TOPICS:

• Review
• Selling these new techniques to management
• Cost justification of usability
• Getting started
• Parting words

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WRAP UP

What you can now do:

• *We have addressed how to design the content of quality interaction, and a process by which usability can be ensured in user interaction.*

• Apply interaction design *guidelines*

• Use an iterative, evaluation-centered *usability engineering life cycle* for user interaction development

• Participate in *systems analysis*, including user, needs, task, and functional analyses
WRAP UP

What you can now do:

• Perform conceptual and detailed design
• Establish usability specifications
• Build rapid prototypes
• Perform formative usability evaluation
• Iteratively refine an interaction design
• Know how to get started with these new ideas
WRAP UP

Your biggest challenge may be:

• Not technical!

• Selling this to management

* By necessity, the interaction development process has changed from linear to iterative, which in turn changes at least:

- Control

- Scheduling

- Organizational roles

- Territoriality

- Project management

- Communication, skills

- Test facilities, tools
WRAP UP

• What we've presented is the basis for controllability, accountability, and quantitative methods that are so important (rightfully) to management

Selling these techniques to management

• They may not be aware that there is a problem

• They may view these techniques as a solution to a non-existent problem

"The product is selling well"

"We're getting lots of interested inquiries"

"Users don't complain about it"

• "We've never done it this way before."

• Seek out corporate mission statement and show how usability engineering supports

• Remember the "personware" factor
WRAP UP

Selling these techniques to management (continued)

• Successful interaction designs are being developed using these techniques, because they've been shown to work!

• Resources needed: Minimum 15% of entire development effort!

• "You have to keep running just to stay in the same place!"
COST JUSTIFICATION OF USABILITY

Can we afford to include usability engineering in our system development process?

• Answer: Usability engineering does not add overall cost, for two reasons

* Costs are added only to a limited part of total development process

* Usability saves many other costs
COST JUSTIFICATION OF USABILITY

First reason:

• Added costs are confined

* Reality: Interaction development process must be iterative — cannot get it right the first time

* But interaction development is small part of overall system development

* Rest of development — user interface software and other application software — is not necessarily iterative
COST JUSTIFICATION OF USABILITY

Second reason:

• Poor usability is costly; good usability is all about saving cost

Usability is about good business, not just about “being nice”

* Costs of hardware and software vs. costs of "personware"
* Costs of development vs. costs of operation
  - Development costs are mostly one time; operational costs accrue for years
  - Cost/benefit scope must be broad enough to include usage, as well as training, help desk support, etc.

Scope problem: one group pays for development cost and another group gets benefits.

18.9 Wrap
COST JUSTIFICATION OF USABILITY

• Development savings from usability in process

* High software maintenance costs — trying to get it right after release

* Implementation costs

  Bell labs example: saving significant development costs by discovering unneeded functionality

• Usage savings; even more significant if users are your employees!

* Save operational productivity costs

  Esp. Large numbers of users and repetitive tasks

* Save user training costs

* Save costs of user errors

* Save costs of database errors

* Save costs of help desk and user support operations
COST JUSTIFICATION OF USABILITY

• Usage savings (continued)

* Save intangible costs of employee dissatisfaction

* Point: Not more resources to ensure usability, but different resources with different distribution during life cycle

• Beyond cost savings: In the e-commerce world of the Web, good usability can mean increased revenue!

* Can market your company as having a focus on usability; competitive edge

* Huge need to avoid releasing something that will embarrass you and the company (despite the pressure of "Internet time")
COST JUSTIFICATION: A SIMPLE EXAMPLE

• For a large distributed system:
  Users: 75,000
  Average transactions/user a day: 20
  Transactions/day: 1,500,000
  User time per transaction: 5 - 20 minutes
  Average time saved per transaction, due to improved usability: 30 seconds
  Average fully-loaded hourly rate: $25.00
COST JUSTIFICATION: A SIMPLE EXAMPLE

• Saved per year

= 75,000 users * 20 trans/user-day * .5 min/trans * 230 days/yr * $25/hr * 1 hr/60 mins

= $71,875,000.00

• Other savings: user training, help desk

• Regardless of what usability engineering cost for this product, payback is enormous
COST JUSTIFICATION OF USABILITY

• But won't it be nice when we no longer have to justify "costs" of usability?

• When have you heard anyone ask: Can we afford costs of designing data structures, implementing algorithms, doing quality assurance, etc....?!
GETTING STARTED

Some ideas for selling these techniques to management:

• **Start small**
  *
  * Try the process on a small part of a project
  * Try a few usability specifications
  * Set up a small usability lab somewhere, anywhere — and use it
  * Develop at least a minimal customized style guide

• Tell management exactly what you intend to try and hope to accomplish, and within what time frame

• Expect some rough spots in initial stages
GETTING STARTED

Some more ideas for selling these techniques:

• Get appropriate resources lined up

* Get buy-in from management

* Get at least one person with appropriate skills on the user interface development team, and give them a title, responsibility, and authority

* Give appropriate training to team members

* Get commitment from team members to try these new techniques

* Find someone you can apprentice with

* Get consulting help when needed, especially during start-up
GETTING STARTED

Some more ideas for selling these techniques:

• Professional preparation

* Go to appropriate conferences — e.g., Computer-Human Interaction (CHI); Human Factors and Ergonomics Society (HFES); User Interface Software and Technology (UIST); National Institute of Standards & Technology (NIST)

* Subscribe to HCI publications

* Join Usability Professionals' Association (UPA)

* Join Special Interest Group on CHI (SIGCHI) — local and/or national

* Start a "brown bag" user interface lunch bunch
GETTING STARTED

• Try the process all the way through once
• Generate a failure story
• Better: Generate a success story

  E.g., videoclips for "before and after"
PARTING WORDS

- Encourage focus on the *process*, rather than just the product

* Make a customized *process* guide

* Operationalize the process organization-wide

- **Ensure usability** “by practice” rather than “by decree” or "by politics"

- Characteristics needed by user interaction/interface developers:

  * **Dedication** — to the cause of quality interfaces

  * **Daring** — to do things differently

  * *Art and science in user interface development*...