

# Design for Interaction

Testing and Evaluation of Interactive  
Systems

# Contents

- types of evaluation
- evaluation techniques

# Product Evaluation

- every design process should incorporate a testing and evaluation phase
  - especially true for interactive systems which depend on relationships with users
  - something which appears obvious or useful to a designer may appear the opposite to a generic user of a product
- evaluation is the means by which designers obtain such important information

# Forms of Evaluation

- differing purposes:
  - formative
  - functional
  - summative
  - integrative
- our purpose determines which criteria we consider to be most important
- evaluation is only useful if the results are analysed and acted on

# Formative Evaluation

- takes place during development process
- materials tested out by users, who ideally represent the target market
- feedback allows design changes to be implemented before final release
- issues:
  - techniques to be used for evaluation
  - dealing with feedback

# Functional Evaluation

- similar process to that used in other industries
- focus on how product matches up to technical requirements
- should have a specification created at the design stage with which to compare
  - this may have been altered as a result of formative testing

# Summative Evaluation

- evaluation of the final product
- we are considering here primarily the way the product matches up to the overall design goals
  - technical
  - aesthetic
  - market appeal (including price)
  - how does it compare with the competition?

# Integrative Evaluation

- considers a product within its overall context of use
- how does the product fit into the lifestyle / working patterns of its users?
  - is it well used?
  - do users value it?
  - do they use features other than those for which they originally purchased it?
  - do they recommend it to others?



# Tools for Evaluation

- many ways of assessing performance
- subjective
  - questionnaires
  - interviews
  - focus groups
- objective
  - observation
  - targeted testing of specific interactive functions

# Subjective Methods

- interviews or focus groups allow open-ended discussion
- can obtain higher quality information than through questionnaires
  - may use questionnaires to determine issues to be discussed
  - focus group or interview can then explore these in depth

# Observation

- sometimes known as “illuminative evaluation”
- observe user’s interactions with the system
  - video recording can be very useful
  - can have users working in pairs – the discussion can reveal a lot about attitudes and problems
  - good for testing usability
  - may reveal issues not anticipated by developers

# Example Testing Process: Heuristic Evaluation

- uses a group of evaluators to rate a product against a set of criteria (or heuristics)
  - tasks carried out individually, but users can ask questions of the testing team
  - subjective method
  - often used as a formative test of usability
- test results are combined and can be analysed statistically to produce a set of design recommendations