

Usability 101 & What to Avoid

What is Usability?

Usability is a quality attribute that assesses how easy user interfaces are to use. The word "usability" also refers to methods for improving ease-of-use during the design process.

Usability is defined by five quality components:

- **Learnability:** How easy is it for users to accomplish basic tasks the first time they encounter the design?
- **Efficiency:** Once users have learned the design, how quickly can they perform tasks?
- **Memorability:** When users return to the design after a period of not using it, how easily can they reestablish proficiency?
- **Errors:** How many errors do users make, how severe are these errors and how easily can they recover from the errors?
- **Satisfaction:** How pleasant is it to use the design?

There are many other important quality attributes. A key one is **utility**, which refers to the design's functionality: Does it do what users need? Usability and utility are equally important: It matters little that something is easy if it's not what you want. It's also no good if the system can hypothetically do what you want, but you can't make it happen because the user interface is too difficult. To study a design's utility, you can use the same user research methods that improve usability.

Why Usability is Important

On the Web, usability is a necessary condition for survival. If a Web site is difficult to use, people leave. If the homepage fails to clearly state what a company offers and what users can do on the site, people leave. If users get lost on a Web site, they leave. If a Web site's information is hard to read or doesn't answer users' key questions, they leave. Note a pattern here? There's no such thing as a user reading a Web site manual or otherwise spending much time trying to figure out an interface. There are plenty of other Web sites available; leaving is the first line of defense when users encounter a difficulty.

The first law of e-commerce is that if users cannot find the product, they cannot buy it either.

How to Improve Usability

There are many methods for studying usability, but the most basic and useful is user testing, which has 3 components:

- Get hold of some **representative users**, such as customers for an e-commerce site.
- Ask the users to perform **representative tasks** with the design.
- **Observe** what the users do, where they succeed and where they have difficulties with the user interface. Shut up and let the users do the talking.

It's important to test users individually and let them solve any problems on their own. If you help them or direct their attention to any particular part of the screen, you have contaminated the test results.

To identify a design's most important usability problems, **testing 5 users** is typically enough. Rather than run a big, expensive study, it's a better use of resources to run many small tests and revise the design between each one so you can fix the usability flaws as you identify them. Iterative design is the best way to increase the quality of user experience. The more versions and interface ideas you test with users, the better.

Listening to what people say is misleading: you have to watch what they actually do.

Top Web Design Mistakes to Avoid

1. Legibility Problems

Bad fonts won the vote by a landslide, getting almost twice as many votes as the #2 mistake. About two-thirds of the voters complained about small font sizes or frozen font sizes; about one-third complained about low contrast between text and background.

2. Non-Standard Links

Following are the six main guidelines for links:

- Make **obvious what's clickable**: for text links, use colored, underlined text (**and don't underline non-link text**).
- Differentiate **visited and unvisited links**.
- Provide large clickable areas
- Explain what users will find at the other end of the link and include some of the key information-carrying terms in the anchor text itself to enhance scannability and search engine optimization (SEO). Don't use "click here" or other non-descriptive link text.
- Avoid JavaScript or other fancy techniques that break standard interaction techniques for dealing with links.
- In particular, don't open pages in new windows (except for PDF files and such).

Links are the Web's number one interaction element. Violating common expectations for how links work is a sure way to confuse and delay users and might prevent them from being able to use your site.

3. Content That's Not Written for the Web

Writing for the Web means making content

- short,
- scannable and
- to the point (rather than full of fluffy marketese).

Web content should also

- answer users' questions and
- use common language rather than made-up terms (this also improves search engine visibility, since users search using their own words, not yours).

4. Bad Search

Everything else on this list is pretty easy to get right, but unfortunately fixing search requires considerable work and an investment in better software. It's worth doing, though, because search is **a fundamental component of the Web user experience** and is getting more important every year.

5. Browser Incompatibility

In 2004, almost everybody used Internet Explorer and the business case for supporting other browsers was tough to defend. Today, however, enough people use Firefox (and various other minority browsers, like Opera and Safari) that the business case is back: don't turn away customers just because they prefer a different platform.

6. Cumbersome Forms

People complained about numerous form-related problems. The basic issue? Forms are used too often on the Web and tend to be too big, featuring too many unnecessary questions and options. In the long run, we need more of an applications metaphor for Internet interaction design. For now, users are confronted by numerous forms and we must make each encounter as smooth as possible. There are five basic guidelines to this end:

- **Cut any questions** that are not needed. For example, do you really need a salutation (Mr/Ms/Mrs/Miss/etc.)?
- Don't make fields **mandatory** unless they truly are.
- Support autofill to the max by avoiding unusual field labels (just use Name, Address, etc.).
- Set the keyboard focus to the first field when the form is displayed. This saves a click.

7. No Contact Information or Other Company Info

Even though phone numbers and email addresses are the most requested forms of contact info, having a physical mailing address on the site might be more important because it's one of the key credibility markers.

8. Frozen Layouts with Fixed Page Widths

Complaints here fell into two categories:

- On big monitors, Web sites are difficult to use if they don't resize with the window. Conversely, if users have a small window and a page doesn't use a liquid layout, it triggers insufferable horizontal scrolling.
- The rightmost part of a page is cut off when printing a frozen page. This is especially true for Europeans, who use narrower paper (A4) than Americans.

Font sizes are a related issue. Assuming a site doesn't commit mistake #1 and freeze the fonts, users with high-resolution monitors often bump up the font size. However, if they also want to bump up the window size to make the bigger text more readable, a frozen layout thwarts their efforts.

The very worst offenders are sites that freeze both the width and height of the viewport when displaying information in a pop-up window. Pop-ups are a mistake in their own right. If you must use them, don't force users to read in a tiny peephole. At an absolute minimum, let users resize any new windows.

9. Inadequate Photo Enlargement

The worst mistake is when a user clicks the "enlarge photo" button and the site simply displays the same photo. It's always a mistake to offer no-ops that do nothing when clicked. Such do-nothing links and buttons add clutter, waste time and increase user confusion: What happened? Did I do something wrong?

Another mistake here that's almost as bad is when sites let users enlarge photos, but only by a fraction. When users ask for a big photo, show them a big photo. It's often best to offer an enlargement that fills up the most common screen size used by your customers (1024x768 at the time of this writing). Other times, this is insufficient and it's better to offer a range of close-ups to give users the details they need without requiring them to scroll a too-large photo.

Overall Summary: Users just want quality improvements in the basics:

- Text they can read;
- Content that answers their questions;
- Navigation and search that help them find what they want;
- Short and simple forms (streamlined registration, checkout and other workflow); and
- No bugs, typos or corrupted data; no linkrot; not outdated content.

This information was taken and modified from Jakob Nielsen's Alertbox:

- August 25, 2003, <http://www.useit.com/alertbox/20030825.html>
- Top 10 Web Design Mistakes of 2005 <http://www.useit.com/alertbox/designmistakes.html>.

Jakob Nielsen is the “world’s leading expert on Web usability” (U.S. News & World Report). More information on him can be found at <http://www.useit.com/jakob/>.