



Chapter 1: What are the features of Universal Design?

Universal Design vs. Accessible Design

Many associate Universal Design with accessibility – that is, making products, buildings and communications, including web pages, accessible to persons with disabilities. Although accessibility is a crucial part of Universal Design, Universal Design is actually more ambitious and comprehensive in its goals.

Accessible Design tends to focus on meeting a set of regulations or codes, such as the Section 508¹ standards for electronic and information technology (EIT)² or the ADA Accessibility Guidelines (ADAAG) for buildings, facilities and transportation vehicles. Universal Design aims to go beyond code, to create a design for the widest number of users by anticipating how different types of users will interact with the design.

For a large majority of websites, products and buildings, accessibility is often addressed late in the design or development process, if not after implementation. Universal Design advocates for considering accessibility and users' diverse abilities at the start of the design process and for maintaining this focus throughout the development process until implementation.

Accessibility is often accomplished with a separate design or with a separate Assistive Technology product (e.g. screenreaders for audio access to the computer and the Internet for blind or low vision users), a service (a sign-language interpreter translating an uncaptioned video for a deaf individual, for example) or an adaptation to an existing structure or product (a

¹ 508 is the section of the Rehabilitation Act that applies to federal agencies.

² The W3C's Web Content Accessibility Guidelines (WCAG) 2.0 are more often used and internationally recognized

wheelchair ramp added to a building). Universal Design seeks to create one design or product for all users.

The advantages to achieving accessibility through Universal Design in contrast to a separate design or Assistive Technology product is summarized in the table below.

TABLE 1 ASSISTIVE TECHNOLOGY VS. UNIVERSAL DESIGN³

Assistive Technology or Special Adaptation	Universal Design
After the fact	Before the fact
Individual adjusts to unaltered environment	Alters environment and information
Burden on the user	Burden on the designer
Consumable, with limited use	Used by many in various circumstances
High cost	Lower cost

Real-World Examples

Let’s begin with the digital environment. Designing a separate text-only website for individuals with vision impairments, an approach that has been justifiably maligned and decreasing in use in recent years (we’ll explain why below), exemplifies a narrow and reactive approach to accessibility – a separate site for a specific population. Conversely, a website developed to address many different audiences and platforms – providing text equivalents for graphic and audio elements, ensuring graceful enlargement of text, separating styling from content to allow user-control of the visual interface and responsive layout for different size viewports (i.e. mobile, desktop and tablet) – is one that takes a Universal Design (UD) approach.

The addition of a ramp to a building is another common example of providing accessibility after the fact. Under the paradigm of UD, access for the wheelchair user (and the delivery person with the handcart and the parent with the stroller) would be considered during the planning and design process. An accessible ramp would be incorporated into the building in accordance with the design of the building and not appear as something added on as an afterthought.

³ Juli Albiero-Walton, Incorporating UDL into Online Curriculum [PowerPoint slides]. Retrieved July 28, 2014 from http://s3.goeshow.com/atia/orlando/2014/profile.cfm?profile_name=download&Handout_key=53163B6C-B7CB-4346-B171-D6A1FE5709A6&xtemplate=1



Ramps added to structures are often unseemly (fig. 1), expensive to install, and often do not meet code.

The ramp below (fig. 2) is clearly steeper than 1:12 (one inch rise to 12 inches in slope) degree angle stipulated by regulations such as the Americans with Disabilities Act Accessibility Guidelines (ADAAG).



FIGURE 1. SHANGHAI, CHINA

In a similar vein, accessibility provided through Universal Design tends to be less expensive because accessibility and usability are considered at the beginning of the design process. Retrofitting a building (or product) for accessibility after the concrete has been laid, so to speak, is a lot more expensive than planning it from the beginning. Furthermore, aesthetics and social inclusion are intrinsic to the Universal Design approach. In adopting the perspective that accessibility features should not just functionally but aesthetically integrate with building or product design, UD attempts to avoid stigmatizing the user.