



# CO-ASIS&T Program

## Usability Testing for Web Sites

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# Why is usability important?

- **The Design of Everyday Things**

  - by Donald A. Norman

- **Bad design examples**

  - <http://www.baddesigns.com/examples.html>

- **Your website represents you**

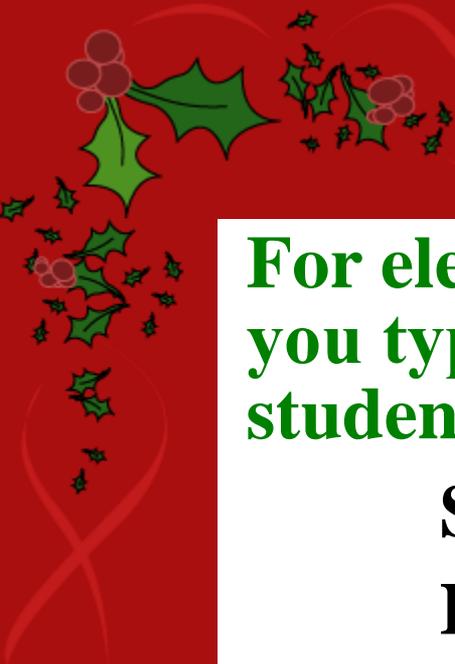
- **Competition**



# Perceptions of Libraries and Information Resources (OCLC, 2005)

## First Choice for Information Sources

	<b>College Students</b>	<b>Total Respondents</b>
<b>Search engines</b>	<b>72%</b>	<b>80%</b>
<b>Library (physical)</b>	<b>14%</b>	<b>11%</b>
<b>Online library</b>	<b>10%</b>	<b>6%</b>
<b>Bookstore (physical)</b>	<b>2%</b>	<b>2%</b>
<b>Online bookstore</b>	<b>2%</b>	<b>2%</b>



# Perceptions of Libraries and Information Resources (OCLC, 2005)

**For electronic information searches, where do you typically begin your search ... by college students:**

<b>Search engine</b>	<b>89%</b>
<b>Library Web site</b>	<b>2%</b>
<b>Online database</b>	<b>2%</b>
<b>E-mail</b>	<b>1%</b>
<b>Topic-specific Web sites</b>	<b>1%</b>
<b>E-mail information subscriptions</b>	<b>1%</b>
<b>Online news</b>	<b>1%</b>
<b>Online bookstore</b>	<b>1%</b>
<b>Instant messaging/online chat</b>	<b>0%</b>



## Perceptions of Libraries and Information Resources (OCLC, 2005)

**For electronic information searches, where do you typically begin your search ... by total respondents:**

<b>Search engine</b>	<b>84%</b>
<b>E-mail</b>	<b>6%</b>
<b>Topic-specific Web sites</b>	<b>2%</b>
<b>E-mail information subscriptions</b>	<b>2%</b>
<b>Online news</b>	<b>2%</b>
<b>Instant messaging/online chat</b>	<b>1%</b>
<b>Online bookstore</b>	<b>1%</b>
<b>Online database</b>	<b>1%</b>
<b>Library Web site</b>	<b>1%</b>



# Perceptions of Libraries and Information Resources (OCLC, 2005)

## Why Google?

- **Easy**
- **Results**
- **Results presentation**
- **PageRank**
- **Current information**
- **Searching the entire Web**



# Perceptions of Libraries and Information Resources (OCLC, 2005)

## Why Not Google?

- **Results**
- **PageRank**
- **What is valid information?**
- **Not scholarly**
- **Lacks organization**



# Perceptions of Libraries and Information Resources (OCLC, 2005)

## Users' perceptions of the online catalog

- **Difficult to search**
- **Multiple searches**
- **Display of results**
- **Slow**
- **Full text (some)**



# Usability Considerations

## • Users

- Who are the users?
- Needs/wants
- Background
- Tasks, context, and
- Prerequisite skills and knowledge

→ Conduct user and task analysis



# Other Usability Considerations

- **Amount of training**
- **Documents needed**
- **Time to finish the task**
- **Numbers of errors**
- **How to recover from errors**
- **Users' special needs (e.g., disabilities)**



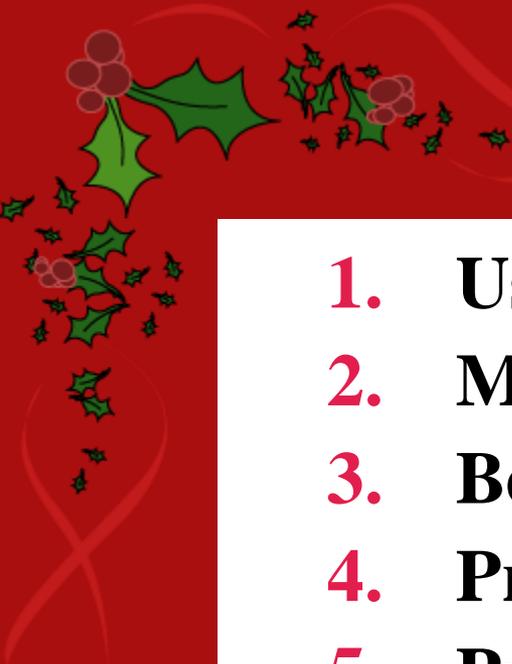
# Concepts of Usability

**A framework of “system acceptability”**

**“Usability” is part of “Usefulness”**

**(Jacob Nielsen & Ben Shneiderman (separately))**

- **Learnability (e.g. intuitive navigation)**
- **Efficiency of use**
- **Visibility**
- **Memorability**
- **Few and noncatastrophic errors**
- **Subjective satisfaction**



# Principles of Usability

- 1. Use simple and natural language**
- 2. Minimize user memory load**
- 3. Be consistent**
- 4. Provide feedback**
- 5. Provide clearly marked exits**
- 6. Provide shortcuts**
- 7. Provide good error messages**
- 8. Prevent errors**
- 9. Keep the interface simple**
- 10. Make action-objects visible**
- 11. Balance and unify the interface**



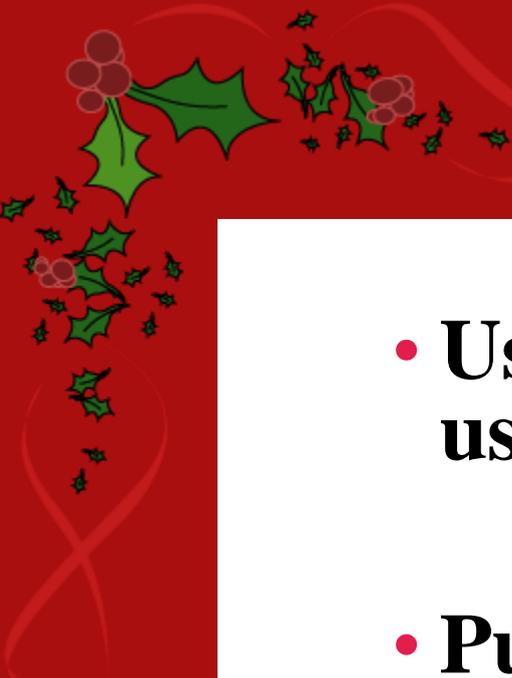
# User annoyances

<b>Pop-up boxes with visiting/ shopping a site</b>	<b>52%</b>
<b>Banners advertisements</b>	<b>50%</b>
<b>Congested web pages (e.g., too many ads, images, etc.)</b>	<b>35%</b>
<b>Slow load times</b>	<b>26%</b>
<b>Difficult to find a specific product</b>	<b>20%</b>



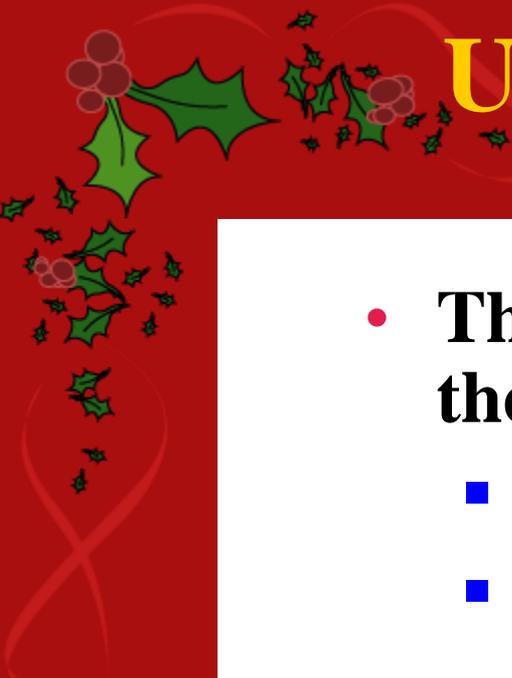
# Examples of Web sites

- **Gap** <http://www.gap.com>
- **Monroe County Public Library,  
Bloomington, IN**  
<http://www.monroe.lib.in.us/>
- **Target** <http://www.target.com>
- **Kent State University** <http://www.kent.edu>



# Usability Testing

- **Usability testing is to measure usability of a system**
- **Purpose: to improve the system**
- **It should be conducted repeatedly during the designing process**



# Usability Testing Environments

- **The purpose of a usability lab is to record the test.**
  - **Fixed labs**
  - **Portable labs**
  - **No labs**
- **Remote testing**
  - **MS Live Meeting**
  - **WebEx**



# SLIS Usability Lab

- **Funded by the Kent State University School of Library and Information Science (KSU-SLIS)**
- **Used for**
  - **Research**
  - **Education**
  - **Engagement**
- **Variety of hardware/software necessary for usability testing**
  - **Including eye-tracking**
- **Can do portable usability testing as well**













# Usability Testing Procedure

- **Determine needs**
- **Recruit subjects**
- **Create tasks**
- **Develop protocol**
- **Determine measures**
- **Pilot test**
- **Run test / collect data**
- **Analyze results**
- **Write report**

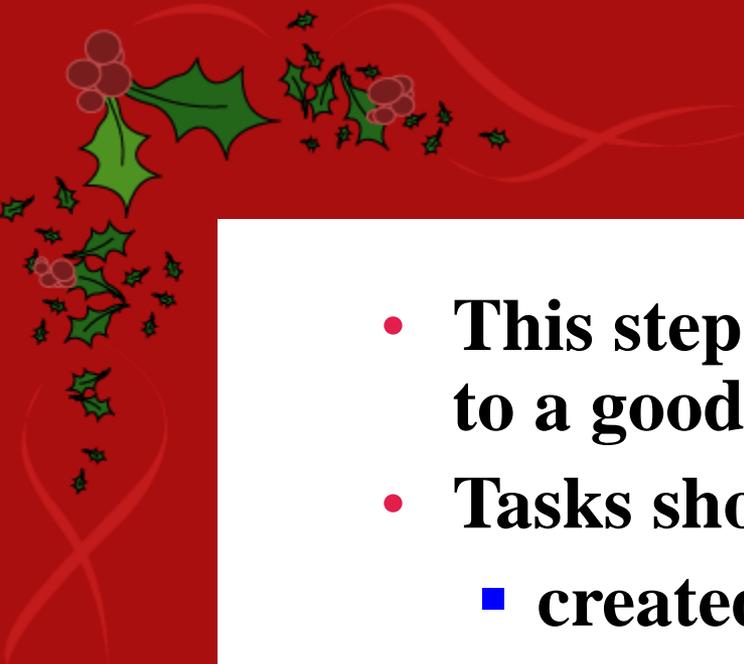
# Determine Needs

- **What is the purpose of the website?**
- **What do you want your users to do with it?**
  
- **Contextual analysis**
- **Needs analysis**



# Recruit Subjects

- **Who should be your test subjects?**
  - **Prospective users of the system/website**
- **How many subjects should you run?**
  - **More is better, but too many is a waste**
- **A user is a user is a user?**
  - **Or, a user by any other name would act the same way**



# Create Tasks

- **This step is the most difficult and critical to a good usability test**
- **Tasks should be:**
  - **created with a specific purpose in mind**
  - **Typical of user behavior**
  - **Specific, but not too specific**
  - **Should not be too complex**
  - **Should not try to capture too much (discrete)**
- **Crummy tasks yield crummy results**



# Develop Protocol

- **The protocol states the procedures to be followed in usability test**
- **Directs the researchers' interaction with subjects**
- **Data collection tool**
  
- **Sample protocol for SirsiDynix SchoolRooms**



# Determine Measures

- **Time on task**
- **Success rate**
- **Accuracy**
- **Emotional response**
- **Eye-tracking (sample movie)**
  
- **Coding subjects' behavior**



# Pilot test

- **Pilot testing is running a subject or two to test the test**
  - **Is the protocol logical? Does it work?**
  - **Can we get the data we want?**
  - **Do these tasks work?**
- **Why?**
  - **Because usability is expensive in time/effort/money.**



# Run Test/Collect Data

- **This is the fun part!**
- **Facilitate the test using protocol**
- **Document everything**
  - **AV recording**
  - **Note taking**
- **Bring a buddy**
- **Pay attention!**



# Analyze data

- **Go back to your measures**
- **Run some statistical analysis**
- **Lots of graphs, charts, and summaries**



# Write-up report

- **Introduction**
  - **Who, What, Where, When, Why**
- **Method**
  - **Short version**
- **Key findings**
- **Design recommendations**
  - **Or highlight critical problems**
  - **Or conclusions**
- **4-page Tufte-style report example**



# References

- **Criteria for optimal web design (designing for usability)**  
By Michael L Bernard  
<http://psychology.wichita.edu/optimalweb/>
- **Dumas, J.S., & Redish, J.C. (1999).** *A practical guide to usability testing* (rev. ed.). Exeter, UK; Portland, OR: Intellect.
- **Dunham, B., & McGurr, M. (Nov. 27-28, 2006).** SLIS 60002, Organization of Information, presentation.
- **Krug, S. (2006).** *Don't make me think: A common sense approach to web usability* (2nd ed.). Berkeley, CA: New Riders. ISBN: 0-321-34475-8.
- **Perceptions of Libraries and Information Resources (OCLC, 2005)** <http://www.oclc.org/reports/2005perceptions.htm>
- **Usability – Wikipedia** <http://en.wikipedia.org/wiki/Usability>