4.3: Usability Test Plan

Learning Goals

* Devise a usability test plan for a product

 Estimated Read Time: 40 Minutes.

Introduction

Welcome back! Now that you have a solid understanding of evaluative test methods and the basics of usability testing, it’s time to create your usability test plan—a document that will help you clarify the various components of your usability test. You already practiced creating a basic test plan in UX Fundamentals, but now we’ll be able to dig in and really flesh out some additional details.

Every project is different, so there’s no definitive guide on which usability test method to use, who to test, what to test, and where to conduct your tests. All of these factors depend on the goals and circumstances of the individual project. Each and every project is unique (along with its participants), so creating a “universal test plan” would be impossible; that’s part of what makes the design research process so interesting!

There are, however, a few guidelines to consider when preparing for a usability test. Experienced user researchers select and combine methods to suit their project and the questions they’re trying to answer. Keeping their main focus on maintaining a clear vision of what they want to learn and how it will inform the team and direction of the project, they then lay out clear goals and structures for the test via their test plan.

Anatomy of a Usability Test Plan

Before beginning any test, it’s important to create a **usability test plan**, a document that outlines the scope, goals, and logistical details of your session in advance. Test plans can be highly detailed or short and to-the-point depending on the research goals and maturity of the project. At the beginning of a project, it’s a good idea to keep things short, especially if you’ll be communicating with other stakeholders who may need to understand the main points quickly and efficiently. This will allow you to better allocate your time and perform many quick tests while iterating on and improving your prototype. In a larger company or project, you’ll likely meet with several stakeholders to decide on the details of the test plan.

Let’s take a look at the main elements of a basic test plan. Though you may end up needing to add more detail and complexity for a longer, larger test, this is a great place to start:

* **Introduction**: Start by recording the date, time, and location. Include the names of all those involved in the test from designers to stakeholders. Give your test plan a title that indicates what you’re studying and the type of test. For example: Triply Moderated Usability Test (Mobile Navigation).
* **Background**: What are you testing? Include the name of your app, persona, problem statement, and, if applicable, the specific area you’re testing (e.g., navigation or check-out flow). Keep it short—imagine you’re providing context for a colleague or stakeholder unfamiliar with the project.
* **Goals**: Outline a main goal or a limited set of goals in a sentence or a few bullet points. This is the overarching result you’d like to accomplish with your test. If it turns into a long essay, consider breaking it up into multiple test plans.
* **Test Objectives**: What specific features are you studying? What primary questions do you want your usability tests to answer about these specific features? This is where you’ll list the features and relevant associated questions in your test plan.
* **Methodology**: What method will you use for your usability test? Moderated in-person, moderated remote, or unmoderated?
* **Participants**: How many participants will you be testing? How did you or how will you be recruiting participants? Are there any special details or characteristics to note about the participants, and, if so, how do these characteristics relate to the goals of the study?
* **Schedule**: Where and when will you meet your test participants? Contact them in advance to schedule a place and time. Make sure you have enough space for you and your participants, as well as access to the technology you’ll need to conduct your session. Include the date, time, and location of your tests for planning purposes.
* **Sessions**: This is where you’ll record the length and scope of your sessions. Session times are variable depending on the complexity of the project, usability test, and tasks. For the purpose of your project, shoot for 10- to 15-minute individual sessions with at least 6 participants from your target audience.
* **Equipment**: What devices will you test? Are you using anything to record? If you’re testing on your mobile device, for example, record that here. If you’re planning to record video or audio during your tests, what equipment will you need, and what programs will you use? You can add more detail to this section later in the Achievement, when you take a look at specific recording software.
* **Metrics**: There are many ways to quantify feedback. This is where you’ll define what you’re measuring and how you’re measuring it in both qualitative and quantitative forms. For example, how will you quantify the severity of a problem? How will you determine whether one issue is more pressing than another?
* **Scenarios/Test Tasks**: You’ll want to know what you’ll be asking your participants to do in advance to ensure you’re collecting the same data from every one of your users. In the last Exercise, we talked about the importance of zooming in on a limited number of critical features for a given usability test. In the next Exercise, we’ll be discussing how to create tasks, referred to as Scenario and Direct Tasks, to test the features you identified.
* **Script**: A test script is used to help facilitate the conversation during your usability test (we’ll discuss how to create a test script in the next Exercise). If your test script hasn’t been written at the time of drafting your test plan, you can simply write “TBD” (To Be Determined) and link to the script at a later point in time.

Let’s take a look at what parts of your plan you’ve already completed. You’ve already written an **introduction** and **background** for your test. You’ve also already prepared an informed consent form and email templates for recruiting **participants**. Finally, you selected the **methodology** most appropriate for your usability test. You’ve probably already decided on where and when you’ll be meeting your participants (**schedule**). Also, as mentioned above, you already know that you need to test at least six participants in individual sessions of 10-15 minutes (**sessions**). Your **equipment** will be as simple as filling out what device or devices you’ll use to test and/or record.

As you can see, you’re already well on your way through your test plan. Let’s take the rest of this Exercise to cover the remaining elements. We’ll focus on refining your test objectives, participant information, and metrics to help you complete your first usability test plan. Once you’ve completed this Exercise, you’ll only have one section left—scenarios/test tasks, which we’ll be covering in the next Exercise. Ready to finish putting the pieces of the puzzle together?

MORE TEST PLAN EXAMPLES  
”Long plans or no plans don’t work for people.” Read up on how and why to keep your test plans short and to the point in "[The UX Research Plan That Stakeholders Love](https://www.smashingmagazine.com/2012/01/ux-research-plan-stakeholders-love/)" by Tomer Sharon, or check out this alternative "[Test Plan Outline](https://www.usability.gov/how-to-and-tools/methods/planning-usability-testing.html)" from Usability.gov.

Goals and Test Objectives

The focus of this Exercise is on defining, clarifying, and communicating goals and test objectives in relation to the specific features identified in the previous Exercise. As UX designers, it’s our job to reconcile the needs of a business with its customers and the constraints of the technology involved. Therefore, design research should be formulated either to provide value to the business and/or customers or address the use and limitations of complex technology.

To do so, we clearly define the broad **goal** of our research to explain what we’re testing, why we’re testing it, and who we’re testing it for (i.e., primary problems for your primary persona). Goals provide an overview of your research and what we hope to get out of it. For example:

* The goal of this study is to assess the learnability for new users interacting with the travel application for the first time on mobile and desktop. We would like to observe and measure if users understand the project, its value, and how to complete basic initial functions such as logging in and searching for/navigating to a desired travel experience.

Once we’ve defined the overall goals of our research, zoom in and outline the specific test objectives, including the specific features we’re testing (e.g., login screen, search bar, or navigation buttons, etc.). **Test objectives** are more specific than goals and highlight the particular features we’ll be testing in order to achieve our test goal. For each feature, make sure to pose a few research questions you’d like to answer with your usability tests. Try to highlight only the most important objectives, keeping the number (ideally) under five. It’s nearly impossible to conduct effective research without concentrated focus on just a few specific goals. You may want to start with the features you identified as being particularly important in the previous Exercise. Here are some questions to consider when outlining your test objectives:

* What are the specific goals of your research based on your internal audience, external customers, and current state of the project?
* What components of usability are important to your project at this stage (useful, usable, desirable, accessible, credible, findable)?
* What specific questions will be answered by conducting this research?
* What hypothesis will be tested?

Let’s take a look at a few test objectives with their associated research questions:

1. Measure how quickly participants are able to log in, as well as if there’s any hesitation to providing personal information.
   * How fast can people log in?
   * Do people seem anxious about providing personal information?
   * What are the most common errors users make when entering data?
2. Find out if participants can easily locate the search function.
   * Can participants easily find the search?
   * Do the search results meet their expectations?

Goals and test objectives for your project should be fairly straightforward as you’ll be testing only the first iteration of your prototype (and you’ll be conducting your tests alone). When working on a large project with many people, however, it becomes all the more important to discuss your research goals with everyone on your team. Meet with your team to identify the big questions and areas of interest, making sure to tease out business goals and technical requirements/constraints to give purpose and direction to your research. This is a good time to review the BRD (business requirements document) for your project to ensure you’re testing the features most critical to meeting the business objectives and functional requirements laid out by the initial project team.

You’ll also want to determine the audience for your research. Your target audience will influence the goals in terms of the results you’ll want to deliver. Who are the stakeholders? Product managers? Marketing specialists? Engineers? Other designers? You need to have a clear understanding of *who* you’re researching for. It’s entirely possible that the most important audience will turn out to be yourself (or other designers), but be sure to meet with and include the considerations, goals, and input of others in your research plan. Even the most brilliant research into human behaviors and attitudes won’t matter in a business setting if it’s not financially viable or technically feasible.

REVISITING YOUR SUCCESS CRITERIA  
Remember your personas and problem statements? This would be a great time to revisit them and add success criteria to your hypothesis statements. **Success criteria**simply define a measurable outcome or qualitative insight you can use to deem something successful (or not). Your success criteria, problem statements, and user stories will help you narrow down your focus to only the most important features you need to test. Let’s go over a few ways to add success criteria to your hypothesis statements:

Success Criteria Format:

* **We will know** [hypothesis] **to be true when** [we see this feedback/qualitative insight/quantitative measurement].

Example:

* We will know that our hypothesis stating that a download button in the navigation bar for a guide would be effective is true when 90% of test participants can complete the task: download a guide for offline use.

Participant Information

As mentioned above, it’s important to clarify a number of things about your participants—how many there will be, who they are (in terms of any special characteristics necessary to run the test), and how you plan to recruit them.

Let’s start with how many. According to Jakob Nielsen, “elaborate usability tests are a waste of resources. The best results come from testing no more than five users and running as many small tests as you can afford.” After extensive research, Nielsen noticed the diminishing returns of testing a high volume of participants. The percentage of “usability problems found” increases at an exponential rate until flattening out somewhere between three and six participants, suggesting that this range is the most efficient in gaining valuable insight without expending inefficient energy or resources.

The study doesn’t say there’s *no* value in testing more people; it simply acknowledges that, given the lack of time and resources that most people and businesses have, this is the most efficient way to allocate your resources. If you have enough time and money to test 15 people, for example, you’re better off conducting three tests with 5 people each rather than one test with all 15 people.

TIP!  
For more information regarding how many participants you should use, read up on Nielsen’s findings: "[Why You Only Need to Test with 5 Users](https://www.nngroup.com/articles/why-you-only-need-to-test-with-5-users/)."

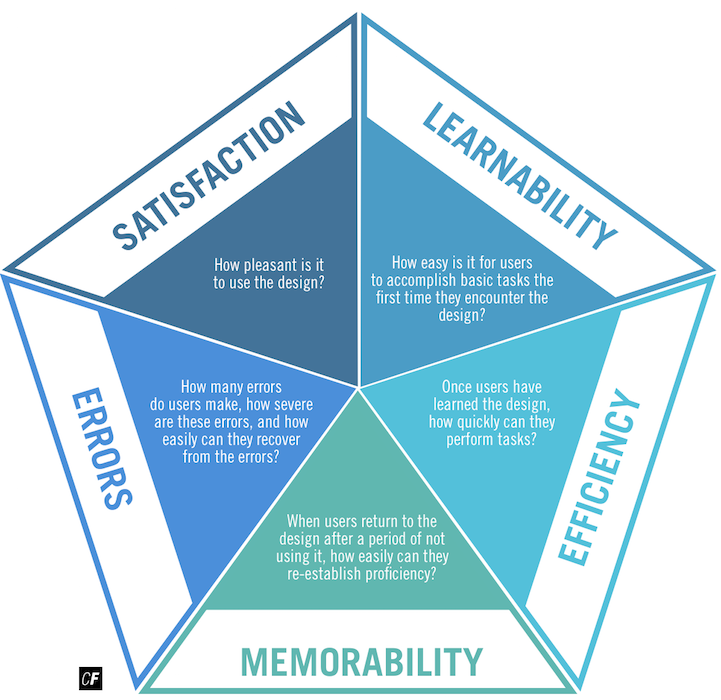
As for the rest of the participant information, it’s important to think about whether you need participants with unique characteristics. This will, of course, depend on whether you’re testing for raw functionality (does the app work the way it’s intended) or something more dependent on context and specialized knowledge. No matter your testing purpose, however, it’s important that you locate participants different from yourself that can provide unique perspectives on your designs.

Luckily, we already spent the first Exercise of this Achievement planning the recruitment for your usability test, so you’ll be able to refer back to your previous work and use it to fill out this section of your test plan.

Metrics

“If you can't measure it, you can't improve it.”  
PETER DRUCKER, RENOWNED MANAGEMENT CONSULTANT, EDUCATOR, AND AUTHOR

The definition of usability is short and sweet—how easy and pleasant an app or site’s features are to use. Simple, right? Improving usability isn’t rocket science, but creating usability is often more complex than the short definition indicates. Do you remember when we mentioned Jakob Nielsen’s **Five Components of Usability** in the Fundamentals Course? In that introductory course, we only had time to focus on one of the components—errors. Now, however, we’ll go over all five of the components for an in-depth look at how they shape our test results and test report.



Let’s take a look at each of these components in turn and discuss how to measure them. **Learnability**, **memorability**, and **efficiency** require careful recording, a large sample size, and, in the case of memorability, a repeated test with the same participant. As your project is fairly small compared to some of the large-scale, team-based projects in which you’ll no doubt participate in the future, you’ll once again be focusing on **errors** for the purpose of your project (for a challenge, you can also measure **satisfaction**), but we’ll still be discussing the other four components in detail for future tests later in your career.

Learnability

**Learnability** refers to how easily users can accomplish basic tasks the first time they encounter a design. If you’re creating a flashcard app, for example, you might ask users to add a new flashcard to a study deck and measure how easily they can accomplish the task. Learnability is especially important when exploring new features and functionality or experimenting with novel technology.

Learnability can be measured by looking at success rate. Success rate measures the percentage of tasks that users complete correctly. You’ll rank the task completion for a given task as **S** (success), **F** (failure), or **P** (partial success). Use the below equation to calculate your success rate percentage:

**(S + (P x .5)) / total number of task attempts = Success Rate %**

For example, if you collected 32 task attempts, 16 were a success (S), and 8 were a partial success (P), then your equation would look like this:

**(16 + (8 x .5)) / 32 = 62.5% Success Rate**

Efficiency

Once users have learned the design, how quickly can they perform tasks? That’s where efficiency comes into play. In 2001, Jeffrey Zeldman wrote the **Three-Click Rule**, stating that a user of a website should be able to find any information with no more than three mouse clicks. While there was certainly merit to Zeldman’s research, times have changed since 2001, and calculating efficiency for digital products and services has become much more than simply “counting clicks.” It’s also important to focus on issues such as your users’ mental models and the emotional impact and cognitive load involved in completing specific tasks.

Efficiency is measured by **time on task**—the average amount of time it takes for participants to complete a given task.

Memorability

When users return to a design after a period of time not using it, how easily can they re-establish proficiency? **Memorability** is an especially useful component to understand when designing something for occasional use. For example, if you’re creating a product or service to help companies report their monthly expenses and you anticipate extensive use only one day a month instead of daily, you need to make sure your design is intuitive enough that your users won’t have to relearn complex tasks every month.

Memorability is trickier to measure because it requires revisiting a task with the same participants more than once. You’ll benchmark memorability using both your “success rate” (learnability) and your “time on task” (efficiency) over time. To do this, follow up with the same participants multiple times to measure the difference in the success rate and average amount of time on task when they revisit your prototype. Following up with participants to measure memorability is not required for your project, but feel free to explore it if you have participants willing to volunteer time for an additional test.

Errors

How many errors do users make, how severe are these errors, and how easily can they recover from the errors? Errors in technology, design, and life are inevitable. Having said that, error correction and prevention is critical to the success of any product or service. Later on in our test report, we’ll look more closely at how to catch and classify errors based on their importance to address the most critical design failures before they negatively affect people.

There are various ways to categorize and rank the severity of errors, but for consistency and clarity’s sake, we’ll refer to an adapted version of Jakob Nielsen’s rating scale—one of the most commonly used metrics for usability errors. We recommend that you use this scale in your test:

* **0** = I don't agree that this is a usability problem at all
* **1** = Cosmetic problem only: need not be fixed unless extra time is available on project
* **2** = Minor usability problem: fixing this should be given low priority
* **3** = Major usability problem: important to fix and should be given high priority
* **4** = Usability catastrophe: imperative to fix before product can be released

ERROR PREVENTION CAN SAVE LIVES  
In some cases, it’s not hyperbole to say that error prevention could mean the difference between life and death. Bad design is especially prevalent in mission-critical environments. Don’t believe it? Take a moment to read about "[How Bad UX Killed Jenny](https://medium.com/tragic-design/how-bad-ux-killed-jenny-ef915419879e#.q7s3u3eko)."

Satisfaction

How pleasant is it to use the design? This is measured by your product’s satisfaction. **Satisfaction** can be one of the hardest components to measure, quantify, and report. That being said, there are a few qualitative and quantitative methods that can help us understand customers’ satisfaction—satisfaction surveys and follow-up questionnaires.

While some questionnaires are more popular than others, all attempt to gauge and quantify a participant's satisfaction from an emotional or functional standpoint. If you want to explore more, check out Jeff Sauro's article, "[8 Ways To Measure Satisfaction (and Improve UX)](https://conversionxl.com/8-ways-to-measure-ux-satisfaction/)." We’ll also be covering this more in-depth in the next Exercise when you put together your usability test script.

In summary, metrics can be useful, but don’t get bogged down in endless data and spreadsheets. By all means, use data, but do so wisely, and don’t forget to focus on the test participant’s qualitative feedback. As Jakob Nielsen explains in “Success Rate: The Simplest Usability Metric”: “The true purpose of usability is to set the design direction, not to generate numbers for reports and presentations.”

TIP!  
It’s up to individual companies and project teams to design their own framework for measuring experience and success. Google has a handy framework called “HEART.” Read more about it in this handy interactive article: "[How to Choose the Right UX Metrics for Your Product](http://www.dtelepathy.com/ux-metrics/#intro)."

Test Driving Your Test Plan

Test plans help designers define the focus, scope, and logistics of carrying out a usability test and are a critical part of the testing process. That being said, it’s impossible to write the perfect test plan the first time. Keep in mind that just as you do with your design itself, you should employ iterative design techniques in your test plan to keep it updated along with your tasks and script. For that reason, it might be a good idea to test drive your test plan with other members of your team or internal stakeholders to ensure there’s a common understanding of the test objectives.

Here are a few situations in which it might be important to put your test plan to the proverbial test:

* If you still have questions about the types of people you should recruit, logistics, or goals of the test.
* If you’ve spent a lot of time and/or money recruiting participants from your target audience. It can be time consuming and expensive to find participants, so it’s a good idea to spend a little bit of time up front to make sure you get the most out of your usability tests.
* When you’ve invited stakeholders to observe the test. The more people involved, the more important it is not to waste people’s time with preventable logistical errors.

Summary

In this Exercise, we expanded on what we learned in Fundamentals by discussing the components of a complete usability test plan, including the scope, goals, and logistical details of the entire test. One of the most important functions of the usability test plan is to define, clarify, and communicate the goals and test objectives of the test to ensure it’s best meeting the needs of both the project and business. A poorly organized test is not likely to produce useful data, after all, and will only end up a waste of time and resources. We also touched once more on Jakob Nielsen’s Five Components of Usability and how they can be used to define metrics that calculate the usability of a design. Now, then—are you ready to take everything you’ve learned and finish up your own complete usability test plan?

Resources

* [Designer Biases and Usability Testing](https://www.newfangled.com/avoiding-bias-in-usability-testing/)
* [How to Get The Happiness Score of Your Users](https://usabilityhour.com/measure-ux/)
* [Example Usability Test Plan for Wikipedia Test](https://euniceelsie.files.wordpress.com/2012/03/usability-test-plan.pdf)
* [The 1-Page Usability Test Plan](http://www.userfocus.co.uk/articles/usability_test_plan_dashboard.html)
* [Checklist for Planning Usability Studies](https://www.nngroup.com/articles/usability-test-checklist/)
* [8 Ways to Measure UX Satisfaction](https://conversionxl.com/8-ways-to-measure-ux-satisfaction/)
* [Success Rate: The Simplest Usability Metric](https://www.nngroup.com/articles/success-rate-the-simplest-usability-metric/)
* [Testing Guides from UsabilityHub](https://usabilityhub.com/guides?utm_source=UsabilityHub+Customers&utm_campaign=4100badacc-Monthly_Email_May_2017&utm_medium=email&utm_term=0_23bdfd0b30-4100badacc-171640813)
* [Example Tests from UsabilityHub](https://usabilityhub.com/examples?utm_source=UsabilityHub+Customers&utm_campaign=4100badacc-Monthly_Email_May_2017&utm_medium=email&utm_term=0_23bdfd0b30-4100badacc-171640813)

Take the quiz to test your knowledge on this Exercise.

Take Quiz

Task

* [DIRECTIONS](https://careerfoundry.com/en/steps/test-plan#directions)
* [SUBMISSION HISTORY](https://careerfoundry.com/en/steps/test-plan#step_submission_history)

 Estimated Task Time: 3 Hours.

Ready to craft your very own usability test plan? Remember, the goal is to keep things simple and concise. You can refer to the [Triply Test Plan](https://s3.amazonaws.com/coach-courses-us/public/courses/ux-immersion/A4/4.3/4.3UsabilityTestPlan-TriplyDemo.pdf) as an example to get you started.

**Directions**

1. Refer to the work you’ve already done in this Achievement to write up a usability test plan. It should be no more than 2 pages long (keep it concise). If your plan exceeds 2 pages, focus your goals and scope or edit your wordings to bring it under 2 pages. Make sure each of the following components (explained in the Exercise) are included in your test plan:
   * Introduction
   * Background
   * Goals
   * Test Objectives
   * Methodology
   * Participants
   * Schedule
   * Sessions
   * Equipment
   * Metrics (for the purpose of this Task, you only need metrics for classifying errors; however, feel free to use additional metrics should you so choose)
2. Include spots for your test script and test tasks. We’ll be focusing on these two sections in the next Exercise, so simply write “TBD” in these sections for now.
3. Save your usability test plan as a PDF file and upload it here. Feel free to share additional thoughts or ask questions in the submission box.

**Bonus Tasks**

* Include metrics other than errors to benchmark success in your usability test plan. Refer to the “Five Quality Components of Usability & Usability Metrics” and outline metrics for your project. Explain your rationale as to why these metrics will help you make design decisions for your project in the future.
* Test drive your test plan! Run a pilot study to help fine-tune and revise your tasks and logistics necessary to complete a successful usability test. Revise your usability test plan based on any discoveries you make.