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Activity introduction

In this activity, you'll be planning and conducting a usability study using the low-fidelity prototype you created in the activity called [build a low-fidelity prototype for a responsive website](#). As a reminder, a usability study is a low-risk, high-reward research method for designers to acquire feedback on their designs. An effectively conducted usability study will provide important direction on how to make improvements to the design that will enhance the user experience. In this activity, you'll be creating a research plan for your study, conducting the study itself, and analyzing your findings so you can iterate on your prototype based on the feedback you receive.

*Note: This activity requires a minimum of five participants to complete, so make sure you plan enough time to interview each participant.



Step-by-step instructions

Part 1: Planning the usability study

To complete a research plan for your usability study, follow the instructions below:

Step 1: Access the template

To use this template, click the link below and select "Use Template."

Link to template: [UX Research Study - Plan \[Template\]](#).

OR

If you don't have a Google account, you can download the template directly from the attachment below.



[Google UX Design Certificate - UX Research Study Plan \[Template\]](#)
[DOCX File](#)

Step 2: Write the project background

In the Project Background panel of your research plan template, write a short explanation of why you're doing this research. You can do this by answering each question in order. This puts your team on the same page at the beginning of the study, and demonstrates that you understand why you're conducting the research.

Introduction	<ul style="list-style-type: none">• Title: A few words about the focus of the study• Author: Your full name, job title or role, and email address on one line• Stakeholders: List the names of project stakeholders and their roles• Date: Update the date listed every time you edit this plan• Project background: What led you to conduct this research?
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Step 3: Identify research goals

Next, write down your research goal or goals in the space provided. Your research goals should address what problems you're trying to solve by conducting this research, or what you expect the outcome of the research to be. Since you're working with a high-fidelity prototype, ask yourself what you want to find out at this stage in the design cycle. What is important to learn more about?

Research goals

- What design problems are you trying to solve for the user and/or the business?
- How will the results of the research affect your design decisions?

Step 4: Create 5-7 research questions

Now, come up with research questions and write them in the corresponding panel of the template. These questions should represent the questions you're trying to answer by conducting this research and should support your research goals. Keep the number of questions manageable so your research has a clear focus and doesn't become scattered.

Note that your research questions aren't the same questions you will ask your usability study participants in the interview stage. Research questions help you decide what questions are important to answer as a result of your research, rather than questions you ask usability study participants directly.

Research questions

- What are the questions your research is trying to answer?
- Pro tip: Five research questions is a solid place to start. Do not include more than 7-10 research questions.

Step 5: Choose KPIs to measure

Using the template, write down 2-3 KPIs that will help you measure your progress towards your research goal.

There are six types of KPIs that are typically used in UX research:

Time on task: How long it takes a user to complete a task.

NOTE: Time on task may change depending on whether the user uses assistive technologies or has other accessibility needs.

Use of navigation vs. search: The number of users who navigate casually compared to those who use the search function.

User error rates: How often users make mistakes.

Drop-off rates: The number of users who give up without accomplishing a goal.

Conversion rates: The number of users who reach their goal successfully.

System Usability Scale, or SUS: A series of 10 questions evaluating how easy your product is to use.

Think about what parts of your design you want feedback on, and what will help you evaluate progress made towards your research goals.

Key Performance Indicators (KPIs)

- How can you measure progress toward the research goals?
- KPIs might include: Time on task, use of navigation vs. search, user error rates, drop-off rates, conversion rates, system usability scale (SUS), etc.

Step 6: Propose a methodology

Decide on a methodology for your usability study. Here, you'll address how your study will be conducted and what you'll do with the data once it's collected. Choosing a methodology is important because it affects how your data is gathered and the questions you will ask your participants during interviews.

Your methodology should include:

Procedures for running the test

The time and location of the test

The person who will be conducting the test

The way the test will be conducted

The methodology should clearly demonstrate what you did, how you did it, and why you did it so that stakeholders and other designers can understand how you conducted the research.

Methodology

- How will you collect data? How will you analyze the data once you get it?
- The methodology should be detailed so that other researchers can understand what you did, the choices you made, and the limitations of the methods employed to decide if or when further research is needed.

Step 7: Choose participants

When recruiting participants for your usability study, you want to have a small group of participants in your study that represent your key user group, as well as user groups that are often marginalized.

The participants section of your UX research study plan should have:

Primary characteristics of people you'll recruit to participate

Justification for why you chose your target group

Considerations for users who use assistive technologies and have other accessibility needs

Participants

- Who will you include in this study? What characteristics do the participants have? Why did you choose them?
- Note: If you're intentionally including specific populations (e.g., users with diverse abilities and perspectives), be clear about the needs of the study.

Step 8: Write a usability study script

In the last panel of your research plan template, write a script for your usability study.

These are the tasks and questions you will present to your participants. They will complete each task, then respond to your follow-up questions. Implementing this script is how you will gather your data, so keep your script aligned with the goals and ideas in the rest of the research plan.

Your script should include:

An introduction

A warm up to help the participants settle in

Specific tasks related to your research goals

Follow-up questions for each task

Script

- What questions will you ask study participants?

When you're finished, you should have all seven panels of the research plan template filled out. If you need to review UX research plans in detail, revisit the Course 7 video on [planning usability studies](#) and the reading that covers [usability study planning in further detail](#).

Part 2: Conducting the usability study

Now that you've created a research plan, it's time to conduct the usability study itself. To conduct the usability study for your project, follow the instructions below:

Before you begin your usability study, make sure you've solidified your UX research plan from earlier in the activity. Your research plan should include a script with tasks and follow-up questions for participants. You also need to confirm that you have a working, shareable version of your lo-fi prototype.

Step 1: Send participant invites

After selecting potential participants based on target characteristics chosen in your research plan, you'll send a series of emails to each participant.

The first email is a recruitment email, inviting the participant to the study. Include the following information in your email:

A short introduction to who you are and the overall project

Explanation of what you will be asking the participant to do in the study

The length of the session

The dates and location of the study (if it is remote, make sure to notify the participant of any device requirements)

Details on how to contact you if they wish to participate

. After you have received responses from your participants and scheduled their sessions, follow-up with a confirmation email that includes the following:

A thank you message for their participation

Confirmation of the scheduled time, date, and place of their session

A link to the video session, if remote

Key reminders for what they will be asked to do, including any permissions information if the study is to be recorded

You may also want to send a reminder email to each participant the day before their session.


Step 2: Open the note-taking spreadsheet template

To use the template for this course item, click the link below and select "Use Template."

Link to template: [note taking spreadsheet template](#)[↗]

OR

If you don't have a Google account, you can download the template directly from the attachment below.

 [Google UX Design Certificate - Note taking spreadsheet \[Template\]](#)
[XLSX File](#)

Step 3: Prepare a system for note-taking

During the usability study, you'll need to keep track of observations as the participant interacts with the design. You can use the template provided in the previous step, but we also recommend recording each interview. You can also take notes on a separate piece of paper or document and organize them later, just make sure you are paying close attention to the things your participant says and does. You'll need a reliable record of all of your interviews.

However, you decide to take your notes, make sure you have everything you need ready to go before the participant arrives.

Step 4: Welcome the participant

When the participant arrives, use the warm-up section of the script you created in your research plan to help them settle in. It's important to welcome your participant and make them feel comfortable. Assure them that only the designs are being tested, not them. In addition, some participants may be wary of hurting your feelings with critiques. Put them at ease by letting them know their honest responses will be very helpful in improving the design.

Step 5: Instruct the participant to complete each task

Now you're ready to present tasks to your participant. Before reading the first task, make sure your participant understands that you encourage thinking aloud. You can continue to encourage them to do this throughout the interview. Since this study uses a low-fidelity prototype, you might occasionally need to explain the state of the design elements or pages that aren't working yet.

As a usability study moderator, your responsibilities are to:

Ask questions that are open-ended and encourage elaboration

Ask follow-up questions whenever possible

Summarize the participant's answers for confirmation

Encourage participants to think out loud

Phrase everything neutrally so it doesn't sound like you're making assumptions

Phrase questions identically for each participant to avoid skewed data

Avoid helping participants with tasks and explaining how parts of the design work

Take detailed notes on each participant's behaviors, questions, and feedback

Your goal during these interviews is to learn as much as possible about what users feel and experience while interacting with your design. Encourage your participants to elaborate as much as possible in order to understand the motivations behind their actions and feelings. Remember to record each interview and take notes throughout the session, paying close attention to the participant's opinions and behaviors.

Step 6: Thank the participant for their time

When the participant has made their way through all of the tasks, you can conclude the interview. Give them a chance to share any final questions or thoughts about their experience with the designs, and then thank them for their time and feedback. If you have a gift of appreciation, give it to your participant at this time.

Once you have completed interviews with each of your participants, you can move on to the next steps for synthesizing and analyzing your data.

Step 7: Gather the data in one place

Gather the data from your usability study into one place, including all the notes you took. Make sure all of your data is available to you before you begin the next step.

If you didn't use the note-taking spreadsheet to organize your notes yet, take a moment to add them to one before proceeding to the next step.

Step 8: Group the data into themes using an affinity diagram

Now that you've organized your notes, it's time to categorize them into themes. A theme is a pattern that is common across participants.

In this step, you'll create an affinity diagram and use it to sort the data into themes of your choosing. You can use physical sticky notes to create your affinity diagram, or use digital resources like [Jamboard](#), [Miro](#) and [Note.ly](#). To review affinity diagrams, visit the reading on [learning more about analyzing and synthesizing research results](#). Ask yourself two important questions while identifying themes:

What common patterns stand out in the data I collected?

What do the patterns tell me about my product's design?

Using the tool or medium that works for you, write down the themes you chose on the cards in front of you. Once you have all of your themes labeled, add each data point under the corresponding theme.

When you're finished, all of your data should be sorted into themes on your affinity diagram. If you finish sorting your cards and you want to move some of them to different themes, that's okay. You don't have to commit to putting a card under a certain theme if another theme feels like it matches better. Sometimes it's easier to see patterns after your initial round of sorting. Once you're finished with your final affinity diagram arrangement, you're ready to start identifying insights from the cards.

Step 9: Identify insights using the themes

Next, it's time to come up with insights based on the themes you identified. An insight is an observation that helps you understand the user or their needs from a new perspective. Strong insights answer the research questions in your research plan. The insights you identify will help you make changes to your design that improve the user experience. To review the process of identifying insights, visit the video that discusses how to [analyze and synthesize research results](#).

Analyze the themes you chose, and the data that you grouped with the themes. What did you learn from them? What answers or questions did they bring up?

On a piece of paper or a digital document, write down a list of insights that you uncovered while studying your themes. You should be able to generate at least one meaningful insight that identifies an aspect of your design that needs to be improved.

Write down as many insights as you can identify.

Think about how these insights can be applied to your design, because in the next steps you'll make changes to your prototype based on them.

Step 10: Open your prototype project file

Open your lo-fi prototype in the UX software you've been using for this project.

If you don't have a lo-fi prototype for your project yet, you need to go back and make one before completing this activity. You can find instructions for creating a lo-fi prototype in the activity called [build a low-fidelity prototype for a responsive website](#).

Step 11: Use insights to update your prototype

Edit your prototype using your list of insights as a guide. Look at each insight that you wrote down, and identify how you can implement what you uncovered in your design. The better you address the things that users felt were missing, the more complete and usable your design will be.

For a refresher on how to implement feedback from your insights, visit the video that discusses how to [iterate on designs based on research insights](#)^[7]. If you want to go even further, you can also revisit the reading titled

[learn more about iterating on designs based on research insights](#)^[7].

Implement all of the feedback from your list of insights. When you're finished, you should have an updated lo-fi prototype that is updated to include all of the insights you identified in the previous step.

Step 12: Save your work

As you complete these activities, remember to:

- . Take photos of your progress and save them. This includes photos of sketches, notes, and affinity diagrams.
- . Save all of your work to your device, hard drive, or a Google Drive folder to make sure you have all the resources you'll need later in the course for your portfolio.