

Accessibility and People-Centric Design



Key Points

- Advances in technology are enabling more personalized and relevant experiences for users. This approach, known as *people-centric design*, helps everyone, including people with disabilities, use computing devices and services more easily.
- People-centric design greatly expands the ways people can interact with products, services, and devices—to include voice commands, touch, and gestures.
- Microsoft believes that natural user interfaces, machine learning, and other elements of people-centric design will not only expand opportunities for people with disabilities, but will also help a broad range of users who have temporary, situational impairments.
- Government policies should encourage market-driven advances in people-centric design that emphasize general outcomes and avoid narrowly prescriptive rules that can hinder innovation.

BACKGROUND

The technology industry has been investing in new, more natural ways for people to interact with technology. Devices and services are behaving in increasingly intelligent ways by anticipating our needs, understanding our intentions, and adapting to our immediate surroundings.

This new approach, known as *people-centric design*, includes several key elements:

- **Contextual awareness**—accounting for the user’s circumstances in assisting with, automating, or completing tasks.
- **Sensory input**—processing natural inputs (such as vision, voice, and gestures) and communicating back to the user in a natural and context-appropriate way.
- **Language and intelligence**—understanding key aspects of natural language, inferring the user’s intentions and goals, and engaging in dialogue with the user.
- **Anticipatory processing**—factoring in the user’s past and concurrent actions and workflow to assist with tasks.
- **Environmental awareness**—using data about a device’s current and past environments to assist with tasks.
- **Augmented interaction**—using 3-D, immersive, and telepresence technologies to create the most natural environment for human-computer interaction.
- **Adaptive behavior**—transitioning seamlessly among devices and contexts so the user doesn’t have to switch modes manually.

Devices and services that combine all of these attributes can make human-computer interaction easier not only for people with disabilities and those with age-related impairments, but also for those with temporary constraints—such as drivers who cannot safely look at a device screen or people who are in noisy environments where sounds are difficult to distinguish.

MICROSOFT APPROACH

Microsoft believes that the opportunity is ripe for more people-centric innovation in devices and services. Given the right policy landscape, the new interaction paradigms can lead to a cycle of innovation that addresses key concerns for policymakers related to education, employment, public health, and more.

Underlying this new wave of innovation is *scenario-based engineering*—a design process that looks at what users want to accomplish in specific situations and builds the technology to address those use scenarios.

Microsoft is committed to engaging with the accessibility community, policymakers, and the technology industry to promote this important trend in digital inclusion and incorporate people-centric design into the devices and services of the future.

POLICY CONSIDERATIONS

Policymakers can help foster a regulatory environment that is open to the advantages of people-centric design by adhering to the following principles:

- **Promote interoperability and user choice.** Policies should promote market incentives and a broad ecosystem of interoperable solutions that leaves room for older technologies while spurring the development of new ones. Policymakers should avoid defining specific roles and responsibilities for certain industry players, which drives up the cost of developing accessible technologies. They should also avoid mandating or developing unique standards; instead, they should point to existing voluntary, market-driven industry standards.
- **Educate consumers and the public.** Policymakers should encourage education and public discourse about accessible, people-centric products and services.
- **Focus on outcomes rather than features.** Public policies often designate “disabilities” as a category of needs that engineers should address. As a result, accessibility features are simply added on to technology designed for mainstream users. But the majority of people have needs and circumstances that fall somewhere in between. Policies should instead emphasize general outcomes and scenario-based engineering rather than mandating specific keyboard, mouse, button, or menu features for people with specific disabilities. This will ultimately lead to greater choice and innovation.



Helpful Resources

Microsoft Accessibility website
www.microsoft.com/enable