Evaluation

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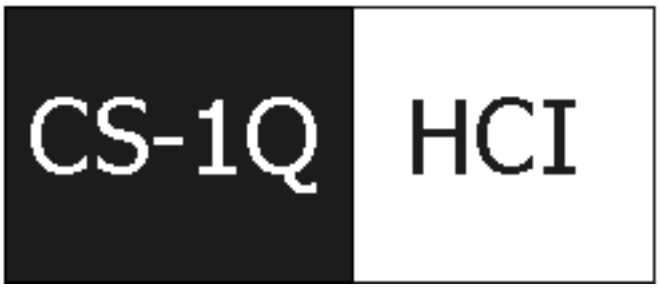
October 2001



Introduction

- Formative evaluation:

- heuristic evaluation, cooperative evaluation.

- Summative evaluation:

- lab-based techniques, diaries, ethnomethodology.

- Current problems:

- mobile systems; fun and games.

Formative Evaluation

- Helps to form design decisions.

- Should we use a menu here or icons?

– build pencil and paper prototypes of both;
– do some user testing, throw one away.

- Will results from prototypes accurately predict

- performance with the final computer-based system?

Heuristic Evaluation

- Check to see design meets guidelines.

1. Strive for consistency
2. Enable frequent users to use shortcuts
3. Offer informative feedback
4. Design dialogues to yield closure
5. Offer error prevention and simple error handling
6. Permit easy reversal of actions
7. Support locus of control
8. Reduce short-term memory load

Shneiderman's *Designing the User Interface*, Chapter 2, Page 74-75.

- Can be difficult to agree in specific cases.

Co-operative Evaluation

- Involves real users...

- Relatively simple procedure:

- ask users to perform a specified task;
- only intervene to help them if they get stuck;
- if they get stuck this indicated need for redesign;
- get them to 'think aloud' as they use the system.

Co-operative Evaluation

- Involves real users...

Acknowledgement: BBC

- Problems:

- 'thinking aloud' can be unnatural;
- 'thinking aloud' can interrupt thought processes;
- users may perform well by guessing and hitting lucky.

Summative Evaluation

- Takes place at the end of the design process.

- Check to see if interface meets requirements.

- From lecture 3:

- provide automated ordering facilities for all staff;
- staff should complete first order with 1 day training.

- Need some resources left if problems are found?

Lab-Based Experimentation

- Experimental method:

- clearly defined hypothesis;
- appropriate method to support hypothesis;
- results described accurated;
- conclusions connexct results to hypothesis.

Acknowledgement: IBM

- Must constrain the environment:

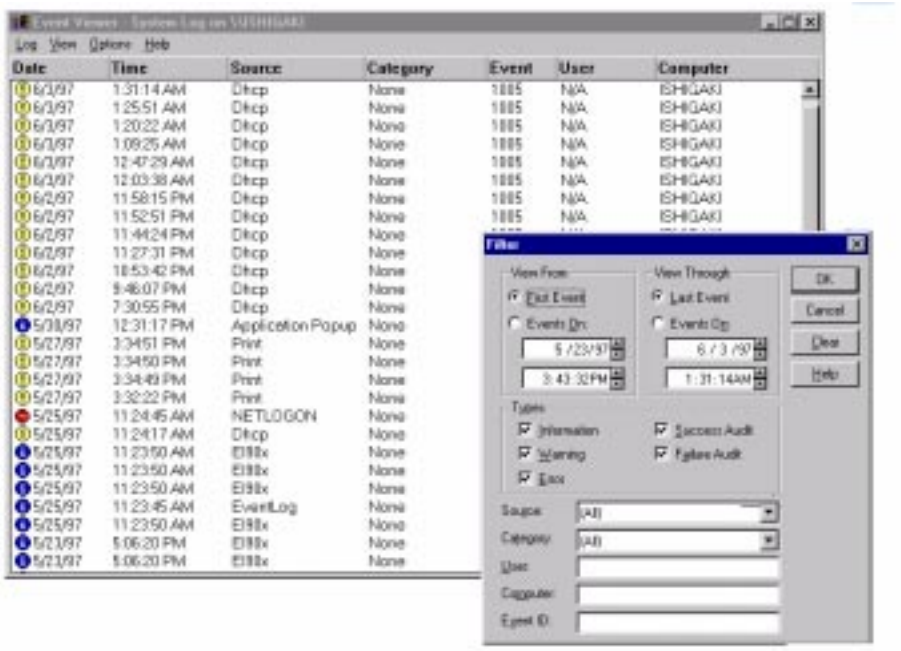
- counter-balancing of tasks for learning effects;
- appropriate sample of potential users;
- exact replication of conditions between tests...

- Is this representative of the real world?

Usage Diaries and Logs

- When system is almost ready to deliver:

- provide few users with advance copy;
- ask them to keep usage diaries of any problems;
- collect results prior to final debugging etc.



- Are users robust enough to cope with early release?

- if so, are they representative of the eventual users?

- Less formal approach via beta-releases.

Problems

- Observation affects the observed.

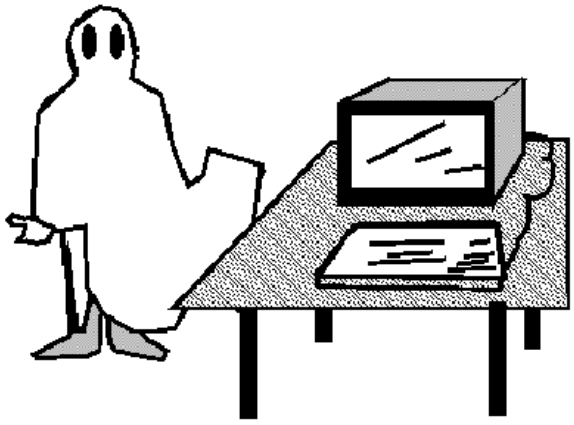
Acknowledgement: BBC

- *Hawthorne Effect*:

- if you know you're being watched you act differently;
- people are more careful under experimental conditions?

Ethnomethodology

- No predetermined hypotheses.



Just Pretend I'm Not Here...

- Observe patterns of use in working environment.
- May later try to interpret meaning of those patterns.
- Highly skilled, little understood, not widely used.
- Ethnography or ethnomethodology?

Problems

- Don't know effect of system until it's used.

Acknowledgement: Nokia

- *Hermeneutics*:

- new systems designed to support existing tasks but
- new systems change existing tasks and create new ones;
- eg on-line shopping changes nature of shopping.

Current Problems: Mobile Evaluation

- Lab-based techniques aren't very mobile.

- Observational techniques involve chasing people.

- Tendency to field trial first:

- high costs and potentially big losses;
- will users buy the service or product?

Current Problems: Fun and Games

- Can people have fun in a lab setting?

- Can you take the time to evaluate?

- Highly subjective issue:

- extreme responses depending on user;
- some will love a game that others hate.

- More general problems with Web:

- can you get people to 'browse' under observation?
- is it ethical to log performance routinely?

Conclusion

- Formative evaluation:

- heuristic evaluation, cooperative evaluation.

- Summative evaluation:

- lab-based techniques, diaries, ethnomethodology.

- Current problems:

- mobile systems; fun and games.

Further Reading

- Same as for previous lecture!

- Shneiderman on:

- design process - pp. 95-117;
- evaluation - pp. 124-150.

- He combines elicitation and evaluation.