



Usability News is a free web newsletter that is produced by the Software Usability Research Laboratory (SURL) at Wichita State University. The SURL team specializes in software/website user interface design, usability testing, and research in human-computer interaction.

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Where's the Search? Re-examining User Expectations of Web Objects

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Summary: In 2001, Bernard determined that users were able to form a schema for the location of web objects on informational websites. The current study investigates whether users' expectations have changed since the 2001 study. Changes were found in the expected location of the site search engine, internal links, and advertisements.

INTRODUCTION

In 2001, Bernard conducted a survey to determine the expected location for a variety of web objects. The study split web users into novice and experienced groups and evaluated expected location for the following web objects: back to home link, internal links, external links, internal search engine, and advertisements. Based on his results, Bernard concluded that users do have a schema or mental model of where web objects should be located (see [Usability News 3.1](#) for his results.) When mental models are consistent with user expectations, it is expected that the users are likely to be more satisfied with the site and are able to locate information quickly and efficiently.

Today, a larger, more diverse group of users access the internet on a regular basis. Technology has made many advances in the last 4 years in such areas as XML, XHTML, CSS, Java, JavaBeans, ASP, SQL, and other developing technologies (<http://www.w3.org>). In theory, such advances in technology on the back-end can affect the prototypical layout of web objects on the front-end. We wondered whether users' schemas change to keep up with the advances in technology. The purpose of this study was to determine if user expectations for locations of web objects have changed since 2001.

METHOD

Participants

Undergraduate psychology students (N=142; 50 males and 92 females) received course credit for completing a survey regarding the expected location of navigational elements commonly found on informational websites. The majority of the participants (68%) were 20 years old or younger. Most participants (82%) reported using the web for 4 years or longer. Fifty percent of participants indicated they use the web for 2-6 hours per week. Participants most often use the web for educational purposes and entertainment.

Procedure

A methodology similar to that used by Bernard (2001) was used. Users were presented with a demographics questionnaire followed by a page containing a depiction of a web browser window. The mock browser window consisted of five horizontal and five vertical grid squares on a white background. Participants received a set of color-coded stickers labeled "About Us," "Site Search Engine," "Internal

Links," "Advertisements," and "Back to Home" cut to the size of the grid squares. The page contained operational definitions of each type of web object; participants were asked to place the stickers in the location (using any direction except diagonal) they expected the corresponding web object to normally be located on a basic informational website.

All stickers were presented in the same size, one square, to avoid any restrictions on placement. Pilot testing indicated participants had difficulty deciding whether internal links should be at the top, right, or bottom. Pilot participants felt like most websites repeat the internal links in the footer; for this reason, two stickers were included for the internal links. Pilot tests did not reveal the need for more than one sticker for the other objects evaluated.

RESULTS

Frequencies were calculated for each web object for the 25 grid squares (Figure 1). The percentages are represented by increasingly darker shades of blue (white is <1% and black is >33%) in Figures 2-6.

The figures reveal that most participants had an expected location for each of the presented web objects.

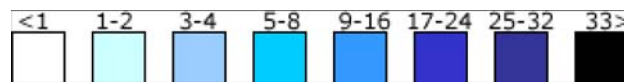


Figure 1. Scale representing percentage of users choosing the grid square for the web object location.

As shown in Figure 2, participants (44%) expected the "Back to Home" link to be in the upper left corner of the web page. Approximately 15% of the participants expected the "Back to Home" link to be in the center of the footer and 11% expected it to be in the left area of the footer as shown in Figure 2.

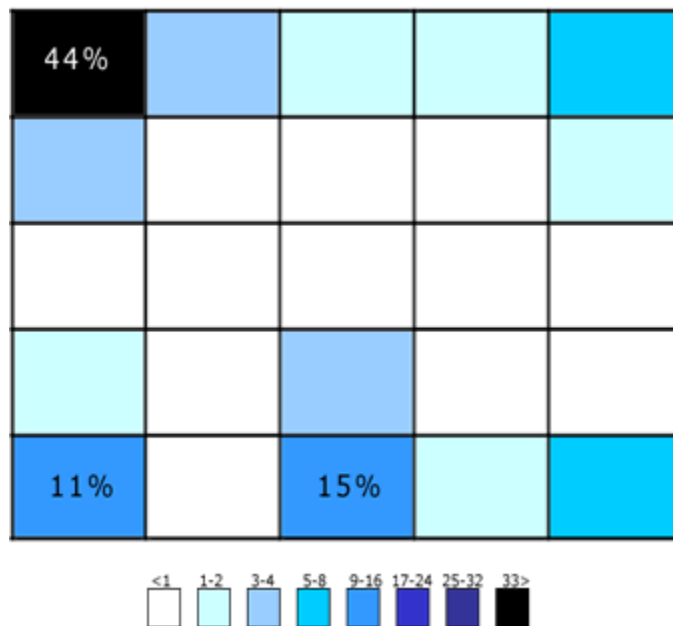


Figure 2. Expected Location of "Back to Home" link

Figure 3 reveals that participants expected the "Internal Links" to be located on the left side of the web page. Participants were given the option of using just one or both of the internal links stickers; 60% used both stickers.



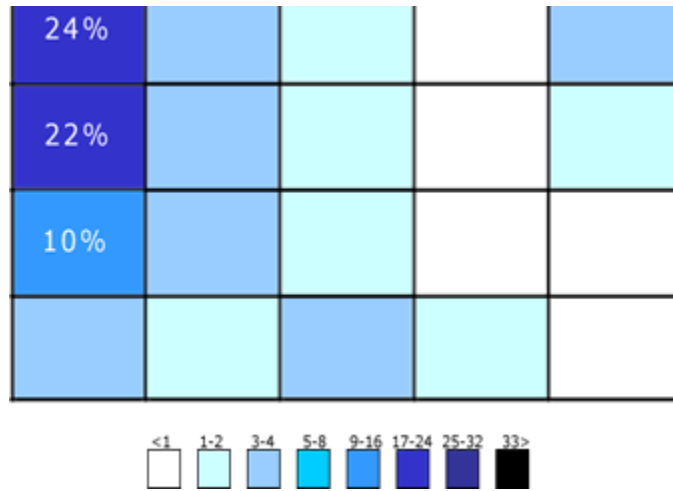


Figure 3. Expected location of "Internal Links"

As shown in Figure 4, many participants expected for find the "Site Search Engine" to be located in the upper right corner of the web page or near the upper left corner.

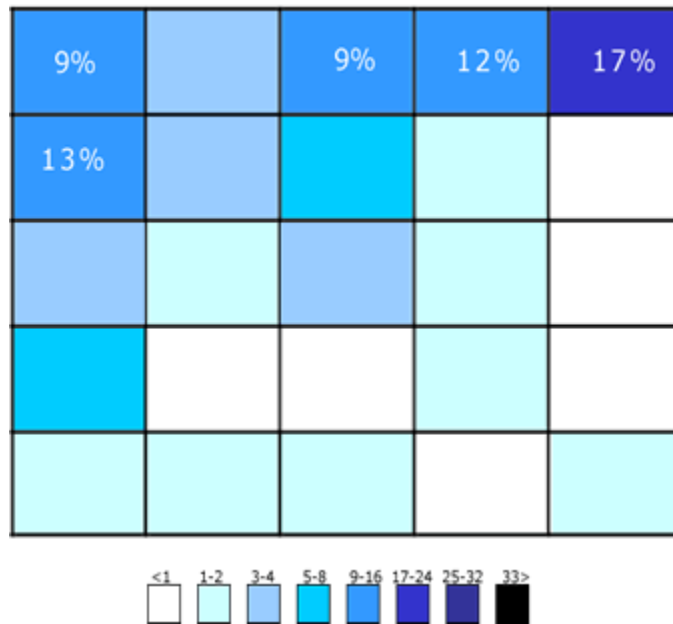
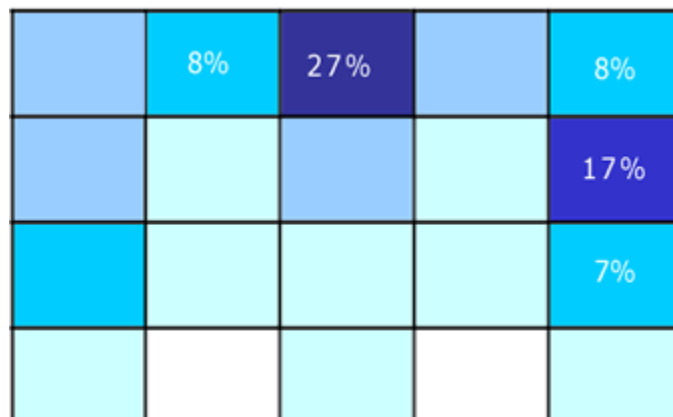


Figure 4. Expected location of "Site Search Engine"

Participants expected advertisements to be located either at the center top or the right side of the web page as shown in Figure 5.



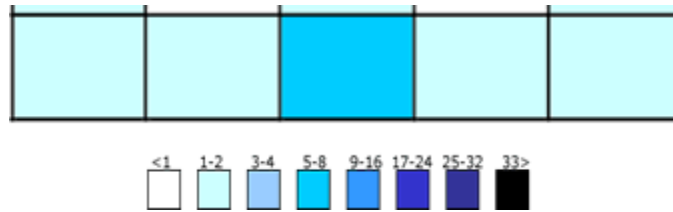


Figure 5. Expected location of "Advertisements"

Figure 6 indicates participants expected to find the "About Us" link in the footer area or the left side of the web page.

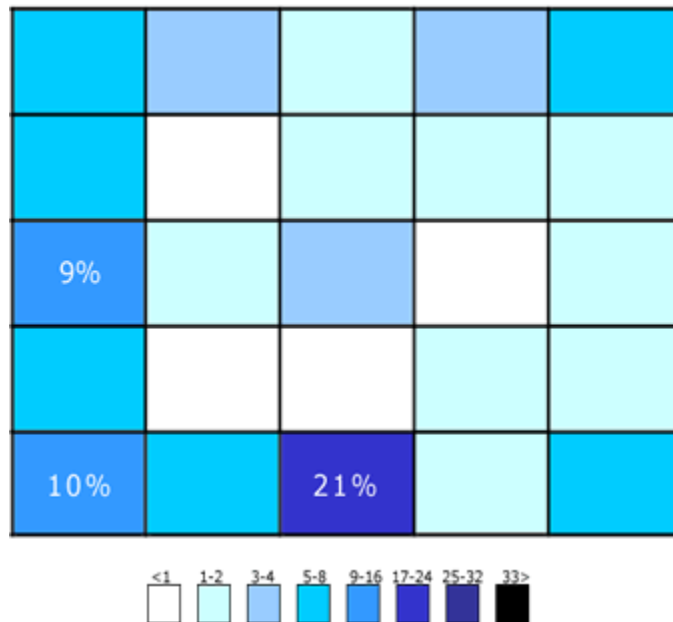


Figure 6. Expected location of "About Us" link

Comparison to Bernard (2001)

Home Link. Bernard (2001) found the expected location of the home link to be the top-left of the web page. The data collected in 2005 indicates participants still have this expectation. Bernard's study revealed a fairly high percentage of participants also expected the home link to be located in the footer area of the web page. The 2005 study revealed a similar trend.

Internal Links. Participants in Bernard's (2001) study overwhelmingly expected the internal links to be located on the left side of the web page. The current study finds a similar expectation among participants. However, the 2005 data showed a tendency for users to also choose locations along the top of the web page for internal links. Bernard's 2001 study did not have any users choose the top of the web page for internal link location.

The location of internal links has likely been affected by the increased use of DHTML/JavaScript menus. The technology that is more prevalent today is more conducive to multi-level navigation being displayed across the top of the web page.

Site Search Engine. In the 2001 study conducted by Bernard, participants expected the site search engine to be located in the upper center of the web page. The 2001 study also showed a preference for the lower center section of the web page. The current study did not find this trend; participants expected the site search engine to be located in the top right corner or the top left corner of the web page.

Possibly, the results from the 2001 study are more reflective of search engine sites commonly used in the early 2000s such as Yahoo, Excite, and AltaVista. These sites often placed the text entry box for the

search in the upper center section of the page.

Sites today are often database generated and often feature internal search engines. Google search functions are readily available for installation on sites today as well. The 2005 data indicates that users are more aware of the internal site search engines versus search sites.

Advertisements. The previous study by Bernard (2001) revealed that participants expected advertisements to be located in the upper area of the web page. Participants in the 2005 study showed a similar preference for the upper area of the web page. However, in the current study, participants were almost as likely to choose the right side of the web page for the location of advertisements.

As technology has changed over the past few years, so have advertisements. Ads in the early 2000s were not as likely to be floating or intrusive in nature as they are today. For example, ads used today may float in front of the user in the left or center area of the page and then minimize to the right side of the screen.

About Us Link. The previous study by Bernard did not evaluate the location of the About Us link. In the 2005 study, users reported the About Us link to be in the footer area of the page.

DISCUSSION

As technology changes the face of the internet, users' expectations seem to shift as well. The changes over the past few years have not been dramatic but reflect updates in technology and advertising schemes. With "Web 2.0" being the buzzword, all implications indicate that the layout of web pages will continue to evolve to take advantage of technology that allows for faster download and more relevant content. Further research on the expected placement of web objects with international audiences has also been conducted and will be discussed in future issues of Usability News.

REFERENCES

Bernard, M (2001). Developing schemas for the location of common web objects. Usability News 3.1. http://psychology.wichita.edu/surl/usabilitynews/31/web_object.asp

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