

Foundations of User Experience

This course will cover:

- Learning how to empathize with users and define their problems.
- Creating wireframes, mockups, and prototypes.
- Conducting research to get feedback about your designs.
- Designing with accessibility and equity in mind.

The tools required:

- Figma
- Adobe XD

By the end of the course you will have created

- 2 mobile apps
 - 2 responsive web apps
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I. Designing a User Experience

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User experience is how a person feels about interacting with a product or feature.

- Think about how everyone would use a product.
- Designs must be equitable to those with diverse backgrounds and abilities.
- Designs should be enjoyable.

There are many different kinds of UX designers:

- Interaction designers,
 - Focus on designing the experience of a product and how it functions. ***They figure out how to connect the users' needs and the business's goals with what's actually feasible to build.***
- Visual designers
 - Focus on how a product or technology looks. They might be responsible for designing logos, illustrations, or icons. They may also decide font color and size, or work on product layouts.
- Motion designers
 - Think about what it feels like for a user to move through a product and how to create smooth transitions between pages on an app or a website.

Product Development Lifecycle

Process used to take a product to reality.



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Five stages

1. Brainstorm

- a. Active discovery stage that is all about generating ideas about the user and potential needs or challenges the user might have.
- b. Research plays a key role in this first stage because you're exploring different ways to get to know the audience you're designing for. UX researchers and writers are often heavily involved in this stage, where the team might conduct interviews with potential users or conduct other research.

2. Define

- a. Determine concrete ways that the product will impact a user.
- b. The goal is to figure out the specifications for the product by answering questions like:
 - i. Who is the product for?
 - ii. What will the product do?
 - iii. What features need to be included for the product to be successful?
- c. Statements that outline the goals or any problems that will be solved with design are set in the focus of the define step.

3. Design

- a. Creating assets like storyboards that help explore user experiences, wireframes for content layout, and prototypes.

4. Test

- a. Evaluate product design based on feedback from potential users.
- b. Three phases of testing
 - i. Test the product internally to look for glitches and usability problems
 - ii. Test with stakeholders to make sure the product is aligned with the goals of the stakeholder.
 - iii. Test with potential users to determine how good of a user experience the app provides.
- c. ***Gathering feedback at this step is crucial.***
- d.

5. Launch

- a. Deployed app / releasing to users.
 - b. Hotwash of the PDLC.
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Characteristics of a Good User Experience

Well designed apps save space on a screen by using icons.

1. Usable

- a. Is everything in the design easy to find?
- b. Is the design's functionality easy to understand?
- c. Can users accomplish specific tasks within the design?

2. Equitable

- a. Are the needs of a diverse group of users considered?
- b. Does the product's design address the needs of traditionally underrepresented and excluded groups?

3. Enjoyable

- a. Are there aspects of the design that consider the user's feelings?
- b. Does the design inspire delight in the user?
- c. Does the design keep the user engaged throughout their experience?

4. Useful

- a. Does the design add value to the user's experience?
- b. Does the design solve a problem for the user?
- c. Does the design help the user achieve a specific goal?

Responsibilities of UX Designers

Start by asking what are the issues going on within a given product, or why are we even looking to improve or introduce this feature?

User research: User research is about understanding the people who use your product. Through research, you'll learn about users' backgrounds, demographics, motivations, pain points, emotions, and goals. Your research methods might include surveys, observations, and interviews.

Information architecture: Information architecture, or IA for short, involves deciding how your product is organized and structured. Think of IA as a skeleton that outlines how users interact with your product. Everything in your product should be organized in ways that make sense to the user and meets their expectations.

Wireframing: A wireframe is a basic outline or sketch of a product or a screen, like an app or website. As the name suggests, wireframes look like they were created with wires. They're mostly lines and shapes, with some text. Wireframes can be drawn by hand or created digitally using software. Wireframing helps you bring your design ideas to life, so other people on your team can provide input and feedback.

Prototyping: A prototype is an early model of a product that demonstrates its functionality. Prototypes can be in physical or digital formats and can vary in complexity. Sometimes a prototype is made to demonstrate one specific feature of a product, like the transition between screens or the way the product physically looks and feels.

Visual design: Visual design focuses on how the product or technology looks. As a UX designer, you need to understand the foundations of visual design in order to communicate the connection between a product's functionality and its appearance to users.

Effective communication: Effective communication as a UX designer means connecting with your colleagues through emails, meetings, presentations, and design software. UX design is a very collaborative field, so being able to communicate both digitally and face-to-face with teammates is important. You need to be a good listener, be receptive to feedback, and share your ideas in a clear way.

User Centered Design

User-centered design puts the user front and center. Focusing on the user means considering their story, emotions, and the insights you've gathered about them. To keep our focus on the user, the user-centered design process has four steps:

1. **Understand** how the user relates to similar products.
2. **Specify** the end user's needs.
3. **Design** solutions that meet the user's needs.
4. **Evaluate** your design against the user's needs.

Consider the following

Users with impairments or disabilities. Think about inclusive product features that increase magnification, like enlarged fonts. Or features that help everyone understand videos, like closed captions.

How familiar are users with the technology

Offline experience and the experience with a slow or laggy connection.

Assistive Technology

- High contrast makes the interfaces easier for people to see
- Color modification also help adjust the screen for different lighting conditions.
- Alt text can be used for context when an image fails to load and when a user has vision impairments.

Designing for Different Platforms

As more people gain access to the internet, a majority of them are using mobile devices to do so. This places a lot of responsibility on responsive design which allows a website to change automatically depending on the size of the device.

Best practices:

1. Call to action buttons should be placed front and center
2. Navigation menus should be short and simple. They should only highlight the core functions of the product.
3. Use Gestures that users are familiar with such as tapping and swiping.
4. Design for both directions a phone might be held.
5. Reduce visual clutter

Design Sprints

Google recommends using a full eight hour day for each phase of the design sprint.

Design sprints are time bound processes with five phases that are typically spread out over the course of a week. The goal of a design sprint is to solve a critical design challenge through prototyping and testing ideas with users. There are five main phases in a design sprint:

Understand phase sets the sprint on the right track by uncovering pertinent information related to the challenge through conversing with experts from different teams. Everything that the team does during the sprint and in this phase should focus on the needs of the user.

Ideate phase is where people in the sprint take time to generate ideas and build off of them with sketches. It's also a good idea to begin thinking about user testing in this phase.

Decide phase is where the team discusses each possible solution generated in the ideate phase and selects one to move forward with.

Prototype phase does not need a finished product - just something we can test with users. During this phase, you also finish prepping for user testing by confirming the test schedule, finalizing interview questions, and making sure your prototype is good to go.

Test phase involves observing users and interviewing them about their experiences.

To help determine the need of a design sprint, ask yourself these questions

- Are there many potential solutions to your design challenge?
- Does a design challenge require people from cross-functional teams to weigh in?
- Is the design challenge's scope wide enough for a sprint?

Planning Design Sprints

The first step of planning a design sprint is researching the problem that the sprint is trying to solve. It is a good idea for the sprint leader to bring in experts, colleagues, or industry experts in this phase to help clarify the focus of the sprint. Choosing the location of the sprint, and providing a few basic supplies to help facilitate the meeting is also instrumental in setting up a good sprint. Would you want to work in a stuffy room with no food or drinks and you had to bring your own material? Probably not. Don't set up your sprint team in a room that is underprepared.

Prior to meeting with the team officially, create a **sprint brief** to share with the attendees so that everyone can prepare for the sprint. This document should have a section that covers the sprint objectives, the key deliverables for the sprint, names of people who worked on the sprint, a list of resources that can inform or support work needed for the sprint, and any approval sign offs (if necessary). Include a section for the **project overview** to explain the current status of the project and call out any potential roadblocks.

Sprint Retrospective

The retrospective is a collaborative critique of the team's design sprint. They are usually meetings held immediately following the sprint so that everyone's thoughts are fresh. Retrospective meetings don't have any particular agenda. The goal is to make sure everyone who took part in the sprint has a chance to give feedback. The two key questions we aim to answer in the meeting are: "What went well?" and "What can be improved?" The person who led the sprint will guide the conversation, and someone will take notes so that the team can use the feedback to make the next sprint even more productive.

Questions to ask during the 'what went well' portion of the retrospective:

- Which tools saved you the most time and effort?
- When did you feel the most satisfaction?
- What helped you make your best contribution to the team during this sprint?

Questions to ask during 'what went wrong' portion of the retrospective:

- What went wrong that caught you off guard?
- Which problems came up the most often?
- When do you think we experienced the biggest challenge as a team?

User Experience Research

UX research focuses on understanding user behaviors, needs, and motivations through observation and feedback. Your product design should be built upon research and facts, not assumptions. UX research aligns what you, as the designer, *think* the user needs with what the user *actually* needs. There are three types main types of user research:



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Foundational Research is typically done before anything is actually designed. This form of research informs the following questions:

1. What should we build?
2. What are the user problems
3. How can we solve them

The goal of foundational research is to help define a problem the problem that we are designing a solution for.

▼ Common foundational research methods

- **Interviews:** A research method used to collect in-depth information on people's opinions, thoughts, experiences, and feelings. You'll often conduct interviews of your target users themselves.
- **Surveys:** An activity where many people are asked the same questions in order to understand what most people think about a product.
- **Focus groups:** A small group of people whose reactions are studied. For example, your focus group might bring together eight users to discuss their perspectives about new features in your design. A focus group is usually run by a moderator who guides the group on a certain topic of conversation.
- **Competitive audit:** An overview of your competitors' strengths and weaknesses. You'll conduct your own competitive audit later in the course, so you will understand this research method well!
- **Field studies:** Research activities that take place in the user's context or personal environment, rather than in an office or lab.
- **Diary studies:** A research method used to collect qualitative data about user behaviors, activities, and experiences over time. Often, a user will log, or diary, about their daily activities and provide information about their behaviors and needs, which can help inform your designs.

Design Research is typically done during phase 3 of the PDLC. It informs the following questions:

1. How should we build it?
2. Questions for users
 - a. How was your experience using the prototype?
 - b. How easy or difficult was it to use? Why?
 - c. Did you encounter any challenges?

The goal of design research is to inform how the product should be built.

✓ Common design research methods

- **A/B testing:** A research method that evaluates and compares two different aspects of a product to discover which of them is most effective. For example, you might have users evaluate two layouts for the homepage of your app to find out which layout is more effective.
- **Cafe or guerrilla studies:** A research method where user feedback is gathered by taking a design or prototype into the public domain and asking passersby for their thoughts. For example, you might sit in a local coffee shop and ask customers if they would be willing to test your app design for a couple of minutes and provide feedback.
- **Card sorting:** A research method that instructs study participants to sort individual labels written on notecards into categories that make sense to them. This type of research is largely used to figure out the information architecture of your project, which we'll discuss in the next course of the program — Course 3: Build Wireframes and Low-Fidelity Designs.
- **Intercepts:** A research method that gathers on-site feedback from users as they engage in the activities being researched. Intercepts are often conducted in the field, so this type of research is often considered a subset of field research. An intercept study can provide quick, high-level feedback.

Post-launch Research happens at the end of the PDLC and is used to evaluate how well a feature meets the users needs. The goal of post launch research is to understand how users experienced the product, and whether the experience was good or bad

Use the following methods in the following scenarios to determine which research methods to use.

Usability studies help you see how users interact with a product first-hand, but often require time and a large budget.

Surveys help you collect qualitative and quantitative feedback from a large sample size of users. They're quick and affordable.

Secondary research relies on data from books, articles, and independent studies to back up your own primary research.

Interviews help you collect in-depth information on user opinions, experiences, and feelings, but often require a long timeframe and large budget.

Identify Biases in UX Research

While conducting research, it's important to use words that don't lead the user in one direction or another. When asking users questions about their experience using your product, you don't want them to answer in a particular way just to please you. Choosing leading words can cause the **framing effect**, where users make a decision or choice based on the way information was presented to them.

Group interviews can be affected by the **bandwagon effect**, or going along with the group's opinion instead of thinking creatively, which can discourage open discussion by people who have an opinion that doesn't align with the majority of the group. To combat the bandwagon effect, ask participants to write down or record their thoughts before discussing as a group.

Seven kinds of biases: confirmation bias, false consensus bias, primacy bias, recency bias, implicit bias, the sunk cost fallacy, and availability bias..

Confirmation bias occurs when you start looking for evidence to prove a hypothesis you have. It's easier to be drawn to information that confirms your beliefs and preconceptions. Ask open ended questions and actively listen when conducting interviews. This allows the person being interviewed to answer freely without a simple yes or no.

Consensus bias is the assumption that others will think the same way that you do. This happens in UX design when we over estimate how many people will agree with an idea or design. To avoid this bias, identify and articulate your assumptions.

Recency bias is explained by a designer remembering the last thing that was heard in an interview, conversation, or similar setting because it's the most recent. To fight recency bias, take detailed notes or recordings of each conversation for reviewing.

Primacy bias occurs when researchers remember the first person they interview out of the group.

Implicit bias or unconscious bias is a collection of attitudes and stereotypes we associate to people without our conscious knowledge. One of the most common forms of implicit bias in UX is when we only interview people within a limited set of identity profiles, such as race, age, gender, socioeconomic status, and ability.

Sunk cost fallacy is the idea that the deeper we get into a project the harder it is to change course without feeling like we have failed or wasted time. To avoid the sunk cost fallacy, break down your project into smaller phases, and then outline designated points where you can decide whether to continue or stop. This allows you to go back based on new insights before the project gets too far along.

Availability bias occurs when you rush the user recruitment process or skip screener questions to attract a bigger pool of users, even if they don't fit the qualifications or characteristics that you've already determined are present in your ideal user.