

THE USER EXPERIENCE TEAM OF ONE

A Research and Design Survival Guide

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CHAPTER 1



UX 101

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Talking about user experience (UX) can be a bit like looking at an inkblot test: whatever matters the most to you ends up being what you see. People find their way to the field of user experience through a variety of pathways, and they naturally apply their own lenses in how they think about and describe the work of UX. This chapter will attempt to balance out the picture by giving you a simple definition of user experience to work with, a little more information about where it comes from, and an understanding of how it's different from other fields.

Defining User Experience

User experience is a famously messy thing to describe. Many people have offered their own definition, and yet no single one has prevailed as the clear favorite. UX, it turns out, is a controversial concept. This is probably because “user experience” is a general term that describes not only a professional practice, but also a resulting outcome. **To be a user experience designer means to practice a set of methods and techniques for researching what users want and need, and to design products and services for them.** Through good UX, you are trying to reduce the friction between the task someone wants to accomplish and the tool that they are using to complete that task. The resulting user experience that someone has is determined by a multitude of factors so vast that no one person, team, or even technology can claim to be responsible for it (see Figure 1.1).

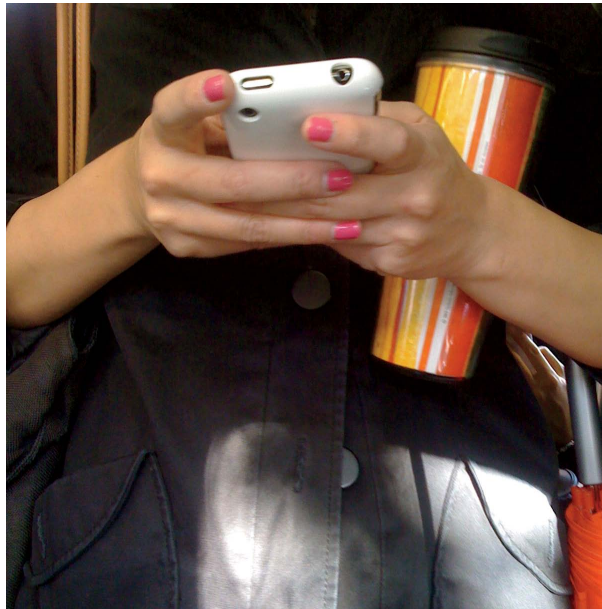


FIGURE 1.1
Often, the term *user experience* refers to the encounters that people have with digital products, like software or a Web app.

In a simple working definition, you might say that a user experience is the overall effect created by the interactions and perceptions that someone has when using a product or service (see Figure 1.2). *User experience* is a fancy term for what people often describe with words like “love” or “hate”; or phrases such as, it’s “easy to use,” or “a pain in the butt.” You may recognize *user friendly* as a term that has worked its way into popular usage. For example, when someone says a product is user friendly, he is basically referring to the user experience. Given that we transact so much of our lives through technology, how easy or difficult it is to use is what really matters. And that’s what user experience is all about.

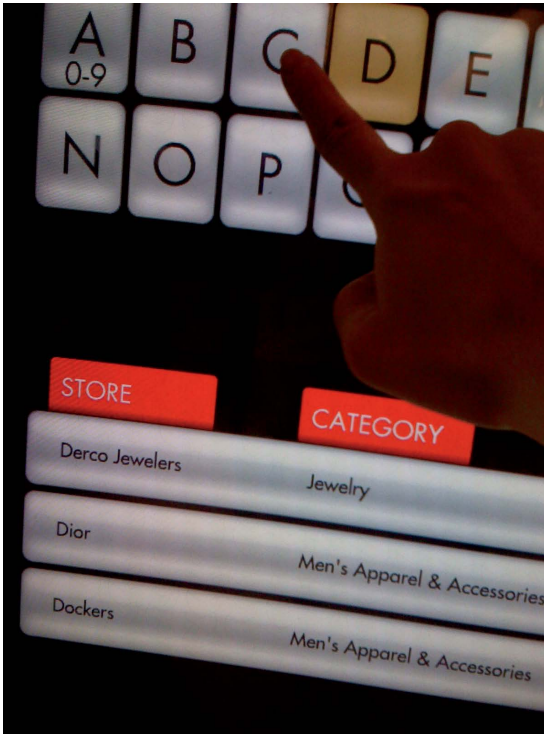


FIGURE 1.2 User experience is not just restricted to what you do on your phone or your laptop. This shopping mall directory has an interactive user experience, which impacts how easily shoppers can find what they are looking for in their physical environment.

As a field of professional practice, user experience encompasses several disciplines. The main contributors are user research and user experience design. User research is about understanding users and their needs, and user experience design is about designing a user’s interactions with a product from moment to moment. Lots of user experience professionals have one of those titles, but it’s also common to see people mixing and matching these terms into inventive but nonstandard titles like “user experience architect” or “user interaction designer.”

What's in a Name?

An alphabet soup of acronyms has been adopted as shorthand for user experience. Which one you use depends largely on what term your organization or professional community has adopted to talk about user experience. Although they vary quite a bit, all terms tend to be variations on the theme of “experience.” Among them, you’ll find: UX (user experience), XD (experience design), and UE (user experience, again). Although the acronyms differ, they pretty much mean the same thing.

Things get a little trickier when you start talking about the subdisciplines that make up UX. Being a somewhat new field, the user experience community hasn’t done a great job of standardizing its job titles yet. A quick scan of user experience job postings will unearth a grab bag of titles: UX designer, UI designer, user researcher, customer experience researcher, interaction designer, information architect, user experience architect, usability engineer, graphic designer, visual designer, Web designer, copywriter, tech writer, content strategist, design strategist—and infinite permutations on all of the above. Ultimately, these roles fall into one of just a few categories:

- **Interaction Design or Information Architecture.** Someone who designs the structure and detailed interactions of an application or product, similar to an architect. This person decides which rooms need to be in a building, how people get from room to room, and where the windows and doors are placed. Note that some people see the two roles as distinct. You could argue that interaction designers focus on screens, detailed interactions, and workflows, whereas information architects focus on information structures, controlled and uncontrolled metadata, and ultimately, findability. However, both roles share a fundamental goal: designing how a user moves through a complex information system from moment to moment. So, for simplicity’s sake, I have placed them here together.

- **Visual Design.** Someone who focuses on the visual layer of an application or product (color palette, typography, hierarchy of information, and visual elements). Although layout of screens and pages is typically considered to be the interaction designer's job, a good visual designer will also have a point of view on layout. If the interaction designer is like the architect, the visual designer is like the interior designer.
- **User Research.** Someone who conducts research into user needs and behavior. This could be qualitative (for example, one-on-one interviews with a handful of people to gain a rich understanding of their motivations and experiences). This could also be quantitative (for example, sampling large pools of people to uncover broad trends in attitudes, behaviors, pain points, and the like). The research usually spans up-front discovery of user needs all the way through to product validation and usability testing. If the interaction designer is like the architect and the visual designer is like the interior designer, the researcher is like the demographer that uncovers who really lives in this place and what important factors characterize them.
- **Content Strategy or Copywriting.** Someone who thinks strategically about the role of content across the entire product. This person considers what messages are being delivered to users, how the language should be framed, what the voice and tone of the product is, and how and when the content will be created (and by whom). This person makes sure that all in-product content is consistent, on-brand, and contributes to a unified experience. Basically, the content strategist sets the tone for the tenor of conversations that take place here. What topics do people talk about? What's the local dialect? What stories get told? How do the people who live here ultimately communicate with each other?

Most UX teams of one act as generalists, blending some or all of the above roles together. If you see the title *user experience designer*, it's usually one of those catchall roles.

But there are other disciplines that certainly contribute to the resulting experience that a user has with a product, even if they may not fit as snugly into the job description of a user experience designer. These disciplines include visual design, content strategy, copywriting, business analysis, product management, project management, analytics, search engine marketing and optimization, brand marketing, and even engineering. In this field, there are lots of heated discussions about who gets to claim ownership of the user experience. Without fueling the flames, let's just say that for the purposes of this book, if you do *any* of these things, you're contributing to the user experience of your product, and this book is for you.

An Example

Personally, I think it's easier to understand UX when you think about what it's like to actually use a product. For example, right now I'm sitting in front of my computer, hopping around within the operating system and keying from my word processing program to my email program to my music program. My perception of each of those programs is impacted by how it looks, how it functions, and how well it serves its purpose in the personal need that it satisfies. (Helping me write a book; managing my personal and professional communications; and listening to some tunes that keep me tapping my feet as I work, respectively). In any of these programs, a thousand little decisions were made by someone—or more probably, many “someones”—to create what I experience as the flowing, seamless experience of working (see Figure 1.3).

And that's just the software. My user experience is also impacted by the physical hardware of my computer: How big and bright the screen is, and whether it feels like “enough” to help me effectively use the hodgepodge of programs for which this laptop is intended. The tactile feel of the touchpad as I scroll down long Web pages. The satisfying clickety-clack of fingers tapping their way across the keys. These are all user experiences, too.

And what about the products and services that are connected to my laptop? Recently, I set up an in-home music system that integrates wirelessly with software that I run on my computer and my mobile phone. I can control the volume from an app on my phone and watch the volume level change on my computer while I hear the music get quieter or louder on the speakers in the other room. This is great execution on the part of the music system manufacturer. But it also casts a warm glow back on my laptop and my mobile phone, for being well designed to support such integration. Sometimes, a user's perception of the product is beyond the control of any one manufacturer. It's the cumulative effect of many (see Figure 1.4).

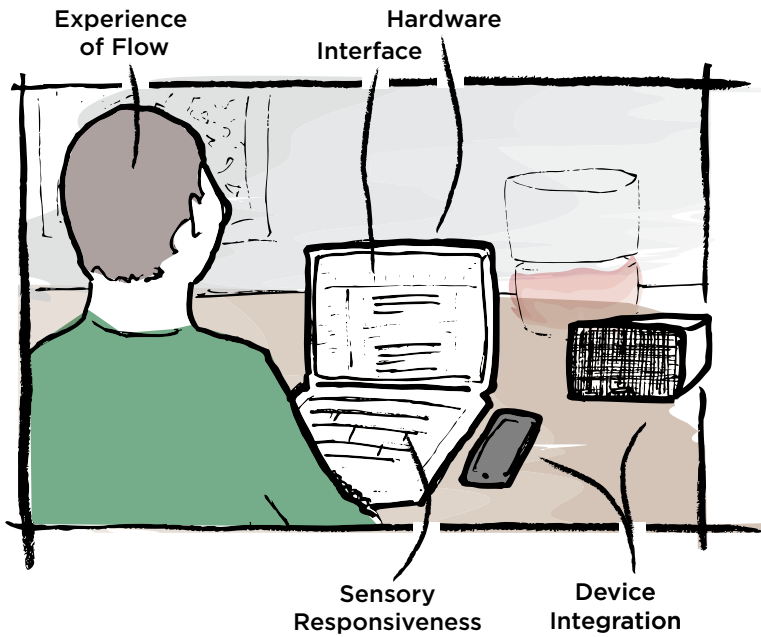


FIGURE 1.3

A user's experience is the cumulative effect of many factors, some that you can control, and some that you can't.

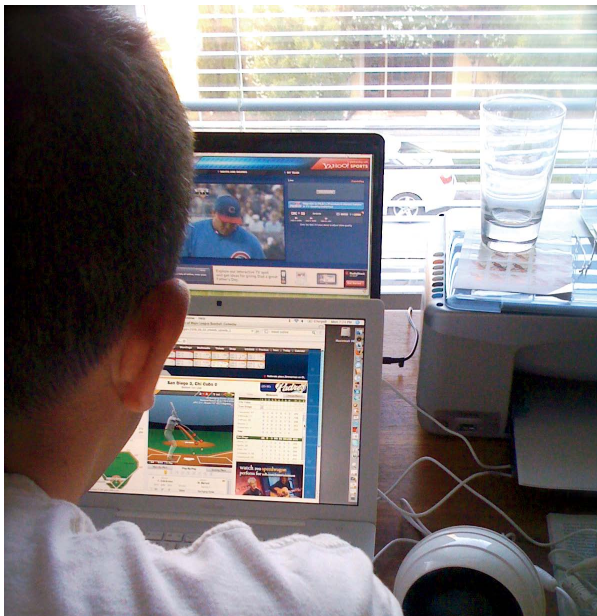


FIGURE 1.4

In the absence of better alternatives, users will try to hack together their own solutions, as this baseball fan has. But the companies who make the products that we love do a better-than-average job thinking about the complexities of the user experience.

Where UX Comes From

As a team of one, knowing the history of user experience helps you reassure people that it's not just something that you dreamed up in your cubicle. If I were to sum up the history of UX in a few short sentences, it might go something like this: **villains of industry seek to deprive us of our humanity. Scientists, scholars, and designers prevail, and a new profession flourishes, turning man's submission to technology into technology's submission to man** (see Figure 1.5). Pretty exciting stuff.

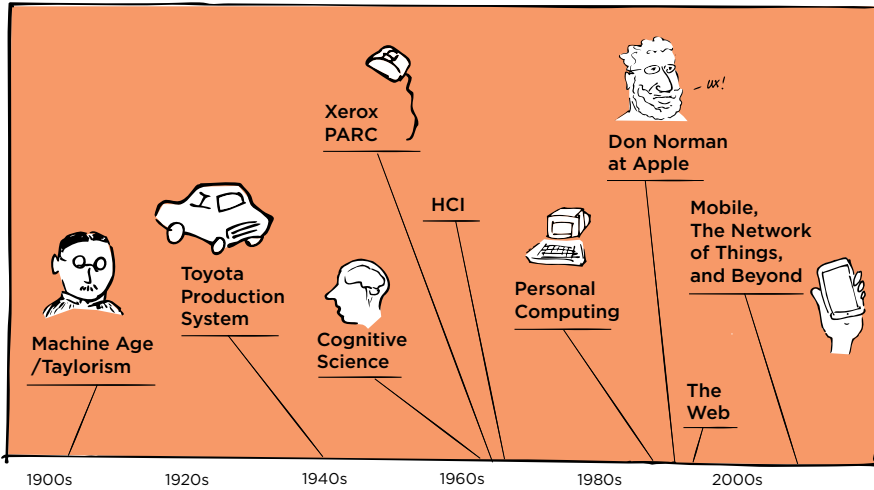


FIGURE 1.5

UX has a long and storied history that intersects with other business, design, and technology developments that your colleagues may be familiar with.

Now here's the longer version. User experience is a modern field, but it's been in the making for about a century. To see its beginnings, you can look all the way back to the machine age of the late 19th and early 20th centuries. At that time, corporations were growing, skilled labor was declining, and advances in machine technology were inspiring industry to push the boundaries of what human labor could make possible. The machine age philosophy was best exemplified by people like Frederick Winslow Taylor and Henry Ford, who both pioneered ways to make human labor more efficient, productive, and routinized. But they were criticized for dehumanizing workers in the process and treating people like cogs in a machine. Still Taylor's research into the efficiency of interactions between workers and their tools was an early precursor to much of what UX professionals think about today (see Figure 1.6).

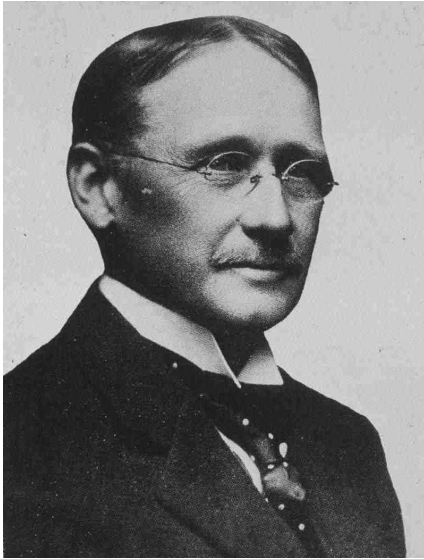


FIGURE 1.6
Frederick Winslow Taylor,
the father of Scientific
Management, pejoratively
known as *Taylorism*.

The first half of the 20th century also saw an emerging body of research into what later became the fields of human factors and ergonomics. Motivated by research into aeromedics in World War I and World War II, human factors focused on the design of equipment and devices to best align with human capabilities.

NOTE THE ORIGINS OF ERGONOMICS

In the late 1940s, research into pilot errors in the cockpit by Lieutenant Colonel Paul Fitts (who was also a psychologist) led to recommendations for the most effective organization of cockpit control knobs. Several years later, Fitts would coin Fitts's Law, one of the basic laws of physics for user experience designers. Fitts's Law states that the time required to move to a target is determined by the distance and size of the target.

By the mid 20th century, industrial efficiency and human ingenuity were striking a more harmonious relationship at places like Toyota, where the Toyota Production System continued to value efficiency, but treated workers as key contributors to a continually improving process. One of the core tenets of the Toyota philosophy was “respect for people,” and it resulted in involving workers in troubleshooting and optimizing the processes that they were a part of. As one example, workers at Toyota factories could pull a rope called the Andon Cord to stop the assembly line and give feedback if they saw a defect or a way to improve the process.

Around the same time, industrial designer Henry Dreyfuss wrote *Designing for People*, a classic design text that, like the Toyota system, put people first. In it, Dreyfuss described many of the methods that UX designers employ today to understand and design for user needs, as shown in Figure 1.7. In *Designing for People*, Henry Dreyfuss writes “when the point of contact between the product and the people becomes a point of friction, then the [designer] has failed. On the other hand, if people are made safer, more comfortable, more eager to purchase, more efficient—or just plain happier—by contact with the product, then the designer has succeeded.”

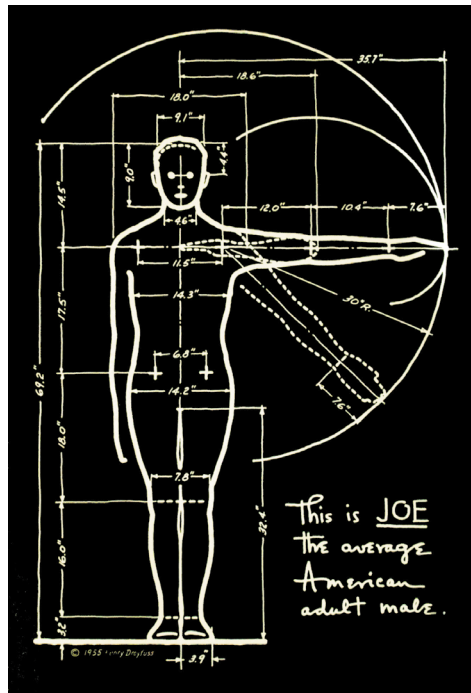


FIGURE 1.7
Dreyfuss created Joe (and a companion diagram, Josephine) to remind us that everything we design is for people.

At the same time, some interesting parallel movements were taking shape. A small handful of academics were doing research into what we now describe as *cognitive science*. As a discipline, cognitive science combined an interest in human cognition (especially human capacity for short-term memory) with concepts such as artificial and machine intelligence. These cognitive scientists were interested in the potential of computers to serve as a tool to augment human mental capacities.

Many early wins in the design of computers for human use came from PARC, a Xerox research center founded in the early 1970s to explore innovations in workplace technology. PARC's work in the mid-70s produced many user interface conventions that are still used today—the graphical user interface, the mouse, and computer-generated bitmap graphics. For example, PARC's work greatly influenced the first commercially available graphical user interface: the Apple Macintosh.

The term *user experience* probably originated in the early 1990s at Apple when cognitive psychologist Donald Norman joined the staff. Various accounts from people who were there at the time say that Norman introduced *user experience* to encompass what had theretofore been described as *human interface research*. He held the title *User Experience Architect*, possibly the first person to ever have UX on his business card. Norman actually started out in cognitive psychology, but his writing on the cognitive experience of products, including technological products, made him a strong voice to lead and inspire a growing field (see Figure 1.8). According to Don Norman, “I invented the term because I thought Human Interface and usability were too narrow: I wanted to cover all aspects of the person's experience with a system, including industrial design, graphics, the interface, the physical interaction, and the manual.”

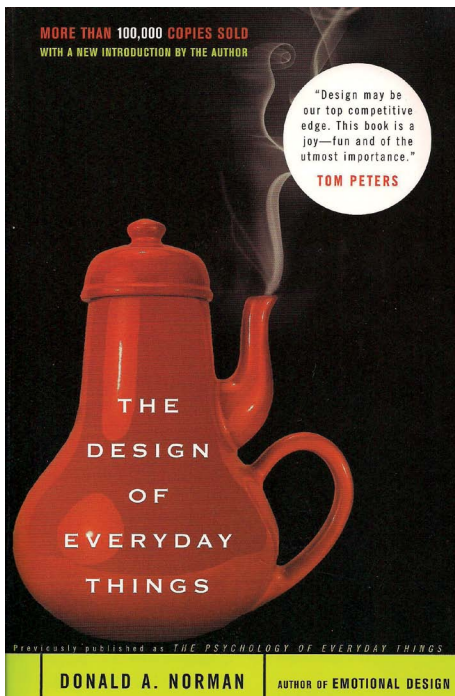


FIGURE 1.8 Norman's book *The Design of Everyday Things* is a popular text that deconstructs many of the elements that contribute to a positive or negative user experience. It's still pretty much required reading for anyone who is interested in UX.

UX and UI: What's the Difference?

You may find that the average person is more familiar with the term UI than UX. UI refers to the *user interface*, or the screen through which a person interacts with a computer or device. Because most people have used computers at one time or another and have had encounters with UIs that were both good and bad, they often have some idea of what a UI is, and why it matters. UX, on the other hand, is a more intangible concept that encompasses not just UI, but also the hardware, the user's context of use, and the user's goals and motivations. That's a lot harder to cram into one mental picture. To explain the difference to others, it can be helpful to provide a tangible example. For example, PayByPhone is a service that integrates with parking meters to solve a basic problem: paying for parking even if you don't have change. The picture on the left in Figure 1.9 is the app's user interface, or UI. The picture on the right conveys some sense of the broader user experience of needing to pay for your parking, discovering that there's an alternative way to pay, and then trying to figure out how to do it.

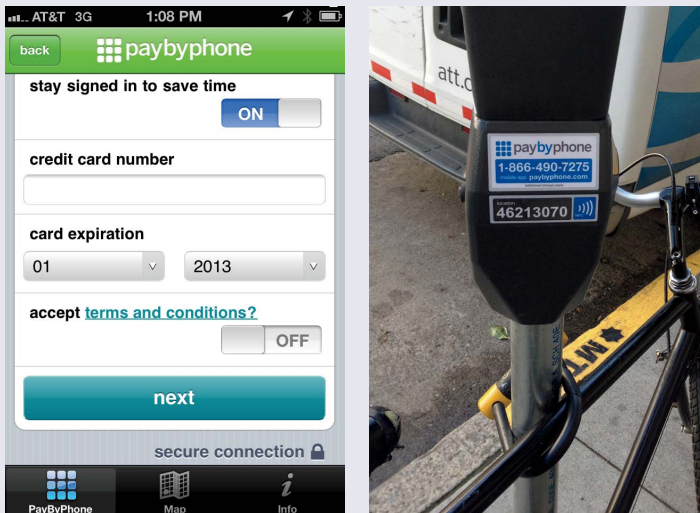


FIGURE 1.9 With the PayByPhone service, the user interface is just one part of the overall user experience.

With the rise of personal computing in the 1980s and then the Web in the 1990s, many of these trends converged on each other. Graphical user interfaces, cognitive science, and designing for and with people became the foundation for the field of **human-computer interaction (HCI)**. Suddenly, more people had access to computers and, along with it, a greater need to understand and optimize their use of them. HCI popularized concepts like usability and interaction design, both of which are important forebears to user experience. In the Internet bubble of the mid and late-1990s, new jobs with titles like “Web designer,” “interaction designer,” and “information architect” began cropping up. As people became more experienced in these roles, a deeper and more nuanced understanding of the field of user experience began to develop. Today, user experience is a rapidly growing field, with undergraduate and graduate level programs being developed to train future generations of professionals to design products for the people who use them.

Where UX Professionals Come From

The field of user experience grew primarily out of human factors and usability—both fields with very strong ties to the world of software development. As a result, people often connect UX with user interface design. This isn’t completely inaccurate, but it’s just one part of the story. Increasingly, UX doesn’t even have to involve a technical product. **Service designers, industrial designers, physical space designers, and those people who are designing for an increasingly networked world are all working on the same basic problem. How can they design flowing experiences that respect, empower, and delight real people?**

So does that mean that anyone can be a user experience team of one? Not necessarily. Certain backgrounds are better grooming for user experience than others. You’re a good candidate for user experience work if you have past experience in one or more of these areas:

- **Web or software design and development.** This is a natural one. Many of the elder statesmen of the UX world started out as Web masters or Web designers. And indeed, a big focus of their work may still be Web-oriented, depending on what type of product they work on. People with this background make good UX practitioners because they’ve probably seen firsthand how users make sense of and interact with unfamiliar designs. The fact that they know a bit about Web technologies helps, too.

- **Editing, journalism, or copywriting.** This field is also a common pathway into user experience because it is fundamentally about how people consume and make sense of content. That's true whether it's in print or digital. People with this background are naturals at thinking about the reader's needs and perspectives, which translates directly into the user's point of view. These folks also think a lot about how voice, tone, and structure influence a reader's perceptions and experiences with a medium. That's a good thing.
- **Graphic or print design.** The user experience is impacted by decisions that are made at every level of the product. But when end users think of the product, they usually think of the parts that they can see and interact with—the visible, surface level. Graphic and print designers are trained to think about how people see and respond to layers of visual information. They have the ability to create designs that convey practical information, while also evoking a desired emotional reaction. People with this skill know how to design for understanding, as well as meaning, which is a very user-centered ethos.
- **Research, sociology, anthropology, and psychology.** Understanding and empathizing with the user's perspective is a vital foundation for user experience design. People with this background know how to conduct studies or experiments to uncover what people *really* do and why. That can be harder than it seems. It's very easy for the observer to unconsciously change the behavior of the observed. But sociologists and anthropologists have rigorous methods and techniques for getting at what people really do. They also have the ability to turn a dizzying array of observations and data points into broader themes and ultimately meaning. These themes and their significance become the foundation upon which user experience design decisions are made.
- **Engineering.** Engineers and developers write the code and build the systems that make the experience real. That moment when a flat concept on a page becomes a working, functioning, interactive thing is like making life. It's incredibly rewarding. It also enables them to see and understand how it will feel and function for the end-user. And sometimes, it doesn't feel or function like they thought it would. So they iterate and adjust. Engineers are skilled at jumping back and forth between the two mindsets that make this possible: the maker's mindset and the tester's mindset. This cycle of making and adjusting *and* making and adjusting is the fundamental flow of user experience design.

- **Product management and business analysis.** People in these roles are often the bridge between many different parties who contribute to product design. Consequently, they have one of the broadest views of the ins and outs of the product. That holistic perspective often enables them to envision where the weak points are—not just from the perspective of the project plan or the business goals, but also the user experience.

How about you? If you have one of the titles listed above, you may already be doing user experience work, whether you realize it or not. Or you may have come to user experience by a circuitous path. Possibly you started out in one of these fields and are now crossing over. Whatever your origin, you are here now, and you believe that user experience matters. You understand that it makes the difference between products and services that must be suffered through, and those that delight and inspire. Now, how do you start working as a UX team of one? In the next chapter, we'll take a look and find out.

NOTE A UX TEAM OF ONE CAN COME FROM ANYWHERE

I know of one UX team of one who started out as a general contractor. Thinking about questions like how close to make the electrical outlet to the sink naturally got her thinking about user-centered problem solving more generally. And that led her straight to user experience design.

If You Only Do One Thing...

This chapter establishes some basic information about the field of user experience. What is it, where does it come from, and what skills are required? We begin this way because understanding what user experience is and being able to explain its importance to other people is the first, and often the hardest, thing you need to do. As a UX team of one, you are pretty much guaranteed to find yourself in situations where you are asked to clarify what UX is and justify why it's important.

So the most important thing you should take away from this chapter is an understanding of how UX is defined. Even better, try to think in terms of examples—either the example given in this chapter or one of your own. Examples are effective at triggering memory and imagination. A well-chosen example will help you illustrate the complexity of user experience and what design elements must be executed well to create a distinct and positive user experience.

