

advance technology and improve the quality of work and life by embracing AI technologies and developing purely human talent.

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ACCESSIBLE DESIGN: PRINCIPLES, CHALLENGES, AND BEST PRACTICES

Accessibility refers to the practice of designing products and experiences that are usable by all individuals, regardless of their physical or cognitive abilities (World Wide Web Consortium [W3C], 2018). It is fundamentally about fostering inclusion, ensuring that no individual is excluded from utilizing digital tools or services. Accessibility goes beyond mere legal compliance; it seeks to uphold the principle that digital experiences should be available to all.

Promoting accessibility within design practices supports broader societal inclusion. By ensuring that information is accessible and interactions are equitable, designers create environments where all individuals can participate fully (Shinohara & Wobbrock, 2016). Moreover, many features now regarded as standard, such as voice assistants, captioning, and touchscreen interfaces, were initially conceived as

accessibility solutions. This highlights that accessible design ultimately benefits a wider audience.

To design effectively for accessibility, it is essential to understand the diversity of disabilities, which are generally categorized into four main groups:

- 1) Cognitive disabilities which include difficulties related to memory, learning, reading, or attention.
- 2) Motor disabilities which encompass challenges in using input devices such as a mouse, keyboard, or touchscreen.
- 3) Hearing disabilities which affect individuals who are deaf or hard of hearing.
- 4) Visual disabilities that range from low vision to complete blindness.

Additionally, disabilities may be permanent, temporary, or situational, further emphasizing that accessible design has far-reaching benefits.

Effective accessibility is guided by four foundational principles, collectively referred to as POUR (W3C, 2018):

- Perceivable. Information must be presented in ways that users can perceive, whether through sight, sound, or touch.
- Operable. Interfaces must be navigable and usable for all users, including those relying on keyboard navigation or alternative input devices.
- Understandable. Content must be clear, predictable, and easy to comprehend, using straightforward language and minimizing complex interactions.
- Robust. Content must be compatible with both current and future technologies, including assistive devices like screen readers and voice recognition tools.

Numerous technologies demonstrate the real-world application and benefits of accessibility principles. Screen readers assist individuals who are blind or visually impaired by converting text into speech or Braille output. Voice commands enable interaction with devices for users with motor disabilities or limited mobility. Adaptive hardware includes customized keyboards, switches, and gaming controllers designed

for individuals with motor impairments. Mobile accessibility features, such as screen magnifiers, color adjustments, text-to-speech functionalities, and gesture controls on smartphones.

These innovations underscore that accessibility is not theoretical but a tangible reality improving lives daily.

Despite its importance, several challenges persist in the pursuit of accessibility:

- Design complexity. Creating accessible experiences often requires more detailed planning and interdisciplinary collaboration.
- Budget constraints. Accessibility considerations are frequently deprioritized due to perceived additional costs or limited timelines.
- Testing limitations. There is often a lack of comprehensive tools or opportunities for genuine user testing.
- Awareness gaps. Teams may lack sufficient understanding of accessibility needs and best practices, emphasizing the necessity for ongoing education.

To systematically embed accessibility into design and development processes, the following strategies are recommended:

- User research. Involving individuals with disabilities early and consistently throughout the development process.
- Inclusive design. Planning for the broadest range of users from the outset.
- Iterative testing. Engaging in continuous testing and improvement cycles, particularly using assistive technologies.
- Feedback loops. Establishing channels for user feedback to detect issues not captured by automated tools.
- Adherence to Standards: Following the Web Content Accessibility Guidelines (WCAG), which align directly with the POUR principles and serve as a global standard for accessibility.

Accessible design transcends technical requirements; it is a human imperative. By embedding accessibility into the fabric of digital development, we create richer, more inclusive experiences for all users. Accessibility must not be viewed as the

responsibility of a single individual or department but rather as a shared endeavor among developers, designers, researchers, and learners. Through collective effort and intentional design, digital environments that are equitable, sustainable, and universally beneficial can be built.

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ARTIFICIAL INTELLIGENCE IN TASK CREATION AND MANAGEMENT IN IT

One of the key areas of AI application in IT is the automation of software development processes, in particular, the creation and description of tasks for the development of new features, design improvement, and analytics. Traditionally, this process required significant time and human resources to formulate and refine project requirements. With the advancement of artificial intelligence technologies, it has become possible to automatically generate tasks based on the analysis of data such as user interfaces, code, previous tasks, documentation, internal team discussions, and more.