

Introducing Evaluation

The aims

- Discuss how developers cope with real-world constraints
- Explain the terms and concepts used to discuss evaluation
- Examine how different techniques are used different stages of development

Two main types of evaluation

- **Formative evaluation** is done at different stages of development to check that the product meets users' needs
- **Summative evaluation** assesses the quality of a finished product
- Our focus is on formative evaluation

What to evaluate

- Iterative design & evaluation is a continuous process that examines:
 - Early ideas for conceptual model
 - Early prototypes of the new system
 - Later, more complete prototypes
- Designers need to check that they understand users' requirements

Bruce Tognazzini tells you why you need to evaluate

“Iterative design, with its repeating cycle of design and testing, is the only validated methodology in existence that will consistently produce successful results. If you don’t have user-testing as an integral part of your design process you are going to throw buckets of money down the drain.”

See AskTog.com for topical discussion about design and evaluation.

Reasons to invest in user testing

- Problems are fixed before the product is shipped, not after
- The team can concentrate on real problems, not imaginary ones
- Engineers code instead of debating
- Time to market is sharply reduced
- Finally, upon first release, your sales department has a rock-solid design it can sell without having to pepper their pitches with how it will all actually work in release 1.1. or 2.0

When to evaluate

- Throughout the design
- From the first descriptions, sketches etc. of user needs through to the final product
- Design proceeds through iterative cycles of:
 - Design – test -redesign
- Evaluation is a key ingredient for a successful design

Evaluating the 1984 OMS

- Early tests of printed scenarios & user guides
- Early simulations of telephone keypad
- An Olympian joined team to provide feedback
- Interviews & demos with Olympians outside US
- Overseas interface tests with friends and families
- Free coffee and donut tests
- Usability tests with 1000 participants
- A 'try to destroy it' test
- Pre-Olympic field test at an international event
- Reliability of system with heavy traffic

Hutch World

- Collaboration between Microsoft's Virtual Worlds Research Group and Fred Hutchinson Cancer Research Center in Seattle
- Enable cancer patients, caregivers, family and friends to chat with one another, tell their stories, discuss their experiences and coping strategies, and gain emotional and practical support from one another
- Weak immune system – avoid phys. contact

Development of HutchWorld

- Many informal meetings with patients, carers and medical staff early in the design
- Early prototypes were informally tested on site
- Designers learned a lot e.g.
 - Language of designers and users was different
 - Asynchronous communication was also needed
- Redesigned to produce the portal version

Usability testing

- User tasks investigated:
 - How users' identity was represented
 - Communication
 - Information searching
 - Entertainment
- Entertainment questionnaire
- Triangulation to gain different perspectives

Findings from the usability test

- The back button didn't always work
- Users didn't pay attention to navigation buttons
- Users expected all objects in the 3D-view to be clickable
- Users didn't realize that there could be others in the 3D world with whom to chat
- Users tried to chat to the participant list

Key Points

- Evaluation & design are closely integrated in user-centered design
- Some of the same techniques are used in evaluation & requirements but they are used differently (e.g interviews and questionnaires)
- Triangulation involves using a combination of techniques to gain different perspectives
- Dealing with constraints is an important skill for evaluators to develop