

HOW TO TEST THE

Cognitive Load of an application

Prepare



App

1. What application do you want to test the cognitive load of?
2. Where is the app used ? What users and conditions are necessary during testing?
3. Why do you want to test the cognitive load of this app?



Task

1. Decide on the task you want to test
2. How much previous experience is required for this task?
3. How difficult is this task?



User

1. Decide the User you want to test with. Novice vs. Expert users?
 2. Recruit participants to test with
 3. Inform participants what to expect during testing
- Aim for a minimum of 7 participants

Test

1 Background & Consent

Inform the participant about the research's aim, their role, and the test's structure. Let them know about the data collection methods.

2 Cognitive Pre-test

To address the initial cognitive load and see what potential cognitive load may influence the user, ask the participant to fill in a cognitive pre-test.

3 Task

- While the participant is performing the task, film the task to check for facial expressions, longer pauses or task fixation (signs of high cognitive load)
- Have an observation checklist. Observe the participant and write notes or comments to ask in the interview

4 TLX- Form

Explain the NASA-TLX Form and how to complete it.
2. Let participants fill in a NASA- TLX form

5 Interview

Ask follow-up questions about the TLX form:

- Ask Participants to explain the reasoning behind their ratings.
- Ask them the questions from observations
- Ask them prepared questions about the app

Analyse



Quantitative

- Visualize the data
- Interpret the data, find mean scores, statistical analysis, compare dispersion.
- Compare data to qualitative findings



Qualitative

Process raw data:

- Transcribe the interview, look through the videos
- Notice any themes
- Cluster quotes or facial expressions into themes.

This poster gives an overview of a potential method of looking at cognitive load when analysing the cognitive load of a task within an app. This poster was created as part of the Master's Thesis "Exploring cognitive load in simulation-based training- A case study of a medical training platform".
**All user tests have to be adjusted to the context and the users. This is just a general starting point