Usability Engineering
SENG 42222

Usability Testing

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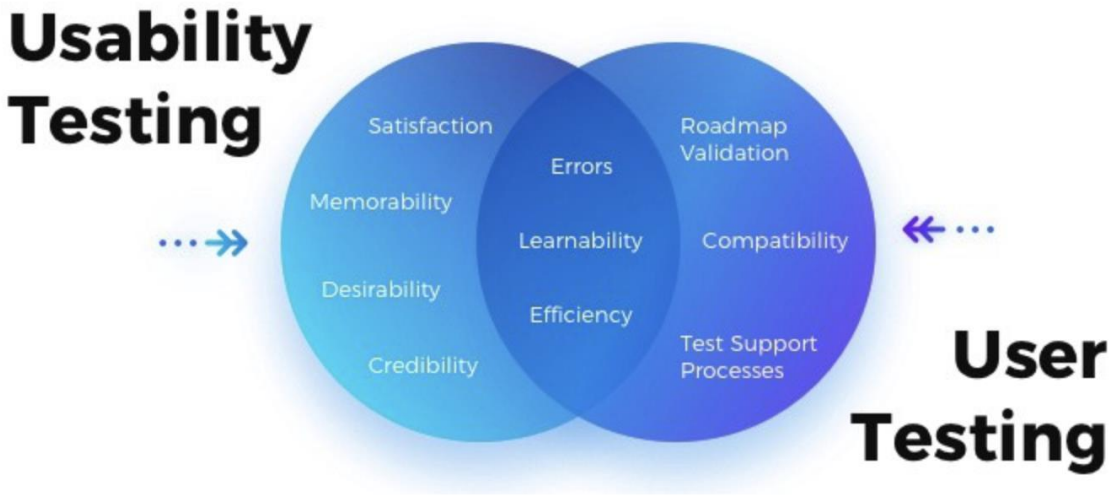
What is Usability Testing?

UX researchers use this popular observational methodology to uncover problems and opportunities in designs.

The goal of usability testing is to reveal areas of confusion and uncover opportunities to improve the overall user experience.

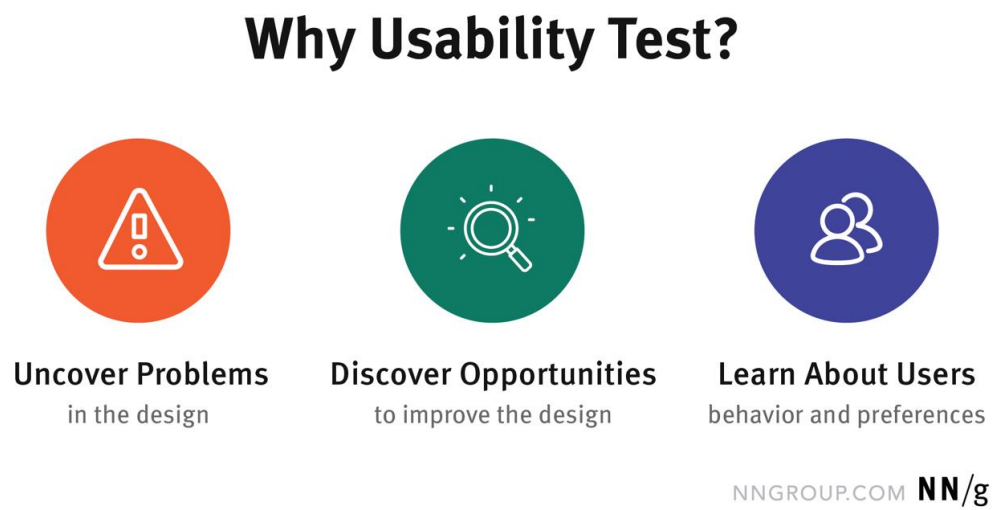
In a **usability-testing** session, a researcher (called a “facilitator” or a “moderator”) asks a participant to perform tasks, usually using one or more specific user interfaces. While the participant completes each task, the researcher observes the participant’s behavior and listens for feedback.



Why is Usability Testing Important?

The goals of usability testing vary by study, but they usually include:

- **Identifying problems** in the design of the product or service
- **Uncovering opportunities** to improve
- **Learning about the target user's** behavior and preferences



Why is Usability Testing Important?

Which do you feel works better?

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There are many software applications/websites, which miserably fail, once launched, due to the following reasons –

- Where do I click next?
- Which page needs to be navigated?
- Which Icon or Jargon represents what?
- Error messages are not consistent or effectively displayed
- Session time is not sufficient.

Example:

Employing tests with real users helps you:

- Validate your prototype
- Confirm your product meets expectations
- Identify issues with complex flows
- Complement and illuminate other data points
- Catch minor errors

Elements of Usability Testing

A usability-testing session involves a **participant** and a **facilitator** who gives **tasks** to the participant and observes the participant's behavior.

- **Facilitator:**
  - guides the participant through the test process
  - works to ensure that the test results in high-quality, valid data, without accidentally influencing the participant's behavior.
- **Participant:**
  - A realistic user of the product or service being studied
  - The facilitator might ask the participants to narrate their actions and thoughts as they perform tasks.
- **Tasks:**
  - Realistic activities that the participant might perform in real life.
  - Examples of tasks from real usability studies:
    - *Add a specific item to the shopping cart, proceed to checkout, and complete the purchase.*
    - *Use the app to create a new note with a title and content*

Usability Testing: Flow of Information

Types of Usability Testing

1. **Qualitative vs. Quantitative**
2. **Remote vs. In-Pearson**
3. **Moderated vs. Unmoderated**
4. **Explorative vs. Comparative**

Types of Usability Testing

1. Qualitative vs. Quantitative

Qualitative usability testing

- Focuses on collecting insights, findings, and anecdotes about how people use the product or service.
- Best for discovering problems in the user experience.

Quantitative usability testing

- Focuses on collecting metrics that describe the user experience.
- Two of the metrics most commonly collected in quantitative usability testing are task success and time on task.
- Best for collecting benchmarks.

Types of Usability Testing

3. Remote vs. In-Person Testing

"Remote usability tests are like traditional usability tests with one key difference: the participant and facilitator are in two different physical locations.
Rather than the usability expert going to a participant's location or vice versa, the participant interacts with the design in his own home, office or other location, and the expert watches remotely."

— Nielsen Norman Group

In-person testing allows you to see and interact with users in real-time, with minimal barriers.
There are few options:

1. **Hallway testing:** Engaging 5-6 randomly selected people to determine if there are issues so large untrained users cannot navigate through them. Because of this, users should not be familiar with your product.

2. **Focus groups:** Engaging 5-6 participants to participate in a more formalized setting to conduct testing. Typically these users have more familiarity with your product, and you may conduct different focus groups with different users groups.

Types of Usability Testing

3. Moderated vs. Unmoderated

Moderated usability testing

- A coordinator is in contact with the participant either in person or remotely.
- The coordinator works closely with the test participants, assisting them as they progress through the research and responding to their queries if they run into any difficulties.
- Better for collecting qualitative data as the moderator can observe the participant's facial expression and body clues.
- Expensive to the organization

Unmoderated usability testing

- An unmoderated test is done without direct supervision
- Participants' actions are not controlled or guided. Users complete the study on their own schedule and from a place and time of their choosing.
- Conducting with the help of online usability testing tools

Types of Usability Testing

3. Explorative vs. Comparative

Explorative usability testing

- Focused on discovery
- Participants are asked to brainstorm, give opinions, and express emotional impressions about ideas and concepts.
- The information is typically collected in the early stages of product development

Comparative usability testing

- Based on comparing two or more versions of a digital product or interface
- It is usually conducted with a larger number of users.

Example Usability Testing Test Cases

The goal of this testing is to satisfy users and it mainly concentrates on the **following parameters** of a system:

The effectiveness of the system

- Is the system is easy to learn?
- Is the system useful and adds value to the target audience?
- Are Content, Color, Icons, Images used are aesthetically pleasing?

Efficiency

- Little navigation should be required to reach the desired screen or webpage, and scrollbars should be used infrequently.
- Uniformity in the format of screen/pages in your application/website.
- Option to search within your software application or website.

Example Usability Testing Test Cases

Accuracy

- No outdated or incorrect data like contact information/address should be present.
- No broken links should be present.

User Friendliness

- Controls used should be self-explanatory and must not require training to operate
- Help should be provided for the users to understand the application/website
- Alignment with the above goals helps in effective usability testing

How to do Usability Testing: Complete Process

Planning:- During this phase the goals of usability test are determined. Having volunteers sit in front of your application and recording their actions is not a goal. You need to determine critical functionalities and objectives of the system. You need to assign tasks to your testers, which exercise these critical functionalities. During this phase, the usability testing method, number & demographics of usability testers, test report formats are also determined

Recruiting: During this phase, you recruit the desired number of testers as per your usability test plan. Finding testers who match your demographic (age, sex etc.) and professional (education, job etc.) profile can take time.

Usability Testing: During this phase, usability tests are actually executed.

Data Analysis: Data from usability tests is thoroughly analyzed to derive meaningful inferences and give actionable recommendations to improve the overall usability of your product.

Reporting: Findings of the usability test is shared with all concerned stakeholders which can include designer, developer, client, and CEO

Usability Testing Checklist

Every usability study is different, depending on your specific goals and constraints. 9 steps to make sure you are prepared.

1. Define goals for the study
2. Determine the Format and Setting of the study
3. Determine the number of users
4. Recruit the right participants
5. Write tasks that match the goals of the study
6. Conduct a pilot study
7. Decide on collecting metrics
8. Write a test plan
9. Motivate team members to observe sessions

https://www.nngroup.com/articles/usability-test-checklist/

Q & A