

## Universal Design Standards for Wayfinding Systems for the Blind and Visually Impaired to Improve Quality of Life

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### Abstract:

Wayfinding refers to an information system that guides individuals through different environments. A well-designed system enhances spatial experience and fosters a sense of place. Wayfinding is an essential daily activity; however, it presents a significant challenge for blind and visually impaired individuals due to their inability to effectively interact with visual elements. Therefore, developing wayfinding systems for this group is crucial for enhancing their independence and improving their quality of life. With advancements in human communication tools, designing for visually impaired individuals has become an imperative necessity aligned with human rights trends. This research aims to study and apply universal design principles in wayfinding systems tailored for the blind and visually impaired by integrating tactile signage and maps into wayfinding systems. This integration ensures the effectiveness of environmental information systems, enhances their quality of life, strengthens their independence, and ensures safe mobility within public spaces. The study analyzes the challenges faced by this group during navigation, emphasizing the importance of using an integrated system of visual, tactile, and auditory elements to enable them to navigate safely and easily. The significance of this research stems from the need to improve the quality of life for blind and visually impaired individuals by providing a safer environment that facilitates more effective communication and wayfinding, thereby reducing obstacles in daily life. The research adopts a descriptive methodology to examine universal design standards for integrating tactile signage and maps into wayfinding systems for the blind and visually impaired. It includes case studies of global models for wayfinding systems in urban environments. Additionally, the study is applied to the course "Signage and Wayfinding Systems Design 2", assessing the extent to which universal design concepts are incorporated into the curriculum. The research also presents developmental proposals to enhance course outcomes in alignment with the needs of visually impaired individuals.

### Paper History:

**Paper received March 05, 2025, Accepted April 14, 2025, Published online July 1, 2025**

### Keywords:

Universal Design, Wayfinding Systems, Tactile Signage and Maps, Braille, Quality of Life.

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<b>CITATION</b>	Samah Abd El Salam (2025), Universal Design Standards for Wayfinding Systems for the Blind and Visually Impaired to Improve Quality of Life, <i>International Design Journal</i> , Vol. 15 No. 4, (July 2025) pp 55-66
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