



Inclusive
Microsoft Design

Welcome to inclusive design. We offer these guidelines as simple starting points for meaningful change.

Inclusive design is for those who want to make great products for the greatest number of people.

These guidelines are the result of hundreds of hours of research and humbling conversations with remarkable people. Still, we have a lot of work to do before these practices are our everyday routine. Until then, we're inspired to share and improve in partnership with each other, with our customers, and with you.

– Microsoft Design

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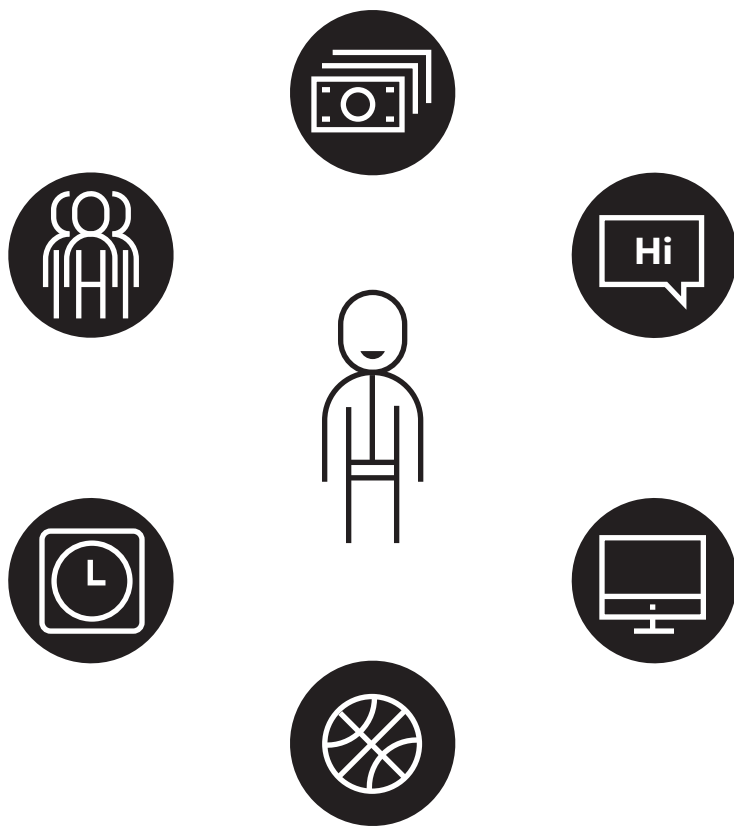


The case for inclusive design

Let's face it, as designers, we often generate and evaluate ideas based on what we know. We strive to make experiences that solve needs, work well with the human body, and improve lives.

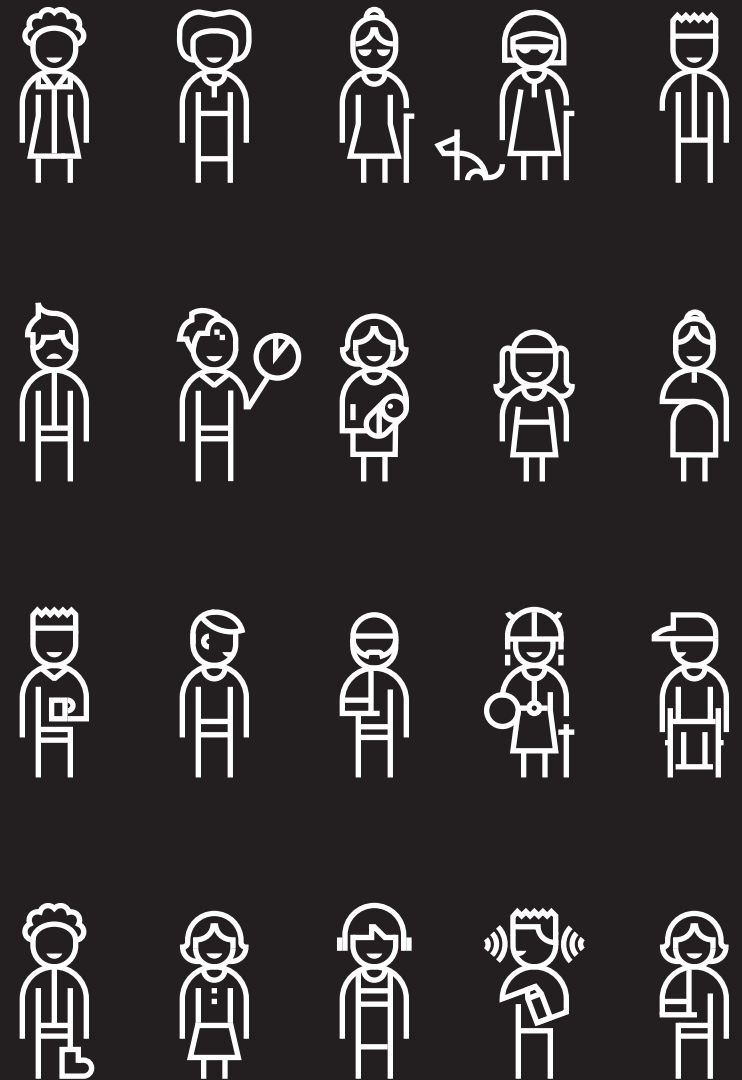
But here's the problem: If we use our own abilities as a baseline, we make things that are easy for some people to use, but difficult for everyone else.

There are 7.4 billion people in the world. Our ambition is to create products that are physically, cognitively, and emotionally appropriate for each of them. It starts with seeing human diversity as a resource for better designs.



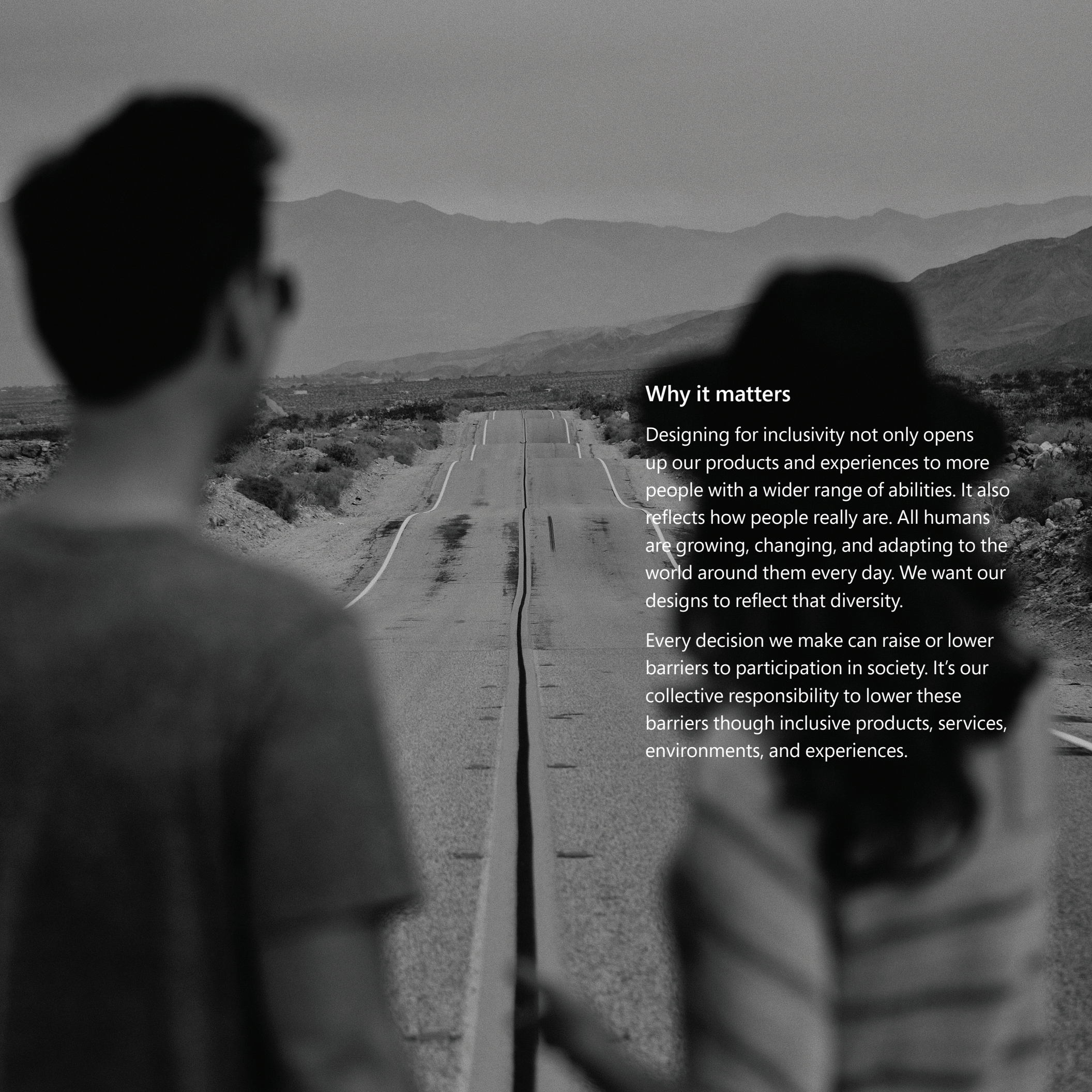
Who we design for

If we use our own abilities and biases as a starting point, we end up with products designed for people of a specific gender, age, language ability, tech literacy, and physical ability. Those with specific access to money, time, and a social network.



Who gets excluded

When it comes to people, there's no such thing as "normal." The interactions we design with technology depend heavily on what we can see, hear, say, and touch. Assuming all those senses and abilities are fully enabled all the time creates the potential to ignore much of the range of humanity.



Why it matters

Designing for inclusivity not only opens up our products and experiences to more people with a wider range of abilities. It also reflects how people really are. All humans are growing, changing, and adapting to the world around them every day. We want our designs to reflect that diversity.

Every decision we make can raise or lower barriers to participation in society. It's our collective responsibility to lower these barriers through inclusive products, services, environments, and experiences.

Inclusive design defined

Inclusive design: A design methodology that enables and draws on the full range of human diversity.

Most importantly, this means including and learning from people with a range of perspectives.

Designing inclusively doesn't mean you're making one thing for all people. You're designing a diversity of ways for everyone to participate in an experience with a sense of belonging.

Many people are unable to participate in aspects of society, both physical and digital. Understanding why and how people are excluded gives us actionable steps to take towards inclusive design.

Accessibility defined

Accessibility: 1. The qualities that make an experience open to all. 2. A professional discipline aimed at achieving No. 1.

We get many questions about the difference between accessibility and inclusive design. An important distinction is that accessibility is an attribute, while inclusive design is a method. And while practicing inclusive design should make your products more accessible, it's not a process for meeting all accessibility standards. Ideally, accessibility and inclusive design work together to make experiences that are not only compliant with standards, but truly usable and open to all.



The principles of inclusive design

Recognize exclusion

Learn from diversity

Solve for one, extend to many

1

Recognize exclusion

Exclusion happens when we solve problems using our own biases

Almost from the moment the World Health Organization first published its formal definitions of disabilities in 1980, we've evolved our understanding of disability and limitations. A new definition issued in 2001 speaks to interactions between people and society. Today when we talk about disabilities and related limitations, we include situational impairments, activity limitations, and restrictions on participation. We encompass mismatches between individuals and their environments, situations, and society as a whole.

1980

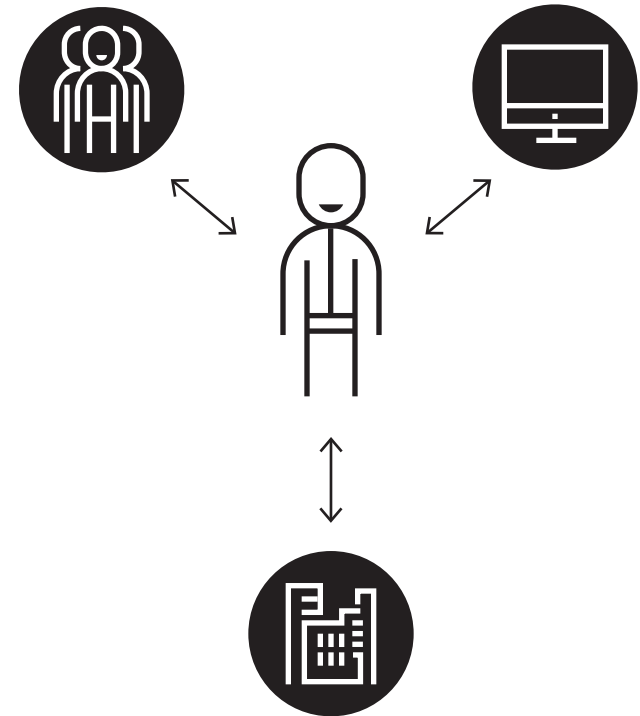


Disability as personal attribute

“In the context of health experience, a disability is any restriction or lack of ability (resulting from an impairment) to perform an activity in the manner or within the range considered normal for a human being.”

–World Health Organization

Today



Disability as context dependent

“Disability is not just a health problem. It is a complex phenomenon, reflecting the interaction between features of a person’s body and features of the society in which he or she lives.”

–World Health Organization



Disability happens at the points of interaction between a person and society. Physical, cognitive, and social exclusion is the result of mismatched interactions.

As designers, it's our responsibility to know how our designs affect these interactions and create mismatches.

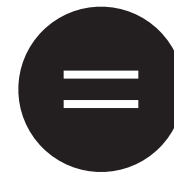
Points of exclusion help us generate new ideas and inclusive designs. They highlight opportunities to create solutions with utility and elegance for many people.

Disability



Personal
Health
Condition

Disability



Mismatched
Human
Interactions



Sometimes exclusion is temporary

Even a short-term injury or context affects the way people interact with the world around them, if only for a short time. Think about looking into a bright light, wearing a cast, or ordering dinner in a foreign country.

Sometimes exclusion is situational

As people move through different environments, their abilities can also change dramatically. In a loud crowd, they can't hear well. In a car, they're visually impaired. New parents spend much of their day doing tasks one-handed. An overwhelming day can cause sensory overload. What's possible, safe, and appropriate is constantly changing.

2

Learn from diversity

Human beings are the real experts in adapting to diversity.

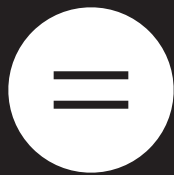
Inclusive design puts people in the center from the very start of the process. You need fresh, diverse perspectives to make it work. Human beings have amazing capabilities to adapt to different situations, and understanding those adaptations is the key to real insight.



The insight is in the adaptation

When experiences don't serve people the way they should, people adapt. Sometimes in astonishing ways that the designers never intended. We can try to imagine how a person with a given set of abilities would use an experience, but we can't imagine their emotional context, what gives them joy or frustrates them. Insights come when we understand those adaptations, and from what's shared across everyone's experiences.

Increased
Mobility of
Technology



Increased
Moments of
Disability

Interactions with technology depend heavily on what we can see, hear, say, touch, learn, and remember. Mobile technologies can make situational limitations highly relevant to many people today. Mobile puts in focus questions like: Are we forced to adapt to technology, or is technology adapting to us?



Empathy is an important part of many different forms of design. When building empathy for exclusion and disability, it's misleading to rely only on simulating different abilities through blindfolds and earplugs. Learning how people adapt to the world around them means spending time understanding their experience from their perspective.

When done well, we can recognize more than just the barriers that people encounter. We also recognize the motivations that all people have in common.

3

Solve for one, extend to many

by focusing on what's universally important to all humans

There are universal ways human beings experience the world. All people have motivations and build relationships. We all have abilities and limits to those abilities. Everyone experiences exclusion as they interact with our designs. On the other hand, a solution that works well for someone who's blind might also benefit any person driving a car. Inclusive design works across a spectrum of related abilities, connecting different people in similar circumstances.



Hard of hearing



Reading airport captions



Teaching a child to read

The beauty of constraints

Designing for people with permanent disabilities can seem like a significant constraint, but the resulting designs can actually benefit a much larger number of people. For example, closed captioning was created for the hard of hearing community. But, there are many benefits of captioning such as reading in a crowded airport, or, teaching children how to read.

Similarly, high-contrast screen settings were initially made to benefit people with vision impairments. But today, many people benefit from high-contrast settings when they use a device in bright sunlight. The same is true for remote controls, automatic door openers, audiobooks, email, and much more. Designing with constraints in mind is simply designing well.



One arm



Arm injury



New parent

Different people benefit

By designing for someone with a permanent disability, someone with a situational limitation can also benefit. For example, a device designed for a person who has one arm could be used just as effectively by a person with a temporary wrist injury or a new parent holding an infant. We call this the Persona Spectrum.



Permanent **26K**



Temporary **13M**






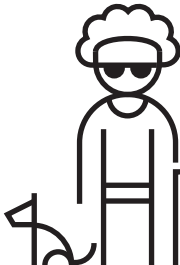








Situational **8M**

Total: **21M+**

More people benefit

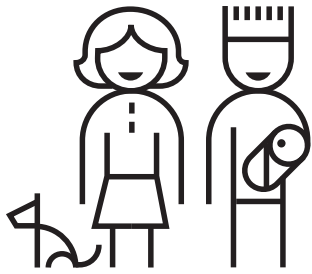
Being mindful of the continuum from permanent disabilities to situational impairments helps us rethink how our designs can scale to more people in new ways. In the United States, 26,000 people a year suffer from loss of upper extremities. But when we include people with temporary and situational impairments, the number is greater than 20M.

Source: *United States Census Bureau, Limbs for Life Foundation, Amputee Coalition, MedicineHealth.com, CDC.gov, Disability Statistics Center at the UCSF*

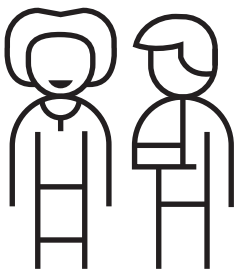
	Permanent	Temporary	Situational
Touch	 One arm	 Arm injury	 New parent
See	 Blind	 Cataract	 Distracted driver
Hear	 Deaf	 Ear infection	 Bartender
Speak	 Non-verbal	 Laryngitis	 Heavy accent

The Persona Spectrum

We use the Persona Spectrum to understand related mismatches and motivations across a spectrum of permanent, temporary, and situational scenarios. It's a quick tool to help foster empathy and to show how a solution scales to a broader audience.



Family




Friends



Strangers

The Persona Network

Just as no person exists in isolation, neither does the Persona Spectrum. The Persona Network includes friends, coworkers, family members or even strangers.



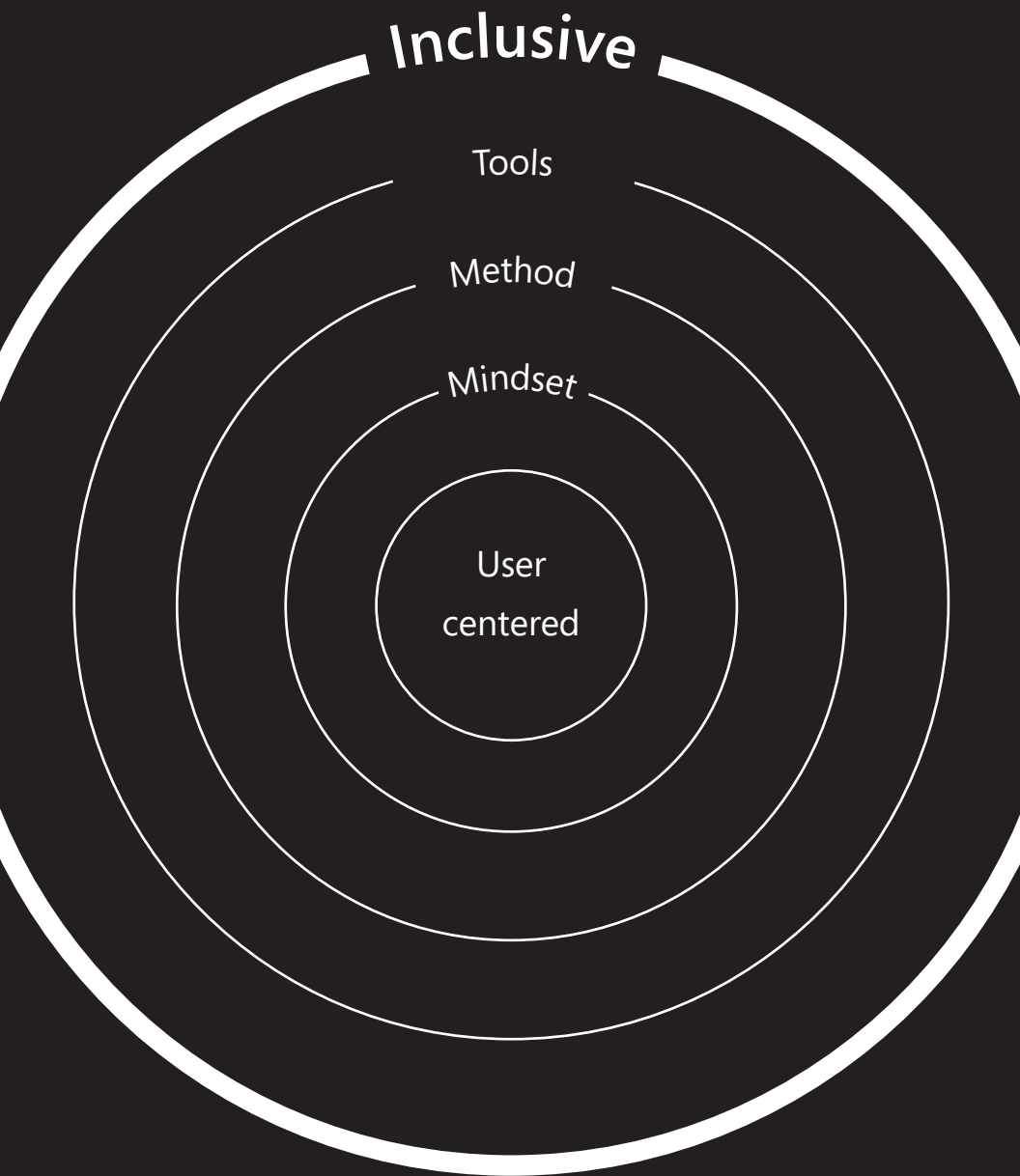
We aim to build experiences that unify people and embrace individuality. These experiences are rooted in interaction with people and objects in the world around us. Seeing disability differently and understanding exclusion helps us extend a solution for one person into a solution for millions of people.

From mindset to making

We've come to see inclusive design as a set of perspectives and practices that champion human diversity. Take a moment to consider how you have benefited from solutions that were originally designed for someone with different abilities. Take note of your own permanent, temporary, or situational disabilities that prevent you from interacting with society. Observe how people with different circumstances are excluded from participating in something you can do without barriers.

Being inclusive starts with changing our perception.

Now it's time to put this mindset into action. It's time to create new ways of making. Let's get started.



Traditional user-centered design has many techniques to clarify human needs, from personas to scenarios to usability testing. But, we also need tools that reintroduce diversity back into our design process.

We need ways to check, balance, and measure the inclusivity of our designs.



Benefits of inclusive design

Technology that's designed through inclusive practices pays off in many ways including:

1. Increased access
2. Reduced friction
3. More emotional context

The impact of inclusive design is more than just the products that people use. It's also a shift in our mindset, methods, and behaviors. What we design is a byproduct of how we design. Measuring the benefits includes measuring the shift in our culture and ourselves.

Support Card

Different social behaviors, and
Here are some
for inspirati

Introduction

The activity cards are designed to support many different goals and outcomes. They're organized according to five phases of a design process – follow them as a linear, comprehensive guide or use them more freely to supplement

Inclusive

A Microsoft Design Toolkit

Optimize | Situational Adaptation

Ideate | Design a Microinteraction

Frame | Interaction Diary

Purpose

To show how detailed observation of people interacting can stimulate and inspire inclusive design.

Get Oriented | Computer Trust

Purpose

To unearth why humans trust and mistrust interactions with technology.



Instructions

1. Write on paper or a white board "I'd trust a computer to _____, but I'd only trust a human to _____"
2. Fill in the blanks as many times as possible in five minutes.
3. Reflect and discuss.
 - In the range of responses, what stands out? What are the forces that impact trust?
 - How could technology behave better to positively impact trust?



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The toolkit

This set of guidelines is part of Inclusive: A Microsoft Design Toolkit. The toolkit is made to work within an existing design process. It's based on three principles:

- Recognize exclusion
- Learn from diversity
- Solve for one, extend to many

We can use this toolkit to evaluate our existing processes, and develop new practices. It will continue to evolve as we learn through experience.



The toolkit in practice

Most design processes are iterative and heuristic. The inclusive design toolkit aims to complement, not replace, the many existing types of design process. There are great human-centered design methods available from multiple sources. Like a chef's recipe, your own design process should be the primary direction for your design. The elements of this toolkit can be added, like ingredients, to improve the inclusivity of your process. How and when you integrate them is up to you.

Resources

1. **Activities:** Please download the PDF labeled "Activities" to dive in. Go to: microsoft.com/design/inclusive
2. **Film:** Multiple short-films and a 20-minute documentary about Inclusive can be found at: inclusivethefilm.com

As designers, it's our responsibility to understand the power of the interactions we design for people. We design to embrace the things that make us human. It's what drives us to create a world that makes lives better. The result is technology that's inclusive.

For more information, contact
inclusivedesign@microsoft.com

Acknowledgments

We wish to thank the many people who contributed to this toolkit. By design, it's a living collection of ideas and practices. It reflects a wide community of people across Microsoft and beyond. We'd like to give a special thanks to a few key people. First, Jutta Treviranus, head of Inclusive Design at OCAD University, director and founder of the Inclusive Design Research Centre and the Inclusive Design Institute. Graham Pullin, Professor of Digital Interaction Design and Product Design at the University of Dundee and author of Design Meets Disability. And finally, Allen Sayegh, Associate Professor in Practice of Architectural Technology, Harvard Graduate School of Design and Principal at INVIVIA design firm. Thank you for your leadership in inclusive design and mindful design practices.

This toolkit was created by Albert Shum, Kat Holmes, Kris Woolery, Margaret Price, Doug Kim, Elena Dvorkina, Derek Dietrich-Muller, Nathan Kile, Sarah Morris, Joyce Chou, Sogol Malekzadeh, and an extended team of people at Microsoft who are dedicated to advancing inclusive design.



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