

# **Just Use**

# **It!**

***by Carolanne Fisher, Ph.D.***

**How to turn  
good intentions  
into a real  
usability test  
program.**



## **USABILITY TESTING IS A LOT LIKE EXERCISE—**

most people say it's very important to do regularly, but few people actually do it, even irregularly. Yet, just as we like to claim the benefits of regular exercise (“I can have dessert tonight—I’ll go to the gym tomorrow”), we also like to claim the benefits of usability testing (“Check out our new, easy-to-use features”) without doing the work. We value ease-of-use in our products, and we genuinely want them to work well for our end-users, yet somehow we don’t do the usability testing that would support our intentions. To confound matters, when we do usability testing, we often do it too late in the development process to have a significant impact, or the results are minimized or ignored and so have no effect on the quality of the end product. ▶▶▶

It's a frustrating situation if you happen to be the one who champions usability testing in your organization. You know the value of usability testing. You know it will help the product more closely match your users' needs and expectations, and will reduce the chance for confusion and calls to the help center—but you can't get the buy-in of the developers, project managers, marketers, or upper-level management to get it done. In fact, you probably hit outright resistance at all levels. It's not that these stakeholders are determined to produce a product that isn't useful or usable for the end-user. Often, they simply don't know what usability testing buys them; sometimes they even perceive it as a threat. The good news is that nothing turns skeptics into believers quite as quickly as seeing usability testing in action. So, put it into action. You can run your first usability tests for maximum effect with little or no money—this article will show you how.

### No Time Like the Present

I once worked for a large company that proclaimed publicly that it championed usability—the company even hired a few usability experts to prove it. But behind the scenes, a different reality existed. The usability experts were isolated in separate departments and generally ignored. Usability testing wasn't funded and wasn't done, and products went to market with significant usability problems that caused support costs to skyrocket. There was simply no place in the company's development process or culture for the usability testing it claimed to value.

The usability experts took a chance. Though no one had asked for it or funded it, they conducted a usability test on a soon-to-be-released product. In addition to recruiting participants who were representative of the target users, they convinced several high-ranking VPs to serve as participants in the test, one of whom was directly responsible for the product being tested.

The results of the study were dramatic. Most participants, including the VP who was responsible for the product, were un-



able to accomplish even the most basic tasks, despite trying for more than an hour. They made numerous errors and got increasingly frustrated as they labored over the tasks. Consequently, three key things happened. First, the product was held back for rework—an unprecedented move given that the product release had been announced. Second, a centralized usability department was born almost overnight and grew to include fifteen professionals within a year. (The new department reported directly to one of the VPs who had been in the test.) Third, the company changed its development process to require usability testing, not just at the end, but at strategic intervals throughout the process.

### The Fear Factor

You probably won't have to do anything quite so dramatic to get usability testing into your company's culture, especially if you can do some testing long before the product is ready to go out the door. Still, objections and politics can be deep-seated, and cutting your way through them can be daunting. It may help to understand why people resist usability testing, even when they know it's a good idea.

While you'll hear many objections (see the sidebar "Top 10 Excuses Not to Do Usability Testing," page 29), the real reasons run much deeper than what might be articulated. At a very fundamental lev-

el, usability testing is a scary thing. It brings under scrutiny the very goodness of the product you're creating, as well as the way you're creating it. If you're going to crack the problem of how to make usability a routine part of the development process, you'll need to be aware of the threats it poses.

Most resistance probably stems from the fear of losing control. Engaging in usability testing is tantamount to saying, "I'll let some perfect stranger with no knowledge of the history, architecture, or technology tradeoffs decide if this product I've worked on for a year is good or bad." Of course, that's the point. Your product's users are probably perfect strangers who don't care a bit about your design rationale—and they will decide if it's good or bad, if not in the lab, then in the

marketplace. But it's tough to give up being the ultimate arbiter of good design and admit that you might not know it all.

It's tough to subject your design sensibilities to objective evaluation. It's not unusual for individuals and teams to take great pride in what they've designed and developed, and it's certainly not unusual for designers to feel personally attached to their designs. When design ideas fail in usability testing, it can feel like a personal failure.

Further, usability testing debunks a culture of personality and pressure. It's not unusual for a development team to be driven by one or two strong players who resolve design disputes by force of personality. Usability tests objectively demonstrate the strengths and weaknesses of a product's design irrespective of whose brainchild it was. For those used to having their own way, usability testing represents an abdication of power and control.

Usability testing also sits at odds with typical reward structures. Companies usually reward project managers for delivering a working product on time and on budget. What happens after it hits the streets is not part of a project manager's success equation. The fact that usability testing can help improve the usability of a product and thereby reduce the cost of customer support is not on their radar screens. Project managers may not see

beyond the possibility that usability testing might uncover issues that they will have to deal with in their already over-stretched schedules and budgets.

Imagine how usability testing might seem to developers. Developers are at a real disadvantage when it comes to designing a usable product. They are not usability experts, so they can't make judgments based on specialized knowledge, training, and experience. It's unlikely that they had a user interface specification that detailed every possible user interaction and interface component. They can't fall back on personal knowledge and preference, because developers rarely bear any resemblance to the end-users. Even if they did resemble the end-users, developers are far too familiar with the product to be able to judge whether the interaction they designed is really easy and intuitive to use, or if it just seems that way because they *know* how it works. To make matters worse, usability isn't a developer's primary driver—meeting deadlines with workable, defect-free code is. And yet, here they are on the line for a significant portion of the product's usability. Testing for usability can seem like forcing the developers to take an exam on material they weren't taught and can't possibly know. They're almost guaranteed to fail. Is it any surprise that developers might view usability testing as a threat?

At the higher levels of an organization, usability testing can be threatening because it could reveal poorly formulated business objectives, strategies, or plans. If a product isn't tested until late in the game and it doesn't test well, it could be an embarrassment to those responsible for committing significant time and resources to it. Not only will the players exhibit resistance, their resistance will increase as the time-to-market approaches.

### Tips & Tricks for Getting Started

So, faced with all of these fears, how do you get started? Conduct a usability test! Usability testing can be its own best ambassador if you let it. Here are some tips for succeeding, even with little support and no budget.

**Do it yourself.** You don't need to be a usability expert to conduct informative

usability tests, any more than you need to be a journeyman carpenter to do some cool renovations to your home. You just need to read up on basics and not be afraid to pick up a hammer and give it a try. Remember, your goal is not to conduct perfect usability tests, but to demonstrate the value of usability testing by producing useful results and engaging the relevant stakeholders. To get yourself up and running, check out one of the excellent books on the topic such as Mike Kuniavsky's *Observing the User Experience*, Jeffrey Rubin's *Handbook of Usability Testing*, or Dumas and Redish's *A Practical Guide to Usability Testing*.

**Keep it cheap.** Start with the facilities and equipment you have. You can conduct your first studies in a quiet office or conference room—you don't need a fancy lab with an observation room and one-way glass. Just make sure the room is comfortable and private.

You should take notes as you go, but you'll probably also want to videotape your testing sessions so you can review them later or show clips to others. A consumer-grade camcorder is perfectly adequate. If you don't already have one, I bet you know someone who does. Set up the camera to focus on the product

you're testing. If you are testing screen-based software, you'll need to run your study on a computer with an LCD display, such as a laptop, because video recorders pick up the scan lines on a CRT. You can set up your camcorder to look over your participant's shoulder, but to get a crisp screenshot, you can attach a keyboard and separate monitor to your laptop. Have your participant work on the separate keyboard and monitor, and set the laptop to the side where you can get a tight shot of just the laptop screen.

**Go in early.** For your first usability tests, you want to set yourself up with the best chance of success—both for improving a product and for winning new converts to usability testing—so choose your timing and your test matter carefully. If you can, select a product that is early in its development. It's much easier for the schedule to absorb the time it takes to make changes in the design or code when everyone is less attached to a particular design.

**Find a pressure point.** Whether or not you can get in early, you always can get in smart. The smartest thing to do is to solve somebody's problem. You'll need to do some sleuthing; talk to people, ask

## Basic Training

A usability test is a series of structured interviews, usually one-on-one. The interviewer asks participants, who are chosen to be representative of the intended end-users, to perform a series of tasks with a product or product prototype. The tasks may be high-level (to encourage participants to work through the parts of the product they "naturally" would to achieve some goal), or they may be highly directive (so that the participants exercise specific features, functions, or parts of the interface). Usually, the interviewer asks the participants to think aloud while performing the tasks. He may ask them questions during the test to get more information. The interviewer usually takes notes and/or records the sessions, capturing comments, step sequences, confusions, errors, requests for help, opinions, and suggestions.

A well-designed usability test quickly exposes pitfalls in a product's overall concept, as well as problems with individual items and interactions in the interface. It can also tell you what's working *well*. Want to know if your product is useful to your target users? Wondering if the task flow you've built makes sense to users or if there are any extra steps or missing functions? Want to know if users can learn your product and find the functions they need? Curious to know if the icons you've used convey what you intended or if you're using terminology that's meaningful to your user? Concerned that the content might be irrelevant or misleading? Just plain worried about how your product will work in the real world? A usability test can tell you—and tell you in a uniquely compelling way.

questions. Are there particular features or interactions that a stakeholder is worried about? Is there a conflict about how something should be designed? Is there a key feature that just has to work well for the user? Does your CEO have a pet product she is watching? If, for example, you know that your CEO is worried about the recent statistics showing an increase in abandoned shopping cart items on your e-commerce website, a usability study of the buying process is in order.

**Keep it tractable.** Focus on just one or two aspects of an interface and get solid usability information about them. Having solid information on a small portion of your product is much more convincing—and much more likely to be acted on—than poor information about all of it. There is only so much you can cover in a test session before your participant wears out and the data he provides degrades. Aim for what you can cover in no more than a one-hour test session.

To help you keep focused, organize your test tasks around specific user goals. For example, in our e-commerce example, focus your test on the checkout process. You know people are finding items and putting them in their shopping carts, so you don't need to ask participants to do that. (The interfaces for these tasks might need improvement, but that would be the subject of another study.) Set up tasks that have your participants go through the checkout process only.

**Use free participants.** There is a lively debate raging among usability professionals about how many participants it takes to run a valid usability test, but five to eight remains a good rule of thumb for most purposes. (For more on the debate, see this issue's StickyNotes.) Unfortunately, in order to get people to commit to spend an hour participating in a usability test, you usually have to pay them. But our premise is that you're starting on a shoestring and don't have any money to run your test. What to do?

Turn to the people who would help you to succeed the most:

your family and friends. If the intended user of the product you're testing is the general consumer or software user, your family and friends may provide all the participants you need. Just be careful to use people who can be objective about the software you're testing. Also, be careful not to overuse the resource—tap your family and friends to get started, but don't expect them to come back gratis time after time. Besides, you don't want to use the same participants over and over, or you'll wind up with products that work the way your buddy Matt wants, not the way your broader user base wants.

You can also use your co-workers if they have nothing to do with the particular product you're testing—otherwise, they know too much to provide valid data.

But what if your product is a research tool designed for tort lawyers, and it's not your habit to be friendly with too many lawyers? To really exercise your product, it's true that, at some point, you will have to pay some tort lawyers their going hourly rate to participate in your studies, but that doesn't mean that you can't get valuable data from general software users. For most specialized software, there are portions that don't require special knowledge to use. In a legal research tool, there is probably a search interface that should be as easy to use as one that searches for new cookware. Your friends and family can help you with that part of the evaluation.

**Don't wait for finished code.** In fact, don't wait for any code at all! You don't need working code or even a working prototype to do usability testing. All you really need is a specification of how the interface is supposed to work. You can mock up the interface and interactions with nothing more than paper and pencil. In her excellent book *Paper Prototyping*, Carolyn Snyder lays out practical advice on how to conduct usability studies using paper mockups. If you are invited to design meetings or have buddies who are, you'll find lots of fodder for usability testing. Be alert for disagreements about how some aspect of a product's interface should be designed. You can quickly test the various options being discussed and resolve the conflict.

**Invite stakeholders to observe.** One of the most powerful things you can do to get buy-in for usability in your organization is to get stakeholders to observe tests as they happen. Watching a user fumble with your product, or even curse at it, can give you religion about usability in a hurry. I once worked with a brilliant, but inordinately stubborn, developer who insisted on his way of designing an interface for an online publication. He reluctantly agreed to observe a usability test that included his part of the interface. After the second participant couldn't figure out what to do, the developer stormed back to his cube and fired off an email to the rest of the development team telling them to

attend the test. He became inordinately stubborn about insisting that usability testing be done early on all his projects.

You might have seen usability labs with a separate sound-proof observation room outfitted with a one-way mirror looking into the test room so observers can see what's going on and even talk with one another without disturbing the participant. You don't need that sort of setup at all! If you have a TV with a video-in port and some cabling, you can set up a two-room testing suite by running the cable from your camcorder's video-out to the TV that is set up in a nearby of-



# Top 10 Excuses Not to Do Usability Testing

*"For developers and manufacturers, the advantages of creating usable products far outweigh the costs. The rule of thumb: Every dollar invested in ease of use returns \$10 to \$100."* (IBM: Cost justifying ease of use.)

Usability testing is often threatening to development teams and management alike. They don't always know exactly why they object, but here are some of the reasons you'll hear them articulate and some things to consider when responding.

**1. It might uncover a showstopper.** If there is one, you sure want to discover it before your market does!

*"A certain printer manufacturer released a printer driver that many users had difficulty installing. Over 50,000 users called support for assistance, at a cost to the company of nearly \$500,000 a month. To correct the situation, the manufacturer sent out letters of apology and patch diskettes (at a cost of \$3 each) to users; they ended up spending \$900,000 on the problem. No user testing of the driver was conducted before its release. 'The problem could have been identified and corrected at a fraction of the cost if the product had been subjected to even the simplest of usability testing,' wrote the researcher."* (Bias & Mayhew, 1994)

**2. It will add too much time and cost to our development cycle.** Paradoxically, usability testing has been shown actually to reduce time and cost if done early enough.

*"Usability engineering has demonstrated reductions in the product-development cycle by 33% to 50%."* (Bossert, 1991)

**3. It'll take too long to do usability testing.** Usability testing does not have to be big and complex to be effective. A usability test can be completed in a matter of days—or even less—if you keep it focused and simple. Frequent, timely, to-the-point feedback is usually much more relevant and digestible to development teams than long, infrequent laundry lists of problems.

**4. There are no usability problems because I can use it just fine.** Perhaps you can, but chances are your users can't.

*"63% of all software projects overrun their budgetary estimates, with the top four reasons all related to unforeseen usability problems."* (webword.com: A Business Case for Usability, Oct 2001)

**5. It'll cost too much.** As outlined in this article, you don't have to spend much at all to do usability testing. Any money you do spend on it pales in comparison to the cost of not doing it.

**6. We're too early in the process—we don't have everything thought out.** There is no such thing as too early!

*"[Usability engineering techniques] are quite effective at detecting usability problems early in the development cycle, when they are easiest and least costly to fix. By correcting usability problems in the design phase, American Airlines reduced the cost of those fixes by 60% to 90%."* (Bias & Mayhew, 1994)

**7. We're too late in the process.** It's true, it's best to identify problems early in the development process, but discovering them any time is better than going to market with usability problems.

*"The rule of thumb in many usability-aware organizations is that the cost-benefit ratio for usability is \$1:\$10–\$100. Once a system is in development, correcting a problem costs 10 times as much as fixing the same problem in design. If the system has been released, it costs 100 times as much relative to fixing in design."* (Gilb, 1988)

**8. We're doing bug testing—that will take care of any problems.** Usability testing and bug testing address very different issues, and you can't afford to be without either one.

*"80% of maintenance is due to unmet or unforeseen user requirements; only 20% is due to bugs or reliability problems."* (webword.com: A Business Case for Usability, Oct 2001)

**9. We've done usability before, and it was useless.** The success of usability testing depends on the development team and management being willing to act on it. It's possible that the results weren't acted upon or that the testing and/or reporting were done badly. Either way, you can't afford not to give it another try.

*"After move.com completed the redesign of the home 'search' and 'contact an agent' features based on a UI consulting firm's recommendations, users' ability to find a home increased from 62% to 98%, sales lead generation to real estate agents increased over 150%, and [move.com's] ability to sell advertising space on move.com improved significantly."* (Vividence, 2001)

**10. We can just explain it in the user's manual.** Don't even think it. When was the last time you read a user's manual?



## Making changes based on feedback from just one or two participants is dangerous.

fice or conference room where your observers can sit.

Another no-cost option is to have the observers in the room with you and the participant during the test. If your observers can follow a few simple rules—apply common courtesy and be quiet while the participant works (questions allowed only after a task is completed), participants can be surprisingly comfortable in this situation. It's toughest on you, the facilitator, especially for your first test or two when you're not so sure of yourself.

A word of caution: Usability testing can be so powerful that it can inspire developers to immediately change code after observing only one or two participants. Action is good, of course, but making changes based on feedback from just one or two participants is dangerous. Those particular participants may be unusual in some way. Encourage your observers to wait until all the data is in.

**Make a highlights video.** While it's wonderful to have stakeholders view test sessions as they happen, it's quite a time commitment. A highlights video, on the other hand, can capture much of the drama of an entire usability test in a few minutes and be watched by anyone at any time. Better yet, it can have a life of its own. I once delivered a short highlights video of a study I did for a well-known software company that had never done usability testing before. The video didn't contain all the issues raised by the study, but it did show the most important issues, using clips from the most dramatic participants. I didn't know until some time later (when I got a very excited call from the CEO) that the video had made its way all the way up to his office. He told me he was going to show it to his board of directors and asked me to come in to teach a short course on how and when to do usability testing.

If you choose to make a highlights video, a search on the Internet will net a fair number of reasonably priced video

editing packages that let you load video clips from your camcorder onto your computer, edit them, then write to videotape, CD, or DVD. You should be able to find some that offer a free trial version.

The key for a highlights video is to keep it short and crisp. Include only the five or six most important results and keep it less than ten minutes long. If you are putting your highlights onto a CD or DVD, you can go a little longer—ten to twelve points and about twenty minutes—because you can provide a selection menu so viewers can watch only the clips that interest them.

**Talk about it.** Written reports have an annoying habit of finding their way to the bottom of a pile and not getting read. By all means, document your results in writing, but discuss them in person. You can invite the important stakeholders, including those who observed the study, to a brownbag or offer to present at one of their regular meetings. You can also talk to stakeholders one-on-one. The important thing is to get people excited about the results.

For both your written and oral reports, prioritize the problems you found by severity. Use screen shots and user quotes to illustrate the issues and make them more tangible. Use video clips in your oral presentation—and in your written report if you publish it on your intranet. And don't forget to highlight the positives! You probably uncovered lots of things that are working well with the product—tell people about them.

Be sure to include a list of suggested improvements that will help resolve the issues. Be aware that while some problems will have fairly obvious solutions, others may require some serious rethinking of the overall interface metaphor or interaction paradigm to resolve. That's OK. Flag those problems as “needing further exploration.” Again, prioritize your suggestions, identify those that must be done, those that should be done, and those that could be done.

**Expect to succeed.** Conducting a usability test can be nerve-wracking the first few times you do it. You're not entirely sure that you'll get useful results or recognize them if you do. Don't worry—you will! In almost twenty years of running usability studies, I have never failed to be surprised by something users said or did.

**Do it again.** You probably won't have your whole organization converted after one usability test, but chances are that you've won over a few folks. Build on your base of support by involving them in planning the next studies. Seek their advice about what to test to build up demand, and ask them to keep an eye out for projects that should have some usability attention. You should also consider retesting a product after changes are made. A “before and after” comparison with clips or quotes is compelling for those in the executive seats.

### Recognizing Success

You may never experience the kind of dramatic turnaround illustrated in our earlier story, but you should notice subtle changes. Did you get looks of shock or surprise during your presentation? Did you get a call from a developer asking you to clarify a point? Did your report seem to land on deaf ears, but the next time you looked, some of your suggested improvements were in the product? Did you get email from a colleague asking how to fix an interface problem? These are all indicators that you're on the right track. Keep it up! **(end)**

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### Sticky Notes

For more on the following topics go to [www.stickyminds.com/bettersoftware](http://www.stickyminds.com/bettersoftware)

- More on usability testing