

Usability Capabilities & Expertise

January 2009

What is Usability?

Usability specialists work to ensure that the intended users of a system can carry out the intended tasks efficiently, effectively and satisfactorily. Usability techniques can be applied at any stage of product development, from assessing end-user requirements before design through evaluating finished products.

Designing Positive User Experiences

Before you can meet users' needs it is essential to *understand* their needs. Our approach is to form a detailed understanding of the target user, anticipate how the product will affect that person, and explore ways to simplify any gaps between the product's offering and the problem the user is trying to solve. Because we understand the strengths and limitations of both the user and the technology, we can explore ways to improve the interaction between them.

We apply multiple techniques throughout the technology development cycle to understand and meet users' needs. Some of these techniques include:

- User Requirements Analysis
- Persona and Scenario Development
- Information Architecture
- Concept Testing
- Competitive Analysis
- Task Analysis
- Storyboarding & Prototyping
- Heuristic Evaluation
- User-Experience Testing
- User Interface Specifications & Guidelines

Why is Usability Important?

Making computer-based products (and services) more usable is smart business. Usability increases customer satisfaction and productivity, leads to customer trust and loyalty, and inevitably results in tangible cost savings and profitability. Because user-interface (UI) development is part of a product's development cost anyway, it pays to do it right.

Most development managers view usability costs as added effort and expense, but the reverse is more commonly true. Given that the first 10% of the software or website design process (when key design decisions are made) can determine 90% of a product's cost and performance, early-stage usability techniques help keep the product aligned with company goals. The benefits of usability include:

- Higher sales
- Lower customer support costs
- Lower training costs
- Lower development costs if changes are made earlier in the design stage

Why Choose Benchmark?

Research, Research, Research

One of Benchmark's strengths is in our ability to blend technology and psychology. Benchmark employs practitioners and researchers with advanced degrees in human factors and experimental psychology, mechanical engineering and computer information systems from leading Universities. Our philosophy is to start every project by looking for the latest research and state-of-the-art practices in a particular domain. We apply current research about human capabilities and limitations to our work, so we can offer solutions that are more acceptable, less costly and require less training and support.

Our Human Factors/Ergonomics work spans a broad range from safety and physical ergonomics, to user analyses and functional requirements specifications, and to interactions and systems design. Our core skills include knowledge of user testing methods, cognitive psychology and human factors design principles; research techniques such as user modeling, interviewing, and observation; and technical skills such as workstation design, prototyping and graphical user interface (GUI) development.

A Wide Variety of Experiences

Benchmark has experience designing user interfaces and conducting usability evaluations for a wide variety of products in several domains. Our work has included prototype designs, out-of-the-box experiences, expert heuristic reviews, usability testing, and final design specifications. Our design and usability skills have been applied to traditional PC-based software, web-based applications, handheld devices, ultra-mobile PCs, cellular telephones, and medical devices, to name a few.

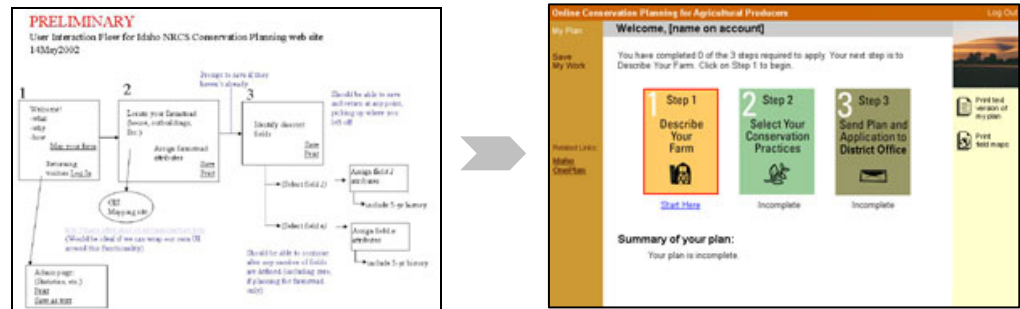
Our few of our clients include:

- Hewlett-Packard Company
- Intel Corporation
- Pacific Start Communications, Inc.
- Allmed Healthcare Management, Inc.
- USDOJ National Park Service
- Idaho State Police
- Idaho Dept. of Health & Welfare
- USDA Natural Resources Conservation Service (NRCS)

Usability Work Samples

User Interface Design

Starting with your requirements, we develop personas and scenarios that provide an ideal user experience, followed by storyboards and prototypes. We obtain user input and feedback throughout the process to ensure that user experience is optimized for usability. In the example shown below, the objective was to allow farmers to apply for funding via the web.



Deliverables

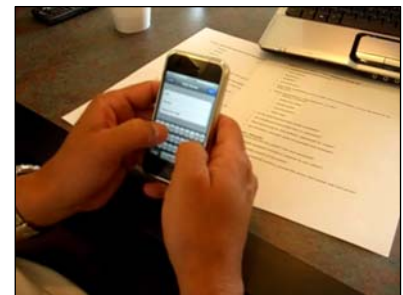
- Storyboards & wireframe site for team review
- Mockups & interactive prototype for user evaluation
- Final design specification

Heuristic Evaluations

Heuristic evaluations are a form of usability inspection where usability specialists judge whether each element of a user interface follows a list of established usability criteria. For example, using the most current research, we applied three different sets of heuristics to the operation of a popular cellular phone.

Deliverables

- Evaluation of the completion of critical tasks
- Assessment of the out-of-the-box experience
- Expert ergonomic evaluation of the hardware
- Appraisal of strengths and weaknesses



User Experience Studies

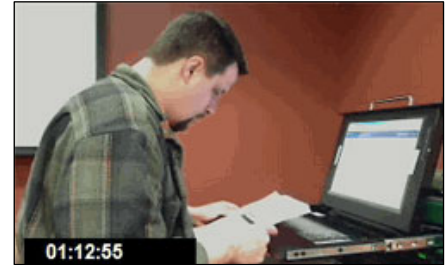
Often the best way to discover what customers think about a product is to interview them. These studies employ small samples – typically 6-8 end users – that take into account the culture, cognitive capabilities, and shortcuts that apply to the product's target audience. You get feedback about your product directly from the users' own experiences.

Product Acceptance Testing

From our roots in experimental psychology, Benchmark has conducted dozens of studies in which users try critical tasks before a product is publicly released.

Deliverables

- Quick-turn list of top issues discovered in testing, delivered within 24 hours
- Full report of performance metrics, usability issues, and recommended solutions



Competitive Evaluation by End Users

Benchmark has conducted studies in which end-users compare the ease of use and strengths & weaknesses of similar devices.

Deliverables

- Customer impressions and reactions to devices
- User-reported strengths and weaknesses of each device
- Side-by-side comparison between devices
- User-based guidelines for the most usable device

Strengths
Large screen relative to device size
Good screen quality
Buttons for volume, full-screen video
Built-in stand (on back)
Simple looking
Lightweight, easy to hold



Weaknesses
Confusing submenus (from left to top)
No obvious Start menu
Small keypad buttons
No buttons for "home" or "close window"
Memory card slot is hidden under the stand, not labeled

Contact Us for Your Next Project

Whether you are planning your next project or looking for assistance with an existing project, we can help. Benchmark's unique combination of perspectives contributes to a usability solution that you can apply with confidence. Contact us at 877-641-4468 or info@benchmarkrs.com.