How to bring users into your research:

A practical guide for user research at HSLU [v1.0]

TL;DR

This guide is intended to help researchers consider and involve users throughout the research cycle and how the UX team at HSLU can support researchers. Larger studies can appear overwhelming, but small studies with few resources are possible and can make a difference in clarity and impact for end-users and partners.

This guide will help you:

- Identify where user or partner input can be included early and efficiently
- Understand which research methods suit different stages of your work
- Make best use of the data you collect for design decisions, reporting and impact
- Show the steps you need to consider for user research at HSLU

UX Team: Marcel Uhr, Rosina Brosi

Written by: Carolin Reichherzer

1. Involving Users in Research

TL;DR

The UX team created this guide to support researchers at HSLU in user-facing projects. User-centred development means actively involving users and stakeholders throughout your research. It helps ensure your work is understandable, usable, and relevant beyond the lab.

This section will help you:

- Understand the principles behind user-centred development
- Recognise the benefits of testing with people early and repeatedly
- See how user input strengthens both research outcomes and real-world impact

---

User-centred development focuses on understanding how people interact with your work and how their feedback can improve it. Rather than building something in isolation and validating it only at the end, this approach encourages you to test early, test often,

and use what you learn to guide the next steps. It is iterative, evidence-driven, and designed to improve clarity, usability, and relevance.

At HSLU, the UX team wants to support teams that are working on projects that involve users (be it end-users or experts) and provide a template on how other teams can get in touch and work with the UX researchers at HSLU.

Engaging with people during the development process does not have to be complex or time-consuming. It can be as simple as asking for feedback on a prototype from stakeholders or running a short survey with some participants. These quick checks can uncover misunderstandings, identify missing perspectives, and provide more avenues for improvements early on. It is also a great way to include students in the research process. It supports rigour by making assumptions visible and testing them through observation and dialogue. It also improves communication by helping you understand how others interpret what you have built.

Importantly, there are many ways of conducting user research. User-centred development is flexible. They can range from user interviews to usability testing and elaborate experimental setups. Ultimately, it depends on your time and resources, stage of research, and research questions.

What matters is not how much you do, but whether the feedback you collect is timely and relevant to the questions you are trying to answer. Small studies can be just as valuable as large ones if they help you make better decisions or sharpen the focus of your work.

At HSLU, the UX team further distinguishes between what we refer to as “technologically agnostic” research and “technical affordance” research. While the methods stay the same, the starting points differ to some extent. In **technologically agnostic research**, you have no defined technology and select your tools based on the needs of your users or stakeholders in a completely open project space. In **technical affordance**, you have already selected a tool or technology and want to ensure it’s best suited for the use you are envisioning. This is relevant in that the questions you are asking may differ in the early stages to find the best fit.

The rest of this guide will show how studies can be planned and executed at HSLU, what methods are available, how to choose one that fits your needs, and what to do with the results. You will not need to change how you work, but you might find that a few well-timed conversations or tests make your work stronger, faster, and more effective.

Most importantly, this is not a DIY-guide, but an invitation to collaboration with the UX team. Further details on how to collaborate with us can be found here: 10. How Can the UX Team Help?

2. An Iterative Way of Working

TL;DR

User input can be valuable at every stage of the research cycle. Testing early and often helps you stay aligned with real needs and catch issues before they grow.

This section will help you:

- Understand how research activities map to the different research stages
- Identify opportunities to involve end-users or stakeholders throughout the cycle
- Choose appropriate types of research for each stage without overcommitting resources

---

User-centred development supports refinement through iteration. It treats feedback from users as a source of evidence that can guide direction, uncover blind spots, and improve relevance. Instead of evaluating only at the end, it builds in moments for external input throughout a project. This helps avoid late-stage surprises, aligns development with real-world expectations, and supports clearer communication of

purpose and impact. This section introduces a flexible, repeatable cycle, the **Discover, Explore, Test, Listen** model, a widely used framework by the Nielsen Norman Group (see Figure 1).

Discover: Understand the Problem and the People

This stage is about gaining a solid understanding of the context you are working in. It helps you define what problem is worth solving and who will be affected by your work. For technical researchers, this might involve understanding how a new technology fits existing user workflows, identifying unmet needs that your innovation can address, or validating the real-world context for a novel concept. Engaging early with users or stakeholders often reveals gaps in assumptions or highlights opportunities that would otherwise be missed.

Explore: Shape Ideas and Early Concepts

With the problem space more clearly defined, this stage focuses on developing potential directions. These could be design concepts, interaction models, or workflow changes. Getting early input helps shape the direction of your work before major resources are committed, reducing wasted effort later. Often, this stage involves mini-cycles of testing early ideas with users to quickly gather feedback and refine concepts.

Test: Evaluate What You Have Built

Testing means checking how your ideas or systems perform in practice. This does not require a finished solution. Even simple, early-stage material can uncover problems or confirm that you are on the right track. Testing can help you understand both how people interact with your work and how they interpret it. As you test, you might also find yourself exploring different ways to present or prototype your solution based on user responses.

Listen: Continue to Gather Feedback

This stage reminds you to stay open to continuous feedback and proactively monitor your work beyond planned studies. Informal comments, partner discussions, user analytics, or long-term use can all provide valuable insight. Listening helps ensure that your research stays relevant and that any issues that surface during implementation can still be addressed.

Applying the Cycle

You do not have to move through all four stages in order or every time. Often, you will repeat or skip stages depending on what you are working on and what input is needed. The aim is not to add more work, but to create space for useful feedback that improves

clarity, direction, and impact. This cycle can be light-touch or structured, depending on what is appropriate at the time. It allows user feedback to inform direction as the work progresses, rather than serving only as a final checkpoint.

The next chapter introduces a range of research approaches and shows how to select methods that match your goals without overcomplicating the process.

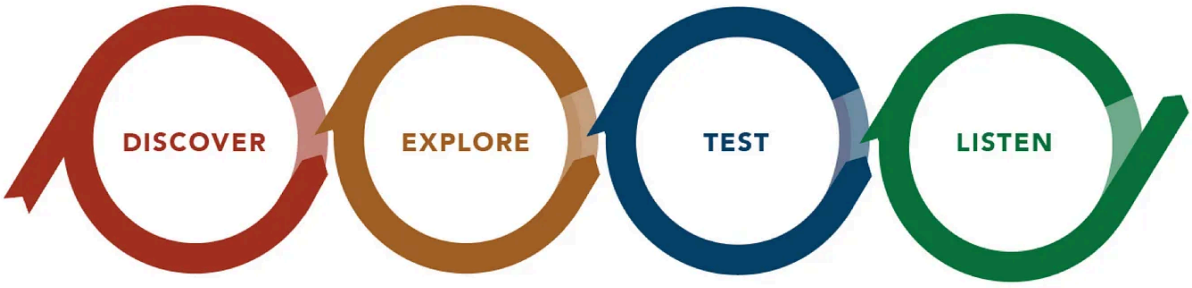

Figure 1: The User Research Cycle based on Nielsen Norman.

3. Defining your Research

TL;DR

Depending on what you want to know and where you are in your research process, different methods can be applied.

This section will help you:

- Frame clear research questions and objectives
- Understand how these guide your choice of methods
- Distinguish between different types of research goals and when they apply

---

There are many ways to conduct user research. What matters is clarity on what you want to learn, and choosing an approach that gives you the best chance of getting that insight even with limited time and resources. Your guiding light regarding which method is best suited for you is your **research question** and the **objective** you are trying to achieve. This is important! Without a clear question or objective, you may find yourself with results that are not actually useful to drive your project forward.

A research question defines the main area of an inquiry and overall scope, whereas a good research objective clearly defines what you want to achieve. It should be **specific** and **measurable.** The outcomes of your objective should help you answer your question. In applied settings like UX, it's also common to start with an objective and then use smaller research questions to narrow the focus.

A few basic considerations can help frame your research and connect it to your objectives and questions:

- What are you trying to understand?
- Who can offer insight on this?
- How much structure do you need?
- What constraints are you working under?
- How would a user perceive or experience this problem?

Your research objective and questions directly shape which methods are most appropriate. Considering factors such as the type of data required, desired level of ecological validity, and available resources will further help narrow your options. Early on in the research cycle you might be looking for open-ended insights, in which case a flexible, qualitative approach makes sense. Or you might need to test a specific claim or assumption, in which case something more controlled and measurable is appropriate.

It also helps to distinguish between different types of research goals, which can be understood across two main dimensions: **Generative vs. Evaluative**, and **Formative vs. Summative**.

Generative Research

Generative research is focused on generating insights that help understand your users, exploring context, and identifying what matters to users or stakeholders. Its primary purpose is discovery: to uncover problems, needs, and opportunities that might not be immediately apparent. This approach is most useful early in a project when the direction is still taking shape, primarily in the Discover and early Explore phase. It is often qualitative, using exploratory methods that aim for depth. However, it can also be applied at later stages whenever new insights are needed.

Evaluative Research

Evaluative research is designed to test specific hypotheses or assumptions about an existing concept, design, or system. Its purpose is to assess how well a solution addresses a known problem or performs against specific criteria. This type of research is useful once you have something tangible to test, applicable from the Explore phase, through Test, and into Listen. It can be qualitative (e.g., understanding why a user

struggles with a feature), quantitative (e.g., measuring task completion rates), or mixed-methods, as it assesses usability, desirability, and effectiveness. It can serve formative purposes, guiding improvements during development, or summative purposes, assessing final outcomes.

Formative Research

Formative research is used during development to shape and improve a solution while it's still evolving. It is inherently iterative, with findings from one cycle directly informing the next iteration of design or development. The aim of formative research is to uncover usability issues, clarify user needs, or test assumptions in low-risk ways, allowing for rapid adjustments and continuous refinement. Both generative (e.g., early interviews to refine a concept) and evaluative (e.g., usability testing a low-fidelity prototype) studies can be formative if their primary purpose is to inform and guide ongoing development and refinement.

Summative Research

Summative research is used at the end of a project, a major phase, or grant completion to assess its outcomes. In foundational research, this means determining whether the research questions have been answered. In applied or collaborative projects, it often focuses on whether a system or process works as intended and how effective it is in practice. Summative research provides a more elaborate assessment of outcomes, typically using larger participant samples with the goal of achieving statistical significance, and produces results that can be used for academic publications and technical reports.

Research Type	Purpose	Stage	Use
Generative	Discover insights, user needs	Discover, early Explore	Identify problems, opportunities, guide direction
Evaluative	Test and validate assumptions	Late Explore, Test, Listen	Understand performance, refine or validate solution
Formative	Improve a developing solution	Late Explore, Test	Iterative improvements, clarify needs, fix issues. Meant to steer direction.

Summative	Assess overall outcomes	End of project or grant completion	Determine overall experience, if research questions are answered, effectiveness, publications/reports

Applying Research in Practice

Several methods can be applied early and without much effort. A short interview with stakeholders might be enough to clarify priorities. A think-aloud session with three participants could expose key usability issues. A small pilot study might reveal that your concept is being interpreted in unexpected ways.

Not every method requires weeks of planning or large sample sizes. Quick checks can be valuable, especially if they are targeted and well timed. The earlier issues surface, the more room there is to adjust. And even brief user contact often gives more useful direction than assumptions or internal debate.

In the next section, we'll look more closely at what different methods can offer and how they map to various stages of a research process. We'll also provide examples of how to keep things lightweight without compromising on usefulness.

4. Methods Overview

TL;DR

This section introduces different research methods, explains their strengths and limitations, and shows how they can be applied across stages of the research cycle.

This section will help you:

- Understand the main ways research methods can be classified
- Recognise which methods suit different stages of the research cycle
- Choose approaches that match your research goals and constraints

---

There is a wide range of user research methods, but not all are equally useful at every stage. This section outlines a selection of approaches, grouped by their purpose in the research cycle, and gives you a sense of when and why you might use them.

This is not an exhaustive list. It’s a starting point, especially for researchers who are new to involving users in their work. The aim is to show that useful insights can often be

gained with minimal overhead, provided the method is well chosen. Methods can be qualitative or quantitative, attitudinal or behavioural, or even a mix of these. Each lens highlights different strengths and limitations, and methods can also be combined (e.g., a think-aloud protocol followed by a survey) to triangulate data for more robust results.

The following sections introduce each perspective and what it can contribute to your research:

Qualitative Research

Qualitative research focuses on gathering non-numerical data to understand underlying reasons, opinions, and motivations. It provides rich, in-depth insights into people's experiences, perspectives, and the "why" behind their actions. Methods include interviews, observations, field studies, and open-ended survey questions. This approach is particularly valuable for exploring complex problems, understanding context, and generating new hypotheses, especially in the earlier **Discover** and **Explore** stages of research.

Quantitative Research

Quantitative research focuses on collecting and analyzing numerical data to identify patterns, test hypotheses, and generalize findings to larger populations. It uses structured data collection methods such as surveys with closed-ended questions, experiments, and performance metrics. This approach is ideal for measuring specific variables, comparing groups, and assessing "what" or "how much" occurs. It provides data that can be statistically analyzed and is often used in the **Test** and **Listen** stages for validation and assessment.

Attitudinal and Behavioural Research

Research methods can also be distinguished by whether they focus on self-reported data (attitudinal) or observed actions (behavioural). Attitudinal approaches provide insight into users’ opinions, expectations, and motivations, whereas behavioural approaches provide data on what people actually do. Both can be qualitative, for example interviews for attitudinal data or video observations for behavioural data, or quantitative, such as Likert-scale survey responses for attitudinal data or log data for behavioural data. Since people’s attitudes and behaviours do not always align, combining both perspectives can provide a fuller picture.

Mixed Methods Research

Mixed methods research systematically combines both qualitative and quantitative approaches within a single study or across a program of research. This allows researchers to leverage the strengths of both, gaining a comprehensive understanding that balances in-depth insights with measurable outcomes. For instance, quantitative data might reveal a trend, while qualitative data explains the underlying reasons for that trend. While powerful for achieving a holistic view, designing and executing mixed-methods studies can be more resource-intensive due to the need for diverse data collection and analysis expertise.

Building on these fundamental approaches, here is how specific methods typically align with the **Discover, Explore, Test, and Listen** stages of your research process, offering practical ways to apply these qualitative, quantitative, and mixed methods. See Figure 2 for an overview of methods and how they apply per stage.

Discover

The initial phase of understanding the problem space and user context. Use when you are shaping the direction of your research or want to uncover expectations, pain points, or practical limitations.

- **Stakeholder or expert interviews:** Clarify expectations, goals, and potential mismatches in understanding, priorities, or constraints from those involved in or affected by the project.
- **Workshops**: Brings team members and stakeholders together to understand the current state, gather knowledge, clarify research goals, and build consensus on next steps.
- **User interviews:** Ideal for generating rich, contextual insights into individual user experiences, challenges, or expectations, especially when seeking depth over breadth.
- **Field studies:** Offers high ecological validity by observing workflows or environments in situ, which can uncover critical details people may not articulate directly, though it can be resource-intensive.

Explore

Developing and refining early ideas or concepts based on discovery insights. Use when you are developing tools or approaches and want to make sure they align with actual needs.

- **Workshops or co-design sessions:** Brings together team members and partners to collaboratively generate, discuss, and refine ideas to be developed further.
- **Card sorting or information architecture review:** Used to understand users' mental models for information organization, informing intuitive navigation and content structures.
- **Prototypes:** Enables rapid, low-cost evaluation of conceptual soundness and initial usability, minimizing rework by identifying major issues early. Prototypes can be low fidelity, including sketches on paper that simulate user behaviour.

Test

Evaluating the usability and effectiveness of designs or prototypes. Use when you have something concrete to show and want to understand how people engage with it.

- **Think-aloud sessions:** Participants talk through their reasoning as they engage with your system. Good for understanding decision-making and spotting friction points.
- **Usability testing:** Observes performance and issues during defined tasks. Works well even with a handful of participants if the tasks are well designed.
- **Comparisons:** Test two or more alternatives to assess a previously specified goal. Requires a clear metric, strong experimental design, and a consistent setup. For summative evaluations this is often done as a lab experiment guided by a moderator.
- **Surveys:** A scalable method for collecting structured, often quantitative, data from a larger user base. Effective for assessing general impressions, specific preferences, or validating assumptions when carefully designed to minimize bias.

Listen

This stage generally focuses on gathering feedback after a project has been launched. In academia, this activity can capture last-stage insights from stakeholders, collaborators, or immediate pilot users regarding the deliverables' immediate reception, clarity, and perceived utility. This concluding validation serves as a form of summative research for the academic project, assessing the final deliverable rather than providing continuous monitoring common in commercial product development, and helps inform

final reporting and identify potential avenues for subsequent research or grant proposals.

- **Follow-up interviews or discussions with receiving stakeholders/collaborators:** These provide final qualitative insights into the immediate perceptions, challenges, or potential applications of your handed-over research deliverables, serving as a concluding feedback loop for the project's scope.
- **Surveys:** A scalable method for collecting structured, often quantitative, data on the perceived usefulness, satisfaction, or immediate impact of the research output from a broader group of initial users or stakeholders.
- **Expert Review / Heuristic Evaluation:** A structured assessment of the final deliverable (e.g., prototype, tool, or framework) by experienced academics or domain experts. This method evaluates adherence to established usability principles or best practices, providing a professional critique of the output's quality and potential issues at project conclusion.

You don’t need to use all these methods, and you often don’t need many participants to learn something useful. Early-stage, formative research often prioritizes identifying key issues and qualitative insights over statistical generalizability, making smaller participant pools highly effective. What matters is timing, focus, and knowing what you’re trying to find out.

Writing Custom Questions for Surveys and Interviews

There are many validated questionnaires that can be used, but sometimes you have to write your own questions for interviews and surveys. When designing your own questions, consider the following: avoid leading questions (e.g. “*Why did you have difficulty with the navigation?*”, better: “*What was easy or difficult about getting to the information you wanted?*”), only ask one thing at a time (avoid questions like “*was the feature easy to use and visually appealing?*”), and keep language simple.

To ensure your questions are interpreted as intended, you can conduct quick cognitive testing or pilot them with team members. **While this is not a definitive resource, being aware of these principles help getting more reliable outcomes.**

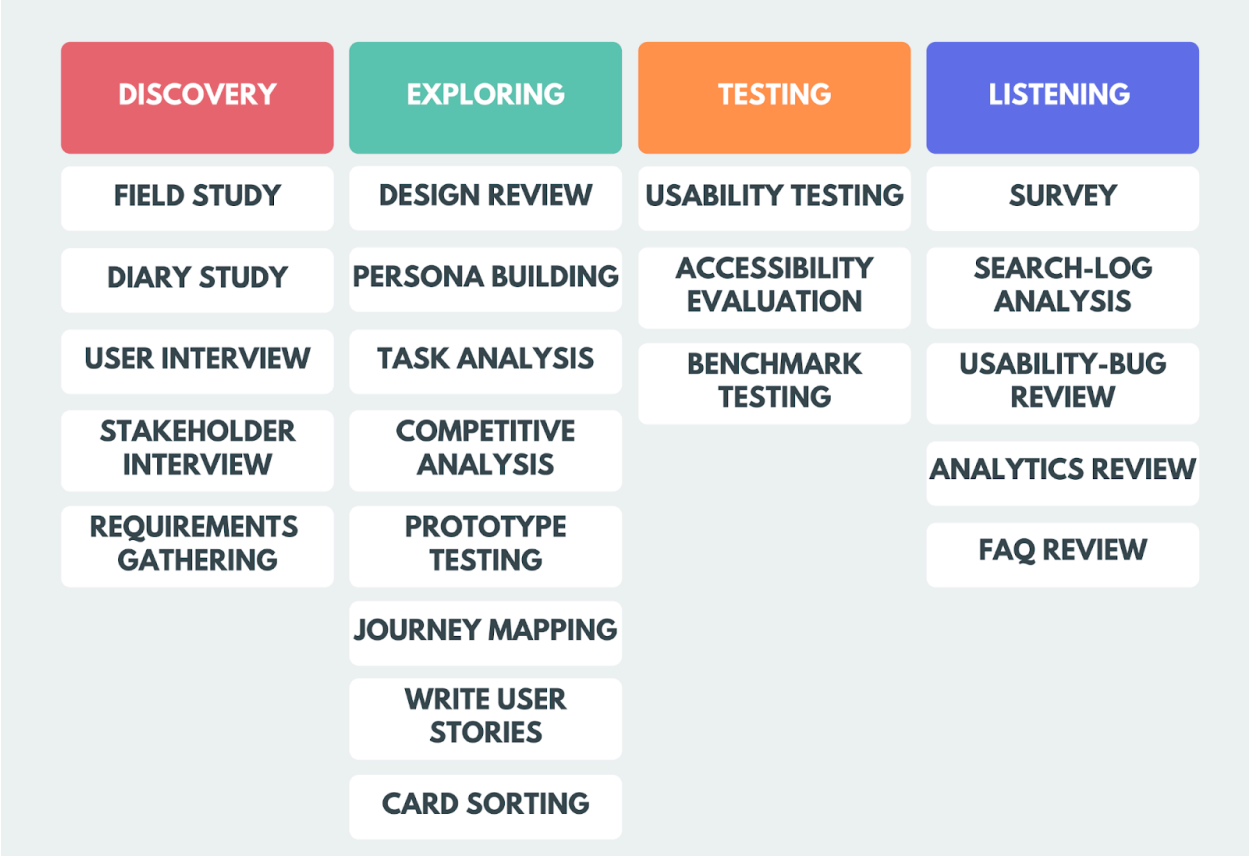

Figure 2: An overview over possible methods per stage by eleken.co.

❗ The UX Team Can Help ❗

The options available may sound overwhelming, but the UX team is available to guide you in method selection, testing your survey questions, or generally give input on your research plan. More on this in 10. How Can the UX Team Help?

5. Getting Reliable Results

TL;DR

Collecting data is only useful if it leads to clear, actionable outcomes. Interpretation needs to be grounded, thoughtful, and connected to your research goals.

This section will help you:

- Analyse findings in the context of your sample and method
- Translate insights into changes, project decisions, or further research
- Report results in a way that is clear, credible, and useful

---

Robust user research is not just about running studies or collecting responses. It’s about designing research that yields insights you can trust and act on. This depends less on sample size or statistical output alone and more on careful attention to study design, timing, and interpretation.

At the heart of any robust study is a well-defined research question. Without a central question, the resulting research often lacks clear contributions, and its chosen methods may not appropriately address the research problem. A precise research question acts as a guiding light, guiding your choice of methods, participant recruitment, data analysis, and ultimately, the conclusions you can draw.

Below are key factors that shape the credibility and usefulness of your research results.

Bias and Sample Size

A large sample will reduce random error, but it won't fix issues with study design, poor task relevance, or sampling bias. Small, focused studies with the right participants can offer more reliable direction than broad surveys with unclear goals. Think about diversity, relevance, and what kind of feedback is most valuable for the current stage of your work.

Internal Validity

Internal validity refers to how confidently you can interpret the results of your study. For user research, this means ensuring consistency in how studies are run, keeping task instructions clear and relevant, and avoiding things like priming, fatigue, or ordering effects that can distort outcomes. A well-run small study is more reliable than a large, inconsistent one.

External Validity

External validity asks whether your findings apply outside the study setup. This includes ecological validity (how closely your study reflects real-world settings) and temporal validity, which considers whether results will still hold over time. It's rarely possible to recreate a full real-world environment in a study, but making it realistic enough to matter is often the key difference between useful and misleading results.

Measurement and Construct Validity

The methods you use to capture data must reflect what you actually care about. A precise metric that doesn't map to meaningful behaviour is not useful. Choose tools, scales, or performance measures that reflect real user behaviour or thinking, not just what is easy to collect or analyse.

Improving Validity Across the Project

A few strategies help improve the robustness of user research without overloading your timeline:

- **Mixing methods helps get a more comprehensive view:** No single method captures everything. Combining observations, interviews, and behavioural data

often allows for triangulation, revealing contradictions or patterns you'd miss otherwise, thereby strengthening confidence in findings.

- **Smaller studies at multiple points:** Instead of running one big test at the end, build in several smaller ones throughout. They're faster, easier to set up, and will help improve usability early on.
- **Focus on consistency and relevance:** Make sure tasks reflect what you're actually interested in. Rehearse protocols before bringing in participants and make sure the survey and protocol are well understood by testing it with team mates.
- **Balance realism and feasibility:** You don't need to simulate every detail of a real environment, but creating enough context to trigger meaningful responses makes your results more useful.

Good research does not always require large teams, advanced tools, or perfect conditions. It does require care in design, clarity of intent, and a willingness to adapt methods to the realities of your work.

6. Planning a User Study

TL;DR

Effective research requires careful preparation. A clear plan ensures your study is efficient, ethical, and yields meaningful results.

This section will help you:

- Prepare for logistical needs such as time and recruiting
- Design a clear and consistent protocol for your sessions
- Select the right participants for your study goals

Once you've identified the questions you want to answer and chosen the right method for your stage of work, it’s time to think about practical planning. This section walks through key factors to consider when preparing a user study so that it runs smoothly and delivers meaningful results without wasting time or resources.

Time and People

Some methods are quick to set up and run. Others, like diary studies or controlled experiments, require significant investment. Be realistic about what you can manage within your project timeline. Recruiting people can also take up a decent chunk of your time, depending on target audience or whether you are running a summative research, which should be kept in mind.

Fitting Method into Resources

Not all methods are resource-intensive, but some will require extra planning. Incentives for participants, travel to external partners, access to specialised tools, or time in lab environments all have budget implications. Choose a method that fits your available resources.

Participant Selection

Your participants should reflect the people who will use or be affected by your work. Sometimes that means external users. Often, in academic–industry collaborations, it means stakeholders or project partners. Make sure they can provide informed, relevant feedback on what you're testing.

Define clear inclusion criteria, but don't overcomplicate recruitment. For early-stage work, five participants with relevant perspectives can be enough to surface important issues.

Study Materials and Protocol

Prepare tasks or prompts that reflect real activities or decisions. Keep instructions clear, avoid leading participants, and test your setup before inviting others to take part. If someone else is running sessions, agree on a shared protocol to ensure consistency.

Protocols should include:

- Consent forms (essential when working with external participants)
- Session goals and structure
- Tasks or questions
- How data will be collected

While a script is essential for consistency and replicability, it should serve as a flexible guide. You need to remain adaptable to follow up on unexpected findings, especially in early or exploratory studies.

Ethics Application

User research with external participants requires approval from the Ethics committee. This is absolutely necessary when including end-users in your research, but especially if you are considering publishing any results gathered from user data.

The Intranet page of the HSLU ethics commission will tell you more about their requirements [HSLU internal]: Ethics.

7. Analysis and Interpreting Results

TL;DR

Thoughtful analysis links your data to clear research goals and helps generate meaningful insights. Even small studies can yield valuable findings when interpreted with care and contextual awareness.

However: This is not a methods handbook. For support with specific analysis approaches, reach out to the UX team.

This section will help you:

- Understand options for analysing and interpreting qualitative and quantitative data
- Draw conclusions that reflect the scope and limitations of your data
- Interpret small samples effectively without overextending their meaning

---

1. Aligning with Your Research Question

Start with a clear reminder of your research questions. What were you trying to learn or evaluate? Your analytical choices must follow from this. A precise research question acts as a compass, ensuring your analysis remains focused and purposeful. Avoid drifting into cherry-picking data that supports an existing narrative. Instead, stay open to patterns that challenge assumptions or suggest new directions.

2. Qualitative Analysis

Qualitative data, such as interviews or open responses, is rich but also interpretive. While not statistically generalizable, it offers depth and context. Qualitative analysis can be time-consuming but is doable for quick turnaround with small sample sizes. Nowadays there are AI tools that can help, and while not perfect, they can provide a quick first impression of the data.

- **Thematic analysis** is a good starting point. Identify patterns in participants' language or behaviour, categorise them, and refine themes iteratively.
- **Affinity mapping or clustering** is helpful for visual thinkers to sort observations into meaningful groups.

Prior experience and assumptions influence how patterns are recognised. Use quotes as evidence and make sure your conclusions reflect more than one participant unless you're discussing edge cases.

3. Quantitative Analysis

Quantitative data can provide scale or measurable differences, but it still requires interpretive care.

- Use appropriate statistical tools depending on your data type and sample size.
- Focus on effect sizes and confidence intervals, not just significance.
- Interpret results in context: a 5% performance increase might matter a lot in one domain and be negligible in another.
- Visualise trends in a way that highlights key findings without implying precision or significance that isn't supported by your data.

4. Combining Data Sources (Mixed Methods)

Mixed-method studies can offer the most balanced insight. Use qualitative data to explain the why behind quantitative trends, or use metrics to triangulate subjective findings. When they diverge, that contrast itself may reveal something worth understanding.

5. Interpreting Results with Context

Once you've conducted your analysis, the next step is to interpret what the findings actually mean. This doesn't always require complex statistics. Often, the goal is to understand patterns, identify problems, and decide what action to take next.

- **Look for Patterns, Not Outliers:** Not every participant will act or respond the same way. Variation is normal. What you're looking for are recurring problems or behaviours, not isolated cases. A single participant struggling might not mean much. Three or four encountering the same issue, even in a small study, is worth investigating.
- **Consider Your Sample:** Always interpret results in the context of who took part. If your participants were all industry partners, your findings might reflect strategic priorities more than usability. If they were students, you may be seeing edge-case use. This doesn't invalidate the results, but it shapes how broadly they can be applied. Small sample sizes are fine for exploratory work or early design validation. Just be clear about what you can and cannot claim from the data.
- **Avoid Overgeneralisation:** Resist the temptation to treat qualitative feedback as representative of all users. Likewise, be cautious with numbers. Unless your study was specifically designed for statistical testing, percentages can be misleading. "Four out of five people mentioned this" is useful as a prompt for further inquiry, not as a definitive measure.

6. From Findings to Impact

Interpretation is where analytical results meet context. It includes weighing your findings against real-world constraints, stakeholder goals, and existing research.

- What are the implications of what you've found?
- Are there limitations that affect how confidently you can act on the data?
- What would you recommend, and why?

The goal of user research is not just insight, but impact. Share findings with collaborators, iterate on your design or implementation, and plan next steps. Even negative results, when something didn't work as expected, can be highly useful, especially when they point to design gaps, unmet expectations, or mismatched assumptions.

- **Be Transparent:** Document how the study was run, who participated, what was asked, and how conclusions were drawn. This supports credibility, especially in interdisciplinary work or when reporting back to external stakeholders. It also helps if you or others want to repeat or build on the work later.

8. Communicating Your Findings

TL;DR

Good research has an impact when it is clearly communicated. Tailoring your message to your audience makes your findings more likely to be understood and used.

This section will help you:

- Share insights in formats that suit research partners and stakeholders
- Distinguish between raw data and actionable conclusions
- Use visuals, summaries, and examples to make findings more accessible

---

Research only has an impact if people know what you discovered. That means sharing your findings in a way that is accessible, focused, and appropriate to your audience. This section is about how to present your work so it leads to informed decisions and better outcomes.

Tailor the Message

Think about who you're communicating with. Are you speaking to collaborators, stakeholders, or an external funding body? What decisions are they trying to make? Strip out anything that doesn’t serve that purpose.

Academic audiences may want methodological transparency. **Industry partners** will likely prioritise key insights, evidence of value, or concrete suggestions. Keep the core message clear and don’t overload with detail unless it’s needed.

Keep It Focused

An exhaustive table of results might be appropriate for a fellow research audience or an appendix, but may be less suitable for the main report or presentation. Highlight what matters most and why, and consider your target audience.

Start with the big takeaways. Then show the supporting evidence. Use quotes, examples, or brief data points to illustrate patterns, but keep the emphasis on what these findings imply for the project.

If diagrams, tables, or simple charts help clarify findings, it usually is appreciated and easier to digest.

Consider Limitations

Every study has its limitations. Be upfront about sample size, potential recruitment biases, or time constraints. This builds credibility and helps others (and yourself) understand how to interpret the findings appropriately.

Make It Actionable

Suggest possible next steps. Have the open questions been answered? Should another round of testing be planned to help clarify remaining gaps? When your findings suggest action, link the insight directly to the recommendation.

Even in more abstract or early-stage work, highlight where the results point and what gaps remain.

9. Common Pitfalls and How to Avoid Them

TL;DR

Even small research efforts can fail if avoidable mistakes creep in. Being aware of common traps helps you plan better and get more reliable results.

This section will help you:

- Spot typical issues like unclear goals, poor recruitment or overinterpreting results
- Avoid wasted effort by planning with intent and focus
- Build habits that strengthen the quality and usefulness of your research

---

Even experienced researchers run into challenges when bringing people into the research process. Below are some frequent pitfalls, along with ways to avoid them.

- **Treating Testing as a Final Step:** One of the most common mistakes is waiting until the very end of a project to involve users. Late-stage testing is often too late to make meaningful changes. Aim to incorporate users early.

- **Overplanning, Then Not Doing:** It's easy to spend weeks designing a "perfect" study that never gets run. Start small. A pilot with two to three participants can reveal more than endless planning. You can always refine and expand later.
- **Conducting Research Without a Clear Purpose:** Research is a tool to answer questions or inform decisions. A common trap is running a study just to "get feedback." Be sure you have a defined research question and a clear understanding of what a successful outcome will look like before you start.
- **Underestimating Recruitment Challenges:** Getting participants takes time. It's rarely just a matter of sending out a link. Plan for recruitment early, and be clear on who you need and why. Work with partners if needed, and set realistic expectations about who you'll reach.
- **Confusing Opinion with Evidence:** Stakeholder preferences and user feedback are not the same. A well-designed study focuses on how people behave, not just what they say. Combine several metrics, such as observation, task completion, and structured questioning to get a fuller picture.
- **Ignoring What Doesn't Fit the Hypothesis:** It's tempting to dismiss unexpected results or feedback that doesn't align with assumptions. But that's often where the most valuable insights lie. Be open to findings that challenge your view of the work.
- **Overinterpreting Limited Data:** Small studies are useful, but they have limits. Avoid making broad claims from narrow samples. Frame findings as early indicators or patterns that warrant further investigation, and be transparent about what your data can and cannot claim.
- **Failing to Integrate the Results:** Collecting data is not the same as using it. If findings don't feed into decisions or designs, the value is lost. Make space in the project timeline for reflection, discussion, and iteration based on what you've learned.

This guide is designed to make user-centered research more accessible for research projects that involve users. By adopting a mindset of early and iterative engagement, you can make your research stronger, your development more efficient, and your final work more relevant as it will address the needs of people you are developing for. Similarly, the feedback you collect can help you better understand what is important to your target audience to ensure your outcomes can be used effectively.

10. How Can the UX Team Help?

The UX team is here to help and encourage more user-centred development at HSLU. User-centred doesn’t mean it is only relevant when end-users are involved. It is relevant any time a user interacts with technology, which can also mean solutions targeted at partners, experts, and stakeholders.

There are several ways the team can support your research. We have split up ways we can support you depending on involvement in roughly 3 categories.

1) Consulting and Inquiries: The UX Team can help you in a consulting capacity. Which may mean helping set up your research plan or giving inputs into surveys.

2) Partial Support: The team will be partially involved in your research and support you with specific tasks, like creating the experimental design for you or executing a portion of your research.

3) Research Partner: The team will support you as a partner, develop the research plans with you, and execute the research.

If you’re curious about how the UX team can support your work, come have a chat with us to explore the options: ux-research@hslu.ch

11. Treasure Trove: Commonly Used Surveys & Resources

Some validated tools to help you get started.

Note: Please keep in mind that this list is not exhaustive, and that selecting the right tool for you should be in tandem with someone on the UX team. Each questionnaire is designed to assess specific constructs and may or may not be suitable for what you are trying to understand. Questionnaires may also have specific requirements for scoring and interpretation.

Usability

System Usability Scale (SUS) Questionnaire

The SUS is a commonly used survey to measure usability.

Please circle the number that best represents your agreement with each statement:

1. I think that I would like to use this system frequently.
   (1) Strongly disagree 2 3 4 (5) Strongly agree

2. I found the system unnecessarily complex.
   (1) Strongly disagree 2 3 4 (5) Strongly agree

3. I thought the system was easy to use.
   (1) Strongly disagree 2 3 4 (5) Strongly agree

4. I think that I would need the support of a technical person to use this system.
   (1) Strongly disagree 2 3 4 (5) Strongly agree

5. I found the various functions in this system were well integrated.
   (1) Strongly disagree 2 3 4 (5) Strongly agree

6. I thought there was too much inconsistency in this system.
   (1) Strongly disagree 2 3 4 (5) Strongly agree

7. I would imagine most people would learn to use this system very quickly.
   (1) Strongly disagree 2 3 4 (5) Strongly agree

8. I found the system very cumbersome to use.
   (1) Strongly disagree 2 3 4 (5) Strongly agree

9. I felt very confident using the system.
   (1) Strongly disagree 2 3 4 (5) Strongly agree

10. I needed to learn a lot of things before I could get going with this system.
    (1) Strongly disagree 2 3 4 (5) Strongly agree

Scoring: **Assign values from 0 to 4 for each question:**

- For **odd-numbered items** (1, 3, 5, 7, 9):
  Score = Response − 1
- For **even-numbered items** (2, 4, 6, 8, 10):
  Score = 5 − Response
- **Sum** all adjusted scores (you'll get a number from 0 to 40).
- **Multiply the total by 2.5:** This converts the score to a 0–100 scale.

In general, a SUS score above 85 is considered excellent. Scores between 70 and 84 are good, showing solid usability but with some room for improvement. Scores from 50

to 69 are considered OK or marginal, meaning the system is usable but likely has notable issues. Anything between 25 and 49 is rated as poor, while scores below 25 are awful.

Usability Metric for User Experience (UMUX) Questionnaire

UMUX is a shorter version of the SUS and a SUS score can be calculated from these four questions.

Please circle the number that best represents your agreement with each statement:

1. [This system]'s capabilities meet my requirements.
   (1) Strongly disagree 2 3 4 5 6 (7) Strongly agree

2. Using [this system] is a frustrating experience.
   (1) Strongly disagree 2 3 4 5 6 (7) Strongly agree

3. [This system] is easy to use.
   (1) Strongly disagree 2 3 4 5 6 (7) Strongly agree

4. I have to spend too much time correcting things with [this system].
   (1) Strongly disagree 2 3 4 5 6 (7) Strongly agree

Scoring: The corresponding SUS score can be calculated in this way:

```
UMUX = ((Item_1 - 1) + (Item_3 - 1) + (7 - Item_2) + (7 - Item_4)) * (100/24)
```

Usability Metric for User Experience-Lite (UMUX-Lite)

The UMUX-Lite is an even shorter version also capable of creating a SUS score.

1. [This system]'s capabilities meet my requirements.
   (1) Strongly disagree 2 3 4 5 6 (7) Strongly agree
2. [This system] is easy to use.
   (1) Strongly disagree 2 3 4 5 6 (7) Strongly agree

Scoring: The following formula can be used to calculate the SUS score.

```
UMUX-LITE = 0.65 × (((Item 1 + Item 2 - 2) × (100 ÷ 12)) + 22.9)
```

User Experience

User Experience Questionnaire (UEQ)

Short User Experience Questionnaire (UEQ-S)

Cognitive Effort

NASA Task Load Index (NASA-TLX) (Note: **Response scale differ**. This is a simplified format)

Mental Demand
Low (1) 2 3 4 5 6 (7) High

Physical Demand
Low (1) 2 3 4 5 6 (7) High

Temporal Demand
Low (1) 2 3 4 5 6 (7) High

Performance
Perfect (1) 2 3 4 5 6 (7) Failure

Effort
Low (1) 2 3 4 5 6 (7) High

Frustration
Low (1) 2 3 4 5 6 (7) High

PAAS (Paas Cognitive Load Rating Scale)

“Please rate the amount of mental effort you invested in this task.”

Very, very low (1) 2 3 4 5 6 7 8 (9) Very, very high

Further Resources:

Nielsen Norman Group

Chapman & Rodden (2023), Quantitative User Experience Research (Book)

Travis & Hodgson (2023), Think Like A UX Researcher (Book)

Hall (2024), Just Enough Research (Book)

Interaction Design Foundation

Glossary of Terms

This glossary explains key terms used throughout the guide. It is intended as a quick reference for researchers unfamiliar with user research terminology.

Attitudinal Research

Research focused on what people say, believe or prefer. Often involves surveys or interviews to understand opinions and intentions.

Behavioural Research

Research focused on what people actually do, often gathered through task-based studies, observation or interaction logging.

Construct Validity

The degree to which a study accurately measures what it intends to measure. For example, whether a usability task actually reflects how users will interact with the system in real use.

Diary Study

A longitudinal method where participants record their own behaviours, experiences or interactions over time. Useful for understanding habits or long-term engagement.

Ecological Validity

The extent to which research settings and tasks reflect real-world conditions. Higher ecological validity means findings are more likely to generalise to actual use.

External Validity

Indicates how well findings can be generalised beyond the study sample or setting. Includes ecological and temporal validity.

Exploratory Research

Initial research used to understand a problem space, user group or domain. Typically qualitative and open-ended.

Formative Research

Research conducted during a project to inform and guide development. Aims to improve design or direction through iteration.

Internal Validity

The degree to which a study accurately reflects causal relationships, unaffected by confounding variables.

Mixed Methods

An approach that combines both qualitative and quantitative methods to provide broader or more nuanced findings.

Pilot Test

A small-scale trial run of a study used to refine study design, tasks or tools before full deployment.

Prototype Testing

Evaluation of early design versions, often using interactive or static mockups, to identify usability issues or gather feedback.

Quantitative Research

Research involving numerical data, often used to measure behaviours, validate findings or test hypotheses statistically.

Qualitative Research

Research involving non-numerical data such as interview transcripts or observations, used to explore experiences and behaviours.

Stakeholder Interview

A structured conversation with project collaborators, domain experts or partners to gather insights and align goals.

Summative Study

A formal evaluation at the end of a project or development cycle, often aimed at measuring effectiveness or usability.

Usability Testing

A method where participants attempt to complete tasks using a system while researchers observe issues and barriers. Helps assess how usable and intuitive the system is.