

An Analysis of User Experience Methods and Solutions for Visually Impaired Web Users

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Abstract *In today's digital age, technology has become an essential part of everyone's lives, yet the accessibility of websites for the blind and visually impaired community remains inadequate. This article aims to address the lack of accessibility in website design for visually impaired individuals by examining user experience methods and solutions. The study focuses on improving equitable access to information and enhancing user experience for the visually impaired community. Through a quantitative research method using a questionnaire survey, the research identifies current obstacles, explores assistive technology, and proposes effective design methodologies and solutions. The goal is to create a more inclusive digital world that empowers visually impaired individuals by providing them with equal access to online information, services, and opportunities. The study emphasizes the integration of accessibility as an intrinsic element of the user experience design process, ensuring inclusion and equal access for all users, regardless of their visual impairment. By addressing these issues and offering practical solutions, this research contributes to bridging the accessibility gap and promoting a more inclusive web environment for visually impaired individuals.*

Key words *User Experience, User Interface, Accessibility, Usability, Assistive Technology*

Introduction

The digital age has revolutionized our lives, bringing unprecedented convenience through technological advancements. As people increasingly rely on websites for various purposes, it is crucial to ensure equal access to this technology. The Internet has become a fundamental necessity for individuals worldwide (Deshmukh et al., 2018), resulting in a significant rise in Internet users and website visits.

Despite the widespread use of websites, there remains a lack of accessibility for individuals with visual impairments, who face unique challenges in their daily lives (Bhatlawande et al., 2014). Web accessibility for the visually impaired community continues to be an unresolved issue, despite its existence for many years. The acceptance and adoption of accessible websites have not yielded satisfactory outcomes (Pohjolainen et al., 2022). Considering that accessing websites has become integral to economic, educational, and social activities, people with disabilities, including visual impairments, deserve equal access to information and the ability to utilize websites like everyone else (WHO, 2013).

To address these challenges, this analysis focuses on user experience methods and solutions for visually impaired web users. By examining the existing barriers and leveraging appropriate design approaches, it aims to enhance the user experience for individuals with visual impairments. The research endeavours to empower visually impaired users and provide them with equitable access to online information and services by bridging the accessibility gap.

Problem Statement

The prevalence of visual impairments, such as near-sightedness and distance-sightedness, affects billions of people worldwide, with a significant number of cases being preventable or unaddressed (WHO, 2021). Vision impairments can result from various factors, including uncorrected refractive errors and cataracts. Despite the introduction of e-accessibility guidelines in 2008 to facilitate the use of information and communication technologies (ICTs) by people with disabilities, many websites still lack accessibility, particularly for the