

Users First!


An Introduction to Usability and User-Centered Design and Development for Technical Information and Products

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About Andrea

- Technical communicator since 1983
- Online information presentation focus since 1989
- Consultant since 1995
 - User-centered design and development process and start-to-finish usability—analysis, design, testing
 - Focus primarily on software product user interfaces and interactive information systems, including Web
- Coordinator of two University of California, Santa Cruz, Extension technical communication certificates
- Society for Technical Communication Board of Directors



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Discussion Topics

- The problem *and* the solution: Usability
- Achieving usability through user-centered processes
- Characteristics of usability: The typical usability adoption process
- Where to go from here: Skills and knowledge
- Resources

The Problem/Solution: Usability > The Problem

The Problem: Products Are Hard to Use

- Emphasis on products and selling, not end users—product *buyer* may *not* be *user*
- Design? What design? Designing usable products is difficult due to the human factor—need to understand users' mental models
- Development organizations have little to no process—forget user-centered!
- Information development processes are at the mercy of product development—typically not integrated



The Problem/Solution: Usability > How Documentation Affected

How Usability Issues Affect Documentation

- Compensation for unusable products
- Documentation is a finger in the eroding dam of an unusable product
- We're losing the battle, because traditional documentation deliverables are not working



The Problem/Solution: Usability > The Solution

The Solution: Usability

- One of many product characteristics—includes
 - Usefulness
 - Intuitive or intuitible
 - Ease of use (aka usability)
 - Ease of learning
 - Likeability
- A result of an iterative, user-centered design and development process



The Problem/Solution: Usability > Product Characteristics Affecting Usability

Additional Product Characteristics That Affect Usability—Ones We Don't Typically Think Much About

- High-performance
- Maintainable
- Reliable
- Manufacture-able
- Functional
- Compatible
- Portable
- Localize-able/internationalize-able



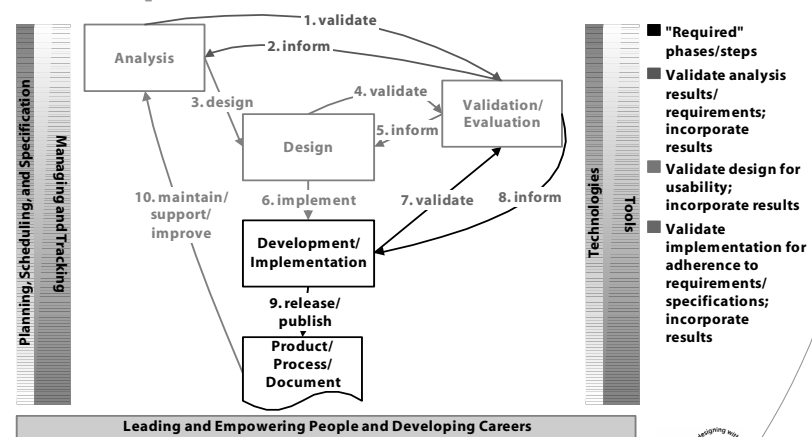
The Problem/Solution: Usability > What Usability Is Not

Usability Is Not...

- *Only* usability testing
- *Just* a back-end attempt to rectify design problems
- Occurring *only* late in the design/development process



User-Centered Design and Development Process

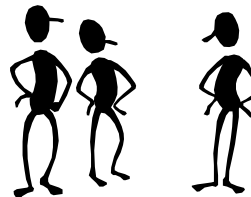


Looking at Analysis, Design, and Validation in Detail

- Making the case
- Roles and responsibilities
- Timing, techniques, and tools
- Output/deliverables

Making the Case

- If you don't have time to do it right, when will you have time to do it over?
- Meeting/beating the competition
- Business case/value proposition (support, training, and documentation costs)
- Capitalizing on usability of products in the press/market



Roles and Responsibilities

- Designers should do analysis
- If implementers can do some analysis, as well, so much the better
- Get marketing and executives involved, if analysis information begins to contradict business strategy/shared vision

Timing, Techniques, & Tools

- *Before* design
- Surveys/questionnaires
- Interviews
- Task analysis
- Focus groups
- In-company research
- Contextual inquiry, aka site visits

Output/Deliverables

- Archetypes/personas
- User role models
- Audience/user profile
- Process/task flows, maps, models
- Use case scenarios

The Case for Design

- Provides detail—not just vague market requirements—for algorithm designers and developers/implementers
- Provides something concrete to validate and change, if necessary
- Higher risk and cost to make changes after implementation begins
- Read Alan Cooper's *The Inmates Are Running the Asylum*



Roles and Responsibilities

- Information architect/designer: Enlightened technical communicator
- Interaction designer: Human factors expert; enlightened technical communicator, graphic designer, or developer who is well-versed in human factors, cognitive psychology, etc.
- Visual designer: Enlightened graphic designer
- Algorithm designer: Enlightened developer

Timing, Techniques, & Tools

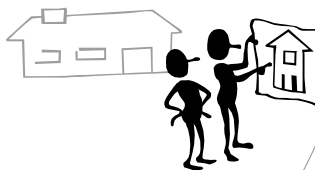
- *Before* implementation (coding/writing)
- Use output of analysis process
- Content modeling
- Interaction/navigation modeling
- Participatory design

Output/Deliverables

- Detailed design specification(s)
- Detailed storyboard(s), wireframe(s)
- Paper and skeletal electronic prototype(s)

Making the Case

- We *think* we designed the right thing, but how do we know for sure?
- Gather data vs. subjective information and opinions
- Minimize risk: Validate before we ship and can't sell
- Create historical record of usability benchmarks for future use
- Minimize cost of service, support, training, and documentation
- Increase sales and probability of repeat sales



Roles and Responsibilities

- Design and develop the usability test plan, including test scenarios:
Designers/developers of product/documentation, with feedback/input from entire product team (usability test team)
- Administer the test: Anyone

Roles and Responsibilities (cont.)

- Gather the data: Properly trained designers/developers of product/documentation
- Analyze the data: Usability test team
- Develop recommendations and write report: Designers/developers of product/documentation, with feedback/input from usability test team

Timing, Techniques, & Tools

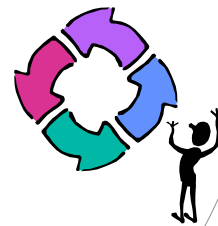
- Early and often 😊—best time to validate is with early designs, on paper, prototypes (least risk/cost)
- Heuristic and expert evaluations
- Walk throughs with the team
- Usability testing

Output/Deliverables

- Report of usability issues uncovered in testing
- Recommendations for addressing usability issues
- Plan for implementing recommendations
- Justification/prioritization of issues and recommendations

They're Doing It Backward!

- ① Validation
- ② Design (barely)
- ③ Analysis (maybe)



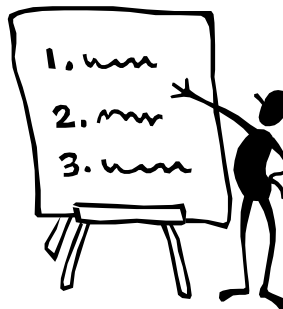
Where to Go From Here

- Cognitive psychology (how people learn and remember), human factors
- Usability—all phases
 - Audience analysis
 - Multi-disciplinary design, including information, interaction, and visual components
 - Validation
- User-centered design and development processes
- Business
 - Marketing
 - Finance

As An Information-Oriented Person, You'll Likely Be Most Focused On...

- Information architecture
- Information design
- Modular writing
- Minimalism

- Possibly interaction design, especially for your Help and other interactive information



Finding Out More

- Beyer, Hugh and Karen Holtzblatt, *Contextual Design: A Customer-Centered Approach to Systems Design*
- Bias, Randolph and Deborah Mayhew, *Cost-Justifying Usability*
- Carrol, John, *The Nurnberg Funnel*



Finding Out More (cont.)

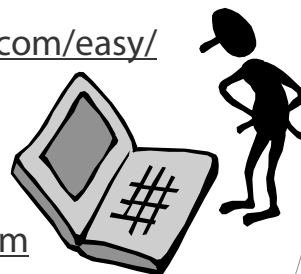
- Constantine, Larry and Lucy Lockwood, *Software for Use: A Practical Guide to the Models and Methods of Usage-Centered Design*
- Cooper, Alan *The Inmates Are Running the Asylum*
- Dumas, Joseph and Janice (Ginny) Redish, *A Practical Guide to Usability Testing*
- Hackos, JoAnn and Janice (Ginny) Redish, *User and Task Analysis for Interface Design*

Finding Out More (cont.)

- Nielsen, Jakob, *Usability Engineering*
- Redish, Janice C. and Judith A. Ramey, "Special section: Measuring the value added by professional technical communicators." *Technical Communication*, 42(1), 2/95
- Rubin, Jeffrey, *Handbook of Usability Testing*
- Velotta, Chris, ed.: *Practical Approaches to Usability Testing for Technical Documentation (STC)*

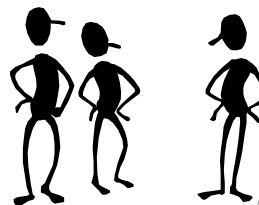
Finding Out More (cont.)

- IBM's Ease of Use site: www.ibm.com/easy/
- uidesign.net Interaction Design Webzine: www.uidesign.net
- Usable Web: www.usableweb.com
- Jakob Nielsen's site: www.useit.com
- Ask Tog: www.asktog.com



Finding Out More (cont.)

- Usability Professionals' Association
(www.upassoc.org)
- STC's Usability SIG
(www.stc.org/pics/usability/)
- ACM's SIGCHI
(www.acm.org/chi/)



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