Planning a Usability Study

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Study Goals – Formative Usability

Evaluate product or design

Make recommendations

Identify shortcomings
Study goals

Identify ways of making improvements
- Find significant usability issues
- Works well/not?
- Identify common errors and mistakes
- Improvements since last iteration

Evaluating against a certain set of criteria
- Check achievement of usability goals
- Compare the product to other competing products
- Identify improvements since last release
- Follow-up activities

Formative Usability

Summative Usability
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User goals – Performance

- What the user *does*
- Task accomplishment

- **Metrics:**
  - time
  - effort
  - number of errors
  - learnability

- Relevant for products where the user doesn’t have a choice on how they are used
User goals – Satisfaction

- What the user *says* or *thinks*
- User’s opinions and feedback

- **Metrics:**
  - ease of use
  - satisfaction of user’s expectations

- Important where the user has some choice of usage
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Choosing the Right Metrics: Ten Types of Usability Studies

Issues to consider when choosing metrics:

- Goals of the study and the user
- Available technology to collect and analyze data
- Budget and time
- New metrics may be developed according to the goal of the study
Completing a Transaction

- Make transactions run as smoothly as possible

- **Examples**: completing a purchase, registering a new piece of software, selling stock

- **Metrics**:
  - task success
  - live website metrics
  - issue severity
  - self-reported metrics
  - efficiency
Comparing Products

- Used to determine product’s strengths, weaknesses and whether improvements have been made from one release to another.

  - **Metrics**:
    - task success
    - efficiency
    - satisfaction
    - combined and comparative metrics
Evaluating Frequent Use of the Same Product

- Products used on frequent or semifrequent basis

  - **Examples**: microwave ovens, DVD players, web applications, software programs

- **Metrics**:
  - task time
  - number of steps or page views
  - learnability
  - self-reported metrics
Improving information and/or navigation architecture
Involves the use of wireframes and partially functional architecture

**Examples**: websites, software programs or consumer electronics

**Metrics**:
- task success
- lostness
- card sorting
Increasing awareness

- Design changes aimed at increasing awareness of a specific piece of content or functionality

- **Examples:** online advertisements and products with important unutilized functionality

- **Metrics:**
  - number of interactions
  - noticeability
  - awareness
  - memory
  - eye-tracking data
Problem Discovery

- Identify major usability issues
- Works well as a periodic checkup

- **Examples:** products which didn’t go through a usability evaluation before, periodic checkups

- **Metrics:**
  - issue-based metrics
Maximizing Usability for a Critical Product

- Applied in products used to complete a very important task
  - **Examples**: voting machine or emergency exit instructions
  - **Metrics**:
    - errors
    - task success
Creating an Overall Positive User Experience

- Applicable in products which stive to create an exceptional user experience

- **Examples**: iPod, TiVo

- **Metrics**:
  - satisfaction
  - future use
  - subconscious reactions
Evaluating the Impact of Subtle Changes

- **Examples:**
  - *Visual* subtle changes: font choice and size, placement, visual contrast, color and image choice
  - *Nonvisual* subtle changes: content or terminology

- **Metrics:**
  - live-site metrics from A/B tests
  - surveys
Comparing Alternative Designs

- More than one design alternative
- Design „bakeoffs“
- Different teams develop prototypes
- Danger of learning effect
- Solutions: - > purely between-subjects study
  - > counterbalancing designs

**Metrics:**
- issues-based metrics
- task success
- task times
- self-reported metrics
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Other Study Details – Budgets and Timelines

- A) Formative study with a small number of participants
  - 10 or less participants
  - Collecting metrics little impact on time or budget

- B) Lab test with a larger number of participants
  - More than a dozen participants
  - Most significant cost - recruiting and compensating the participants

- C) Online study
  - Little if any time needed for collecting data
  - Time divided between setting up the study and cleaning up and analyzing the data
Other Study Details – Evaluation Methods

A) Lab test:

- Small number of participants (4 to 10)
- One-on-one session between a moderator and a test participant
- Participant’s behaviour and responses to the questions noted down

- **Metrics:**
  - issue frequency, type and severity
  - performance metrics
  - self-reported metrics
B) Online studies:

- Excellent way to collect a lot of data
- Appropriate for collecting data on more subtle designs

Metrics:
- performance
- self-reported metrics
C) Focus groups:

- Great way to get people’s perceptions and attitudes about any particular product or concept
- About 8 to 10 participants
- Usually no direct interaction with the product
- Short questionnaires before beginning or at conclusions

Metrics:

- self-reported metrics
Other Study Details – Participants

1. Identify the recruiting criteria

2. Decide on the number of needed participants
   - Formative studies 6-8 participants, by distinct groups at least 4 from each group
   - Summative usability studies 50 to 100 representative users, could be 20
   - For testing potentially subtle design changes at least 100 participants
3. Plan the recruiting strategy
   - Requests via email distribution lists
   - Third party to handle recruiting
   - Announcements on the web or emailing a specific group

Gesucht:

**Tester**

für Webseiten
Other Study Details – Data Collection

- Plan in advance how the data is going to be captured
- Lab test with a small number of participants – Excel
- For studies involving larger number of participants – use data capture tool
- Online studies – data captured automatically
Other Study Details – Data Cleanup

- Data cleanup necessary for a quick and easy analysis
  - Filtering data
  - Creating new variables
  - Verifying responses
  - Checking consistency
  - Transferring data
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Summary

1. Formative and summative approach
2. Choose metrics for performance and satisfaction
3. Budget and timelines
4. Lab tests, online studies and focus groups
5. Identify criteria for recruiting participants
6. Plan data capture in advance
7. Data cleanup
Thank you for your attention!