We will cover the following questions:

1. What is a Usability Test?
2. Who are the Test Participants?
3. Why Usability Test?
4. When to Usability Test?
5. Why Doesn’t Everyone Test?
6. Where to Usability Test?
7. How to Usability Test?
1. What is a Usability Test?

“The evaluation of a product’s usability through direct observation of user behavior during a structured task.” Also called a usability evaluation or simply an evaluation.

Key Concepts:
- User not Usability Expert (unlike a heuristic evaluation)
- User Behavior not User Opinion (unlike a survey)
- Direct Observation not Indirect Obser. (unlike a server log)
- Structured Task not Any Task (unlike an ethnography)

2. Who are the Test Participants?

A representative sample of the user population
3. Why Usability Test?

**Reasons**
- Your users are not like you
- Your users cannot explain their usability issues

**Goals**
- Find usability issues
- Verify that a user interface (UI) meets its usability goals
- Choose between competing designs
- Bring all members of the development team on board

4. When to Usability Test?

**Prerequisites**
- User experience (UX) requirements
- Prototype (UX design)

**Phases**
- Low fidelity
- High fidelity
5. Why Doesn’t Everyone Test?

**It takes time and costs money:**

<table>
<thead>
<tr>
<th>Step</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design test plan &amp; materials</td>
<td>32</td>
</tr>
<tr>
<td>Design test environment</td>
<td>8</td>
</tr>
<tr>
<td>Run pilot test</td>
<td>8</td>
</tr>
<tr>
<td>Revise test tasks/materials</td>
<td>8</td>
</tr>
<tr>
<td>Run test/collect data</td>
<td>32</td>
</tr>
<tr>
<td>Summarize data</td>
<td>16</td>
</tr>
<tr>
<td>Document/present results</td>
<td>40</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>144</strong></td>
</tr>
</tbody>
</table>

*Adapted from Mayhew (1999) The Usability Engineering Lifecycle*

**Why invest the resources when:**

- My users are like me or
- My users can explain their usability issues

6. Where to Usability Test?

**User’s Environment**

- High ecological validity
- Poorly controlled
- Inexpensive
- Convenient for the user
- Potential interruptions
- Videotaping inconvenient
- Third-party observations intrusive

**Usability Lab**

- Low ecological validity
- Well controlled
- Expensive
- Inconvenient for the user
- No interruptions
- Videotaping convenient
- Third-party observations unintrusive
7. How to Usability Test?

**Seven Steps:**
- Complete Prerequisites
- Plan
- Develop Materials
- Pilot Test
- Recruit Participants
- Test
- Summarize, Analyze, & Report

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**Prerequisites & Plan**

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Usability</td>
<td>1. Choose test focus</td>
</tr>
<tr>
<td>requirements &amp;</td>
<td>* Ease or learning vs. Ease of use</td>
</tr>
<tr>
<td>goals</td>
<td>2. Choose a user focus</td>
</tr>
<tr>
<td>2. Prototype</td>
<td>* Cannot test everyone</td>
</tr>
<tr>
<td></td>
<td>3. Design a test task</td>
</tr>
<tr>
<td></td>
<td>* Cannot test all tasks</td>
</tr>
</tbody>
</table>

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Develop Materials

1. Observer briefing
2. User introduction
3. Informed consent
4. Non Disclosure Agreement
5. Pretest questionnaire
6. User or training documentation (optional)
7. Test tasks
8. Data collection sheet
9. Posttest questionnaire
10. Test script

User introduction
- Thank you & about the product
- We are testing the interface, not you
- It's weird. I'm just going to observe.

Data collection sheet
- Action, User comments, Observations

Posttest questionnaire (mostly affect, usually a Likert Scale)
- The instructions and prompts are helpful:
  Strongly Agree 1 2 3 4 5 Strongly Disagree

Standard instruments available, ie: Software Usability Measurement Inventory (SUMI)
Pilot Test

1. Recruit pilot user
2. Set up test environment
3. Run pilot test
4. Revise materials & environment
5. Adjust timing

Don’t skip the pilot!

Recruit Participants

1. 3-10 users per test run
2. 1-2 hours per test, 30 min between them.
3. Consider participant motivation
4. Consider an incentive
5. Recruitment is work. Be persistent.
Test

Facilitator Role

• Consider think aloud, pair testing, or posttest review
• Don’t lead or help
• Ask questions to gain insight
• Avoid distracting users
• Ask posttest questions

Observer Role

• Take notes

Questions to Gain Insight

✓ Ask

• What are you thinking?
• Is that what you expected?
• What would you like to accomplish?

✗ Avoid

• Why (encourages justification)
Summarize, Analyze, & Report

Summarize & Analyze
• Count # of errors, time per task or per error
• Use only descriptive statistics like averages

Report
• List elements that work
• List issues, including frequency & severity
• Make suggestions for improvement

Exercise: 1) Scripting

Develop Short Script
1. User introduction (1 paragraph)
2. Test tasks (1 paragraph)
3. Data collection sheet (action, user comment, observations)
4. Posttest questionnaire (a few Likert questions)

For These Goals
1. Quickly and easily define a preset region
2. Quickly and easily navigate to a preset region
3. Rate the camera as easy to use, efficient, and enjoyable
Exercise: 2) Testing

**Facilitator Role**
- Read introduction & test tasks
- Use paired testing
- Ask questions to gain insight
- Ask posttest questions

**Observer Role**
- Take notes on data collection sheet

Exercise: 3) Reporting

**To Class:**
- List elements that work
- List issues, including frequency & severity
- Make suggestions for improvement
Thank you!

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References & Reading


