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Chapter 11

An Evaluation Framework

B.Tech CSBS
VII Semester

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Outline

1. Evaluation Paradigms & Techniques
2. DECIDE framework for evaluation

Evaluation Paradigms

- 4 core evaluation paradigms
 - Quick and dirt evaluation
 - Usability testing
 - Field studies
 - Predictive evaluation

Quick and Dirty

- Getting feedback from users
- Done at any stage
- Emphasis is on fast input than carefully documented findings

Usability testing

- Recording typical user's performance on typical tasks in controlled settings
- Users are
 - Watched
 - Recorded on video
 - Their key presses are logged
- The data is used to
 - Calculate performance times
 - Identify errors
 - Help explain
 - why the users did
 - What they did

Field Studies

- Field studies are done in natural settings
- Aim to understand
 - what users do naturally
 - How technology impacts them
- Used to
 - Identify opportunities of new technology
 - Evaluate the technology in use

- Two approaches of field study
 - Outsider
 - Observing explicitly
 - recording what is happening
 - Insider
 - Explore details of what happens in a particular social settings

Predictive Evaluation

- Experts apply heuristics methods to predict usability problems
- Users need not be present
 - Thus,
 - the process is quick
 - Attractive to companies

Evaluation Techniques

- Observing users
- Asking users their opinions
- Asking experts their opinions
- Testing user's performance
- Testing task's performance

Observing users

- Techniques
 - Notes
 - Audio
 - Video
 - Interaction log

Asking users their opinions

- Questions like
 - What do you think about the product?
 - Does it do what you want?
 - Do you like it?
 - Does the aesthetic design appeal to you?
 - Did you encounter problems?
 - Would you use it again?

Asking experts their opinions

- Use heuristics to step through tasks
- Use role-playing to identify problems
- Inexpensive
- Quick to ask experts than field evaluations

User Testing

- Conducted in a controlled environment
- Users perform well-defined tasks
- Data can be collected and statistically analyzed

Testing task's performance

- Models are used to predict efficiency of tasks
- Compare performance times between versions

DECIDE: A framework to guide evaluation

- Determine the goals the evaluation addresses
- Explore specific questions to be answered
- Choose the evaluation paradigm to answer the questions
- Identify the practical issues
- Decide how to deal with the ethical issues
- Evaluate, interpret and present the data

Determine the goals the evaluation addresses

- High-level goals of evaluation
 - Check that the evaluators have understood user's needs
 - Check to ensure that the final interface is consistent
 - Investigate the degree to which technology influences working practices
 - Improve the usability of the product

Explore the questions

- All evaluations need goals & questions to guide them
- Eg.
 - Goal of finding out why many customers prefer to purchase
 - Paper tickets than e-tickets?
 - Sub questions
 - What are customer's attitude to these new tickets?
 - Are they concerned about security?
 - Is the interface poor?

Choose the evaluation paradigm

- Quick and Dirty
- Usability testing
- Field studies
- Predictive evaluation

Identifying Practical Issues

- Select users
- Stay on budget
- Staying on schedule
- Find right evaluators

Decide on Ethical issues

- Consideration for peoples rights
- Develop consent form
- Participants have a right to
 - Know the goals of the study
 - Know the finding
 - Privacy
 - Leave when they wish

Evaluate, Interpret and Present Data

- The following need to be considered
 - Reliability
 - Validity
 - Biases
 - Scope
 - Ecological validity

THANK YOU