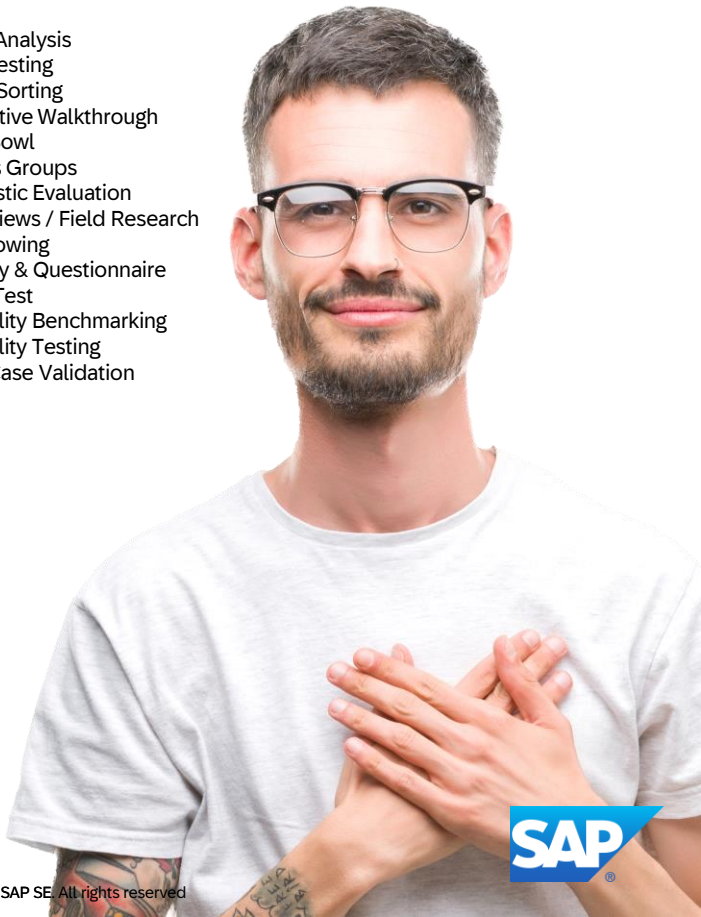


SAP UX User Research

Method Cards

360° Analysis
A/B Testing
Card Sorting
Cognitive Walkthrough
Fish Bowl
Focus Groups
Heuristic Evaluation
Interviews / Field Research
Shadowing
Survey & Questionnaire
Tree Test
Usability Benchmarking
Usability Testing
Use Case Validation





Let's get started

User research is a very successful approach to find out how processes, products, and services work in everyday life. It helps to better understand the end users' needs, expectations, as well as typical working processes and routines. The usage of the right method at the right time will help you get answers to the research questions you might have.

We've collected 14 well-proven methods in this card deck for you. The beauty is that most methods can be conducted physically and virtually. The vast majority is also easy to implement – even for beginners. Applying the right user research methods will help us to create products and services that are both relevant for the end users as well as easy and pleasurable to use.

Good luck and have fun!

Your SAP Design Research team

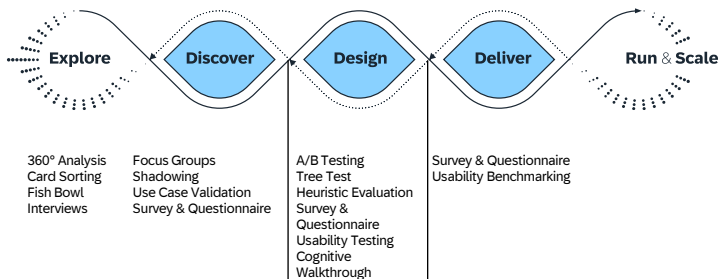
We have three tips for you before starting:

- Including a moderator and note-taker will help to capture all relevant information and to create meaning- and impactful results.
- Always analyze and synthesize your results and draw implications for your product's design and development.
- Very important! Keep in mind that your test participants declare their written agreement upfront to reflect GDPR and legal aspects.



When to apply which method?

Design-led development (DLD) is SAP's process to ensure that product requirements are kept. They are derived from user research, then turned into product design according to guidelines and best practices, and are eventually properly implemented. User research is ideally being practiced in all three phases: Discover, Design, and Deliver. See below how each method is typically placed within DLD.



When deciding for a method, think about **which type of data result** is most valuable for you. As the only **quantitative method** in this card deck, Usability Benchmarking allows you to measure aspects of your product but hardly provides insight into the reasons behind the results. In contrast, **qualitative methods** focus on the how and why, i.e., when creating a persona or finding out about product improvements.



Structure of the Method Cards

Each user research method has its strengths, weaknesses, and goals while sharing similarities with others. To help you select the right method for your needs, each method card's front side provides some brief info about its requirements:



How much time is needed for the method?



How many participants, experts, instructors, and other roles are required?



What material, resources, and preparation are required?

Details about the respective method are on the back side of the card:



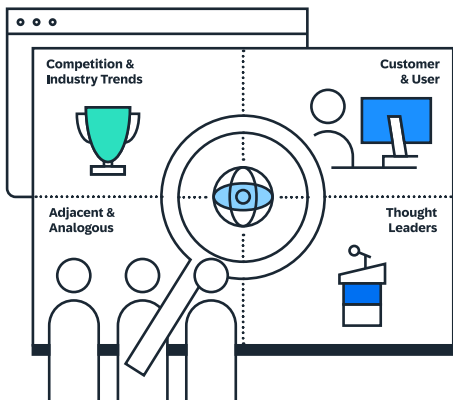
Why and What Goal and the outcome of this method.



How to use it Easy-to-follow steps on how to conduct the method.



Tips and Tricks Speaks for itself.



360° Analysis



1 to 5 days, depending on the project scope



(Chief) product owner
Team members involved in research



Data sources for information gathering
Place for result storage



Why & What

Analyze existing applications based on internal evaluations, competitor analysis, and literature review.

As a result, you get an as-is overview of existing applications (internally and externally), external research results, and trends.



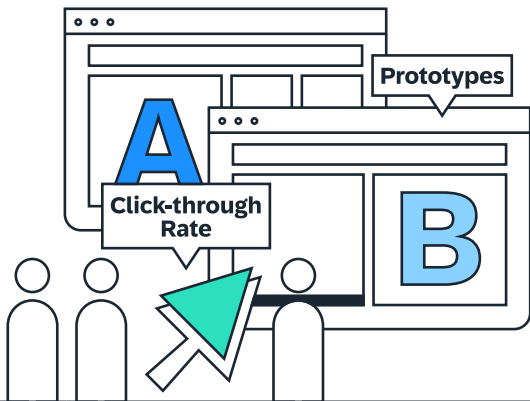
How to use it

- 1 Decide which content you want to analyze.
- 2 Read and research. Involve many different participating roles in the information gathering process to analyze the data holistically.
- 3 Summarize project-relevant findings in a report.
- 4 Share the results with your stakeholders who are responsible for scoping and planning subsequent user research.



Tips & Tricks

A 360° analysis builds the foundation for research activities on future design and development opportunities.



A/B Testing



1 to 2 weeks



End users as test participants
User researcher



2 prototypes (paper or system-based)
If done remotely: software tool



Why & What

Let users compare two different product versions, e.g. website layouts. They work on the same tasks, while you measure which version is more effective and efficient to use.

As a result, you get quantitative data identifying the best version and the reasons why.



How to use it

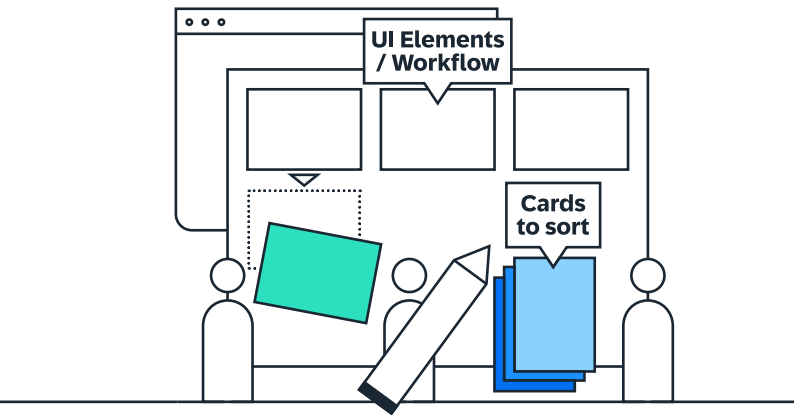
- 1 Decide which product feature you want to test, e.g. based on previous user research or usage data.
- 2 Decide how to conduct the test, e.g. using a paper prototype, a tool for remote testing, or collecting live data from products.
- 3 Define how to measure which version is better and formulate hypotheses.
- 4 Create two versions of your product differing in one feature.
- 5 Run the test.
- 6 Analyze your data and implement the winning option (or conduct further tests).



Tips & Tricks

A/B testing that pits two drastically different designs against each other often raises more questions than it answers, because decision makers may not understand what aspects of the winning variant contributed to its success, since there are so many interaction effects.

A/B testing is most powerful when the variants are tested by formative user research and in-person usability testing. Also, keep learning curves and novelty effects in mind.



Card Sorting



½ day to decide on items and create cards
45-90 mins per physical session / 15 mins per online session
1 to 2 days for analysis and synthesis



Approx. 6 users (online: 20+)



For physical sessions: 1 set of paper cards
For online sessions: card sorting software (e.g. UserZoom)



Why & What

Structure a user-friendly UI. Participants are asked to group individual, unsorted items and to label them.

Card Sorting can be done either in a closed (with predefined content or menu structure) or open (without predefined content or menu structure) way as well as onsite or online.

As a result, you get information about the associations and grouping of specific data items.



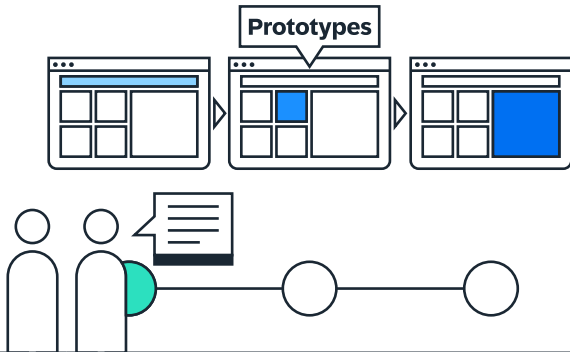
How to use it

- 1 Collect items. Sort them starting with the most important content appearing on your UI.
- 2 Decide whether you want to conduct a paper or online card sorting, and if the card sorting should be open or closed.
- 3 Have a notetaker capture additional participant feedback or just add open survey questions instead.



Tips & Tricks

Card sorting is commonly used when developing a site architecture or system design elements such as workflows, menus, or toolbars.



Cognitive Walkthrough



1 day for defining the persona and creating the tasks
60-90 mins per session + 1 day for analysis and synthesis



3 to 6 evaluators
Ideally product / domain experts as observers



Whiteboard, pen, and paper
Prototype, persona definition, tasks, action sequence
A standardized problem reporting form



Why & What

Simulate first-time use of your product with evaluators solving end users' tasks.

The given feedback indicates how intuitive your application is and where inconsistencies or insufficient system feedback affect usability.

As a result, you get a quick evaluation of the product's usability and potential problems.



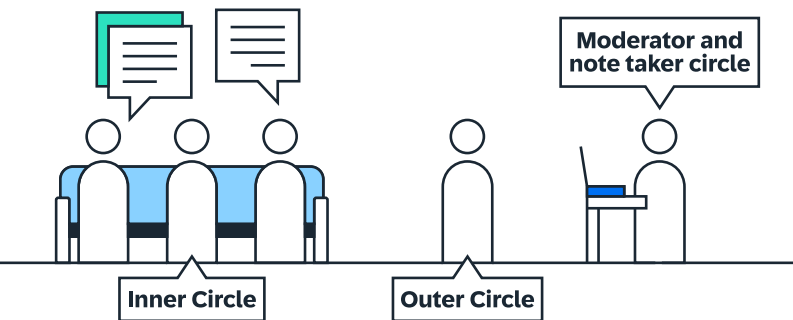
How to use it

- 1 Define an end user persona.
- 2 Identify key product features and determine what tasks and task variants are most appropriate for the walkthrough.
- 3 Conduct three to six cognitive walkthroughs with an average duration of 90 minutes per session. Evaluators with different backgrounds work best.



Tips & Tricks

A cognitive walkthrough is a cost-efficient method that can complement but not replace your usability testing.



Fish Bowl



1 - 2 hours



Moderator

Min. 2 note takers

4 to 5 participants to discuss, several participants to listen and observe



3 nested circles of chairs, research topic and goal, agenda, introduction to the method and the topic, questions/impulses for the moderator, usual workshop material: pens, sticky notes, brown paper, flipcharts, pin boards, timer



Why & What

Start a discussion among different persons or roles to introduce a future, complicated, or abstract topic and get feedback on it. The set-up includes 3 circles of chairs. 4-5 chairs are arranged in an inner circle. Participants in this circle are the ones discussing a topic. Chairs arranged in an outer circle are for participants listening to the discussion. They are either free to join and contribute to the inner circle, or the moderator can replace the entire inner circle with outside participants after a certain time to start a new discussion round.

The half circle for the moderator and note takers is arranged around it.



How to use it

- 1 Establish the goal: What topic should be discussed?
- 2 Recruit participants
- 3 Conduct the discussion round(s)
- 4 Analyze findings

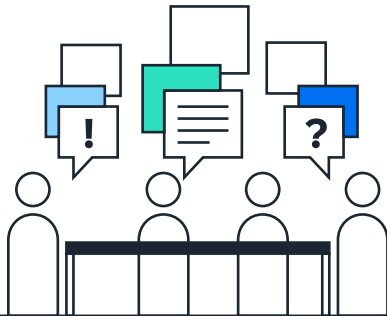


Tips & Tricks

As a moderator, fade into the background to avoid participants talking to you instead of each other.

Assign note takers to specific chairs / positions in the inner circle to spread the load. Let the note takers or the participants write up the findings and learnings on sticky notes. It's best to discuss the notes once all rounds are completed.

Record the entire discussion for your own subsequent analysis.



Focus Groups



1 day for deciding and specifying the research questions and preparing the moderator guide
120 mins per focus group
1 to 2 days for analysis and synthesis



6 to 8 end users per session
Stakeholders



Moderator guide
Room with a round table for the discussion
Pen and paper or a laptop to make notes
Ideally: observer room



Why & What

Have a moderated discussion with your potential or real product end users to understand their needs and challenges using your product. This user feedback is highly subjective and hypothetical. The method is not appropriate for answering in-depth questions but rather offers impulses for your design and further research. As a result, you get an understanding of the users' needs and challenges and a validation of existing user profiles.



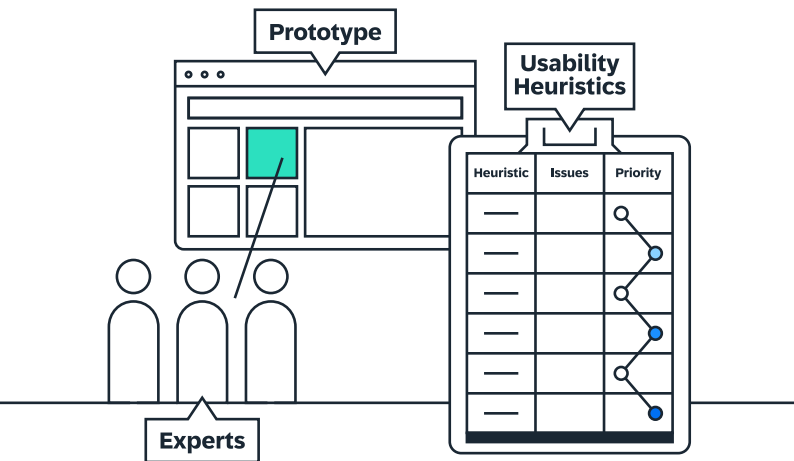
How to use it

- 1 Prepare the focus group and choose adequate research questions.
- 2 Run the session. The moderator facilitates the discussion and uses the moderator guide to adapt to the participants' input. Stakeholders and notetakers observe and capture the participants' contributions, ideally from an observer room.
- 3 After the session, make sure to plan enough time for analyzing the results. Include the team when drawing implications from what you have heard and noted.



Tips & Tricks

Focus group moderation is difficult; an experienced moderator is important to be successful. Make sure that you have name tags. Have people introduce themselves briefly. Begin the focus group with a good general question that everyone can answer. You may want to hold three to four focus groups, so your results are not the results of the particular dynamics of a single group.



Heuristic Evaluation



1 hour to decide on the heuristics
90 minutes for the review
1 to 2 hours to discuss the expert findings



3 to 6 topic experts



Prototype of your product
Description of the tasks and heuristics



Why & What

Ask user experience or subject matter experts to review your design based on a list of design principles (usability heuristics). Have these experts complete various tasks with your design and check it against the heuristics.

As a result, you get a usability evaluation by experts which identifies where the product does not follow the heuristics.



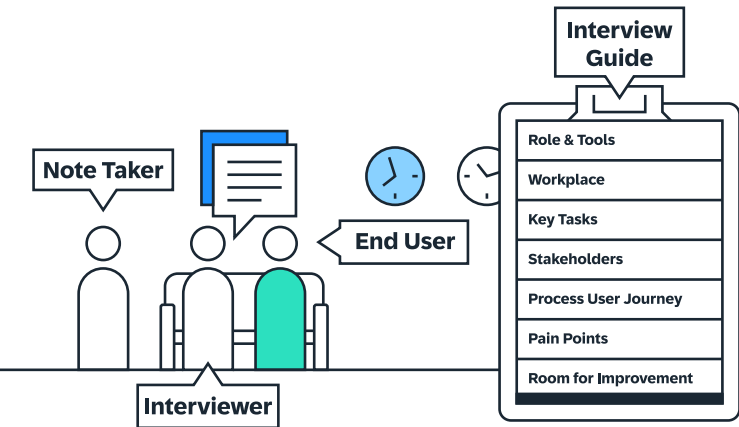
How to use it

- 1 Decide which design principles you want to evaluate. Let a user expert help you to choose suitable heuristics.
- 2 Find experts who are familiar with the heuristics and have a basic understanding of the domain.
- 3 Let 3 to 6 experts apply the heuristics to your design.
- 4 Let the experts discuss and consolidate their findings in a session.
- 5 Analyze the results and draw implications with your team.



Tips & Tricks

A heuristic evaluation can be used throughout the design life cycle and is a relatively fast and low-cost method. As the evaluators only emulate the users – they are not the users themselves – a heuristic evaluation cannot replace other user research methods, e.g. usability testing.



Interviews (Field Research)



1 week for defining the scope, recruiting end users, and writing the interview guide; 1 to 2 days for interviewing end users on-site per customer, 60-90 mins per interview, 3 to 4 days for analysis and synthesis



6 to 10 users, ideally from different customers
Design and project team members, business process expert
Trained moderator and notetaker



Microphone/voice recorder app, optionally a camera (video or photo), Pens and lots of paper or a laptop depending on the on-site situation; Interview guide, phone or internet for remote interviews



Why & What

Meet end users to understand their real needs, the business processes your product needs to address. Get rich information about end users' work practices, their social, technical, and physical environments, and user tools. As interviews are often combined with observation of end users in their (working) environment, the method is often referred to as field research.

As a result, you get information that can be used to define requirements, improve a process, learn what is important to users and customers, and simply learn more about a new domain to inform future projects.



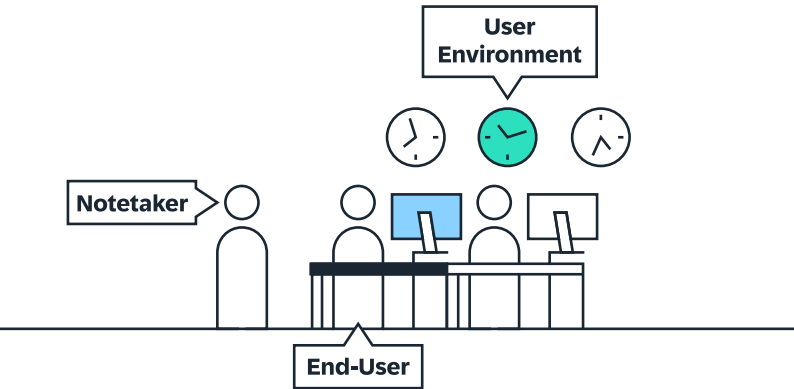
How to use it

- 1 Define research scope and questions and create the interview guide.
- 2 Identify customers and end users.
- 3 Conduct the interview: For remote interviews, place the most important questions first in case you get cut off.
- 4 Review your notes and spot any major issues that emerged immediately after the interview.
- 5 Analyze the data. List user goals and create task flows. Attach triggers to the flows, highlight communication points, and attach pain points, as well as user needs.
- 6 Synthesize. Bring together your data from the analysis into a consolidated task flow. Document the results.



Tips & Tricks

This technique is generally used at the beginning of the design process. Since users are interviewed in their own environments, the analysis data is more realistic than laboratory data.



Shadowing



- 1 day to decide and specify details to be observed
- 1 to 2 days for onsite shadowing activities per customer
- 3 to 4 days for analysis and synthesis



End users



- Pen and paper or a laptop to make notes
- Spreadsheet to support structured observations



Why & What

Observe how users act in their daily work and natural environment, what tasks they do, how they do it, and how they interact with your product. This method allows you to avoid biases that impact the validity of users' answers to interview questions (e.g. social desirability).

As a result, you get a comprehensive perspective of the user and their environment as well as a better understanding of how users work.



How to use it

- 1 Discuss your research questions in your team.
- 2 Decide where and when you want to observe your end users.
- 3 Define what time intervals, types of interactions, or categories of behavior you want to observe.



Tips & Tricks

It is key that the notetaker acts unobtrusively so that users can behave naturally. Broader research questions may look at general trends or eye-catching observations. More specific questions may use a quantitative approach such as counting how often a certain target behavior occurs. Make sure you allocate enough time for conducting a shadowing.



Survey & Questionnaire



1 day to two weeks for preparation. The more standardized the questions, the less time you need
1 to 2 weeks for participants to fill out your questionnaires
1 hour to 1 day for analysis



1 person to set up and distribute the questionnaire
Participants filling out your questionnaires



Questionnaire (paper or online version)
Online survey platform (e.g. Qualtrics or UserZoom)



Why & What

Collect a variety of information from targeted and actual product or service users.

As a result, you get qualitative information from participants and quantitative data on your end users' product experience.



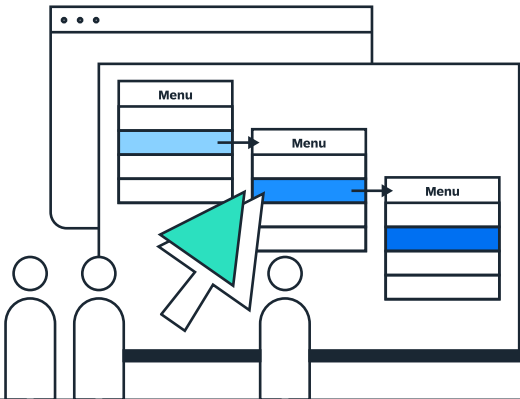
How to use it

- 1 Find or draft the right questionnaire for your needs.
- 2 Decide on your target audience and number of participants.
- 3 Decide on the distribution channel (online or paper).
- 4 Distribute your survey and allow one to two weeks for people to respond.
- 5 Analyze your data.
- 6 Present your results and draw implications for your product.



Tips & Tricks

You can conduct surveys at any time in the product lifecycle. Use standardized usability questionnaires to conduct quantitative assessments of various aspects. For open questions, you need more time to read through and cluster all the answers when analyzing the responses. For closed questions, you can analyze the responses statistically.



Tree Test



2 weeks for recruiting users, ½ day for setting up the hierarchy and/or alternatives, ½ day for defining search tasks (targets), 3 to 5 days for testing, ½ day for analysis and synthesis



8 or more users



Hierarchy mockup (online research tool or click dummy)
Tool or material for recording the click sequence
Moderator and participant task script
Pen and paper or a laptop to make notes



Why & What

Validate navigation hierarchies or information architectures with actual end-users.

In a tree test, participants are asked to find a certain item in a hierarchy. Only one hierarchy level is presented at a time. Participants indicate where they would drill down.

As a result, you get qualitative data (critical items – where participants take the wrong turn) and quantitative data on task completion rate and time.



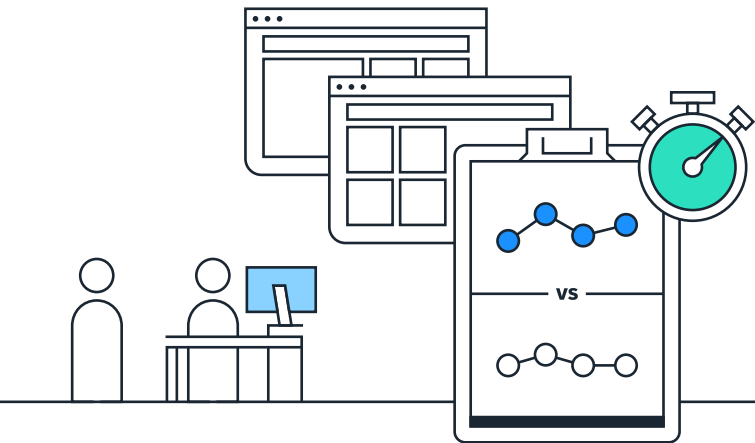
How to use it

- 1 Establish the test's goal: which hierarchy/tasks should be tested
- 2 Set up test tool/ click dummy.
- 3 Recruit end users.
- 4 Create scripts for moderator, participant, note taker.
- 5 Conduct the study.
- 6 Analyze your data.
- 7 Report your findings.



Tips & Tricks

Tree tests can be moderated or unmoderated. Participants can also join the session remotely via a web conferencing or online testing tool. A/B testing variants are optional.



Usability Benchmarking



2 weeks for test system setup

2 weeks for end user recruitment and writing the test script

1 week for end user testing, 3 days for analysis



16 to 18 end users

Trained moderator and notetaker



The product running in a suitable test environment, standardized system introduction, pen and paper or a laptop to make notes, microphone/voice recorder app, optionally camera (video and photo), templates for UX ratings, relevance ratings



Why & What

Measure the usability of the complete product. Possible measurements are efficiency, effectiveness, and user satisfaction which are normally measured by recording task completion times, success rate/accuracy, and subjective user ratings derived from questionnaires. The method should be applied in later stages of development or post development.

As a result, you get quantitative information to see if usability goals have been met, and you will be able to compare the product with competing products or earlier/different versions. The reliability of the results depends to a large extent on the correct planning, execution, and analysis.



How to use it

- 1 Prepare the test system.
- 2 Define which tasks you want to measure.
- 3 Write the test script.
- 4 Recruit and schedule test sessions with end users.
- 5 Conduct the sessions.
- 6 Analyze the data.



Tips & Tricks

The procedure is similar to a controlled experiment. However, it is common to note usability problems that occur during testing. Interviewing the participant after the task allows a better understanding of the problems.



Usability Testing



2 weeks for recruiting users, 1 week for setting up the system or prototype, 3 days for writing tasks, moderator scripts and familiarizing oneself with the tasks, 60-90 minutes per session and two days for testing, 3 days for analysis and synthesis



6 to 8 users, trained moderator and notetaker, stakeholders as observers



Digital or paper prototype, moderator and participant task script, pen and paper or a laptop to make notes
For remote usability testing: tool for remote test, headset.
Optional: screen recording software



Why & What

Get feedback on your prototypes and designs with actual end users. Usability testing is a structured session, in which a test participant performs a set of predefined tasks with a prototype or system. The tests can be run either moderated or unmoderated. Participants can join the session in person or remotely via a web conferencing or online testing tool.

As a result, you get qualitative data on the usability of the prototype, the user's perceptions of it, and quantitative data on task completion rate, time, and participant satisfaction.



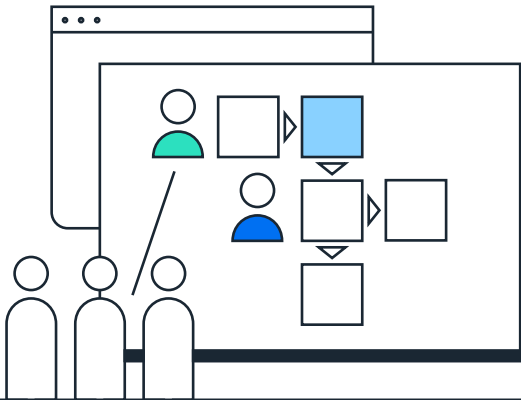
How to use it

- 1 Define which tasks you want to get tested.
- 2 Set up the system or prototype.
- 3 Recruit end users.
- 4 Create scripts for moderator, notetaker, test participants.
- 5 Conduct the study. Mind legal (GDPR) aspects to collect anonymous recordings.
- 6 Analyze your data.
- 7 Report your findings.



Tips & Tricks

Low and medium-fidelity prototypes are cost-effective to test. It is recommended to have project managers and developers as observers. You can produce video clips from test sessions to show problems.



Use Case Validation



1 week for defining the scope, recruiting end users, and writing the moderator guide, 2 days to 1 week for testing with end users, 3 to 4 days for analysis and synthesis



5 to 10 users



Large printouts for walkthroughs, post-its, pen and paper or a laptop to make notes, camera for capturing the session results, optionally audio recording device, for remote validations: tool for remote test



Why & What

Bring the flow of how users interact with a system into a plain written format.

As a result, you get well-defined, user-validated use cases.



How to use it

- 1 Define your user profiles.
- 2 Define the background scenario and use cases; define additional questions for the validation.
- 3 Recruit participants.
- 4 Create the moderator guide.
- 5 Conduct the use case validation.
- 6 Synthesize your analysis data into a consolidated use case.



Tips & Tricks

Use cases allow you to capture the functional requirements of a system and have been proven to be easily understood by business users.