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Usability Testing and Research

Book Review

Index Terms—*Human-computer interaction, human factors, usability testing, Web usability.*

—Reviewed by
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Manuscript received February 17, 2002;
revised February 18, 2002.
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IEEE PII S 0361-1434(02)04962-7.

Book Publisher:
New York: Longman, 2002
428 pp. including index.

Usability *Testing and Research* is part of the Allyn and Bacon Series in Technical Communication, books “designed to meet the ... needs of professional technical communicators [and] of students enrolled in undergraduate and graduate programs in technical communication” (p. xi). While Barnum’s book primarily addresses testing, the usability of products that technical communicators are likely to develop (documentation, training, tutorials, and Web-based applications), the techniques described are of equal value to anyone interested in the usability of any product that has a user interface: hardware, software, computer games, etc. In fact, there is a separate chapter devoted to Web usability and Web-testing and other nontesting methods such as surveys, interviews, and heuristic evaluations.

If you are somewhat familiar with usability tests but have not done one yourself, you may be put off by visions of high-tech laboratories, banks of elaborate monitoring equipment, one-way mirrors, and technicians in white lab coats. While such settings do exist, they are not absolutely required, and perfectly satisfactory testing can be done on a shoestring budget. So if you have been wanting to test your product but have been putting it off for fear that it is an expensive, arcane process, this book is for you.

So, what does it mean for a product to be usable? How does one test for it? Why does one have to test for it? Aren’t there simple rules to follow

to make a product usable? Can’t a developer simply apply common sense to achieve usability?

Unfortunately, it is not that simple. The very first line in the preface says: “From the moment you know enough to talk about a product—any product, whether it’s hardware, software, games, or Web pages—you know too much to be able to tell if the product would be usable for a human being who doesn’t know what you know” (p. xiii). This is true of technical writers trying to explain a product to someone who has never used it before, and it is especially true of product developers, who are so close to the ins and outs of product behavior that they cannot imagine a new user’s first impressions. Compound that with the realization that usability is a moving target: it changes with the product audience and with circumstances of use. Hence, the need to test for usability rather than simply assume it exists.

The entire first chapter is devoted to answering basic questions. What is usability? Usability testing? How can I justify the cost of testing? The chapter offers several definitions of usability, but my favorite is the ISO 9241-11 definition on page 6: “Usability is the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use.”

I favor this definition because it not only addresses what usability is, but it also offers a framework in which it can be tested. If you want

to measure usability, construct a test by quantifying user profiles; test goals; measurements of efficiency, effectiveness, and satisfaction; and context of use.

User profiles? See pp. 157–160 for advice on how to describe a “typical” user. The section includes a checklist of factors to consider, as well as suggestions for questioning users to determine if they fit the profile.

Goals of a test? See “Setting Goals and Measurements,” to determine what you want to learn from the test, how you want to measure the results, the difference between goals and concerns, and a list of the most common measurements applied to usability tests.

In addition to being a straightforward informative text, the book is sprinkled with sidebars containing examples, stories, anecdotes, and case studies. The case studies are real. The final report of a usability study on Hotmail appears in its entirety in Appendix 8.1. The report is over 30 pages long and covers test goals, selection of users, usability criteria, and samples of scenarios and questionnaires. Some anecdotes are serious (Trials and Tribulations of a Field Visit), and some are whimsical (a humorous sendup of the Windows Start button in the form of Abbott and Costello doing a “Who’s on Start” routine), but all add to the understanding of the technical message of the book and make for more enjoyable reading.

So let us say you have come to an understanding of why you need to test, and you want to sell the idea to your cost-conscious management. There is a section on cost justification, and another on cost-benefit ratios. If that is not enough, throw in a few tidbits on the costs of **not** making the product usable: cumulative productivity losses, customer conversion failure, or Web purchases lost due to poor usability (“27% of all Web

transactions are abandoned at the payment screen” (p. 363)).

Once you have convinced the powers-that-be that testing is cost-effective and beneficial, turn to information on planning and preparing for a test: defining your product issues, selecting tasks to be tested, determining an adequate sample size, and establishing user profiles. You will find everything from samples of checklists, forms, and questionnaires to all you need to know about test teams: Why form a team? How many people do you need? What roles do they each play? Who leads? What are the group dynamics?

Do you have a testing lab? If not, do you want to create one? Either way, you are covered. If you want to create one, see the section on “Testing with a Lab” in Chapter 1. If not, “Testing Without a Lab,” same chapter.

After planning and preparation, you are ready to “test your test.” That is, do a series of rehearsals, such as paper prototyping, wherein you simply use paper mockups of your interface to get the general flow of the test in place. From there, you can move to a live interface and a more detailed walkthrough, wherein all the players are assembled and “walk through” their respective parts in a typical test session. Finally comes “dress rehearsal,” commonly called a “pilot test”: a real-life practice performance, complete with live interface, a real user, and the entire test team.

Once the pilot test has run smoothly, you are ready for the real thing: live tests, repeated until you have enough data to justify a yea or nay decision on the usability of the product. How many such tests are required, you ask? See page 142 for “determining sample size” and page 10 for “small samples.” You will be surprised at what you can learn with a relatively small number of users.

When the test is done, look for guidance on organizing your test

results and to Chapter 8 for help with analyzing and reporting your results. The chapter includes a template for written reports as well as suggestions for preparing oral reports and even video-tape highlights.

As a retired human factors engineer (professional usability tester), once-upon-a-time technical writer, current freelance indexer (I prepared the index for the book), and long-time consumer of computer products and related documentation, I can attest to the need for better usability in such products and to the need for more books that explain in simple, understandable terms how to achieve that.

Barnum’s work will also be a useful addition to the reading list in technical communication courses such as Web design, usability testing, and related subjects. Both student and professional examples of various documents are included, and each chapter concludes with end-of-chapter discussion question and exercises. An instructor’s manual is available that offers sample syllabi and suggestions for structuring assignments in both classroom and online courses. The companion website at www.ablongman.com/barnum offers supplementary materials such as downloadable forms and templates, photographs of lab setups, links to other websites, and a PowerPoint presentation on “Getting Started with Usability Testing.”

Does this book fulfill its stated purpose, to meet the needs of professional technical communicators, educators, and students? Yes, it does. It describes from start to finish a simple usability testing methodology that can be implemented by most anyone with a minimum of expense and effort. It does so in a manner that is both informative and readable. I plan to use it in my own work and would not hesitate to recommend it to others.