



Show and Tell: Building Usability into E-Learning

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The problem

“Most major producers of e-learning are not doing substantial usability testing...”

In fact, we don't seem to even have a way to **talk** about usability in the context of e-learning.”

Michael Feldstein, “What is ‘usable’ e-learning?”
eLearn Magazine (2002)

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Another view of the problem

- More than one researcher has observed
 - ♦ E-learning often **disappoints** people
 - ♦ Learners **tire** of using it
 - ♦ They become **bored**
 - ♦ **Satisfying** e-learners with the **experience** of e-learning is an increasing concern

Preface to E-Learn 2007 Proceedings
Bastaens and Carliner

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And more views

“Why do so many e-learning applications fail to stress the importance of [usability] or put it into practice? It's likely that the **decision makers** have a **poor understanding of usability**, are unaware of its importance, or do not consider it worthy of time and effort.”

Usability and E-Learning, M.J. Miller, 2005

“**Progress** in this field **has been very slow** and I think there is not enough emphasis on how to break new ground and treat it seriously.”

Jakob Nielsen on e-Learning, 2001

“Compelling elearning is not about navigating content, but about **staging experience**.”

Krishnan and Rajamanickam, 2004

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The corporate barrier remains

“Why should we **pay** for user testing when the first ten thousand people who will buy our software will tell us how to improve it **free**?”

VP for a large international computer corporation
(quoted in Reeves and Hedberg's *Interactive Learning Systems Evaluation*, 2003)

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We'll cover

- Aligning our terminology
- Using tools in the UCD toolkit
- Overcoming obstacles
- Seeing the results, learning from our users

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QA versus UA

QA Testing

- ◆ Focus is on product
- ◆ Functional operation tests for errors
- ◆ Performance/benchmark testing
- ◆ Click button, get desired action
- ◆ Assessment

Usability Testing

- ◆ Focus is on user
- ◆ User's satisfaction with product
- ◆ Ease of use
- ◆ Ease of self-learning
- ◆ Intuitiveness of product
- ◆ Joy of learning

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Usability does *not* mean...



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What does usability mean?

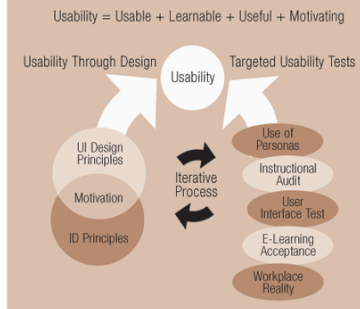
- “The extent to which a product can be used by **specified users** to achieve **specified goals** in a **specified context** of use with **effectiveness, efficiency, and satisfaction.**”
(ISO 9241-11 International Organization for Standardization)
- “The measure of the **quality** of the **user experience** when interacting with something—whether a Web site, a traditional software application, or any other device the user can operate in some way or another.”
(Nielsen, “What is ‘Usability’?”)

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Achieving usability - big picture

Figure 2: Achieving Usability



Shilwant, S. & Haggarty, A. "Usability Testing for E-Learning," Chief Learning Officer Magazine, August 2005 (www.clomagazine.com)

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Heuristic evaluation is one tool

Examples

- > Jakob Nielsen (www.usit.com/alertbox)
- > Quesenbery's 5 E's (www.wq usability.com)
- > Dick Miller (www.stcsig.org/usability)

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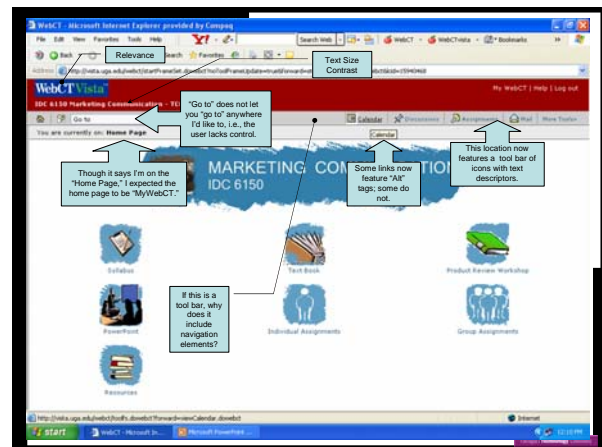
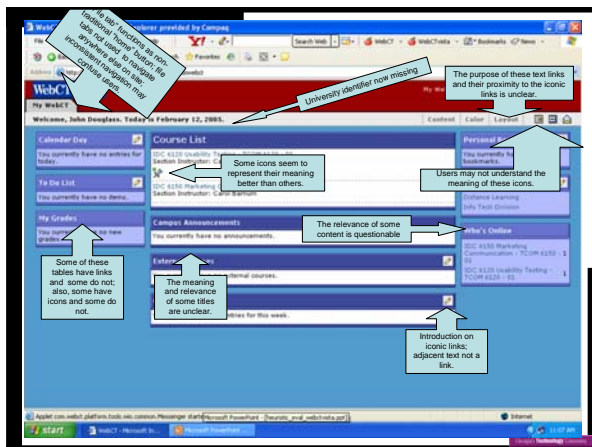
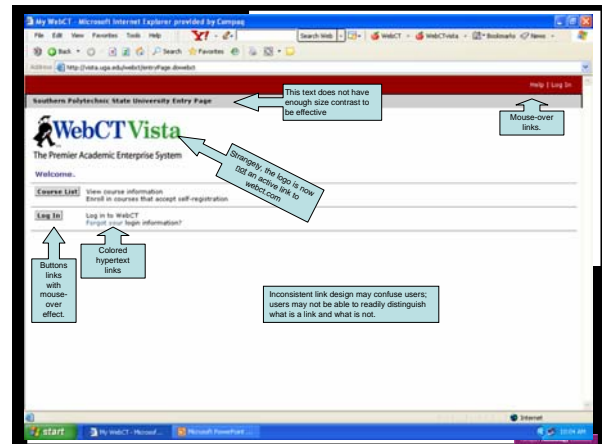
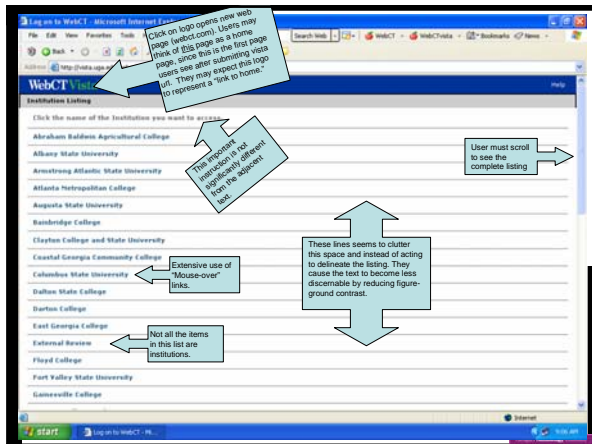
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Heuristics suggest test plan

- ◆ General navigation within Vista and a class
- ◆ Consistency with web design and hyperlink conventions
- ◆ Performing class-related tasks
 - > Posting assignments
 - > Responding to discussion board messages
- ◆ Using non-class related tools
 - > Campus Bookmarks
 - > Calendar
 - > To-Do List

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Personas are another tool

- Example - Cooper (www.cooper.com/content/insights/new_letters_personas.asp)
- HE + personas = more powerful review
 - ♦ eLearn Magazine
 - > "Designing Usable, Self-Paced e-Learning Courses: A Practical Guide" (2006) Michael Feldstein & Lisa Neal
 - > "Want Better Courses? Just Add Usability" (2006) Lisa Neal and Michael Feldstein

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Know thy user for he is not thyself

- Who are you?
- Are you a Millennial?
- Gen X?
- Gen Y? Gen Why??
- Procrastinating 40's housewife transitioning back to the work force?
- Baby boomer?
- "Egocentric intuition fallacy" - Tom Landauer

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Testing is the essential tool

- User *experience* cannot be imagined
 - ♦ What can the user **show** us?
 - ♦ What can the user **tell** us?
- Listen, observe, learn
 - ♦ Think-aloud protocol
 - ♦ The user is always right

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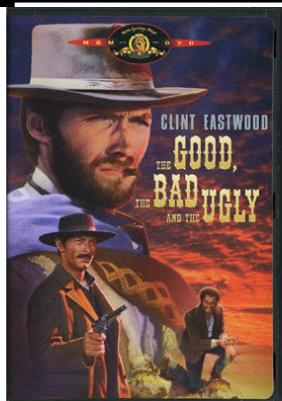
VISTA - Course Management System

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The Good The Bad The Ugly

Results of testing



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The Good

- First impressions (2 users)
 - ♦ "one-stop shopping"
 - ♦ "pretty cool"
- Found e-mail icon quickly (3 users)
- Address book of mail recipients "very handy" (2 users)
- Compared discussion board positively to former product - WebCT (2 users)
- Liked hover help that displays over buttons (3 users)

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Video Highlights

WebCT Vista Usability Test

Strong Points:
Positive Comments by Users

The Bad & The Ugly

- 95 separate instances of trouble, frustration, or inability to complete task
- Ranked in priority of severity
 - ♦ 1 - Catastrophe: unable to complete task
 - ♦ 2 - Serious: caused confusion or delay
 - ♦ 3 - Minor: little effect on usability

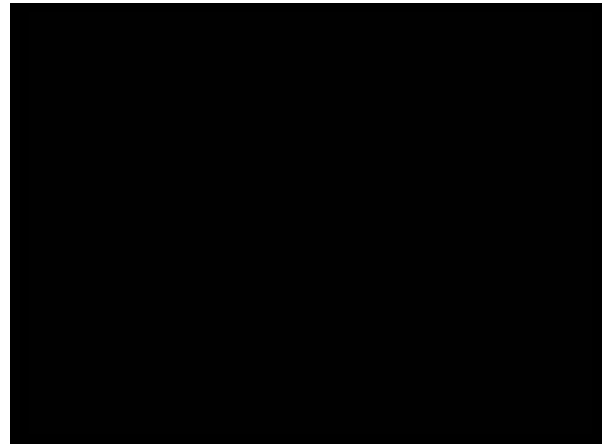
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Video Highlights

WebCT Vista Usability Test

Set a Reminder



Build UX into process

How many users does it take?

- ♦ cast of thousands? – engineering model

- ♦ 5 (or fewer) - Nielsen discount model
- ♦ RITE method - Rapid Iterative Testing and Evaluation – Microsoft gaming model

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Commonalities

- Rapid
- Iterative
- Exploratory
- Affordable



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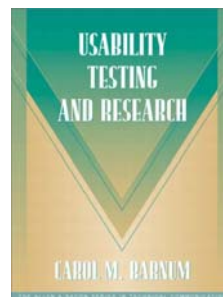
Teaching moment

- **You** are not your user
- Heuristic evaluation is **one** tool
- **Companion** is usability testing
- Let your users **show** and **tell** you about their experience
- Discount model works (“Guerilla HCI”)

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Questions?



Longman, 2002

www.ablongman.com/barnum

“Distinguished” top award,
STC International Technical
Publications Competition

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