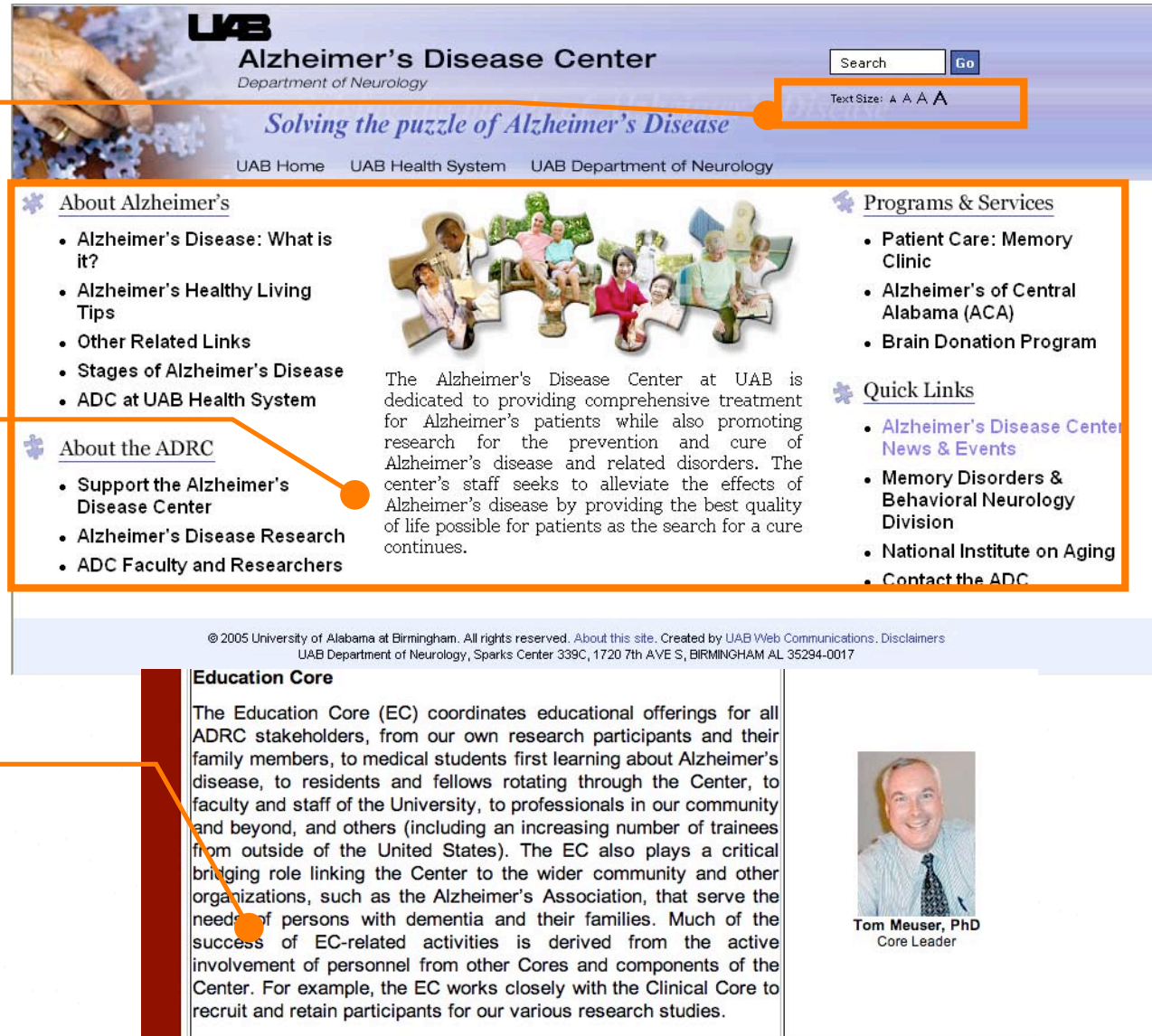


# Elements of Usability: Legibility

Text re-size tool in global navigation panel lets users enlarge fonts from anywhere

Studies show that high contrast (dark text on light background) is easier to read

Starting with larger text helps too (minimally 12 pt, 14 point for older eyes)



The screenshot shows the UAB Alzheimer's Disease Center website. Annotations highlight several usability features:

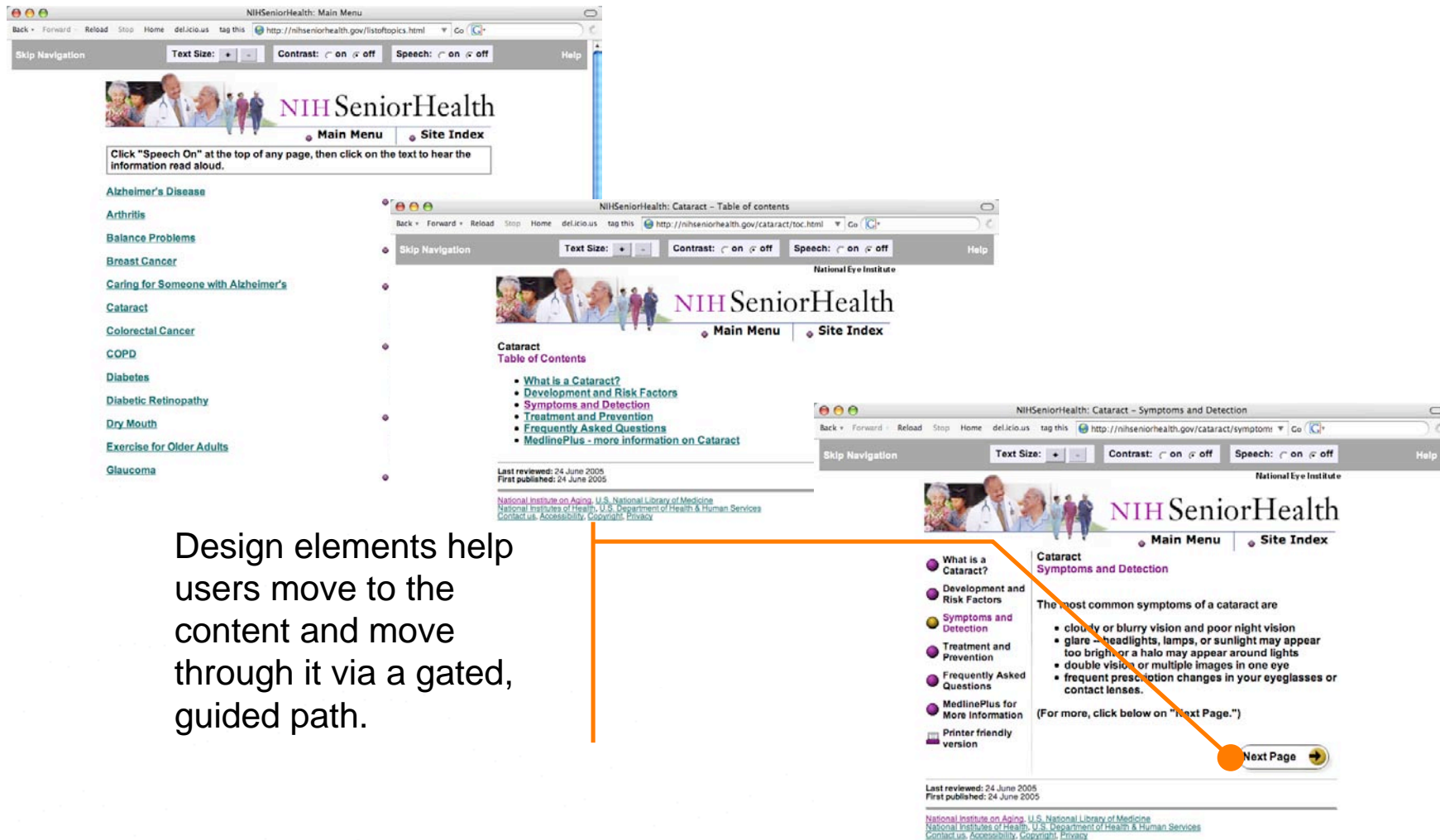
- Text re-size tool:** A box in the top right corner shows a "Text Size: A A A A" control, with an arrow pointing to it from the text "Text re-size tool in global navigation panel lets users enlarge fonts from anywhere".
- High contrast:** The text "Studies show that high contrast (dark text on light background) is easier to read" is positioned next to the main content area, which has a light background and dark text.
- Larger text:** The text "Starting with larger text helps too (minimally 12 pt, 14 point for older eyes)" is positioned next to the "Education Core" section, which uses a large font size.

The website content includes:

- Header:** UAB Alzheimer's Disease Center, Department of Neurology. Slogan: "Solving the puzzle of Alzheimer's Disease". Navigation links: UAB Home, UAB Health System, UAB Department of Neurology.
- Search:** A search bar with a "Go" button.
- Left Column:**
  - About Alzheimer's**
    - Alzheimer's Disease: What is it?
    - Alzheimer's Healthy Living Tips
    - Other Related Links
    - Stages of Alzheimer's Disease
    - ADC at UAB Health System
  - About the ADRC**
    - Support the Alzheimer's Disease Center
    - Alzheimer's Disease Research
    - ADC Faculty and Researchers
- Center Image:** A group of people sitting together, representing the center's focus on patients and families.
- Right Column:**
  - Programs & Services**
    - Patient Care: Memory Clinic
    - Alzheimer's of Central Alabama (ACA)
    - Brain Donation Program
  - Quick Links**
    - Alzheimer's Disease Center News & Events
    - Memory Disorders & Behavioral Neurology Division
    - National Institute on Aging
    - Contact the ADC
- Footer:** © 2005 University of Alabama at Birmingham. All rights reserved. About this site. Created by UAB Web Communications. Disclaimers. UAB Department of Neurology, Sparks Center 339C, 1720 7th AVE S, BIRMINGHAM AL 35294-0017.
- Education Core:** A section with a large font size describing the role of the Education Core in coordinating educational offerings for all ADRC stakeholders.
- Photo:** A portrait of Tom Meuser, PhD, Core Leader.



# Elements of Usability: Readability



The image displays three screenshots of the NIH SeniorHealth website, illustrating a guided path for users to find and read about cataracts. The path is highlighted by an orange line connecting specific elements across the three pages.

**Screenshot 1: NIH SeniorHealth Main Menu**  
The top navigation bar includes links for "Skip Navigation", "Text Size", "Contrast", "Speech", and "Help". The main content area features a "Main Menu" and a "Site Index". A text box instructs users to "Click 'Speech On' at the top of any page, then click on the text to hear the information read aloud." The left sidebar lists various health topics, including "Alzheimer's Disease", "Arthritis", "Balance Problems", "Breast Cancer", "Caring for Someone with Alzheimer's", "Cataract", "Colorectal Cancer", "COPD", "Diabetes", "Diabetic Retinopathy", "Dry Mouth", "Exercise for Older Adults", and "Glaucoma".

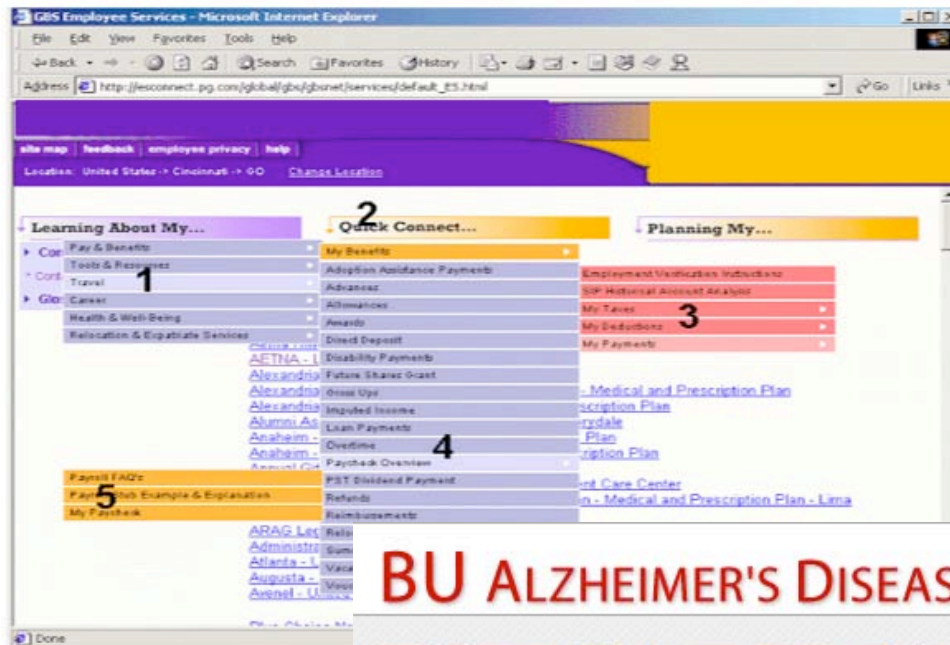
**Screenshot 2: NIH SeniorHealth: Cataract - Table of contents**  
The top navigation bar is identical to the first screenshot. The main content area shows the "Cataract Table of Contents" with a list of links: "What is a Cataract?", "Development and Risk Factors", "Symptoms and Detection", "Treatment and Prevention", "Frequently Asked Questions", and "MedlinePlus - more information on Cataract". The left sidebar is also identical to the first screenshot.

**Screenshot 3: NIH SeniorHealth: Cataract - Symptoms and Detection**  
The top navigation bar is identical to the first screenshot. The main content area shows the "Cataract Symptoms and Detection" page. The left sidebar is identical to the first screenshot. The main content area includes a "Main Menu" and a "Site Index". A text box states: "The most common symptoms of a cataract are" followed by a list of symptoms: "cloudy or blurry vision and poor night vision", "glare - headlights, lamps, or sunlight may appear too bright or a halo may appear around lights", "double vision or multiple images in one eye", and "frequent prescription changes in your eyeglasses or contact lenses." Below this list, a text box says: "(For more, click below on 'Next Page.')."

**Design elements help users move to the content and move through it via a gated, guided path.**

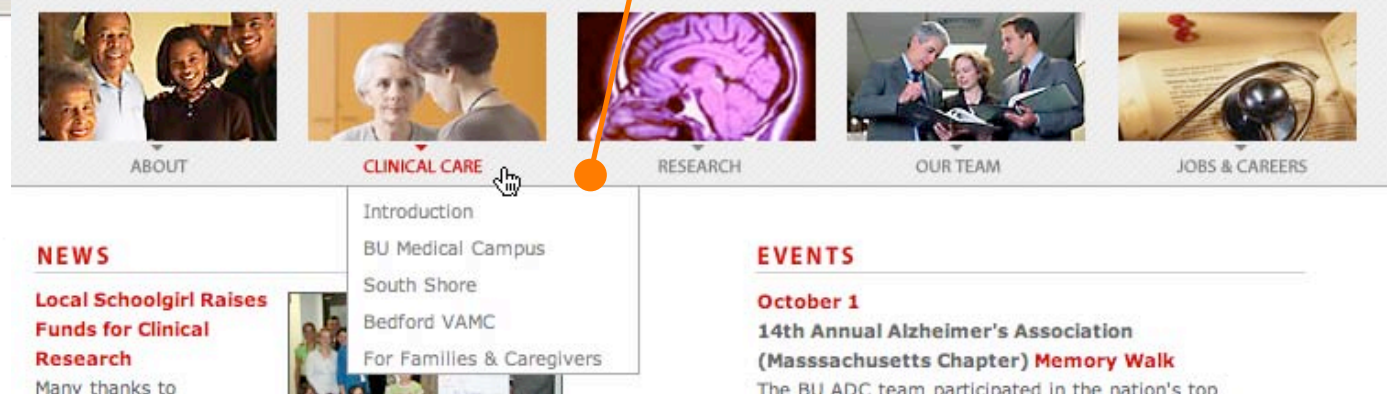


# Elements of Usability: Interaction Design



‘Fly **down**’ menus can work in some cases, but ‘fly out’ menus still don’t.

## BU ALZHEIMER'S DISEASE CENTER





# Implementation: Search Engine Optimization

Several AD Research Centers are among the top 20 search engine hits for 'Alzheimer's research'

Live Search

Web Images News Local QnA Beta More

alzheimer's research Page 2 of 1,912,482 results • Options • Advanced

**Alzheimer's Disease Info** - [alzheimerinformation.com](http://alzheimerinformation.com)  
Comprehensive Info on How to Slow Down Alzheimer's Symptoms  
**Find Care for Mom or Dad** - [www.eldercarelink.com](http://www.eldercarelink.com)  
Locate eldercare anywhere in the U.S. Free consumer referral service.

**Alzheimer's Disease Research Center - Washington University in St. Louis**  
Welcome to the website for the **Alzheimer's Disease Research Center (ADRC)**, in the Department of Neurology, at Washington University School of Medicine in St. Louis.  
[alzheimer.wustl.edu](http://alzheimer.wustl.edu) • 10/2/2006 • Cached page

**Alzheimer's Society website - the leading UK care and research charity** ...  
The leading UK care and research charity for people with this disease and other dementias, their families and carers. It provides a network of support and delivers quality day and home care, it ...  
[www.alzheimers.org.uk](http://www.alzheimers.org.uk) • Cached page

**Alzheimer's Disease and Alzheimer's Care**  
Research from the Byrd Alzheimer's Institute in Florida now points to caffeine having a role in both the prevention and alleviation of Alzheimer's symptom's.  
[alzheimers.about.com](http://alzheimers.about.com) • 10/1/2006 • Cached page

**Alzheimer's Research**  
alinfo.org - the comprehensive portal for information and resources related to the Cause, Care and ... In the quest to end Alzheimer's disease, important breakthroughs are being reported every day.  
[www.alinfo.org/research](http://www.alinfo.org/research) • 10/2/2006 • Cached page

**Alzheimer's Center - MayoClinic.com**  
Alzheimer's Center — comprehensive information on Alzheimer's disease, memory loss, Alzheimer's ... 1998-2006 Mayo Foundation for Medical Education and Research. All rights reserved.  
[www.mayoclinic.com/health/alzheimers/AZ99999](http://www.mayoclinic.com/health/alzheimers/AZ99999) • Cached page

**Alzheimer's Research Foundation ::**  
Q. What is Alzheimer's Disease? Ans: Alzheimer's Disease (AD) is the fourth leading contributing cause of death among the elderly. Of the many forms of dementia, AD is the most common affecting ...  
[www.alzheimers-research.org/faq.htm](http://www.alzheimers-research.org/faq.htm) • Cached page

**Mayo Alzheimer's Disease Research Center**  
Provides general information, services offered, staff directory, and free newsletter.  
[mayoresearch.mayo.edu/mayo/research/alzheimers\\_center](http://mayoresearch.mayo.edu/mayo/research/alzheimers_center) • Cached page

**Alzheimer's Research Center - Stanford University School of Medicine**  
Offers support groups, clinical trials, sleep studies, dementia clinic FAQs, publications from staff members and contact information.  
[arcc.stanford.edu](http://arcc.stanford.edu) • Cached page

**UCLA Alzheimer's Disease Research Center**  
[www.adc.ucla.edu](http://www.adc.ucla.edu) • 10/2/2006 • Cached page

**Research - 2005: The Year in Alzheimer Science**  
Welcome to the Alzheimer's Association. The Alzheimer's Association is the world leader in Alzheimer ... Increase size of text: A A. The year 2005 marked the 25th anniversary of the Alzheimer's ...  
[www.alz.org/Research/overview.asp](http://www.alz.org/Research/overview.asp) • Cached page

Didn't get the results you expected? [Help us improve.](#)

1 2 3 4 5 6



- Designing good sites is hard ....
- Defining the objectives
- Usability best practices for health & research information sites
- Try this at home
- Q & As



User : \_\_\_\_\_

*Wants to know:*

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

User : \_\_\_\_\_

*Wants to know:*

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

User : \_\_\_\_\_

*Wants to know:*

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_



1. Print out your homepage
2. Find a representative user in the hall, subway, airplane, doctors office
3. Ask them where they would click to ....

If 3/5 people don't know or don't get it right, you may have a problem.



- Educating the Director
- Ducking the Politics
- Getting the/new Content
  - Scientists write for Scientists. Who translates for lay people?
- Keeping the site dynamic
- Measuring and Tracking Successes to drive Improvement



**Thanks for listening...**  
**Questions welcomed!**



# Contact Information



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