to exactly the same schools they've always gone to, and claim there are not enough highly qualified diverse candidates. When they do land diverse hires, they expect them to remold themselves to fit the company's existing culture—one that was designed for, and is reinforced by, a homogenous group. New hires who can't or won't do everything it takes to become a "culture fit" leave—and the company conveniently reinforces its existing ideas about which kinds of people it ought to recruit, because obviously, hiring people who were different just didn't work out. Over and over again, people like Fatima, who are often the most prepared to make products better—to have different ideas, to call out gaps or problems, to identify where designers and engineers have a blind spot—are pushed to the side.

That's why the pipeline is such a myth. Regardless of how many women and underrepresented minorities study computer science, the industry will never be as diverse as the audience it's seeking to serve—a.k.a., all of us—if tech won't create an environment where a wider range of people feel supported, welcomed, and able to thrive.

The good news is there's actually no magic to tech. As opaque as it might seem from the outside, it's just a skill set—one that all kinds of people can, and do, learn. There's no reason to allow tech companies to obfuscate their work, to call it special and exempt it from our pesky ethics. Except that we've never demanded they do better.

But we can—and if we do, we'll not only make things better for all the Kayas and Fatimas of the world, we'll also make things better for ourselves, every time we pick up our phones or open a browser tab.

Chapter 3
Normal People

Are you a "Kelly," the thirty-seven-year-old minivan mom from the Minneapolis suburbs? Or do you see yourself as a "Matt," the millennial urban dweller who loves CrossFit and cold-brew coffee? Maybe you're more of a "Maria," the low-income community college student striving to stay in school while supporting her parents.

No? Well, this is how many companies think about you. From massive businesses like Walmart and Apple to fledgling startups launching new apps, organizations of all types use tools called *personas*—fictional representations of people who fit their target audiences—when designing their products, apps, websites, and marketing campaigns.

Personas are often meant to feel like real people—sometimes right down to Kelly's 2014 Toyota Sienna (which she purchased with her husband while she was pregnant with their second child), or Matt's iPhone 7 Plus (which he just replaced because he dropped his last one outside the rock-climbing gym). The speci-

ficity can be unnerving: you half expect to start hearing about a persona's childhood chicken pox or aversion to cilantro. What does that have to do with how they use a website, again?

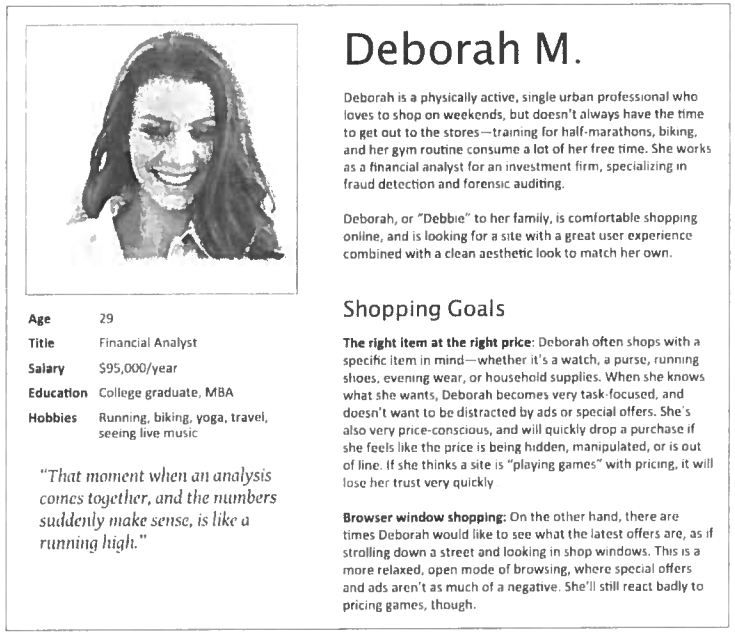
This level of specificity isn't added by accident. It aims to give personas enough descriptive detail and backstory to feel relatable to the teams that use them—so that, ideally, team members think about them regularly and internalize their needs and preferences.

That's great in theory, but when personas are created by a homogenous team that hasn't taken the time to understand the nuances of its audience—teams like those we saw in Chapter 2—they often end up designing products that alienate audiences, rather than making them feel at home.

That's what happened to Maggie Delano. She's a PhD candidate at MIT and an active participant in the Quantified Self movement, a loose organization of people who are interested in tracking everything from moods to sleep patterns to exercise. One day in 2015, she decided to investigate tools for tracking something people have been monitoring for millennia: her period. Her cycle had been recently irregular, and she wanted to do a better job of tracking both her period and her moods in relation to it. So she test-drove some menstrual cycle apps, looking for one that would help her get the information she needed.

What she found wasn't so rosy.

Most of the apps she saw were splayed with pink and floral motifs, and Delano immediately hated the gender stereotyping. But even more, she hated how often the products assumed that fertility was her primary concern—rather than, you know, *asking her.*



Deborah M.

Deborah is a physically active, single urban professional who loves to shop on weekends, but doesn't always have the time to get out to the stores—training for half-marathons, biking, and her gym routine consume a lot of her free time. She works as a financial analyst for an investment firm, specializing in fraud detection and forensic auditing.

Deborah, or "Debbie" to her family, is comfortable shopping online, and is looking for a site with a great user experience combined with a clean aesthetic look to match her own.

Age 29
Title Financial Analyst
Salary $95,000/year
Education College graduate, MBA
Hobbies Running, biking, yoga, travel, seeing live music

"That moment when an analysis comes together, and the numbers suddenly make sense, is like a running high."

Shopping Goals

The right item at the right price: Deborah often shops with a specific item in mind—whether it's a watch, a purse, running shoes, evening wear, or household supplies. When she knows what she wants, Deborah becomes very task-focused, and doesn't want to be distracted by ads or special offers. She's also very price-conscious, and will quickly drop a purchase if she feels like the price is being hidden, manipulated, or is out of line. If she thinks a site is "playing games" with pricing, it will lose her trust very quickly.

Browser window shopping: On the other hand, there are times Deborah would like to see what the latest offers are, as if strolling down a street and looking in shop windows. This is a more relaxed, open mode of browsing, where special offers and ads aren't as much of a negative. She'll still react badly to pricing games, though.

A typical example of a persona, with lots of made-up personal detail. (Eric Meyer and Sara Wachter-Boettcher)

As a "queer woman not interested in having children," Delano found one app, Glow, particularly problematic. She wrote:

> The first thing I was asked when I opened the app was what my "journey" was: The choices were avoiding pregnancy, trying to conceive, or fertility treatments. And my "journey" involves none of these. Five seconds in, I'm already trying to ignore the app's assumptions that pregnancy is why I want to track my period. The app also assumes that I'm sexually active with someone who can get me pregnant.[1]

But it should trouble us more that Facebook

The first screen in Glow's onboarding process. What if none of these options apply to you?

Delano's experience with Glow might have made sense back in 2013, when Glow launched with the mission of using big data "to help get you pregnant."[2] But in 2014, the founders realized that about half of Glow's users were actually using the app to *avoid* getting pregnant.[3] So, with $17 million in new funding in hand, the team set out to transform Glow from a narrow, fertility-focused experience to a product that could serve all women—including, it would seem, women like Delano. "We live in a time when people are tracking everything about their bodies . . . yet it's still uncomfortable to talk about your reproductive health, whether you're trying to get pregnant or just wondering how 'normal' your period is," the company website stated. "We believe this needs to change."[4] And the people who thought they were the ones to change it? Glow's founding team: Max Levchin, Kevin Ho, Chris Martinez, and

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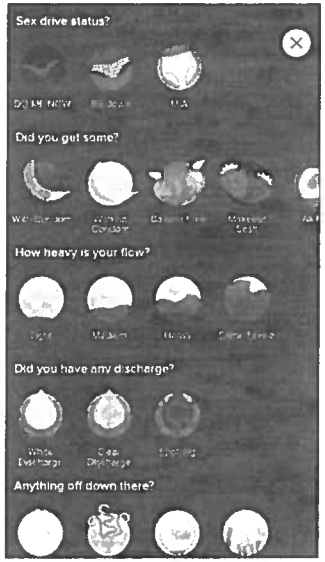


Eve by Glow, a newer app designed by the makers of Glow for young women. Except it, too, makes assumptions about what its audience cares about.

Ryan Ye. All men, of course—men who apparently never considered the range of real people who want to know whether their period is "normal."

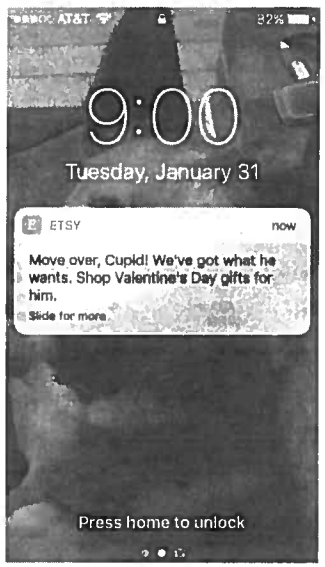
Since Delano's article, Glow has actually updated its products and how it talks about them—repositioning Glow as an "ovulation calculator" and launching a separate app, Eve by Glow, for period tracking and sexual health. Only one problem: Eve might offer the features Delano wants—it can track her periods and her moods—but it still makes a ton of assumptions about its users, referring to them as "girls," using slang like "hookups," and describing sex in a way that's centered entirely on male genitalia: a banana with a condom, a banana without a condom, or no banana. If you're an adult woman in a relationship with anyone who's not a man, you're probably still going to feel left out.

WHEN "NORMAL" BECOMES NARROW

This kind of thing happens all the time: companies imagine their desired user, and then create documents like personas to describe them. But once you hand them out at a meeting or post them in the break room, personas can make it easy for teams to start designing *only* for that narrow profile. And it can happen even in a tech company where women *are* on staff, like Etsy.

Etsy is an online marketplace for buying and selling handmade goods directly from their creators—anything from letterpress greeting cards to hand-knit baby booties to wood shelving made from salvaged barn wood. As you might guess, it's a great place to shop for unique gifts.

That's precisely what Etsy wanted Erin Abler to do in January 2017, when they sent her an alert on her phone: "Move over,



The alert that Erin Abler received from Etsy. She doesn't want Valentine's Day gifts "for him"—her partner is a woman. (Erin Abler)

Cupid!" it read. "We've got what he wants. Shop Valentine's Day gifts for him."

But, as with Maggie Delano, Abler's partner isn't a man. She's not buying anything for "him" on Valentine's Day. Apparently, Etsy's designers and copywriters never thought about this—never considered just how many people they might alienate with this message. Abler was irritated. "'Come on, what are the odds we'll get a gay one' Uh, 100%," she joked on Twitter.[5]

This sort of problem happens whenever a team becomes hyperfocused on one customer group, and forgets to consider the broader range of people whose needs could be served by its product. In Etsy's case, that oversight resulted in leaving out tons of people—not just those in the LGBTQ community, but also those who are single and might want to buy gifts for loved ones . . . or simply not be told they ought to have a "him" to shop for. And all because the team tailored its messages to an imagined ideal user—a woman in a heterosexual relationship—without pausing to ask who might be excluded, or how it would feel for them.

That's what we saw in Glow too. Eve by Glow works well for teen girls and young women who are sexually active with boys. Glow works well for women who are trying to get pregnant with a partner. But for everyone else, both services stop making sense—and can be so alienating that would-be users feel frustrated and delete them.

NARROW VISION, NARROW DEFAULTS

This kind of narrow thinking about who and what is normal also makes its way into the technology itself, in the form of default settings. Defaults are the standard ways a system works—such

as the ringtone your phone is already set to when you take it out of the box, or the fact that the "Yes, send me your newsletter!" checkbox comes preselected in so many online shopping carts.

These settings are powerful, and not just because we might not notice that a checkbox is already selected (though you can bet marketers are relying on that). Defaults also affect how we perceive our choices, making us more likely to choose whatever is presented as default, and less likely to switch to something else. This is known as the *default effect*.

Between the default effect making us more likely to value preselected choices and the fact that many of us either don't want to bother adjusting our settings or don't know that we can, very few of us actually change the default settings on the systems we use. That's why you'll hear the iPhone Marimba ringtone everywhere you go (and see more than one person nearby check their bags and pockets).

People who design digital products know this, and some of them use that fact to make money—like when New York City cabs implemented touchscreens in every vehicle. The screens defaulted to show your fare and then a few options to automatically add the tip to your total: 20 percent, 25 percent, or 30 percent. Average tips went from 10 percent to 22 percent, because the majority of riders—70 percent—opted to select one of the default options, rather than doing their own calculation.[6]

Defaults can also be time-savers for users. One could even argue that the tipping defaults in New York taxis are just that, since they allow customers to skip the math when paying their fares (though, it would be hard to convince anyone that's all the designers had in mind). Or, if a company has primarily US customers, it might default to United States when users enter their address into a shipping form, so that most users don't need to scroll through a big list to find their country.

Default settings can be helpful or deceptive, thoughtful or frustrating. But they're never neutral. They're designed. As *ProPublica* journalist Lena Groeger writes, "Someone, somewhere, decided what those defaults should be—and it probably wasn't you."[7]

What happens when those someones are the people we met in Chapter 2: designers and developers who've been told that they're rock stars, gurus, and geniuses, and that the world is made for people like them?

In 2015, middle-school student Madeline Messer found out firsthand. Like many kids her age, Messer loves playing games on her phone, often alongside her friends. One day, she noticed a friend playing a game using a boy avatar. When Messer asked her why she wasn't playing as a girl, her friend replied that it simply wasn't an option: only boy characters existed in the game.

This didn't sit well with Messer. "I started to pay attention to other apps my friends and I were playing," she wrote in the *Washington Post*. "I saw that a lot of them featured boy characters, and if girl characters did exist, you were actually required to pay for them."[8]

With her parents' permission, Messer embarked on an experiment: she downloaded the top fifty "endless-runner" games from the iTunes Store and set about analyzing their default player settings. Endless runners are games where players aim to keep their characters running as long as possible, racking up as many points as they can before, eventually, they hit obstacles and are defeated.

Messer found that nine out of these fifty games used non-

gendered characters, such as animals or objects. Of the remaining forty-one apps, all but one offered a male character—but only twenty-three of them, less than half, offered female character options. Moreover, the default characters were nearly always male: Almost 90 percent of the time, players could use a male character for free. Female characters, on the other hand, were included as default options only 15 percent of the time. When female characters were available for purchase, they cost an average of $7.53—nearly twenty-nine times the average cost of the original app download.

A similar default is at play whenever you sign up for a new app or create an account on a website that uses profile photos, and you're automatically given a male avatar—the icon of a person's silhouette used by the system to depict anyone who hasn't uploaded a picture yet. In fact, that's how Facebook treated profiles without an image, up until 2009 or so, when a female version was added to the mix. Today, more sites are defaulting to neutral avatars—either by making the silhouettes more abstract, and therefore less gendered, or by using some other icon to represent a user, such as their initials.

We can also see default biases in action by returning to the smartphone assistants I mentioned in Chapter 1: Apple's Siri, Google Now, Samsung's S Voice, and Microsoft's Cortana. In addition to not understanding queries like "I was raped," these services all have another thing in common: women's voices serve as the default for each of them. As Adrienne LaFrance, writing in the *Atlantic*, put it, "The simplest explanation is that people are conditioned to expect women, not men, to be in administrative roles"[9] (just think about who you picture when you hear the term "secretary").

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Or let's look once more at Snapchat. In addition to the so-called "anime-inspired" filter we saw earlier, the app is known for releasing filters that purport to make you prettier, like the popular "beauty" and "flower crown" features. These filters smooth your skin, contour your face so your cheekbones pop, and . . . make you whiter.[10] Why is whiter the default standard for beauty? Well, that's a complex cultural question—but I doubt it's one that the three white guys from Stanford who founded Snapchat ever thought about.

These might seem like small things, but default settings can add up to be a big deal—both for an individual user like Messer, and for the culture at large. Just look at the requirements for formatting a paper in almost any college class: Times New Roman, 12 points. But that wasn't the case until relatively recently—namely, the 1990s, when Microsoft Word started shipping with Times New Roman as the default font. Most people stuck to the default, and eventually, that default became the standard.

Default styles for your freshman paper comparing the portrayal of heroism in *The Odyssey* versus *Beowulf* might not matter much ("Since the beginning of time . . ." is a trite opening sentence in every font). But when default settings present one group as standard and another as "special"—such as men portrayed as more normal than women, or white people as more normal than people of color—the people who are already marginalized end up having the most difficult time finding technology that works for them.

Perhaps worse, the biases already present in our culture are quietly reinforced.

That's why smartphone assistants defaulting to female voices is so galling: it reinforces something most of us already

have stuck in the deep bits of our brains. Women are expected to be more helpful than men—for example, to stay late at work to assist a colleague (and are judged more harshly than men when they don't do it).[11] The more we rely on digital tools in everyday life, the more we bolster the message that women are society's "helpers"—strengthening that association, rather than weakening it. Did the designers intend this? Probably not. More likely, they just never thought about it.

THE MYTHICAL MIDDLE

Try to bring up all the people design teams are leaving out—whether its gay people buying gifts for loved ones or women who want to play games—and many in tech will reply, "That's just an edge case! We can't cater to everyone!"

Edge case is a classic engineering term for scenarios that are considered extreme, rather than typical. It might make sense to avoid edge cases when you're adding features: software that includes every "wouldn't it be nice if . . . ?" scenario that anyone has ever thought of quickly becomes bloated and harder to use.

But when applied to people and their identities, rather than to a product's features, the term "edge case" is problematic—because it assumes there's such a thing as an "average" user in the first place.

It turns out there isn't: we're *all* edge cases. And I don't mean that metaphorically, but scientifically: according to Todd Rose, who directs the Mind, Brain, & Education program at the Harvard Graduate School of Education, the concept of "average" doesn't hold up when applied to people.

In his book *The End of Average*, Rose tells the story of Lt. Gilbert S. Daniels, an air force researcher, who, in the 1950s, was tasked with figuring out whether fighter plane cockpits weren't sized right for the pilots using them. Daniels studied more than four thousand pilots and calculated their averages for ten physical dimensions, like shoulders, chest, waist, and hips. Then he took that profile of the "average pilot" and compared each of his four-thousand-plus subjects to see how many of them were within the middle 30 percent of those averages for all ten dimensions.

The answer was zero. Not a single one fit the mold of "average." Rose writes:

> Even more astonishing, Daniels discovered that if you picked out just three of the ten dimensions of size—say, neck circumference, thigh circumference and wrist circumference—less than 3.5 per cent of pilots would be average sized on all three dimensions. Daniels's findings were clear and incontrovertible. There was no such thing as an average pilot. If you've designed a cockpit to fit the average pilot, you've actually designed it to fit no one.[12]

So, what did the air force do? Instead of designing for the middle, it demanded that airplane manufacturers design for the extremes instead—mandating planes that fit both those at the smallest and the largest sizes along each dimension. Pretty soon, engineers found solutions to designing for these ranges, including adjustable seats, foot pedals, and helmet straps—the kinds of inexpensive features we now take for granted.

Our digital products can do this too. It's easy enough to ask users which personal health data they'd like to track, rather

than forcing them into a preselected set of "normal" interests. It's easy enough to make form fields accept longer character counts, rather than cutting off people's names (more of that in the next chapter). But too often, tech doesn't find these kinds of cheap solutions—the digital equivalents of adjustable seats—because the people behind our digital products are so sure they know what normal people are like that they're simply not looking for them.

Eric Meyer and I wrote about this in *Design for Real Life*, calling on designers to let go of their narrow ideas about "normal people," and instead focus on those people whose identities and situations are often ignored: people transitioning their gender presentation, or dealing with unexpected unemployment, or managing a chronic illness, or trying to leave a violent ex. We didn't call these people's identities and scenarios "edge cases," though. We called them *stress cases*.

It's a subtle shift, but we believe it's an important one. When designers call someone an edge case, they imply that they're not important enough to care about—that they're outside the bounds of concern. In contrast, a stress case shows designers how strong their work is—and where it breaks down.

That's what one design team at National Public Radio is doing. During the process of redesigning the NPR News mobile app, senior designer Libby Bawcombe wanted to know how to make design decisions that were more inclusive to a diverse audience, and more compassionate to that audience's needs. So she led a session to identify stress cases for news consumers, and used the information she gathered to guide the team's design decisions. The result was dozens of stress cases around many different scenarios, such as:

- A person feeling anxious because a family member is in the location where breaking news is occurring
- An English language learner who is struggling to understand a critical news alert
- A worker who can only access news from their phone while on a break from work
- A person who feels upset because a story triggered their memory of a traumatic event[13]

None of these scenarios are what we think of as "average." Yet each of these is entirely normal: they're scenarios and feelings that are perfectly understandable, and that any of us could find ourselves experiencing.

That's not to say NPR plans to customize its design for every single situation. Instead, says Bawcombe, it's an exercise in seeing the problem space differently:

> Identifying stress cases helps us see the spectrum of varied and imperfect ways humans encounter our products, especially taking into consideration moments of stress, anxiety and urgency. Stress cases help us design for real user journeys that fall outside of our ideal circumstances and assumptions.[14]

Putting this new lens on the product helped the design team see all kinds of decisions differently. For example, the old NPR News app displayed all stories the same way: just a headline and a tiny thumbnail image. This design is great for skimming—something many users rely on—but it's not always great for knowing *what* you're skimming. Many stories are nuanced,

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requiring a bit more context to understand what they're actually about. Even more important, Bawcombe says, is that the old design didn't differentiate between major and minor news: each story got the same visual treatment. "There is no feeling of hierarchy or urgency when news is breaking," she told me.[15] Finally, the old design divided stories into "news" and "more," where the "more" stories were those that NPR thought were interesting and unique, such as analyses, reviews, or educational pieces. But clustered under that generic label, these pieces were easy to gloss over.

The team agreed these were important design problems to solve, and they decided to explore a few different ways of doing so. In one iteration, the app displayed a stream of recent stories using a "tile" or "card" design—a technique that was popularized by sites like Pinterest, where every individual item is displayed within its own container, and that was already in use on the NPR website. Each tile was designed to be the width of a user's smartphone, while the length varied according to how much content needed to fit. That content included a headline, a short "teaser" (a common industry term for a short, one-sentence introduction), and usually a small image. News stories were interspersed with lighter features, and the images for those were often larger, highlighting their human-interest side. All said, about one-and-a-half story tiles could display on a smartphone screen at any given time.

That's where the problems started. The design team realized that when users wanted breaking news, those feature stories got in the way—and the overall design required way too much scrolling to understand. But they didn't want to end up back where they started: with a big list of stories that was easy to skim but made it difficult to see whether anything critical was happening.

By thinking about stress cases, the team arrived at a compromise—one that works when an anxious user needs to know about urgent news *right now*, and also helps all those less urgent stories find their audience by providing enough nuance and context to bring in readers.

In this version, the app loads with the top story of the moment displayed at the top in a tile that includes a headline, teaser, and larger image—providing a clear visual indicator of what's critical right now. But for the rest of the news—whether an update on a bill passing Congress or a warning that a hurricane could hit the Caribbean—the team decided that headlines are typically clear and explanatory enough without a teaser.

After the latest news, the design mixes in more of the feature stories. These tiles do include the larger images and teaser copy, effectively slowing down the scrolling experience for those who have the time to go past whatever's breaking right now but might need more context to know whether an individual item is interesting enough to tap.

All kinds of conversations have become more nuanced since the design team started talking not just about audiences, but about stress cases. For example, editorial staff already label some stories on the NPR website with phrases like "breaking news," "developing story," or "this just in"—but the old version of the NPR News app didn't have space for these sorts of labels. The design team knew the new version needed to bring breaking or developing news to the surface visually. At the same time, they didn't want the labels to cause alarm every time a developing story was posted—but only when it was truly warranted. So the

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team decided to balance the intense wording of these labels with a calmer color: blue. When a story is urgent, though, an editor can override that setting, and make the label red instead. By defaulting to blue, the team is keeping a wider range of users in mind—users who need an alternative to sites where every headline shouts at them, all the time.

These are small details, to be sure—but it's just these sorts of details that are missed when design teams don't know, or care, to think beyond their idea of the "average" user: the news consumer sitting in a comfy chair at home or work, sipping coffee and spending as long as they want with the day's stories. And as this type of inclusive thinking influences more and more design choices, the little decisions add up—and result in products that are built to fit into real people's lives. It all starts with the design team taking time to think about all the people it can't see.

RETHINKING PERSONAS

And that brings me back to where we started: personas, one of the original tools developed to bring empathy into the design process. It's a tool I've used many times in my career—but one that, a few years back, I started using very differently.

It was 2013. I was sitting at a gleaming conference-room table, complete with a tray of pastries on top. Sticky notes covered the walls. Across from me sat my client, the chief marketing officer of a large professional organization. My team had been working hard on a project to overhaul their digital presence: what's on their website, in their emails, and so on. We'd just finished a round of research, including interviewing dozens of members about their backgrounds, habits, needs, and relationship with the organization. We'd come back that day to present one of the results of that research: personas.

We were walking the CMO through each profile, and how it came to be—explaining that, say, "Phil" represented the minimally involved member, someone whose employer signed them up for the organization but didn't feel connected to its mission, whereas "Amanda" was an achiever, the type who would attend every webinar she could find, if she thought it would help push her career ahead.

We went on like this for some time, the executive nodding along as he leafed through our document. Until we reached the last persona, "Linda." A stock photo of a fortyish black woman beamed at us from above her title: "CEO."

Our client put down his paper. "I just don't think this is realistic," he said. "The CEO would be an older white man."

My colleague and I agreed that might often be the case, but explained that we wanted to focus more on Linda's needs and motivations than on how she looked.

"Sorry, it's just not believable," he insisted. "We need to change it."

I squirmed in my Aeron chair. My colleague looked out the window. We'd lost that one, and we knew it.

Back at the office, "Linda" became "Michael"—a suit-clad, salt-and-pepper-haired guy. But we kept Linda's photo in the mix, swapping it to another profile so that our personas wouldn't end up lily-white.

A couple weeks later, we were back in that same conference room, where our client had asked us to share the revised personas with another member of his executive team. We were halfway through our spiel when executive number two cut us off.

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"So, you have a divorced black woman in a low-level job," he said. "I have a problem with that."

Reader, I died.

Looking back, both of these clients were right: most of the CEOs who were members of their organization were white men, *and* representing their members this way wasn't a good plan for their future.

But what they missed—because, I recognize now, our personas *encouraged* them to miss it—was that demographics weren't the point. Differing motivations and challenges were the real drivers behind what these people wanted and how they interacted with the organization.

We thought adding photos, genders, ages, and hometowns would give our personas a more realistic feel. And they did—just not the way we intended. Rather than helping folks connect with these people, the personas encouraged the team to assume that demographic information drove motivations—that, say, young women tended to be highly engaged, so they should produce content targeted at young women.

Thankfully, our clients' disagreement over the right way to present race turned into a rethinking of our whole approach. Pretty soon, we'd removed all the stock photos and replaced them with icons of people working—giving presentations, sitting nose-deep in research materials, that sort of thing.

I haven't attached a photo to a persona since.

I'm not alone in this shift. User researcher Indi Young, author of *Practical Empathy* and *Mental Models*, also advocates for designers to get rid of the demographic data used to make personas "feel real." She writes:

> To actually bring a description to life, to actually develop empathy, you need the deeper, underlying reasoning behind the preferences and statements-of-fact. You need the reasoning, reactions, and guiding principles.[10]

To get that underlying reasoning, though, tech companies need to talk to real people, not just gather big data about them. But in many tech companies, usage data is all that matters: who signed up, and what did they do once they had? And that data is, by and large, defined by demographics: women ages twenty-nine to thirty-four with household incomes over $100,000. Men thirty-five to forty-nine who live in urban areas. It's no wonder so many companies make the same mental shortcuts that my client did, conflating demographic averages with motivations and needs. Often that's all they have—and all they're taught to value. But as Harvard researcher Todd Rose found, averages don't mean nearly as much as we're led to believe. The only thing that's normal is diversity.

RECLAIMING "NORMAL"

If you've ever watched a show created by Shonda Rhimes—like *Scandal*, *Grey's Anatomy*, or *How to Get Away with* Murder—then you might have noticed something about her casting: all three shows are fronted by women of color, and each is supported by a cast that is more diverse than you'll find almost anywhere else in Hollywood.

It's all intentional. But, if you ask Rhimes, it's not really "diversity" at play:

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> I have a different word: normalizing. I'm normalizing TV. I am making TV look like the world looks. Women, people of color, LGBTQ people equal WAY more than 50% of the population. Which means it ain't out of the ordinary. I am making the world of television look NORMAL.[17]

Normalizing TV doesn't start with casting, though. It starts in the writers' room. In ShondaLand—both the name of Rhimes's production company and what fans call the universe she creates—characters typically start out without a last name or a defined race. They're just people: characters with scenarios, motivations, needs, and quirks. Casting teams then ensure that a diverse range of actors audition for each role, and they cast whoever feels right.

This nontraditional casting approach won't work for everything, of course: shows that engage with racial issues more directly, or where plotlines intersect with specific cultures or historical events, probably need to cast according to race. But it works in ShondaLand—a place where "normal" doctors, lawyers, and politicians lead lives of work, sex, and scandal.

And it would work in tech too. Most of the personas and other documents that companies use to define who a product is meant for don't need to rely on demographic data nearly as much as they do. Instead, they need to understand that "normal people" include a lot more nuance—and a much wider range of backgrounds—than their narrow perceptions would suggest.

This lesson can't wait. Because, as we'll see in the coming chapters, the tech industry's baseline assumptions about who's worth designing for, and who isn't, affect all kinds of things—from complex algorithms to the simplest form fields.

Chapter 4
Select One

It was the summer of 2014, and I was new to the city of Philadelphia. I needed a doctor. Actually, what I *needed* was a birth control refill. Obtaining one meant an annual exam at the OB-GYN. So I made an appointment at a clinic that a friend recommended, and they emailed me a link to a new-patient PDF form. I started entering my answers: I don't smoke. No pregnancies. My grandmother had a stroke.

And then, suddenly, everything stopped.

Have you ever been sexually abused or assaulted?
Yes __ No __

That's it: no information. No indication of why they were asking or how they would use my response. Just a binary choice on a form that would end up in some medical record somewhere.

I stared at those checkboxes until my vision blurred, thinking about how much I didn't want to explain the sexual abuse I

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ALSO BY SARA WACHTER-BOETTCHER

Content Everywhere

Design for Real Life (with Eric Meyer)

Technically Wrong

Sexist Apps, Biased Algorithms, and Other Threats of Toxic Tech

Sara Wachter-Boettcher

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