
USABILITY TESTING ON A SHOESTRING BUDGET

If you can't afford professionals, don't despair. Do it yourself!

Usability testing is the best way to make sure that your user documents (installation guides, quick start guides, user guides, help systems, and so on) meet your users' needs.

A word of warning!

Testing user documents on a typical group of consumers is an extremely humbling experience.

Some consumers will refuse to read the documents.

Many will not read the documents until they run into a problem that they can't solve.

Most consumers who do read the documents will read them quickly. They won't think about what you are explaining to them.

Professionals

If your budget permits, hire usability testing professionals. They will recruit appropriate test subjects, design and conduct valid tests, report objective results, and recommend both immediate and long-term improvements to the product and the user documents. If possible, attend the usability testing sessions as an observer. You will learn much more by watching test subjects as they attempt to perform tasks using your instructions than you will learn from reading test reports.

Do It Yourself

If your budget does not permit you to hire professionals, ask people you know who are typical users

to perform tasks, and provide them with the user documents. Watch them closely but never give them any help! Some technical writers explain the procedures to the test subjects. This defeats the purpose of the testing.

Don't tell the test subjects that you are testing the user documents. Tell them you are testing the product. If you tell the test subjects that you are testing the user documents, many will try to please you by following the instructions. You want to know what typical users will do when they are using the product on their own.

If possible, ask a person who is familiar with the product to act as technical support. Give the test subjects that person's telephone number to call for help if they need technical support. If another person is not available to act as a technical support contact, perform this role yourself. Remember to answer the test subjects' questions in the same way that a technical support person would answer them. Don't use the questions as an excuse to immediately explain the instructions.

While you watch test subjects perform tasks, observe where they are having difficulties. You can ask them to tell you what they are thinking as they perform the tasks. Listen to what they tell you, but don't give them any help!

When you understand why test subjects are having difficulties, change your instructions to correct the difficulties. Test the revised instructions on new test subjects. If test subjects still have difficulties, revise the instructions again and test them again.

The best way to fix many difficulties that arise when test subjects try to use a product is to improve the product's design. Recommend these improvements to the developers. (If they question the value of the improvements, ask them to watch the usability tests!) Although time may not permit making changes to the current product, the developers may be able to improve the next version of the product.

Tips from the Trenches

The following tips are the result of observing several hundred people attempt to install a DSL (digital subscriber line) modem and connect to DSL service. Few test subjects were power users; most had rudimentary to average computer skills.

The only people who read a document's front matter are technical writers.

No one (except for an occasional technical writer) reads sections like "Intended Audience," "About this Document," and "Conventions." If you leave those sections out, and you will shorten your document at no cost to your readers.

Many users will not read the collected safety information in a "Safety" section. Although such a section may be important to avoid legal liability, always repeat important safety information at the point in the instructions where it applies to users.

Typographical conventions and safety labels should be self-explanatory.

Users won't look for a section that explains your typographical conventions and safety labels. If you must explain them, do so at the point where users need the explanation.

Provide examples that clearly show the actions that users need to take.

Early versions of our DSL installation guides described a process in which users typed commands with variables based on different connection requirements. Instead of using typography to indicate commands and variables, we gave examples of the commands for each type of connection.

Users want clear, easy-to-follow tasks.

Write instructions with numbered steps. Don't overload individual steps with too much information. Don't digress! Choose your words and the ideas you communicate wisely. The more you write, the less users will actually read.

Give users feedback so they know where they are in the process. Don't assume users will follow your instructions step by step. They may stop following the instructions and return to them only if they become confused.

If most of your users will install or use a product in a certain way, make the instructions that explain that way as clear and simple as possible. Instructions that few users need are less important.

We put instructions for infrequently used DSL installation procedures in an appendix. That kept the instructions for the most common installation procedure simple and reduced the total number of technical support calls.

Users are more likely to follow instructions when the heading is a task that they think is important.

Avoid headings like "Pre-Installation Steps," "Before You Start," and "Theory of Operation." Users often skip introductory information and go straight to the tasks they want to perform.

Our DSL installation guides explained several important pre-installation tasks. We initially put these tasks in a section called "Before You Install

the DSL Modem.” Users glanced at the information but did not follow the instructions until they reached the next section: “Unpack the Box.” We tried variants like “Important Pre-Installation Steps.” Nothing worked until we added the pre-installation tasks to “Unpack the Box.” The test subjects then performed all the steps – even though some steps had nothing to do with unpacking!

Many users prefer illustrations to text.

Installation diagrams are more effective than instructions.

A few of our DSL test subjects refused to read the text. They looked at the diagrams and did everything else on their own.

We discovered that test subjects who would not read the text in a manual would read the text in a quick start guide with lots of graphics.

Users’ actions take precedence over their comments.

Your highest priority is successful installation and use of the product. Test subjects who easily install and use products occasionally complain about minor problems.

The instructions in some of our DSL installation guides varied depending on how a user’s computer and operating system were configured. At these points, test subjects sometimes complained that the instructions were complicated, but they had no problem following the instructions.

Make major decision points clear – especially when users don’t understand why they are performing a task.

When users encounter information they don’t understand, they seldom take the time to familiarize themselves with it. They follow the instructions mechanically and make mistakes that prevent them from successfully installing and using products.

One of our biggest problems was helping users install the proper software for their DSL service. The installation procedure differed depending on whether users had a “PPP” or “bridging mode” connection to their ISP (Internet service provider). The majority of users had no idea what PPP and bridging mode were. Understanding the concepts was not necessary. To choose the proper procedure, however, users had to know their connection type.

Our first document had three sections: Hardware, which everyone had to install; Bridging Mode Software, which users with bridging mode connections had to install; and PPP Software, which users with PPP connections had to install.

Users installed the hardware with few problems. At the end of the Hardware section, users with a bridging mode connection were told to go to Section 2. Users with a PPP connection were told to go to Section 3. First, we tested users installing bridging mode software. All the users went to Section 2, and most successfully completed the installation. Next we tested users installing PPP software. Two thirds of them went to Section 2 and followed the instructions for bridging mode. We watched them closely. They all read the instructions that sent PPP users to Section 3, but they did not understand the difference between bridging mode and PPP. Rather than stop and figure out whether they had a bridging mode or PPP connection, they simply went to the next section.

We solved the problem by asking users “Do you have a PPP or bridging mode connection?” and explaining how to check their connection type. We put the PPP and bridging mode instructions in two adjacent columns so users could see that the instructions varied based on their connection type. Users still did not understand the difference between PPP and bridging mode, but they knew

they should check their connection type on their ISP information worksheet. Users who had not filled out the ISP information worksheet because they did not think it was important completed it.

If a product is simple to install and use, users won't read the user document until they have a problem.

Usability testing not only shows how well users understand and follow instructions; it also shows *when* users consult the instructions. The design of the information must match how users work with the instructions.

When we tested the installation guide for a DSL product with a wizard to simplify the software installation, we discovered that users stopped following the instructions once they started the wizard. When the wizard told them to restart their computers, they glanced at the installation guide while waiting for the computer to restart.

Users did not know what to do when the wizard prompted them to choose PPP or bridging mode. At that point, they picked up the installation guide and looked for an illustration that matched the wizard. The installation guide originally had a separate set of instructions for each connection type. Users followed the instructions for the first illustration they saw that matched the wizard, regardless of the connection type.

To solve the problem, we combined the PPP and bridging mode instructions so that only one illustration matched the wizard. The instructions next to the illustration emphasized the importance of choosing the right type of connection and told users to check their connection type on the ISP information worksheet.

About the Author

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About Impact Technical Publications

Impact develops clear, concise, well-illustrated, and well-tested user's guides, quick start guides, reference manuals, and help systems that explain how to use everything from advanced technologies to general business hardware and software. Audiences range from business analysts and senior software engineers to sales people and novice computer users. The company's technical publications increase customer satisfaction with clients' products and services and reduce training and support costs. Impact's installation guides for DSL service increased customer self-installations from 10 to 90 percent, resulting in the first successful DSL customer self-installation program in the U.S.

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