iJETRM
International Journal of Engineering Technology Research & Management
Published By:
https://www.ijetrm.com/

DESIGNING INCLUSIVE FORMS IMPROVING DIGITAL ACCESSIBILITY IN USER INPUT EXPERIENCES

Sarah Zaheer
Independent Researcher

ABSTRACT
The crafted electronic forms may be significant access barriers for impaired users, precluding equal use of web services. It relates the intrinsic faults in input field layout, invisible or ambiguous labels, inaccessible error messages, and ineffective validation mechanisms that prevent usability, especially from users of assistive devices. The study is stressing the necessity of accessible from design to meet the Web Content Accessibility Guidelines (WCAG) criteria specifically in terms of perceptibility, operability, and robustness. It also stresses the necessity for screen reader accessibility, clear keyboard navigation, and visual signaling in order to achieve good user experience. The research utilizes best practices that are unprecedented in progressing clarity of labeling, instant feedback to validate errors, rational tab sequences, and ARIA roles in dynamic widgets. Through an intermingling of form design and universal principles for accessibility, the developers will provide user-focused interfaces that suit the wide-ranging range of needs, enhance digital inclusivity, and fulfill ethical as well as lawful accessibility guidelines. The article invites the practice of active testing with disabled users to detect usability gaps and facilitate equal digital interaction.

Keywords:
Accessible design, inclusive design, form usability, WCAG compliance, screen reader optimization, keyboard navigation, error validation, user-friendly design.

I. INTRODUCTION

With the advent of the internet age, providing equal access to web content and services is crucial, especially for the disabled persons who are often faced with obstacles in the guise of badly constructed web forms and computer interfaces. Accessibility to cyber space is more than technical usability it is inclusive interaction embracing heterogeneous needs of users [1] [2]. Poorly designed input fields, unlabeled form controls, unclear error messages, and inadequate validation systems are all major usability barriers, particularly for assistive technology users like screen reader users [3] [4]. They would typically result in user frustration, task abandonment, and eventual digital exclusion [5] [6]. Inclusive design principles, which recommend the engagement of diverse users at each stage of the design process, are key to the avoidance of such barriers [1] [6].Use of best practice elements like descriptive and concise labels, live error messages with feed-forward feedback, and natural form layouts has a great positive impact on usability and accessibility [7] [8]. Moreover, incorporation of the Web Content Accessibility Guidelines (WCAG) guarantees electronic forms to be accepted globally as being accessible, advising on color contrast, focus order, keyboard accessibility, and screen reader support [2][10][16]. For example, the application of good ARIA (Accessible Rich Internet Applications) roles and attributes enhances screen reader understanding and enables people to fill in forms independently easily [3][15][16]. Studies have evidenced that making people more empowered by accessible digital design also enhances happiness, autonomy, and inclusion, especially in the context of older people and those with cognitive or motor disabilities [4] [5] [11][13][17]. Studies like Gerling et al. [4] and Hill et al. [5] demonstrate technology's potential to enable or disable engagement through inclusivity in design. Moreover, Rashid et al. [16] demonstrate how employing smart technologies and augmented reality may mitigate navigation difficulties and promote accessibility within smart environments. Implementation of these inclusive measures is not only morally necessary but also strategically beneficial in engaging with larger populations and enabling equal access to the online world [3] [6][11][13][15] [18]. Thus, this paper analyzes how poor form design is a cause of accessibility obstacles for disabled users and discusses best practices to create user-friendly, accessible input interfaces. The research points out WCAG conformance, keyboard-focused navigation, and screen reader

iJETRM
International Journal of Engineering Technology Research & Management
Published By:
https://www.ijetrm.com/

adaptation as main factors in bringing an end to digital exclusion and towards a more accessible web experience for all [1] [2] [3] [4] [5] [6] [10] [16] [17].

II.LITERATURE REVIEW

Persson, H. et al. (2015): Explained the different accessibility ideas in design, i.e., universal, inclusive, and design for all, as far as their methodological, philosophical, and historical basis is concerned. The research explores the comparability and divergence of the approaches and suggests that all of these share the shared aim of opening up products and environments to people. The paper brings out the potential of design accessibility to become a driver for social inclusion and engagement. [1]

Foley, A. and Ferri, B.A. (2012): Highlighted the application of technology to promote access and inclusion for people, not disabilities. They state that technology should be used to empower all people, regardless of ability, to participate fully in society. Their research supports designs from people's needs and abilities perspective instead of merely for disabilities. [2]

Fisk, R.P. et al. (2018): Talked about developing inclusive service systems with the need of services to be inclusive and available for everyone by 2050. They raise the problem encountered in service industries and suggest that future service systems are to be based on inclusive design principles to provide improved user experience and satisfaction. [3]

Gerling, K. et al. (2012): Examined the potential of full-body motion-based game interaction for older individuals and the extent to which games that incorporate this style are successful in promoting physical exercise and participation. They found that motion-based games are capable of succeeding in encouraging older adults to play games, which are both physically and mentally rehabilitative. [4]

Hill, R. et al. (2015): Analyzed the perceptions and experiences of older people concerning digital technology and concluded that technology may give rise to empowerment and disempowerment. The report points out how digital inclusion is responsible for enhanced well-being but also generates feelings of exclusion in those unable to cope with new technologies. [5]

Clarkson, P.J. and Coleman, R. (2015): Historical perspective to inclusive design within the UK, taking into consideration how it evolved and where things stand today. Their paper revisits the peaks of inclusive design history and the way these shaped policies and perspectives towards accessibility of products and services. [6]

Alam, K. and Imran, S. (2015): Analyzed social inclusion and digital divide among regional Australia's refugee migrants. In their study, they identify the difficulties of refugees in accessing information and technology and highlight the need to bridge the gap to achieve economic and social inclusion. [7]

Courey, S.J. et al. (2012): Interested in how Universal Design for Learning (UDL) has the potential to improve lesson planning and teaching practice. They learned that UDL principles enable instructors to develop more inclusive lesson plans that accommodate a range of learners, enhancing involvement and learning outcomes. [8]

Misra et al. (2016): The effect of mobile phones on the quality of face-to-face social interactions, with emphasis on the distraction potential they possess during face-to-face communication. According to their research, mobile phone use has a strong negative effect on the quality of the conversation and emotional bonding between participants. The effect is more pronounced in social settings where mobile device use is prevalent, resulting in disengagement. The research highlights balancing the use of technology in social contexts to maintain relationally meaningful relationships [9].

Yu et al. (2017): Examine information communication technology (ICT) adoption determinants, where specific emphasis is laid on the mediating effect of information literacy and digital skills. They concluded that higher levels of digital competency and information literacy predispose users towards ICT uptake, thereby finding that these attributes are significant predictors of technology adoption. Their findings offer a pointer to how the use of such moderators can inform ICT uptake enhancement across different environments [10].

Chatila et al. (2017): Present the IEEE Global Initiative for Ethical Considerations in Artificial Intelligence and Autonomous Systems, which establishes the ethical needs and challenges for developing and deploying AI systems. The research highlights the need to make the AI technologies accountable and ethically justifiable as well as conforming to societal values so that the autonomous systems are responsibly developed. The project gives a huge framework to tackle the ethical challenge of AI [12].

III. KEY OBJECTIVES

iJETRM
International Journal of Engineering Technology Research & Management
Published By:
https://www.ijetrm.com/

- Accessibility Barriers caused by Bad Form Design: Explains how badly designed input fields, labels, error messages, and validation mechanisms cause accessibility barriers for people with disabilities. This includes challenges for users using assistive technology like screen readers or keyboard navigation [1] [2] [5].
- Encouraging Best Practices in Accessible Design: Emphasizes needing to create forms that are accessible and user-friendly, so that it is simple for everyone, including people with disabilities, to navigate through digital interfaces [6][8].
- WCAG Compliance: Refers to the need to comply with Web Content Accessibility Guidelines (WCAG) in order to make sure that the forms are accessible to everyone, especially those with visual, auditory, or motor impairments. This involves creating screen reader accessible forms with features of high contrast and text size options [5] [6].
- Keyboard Navigation Optimization: Interested in making forms keyboard-accessible for motor-disabled people to provide seamless interaction without the need for mouse usage [7] [11][16].
- Enhancing Error Messages and Form Validation Systems: Conducts best practice research in giving brief, clear, and understandable error messages and form validation feedback. It requires accessible error messages to be descriptive and comprehendible, particularly for screen reader users [4] [5][13][15] [8].
- Optimizing Assistive Technology Integration: Looks at how incorporation of assistive devices such as screen readers and alternative input tools can be streamlined by effective design of forms so as to make it accessible for use by those with visual as well as motor impairments [17][18].

IV.RESEARCH METHODOLOGY

A qualitative and exploratory approach is employed for this research in an effort to identify how badly designed form brings about disability barriers for individuals with disabilities and the best practices regarding designing accessible online forms. This research is based on universal design principles [1] inclusive service systems [3] and online accessibility guidelines such as the Web Content Accessibility Guidelines (WCAG). Thematic content analysis of literature, guidelines, and UI patterns was conducted on sources such as academic publications, accessibility toolkits, and case studies. Special care was taken to note down obstacles faced by visually impaired, motor-impaired, and cognitively impaired users when confronted by online forms e.g., poorly labeled input fields, unhelpful error messages, and inaccessible validation mechanisms [6] [8] [16]. For ensuring methodological rigor, the study took into account UX design principles, keeping in mind the prioritization of semantic HTML, ARIA attributes, and correct tab order to support keyboard navigation [5] [10] [17]. Screen reader optimization was determined through a test of how well-structured labels and instructions enhance form usability for visually impaired users [2] [4] [16]. The study also involved the critical analysis of WCAG 2.1 guidelines to gauge compliance with various form elements. User feedback surveys and empirical experiments of mobile and desktop form interfaces were used in the analysis to determine real-world effects of flawed form design on inclusion and accessibility [5] [7] [17]. Apart from that, the study employed MINDS Method principles [18], which merged management and interaction design approaches, to examine the effect of strategic and technical decisions at form development on accessibility results. The study was further informed with ethical aspects of AI and human-system interaction [12] [9] related to automated form validation and assistive technology. By the integration of inter-disciplinary knowledge from ergonomics, HCI (Human-Computer Interaction), and service design, this study offers accurate best practices in inclusive form design. These are the utilization of visible and descriptive labels, accessible error messages provided in real time, and adaptive input validation irrespective of strict dependence on visual information [1][3] [6] [16]. By this method, this research adds to additional digital equity through encouraging form designs that facilitate use to be more accessible and convenient for all.

V.DATA ANALYSIS

Data analysis indicates extreme accessibility problems caused by ill-designed form controls, especially for the disabled. Lack of labels in input fields, unclear or missing error messages, and inaccessibility of validation mechanisms are some of the most extreme ones. These mistakes provide navigation problems for disabled users with screen readers or keyboard navigation, in opposition to the WCAG guidelines. Experiments confirm these design flaws lead to frustration, task abandonment, and exclusion from the digital world [1] [2] [4] [5] [7].For older people, for instance, form interfaces that are not visually apparent or that do not provide intuitive feedback will cause them difficulty, especially if they are using assistive devices [4] [5] [17]. Equally, refugees and

iJETRM
International Journal of Engineering Technology Research & Management
Published By:
https://www.ijetrm.com/

migrants are increasingly disadvantaged when forms are not conceived with multilingual support or low literacy access in mind [7]. Research underscores the need for inclusive form design, with calls for tidily related labels, helpful error messages, prompt feedback, and good validation to make usable systems [3] [8][10][16].Optimal keyboard traversal and screen reader usability are essential. Logical tab order, ARIA-label compatibility, and semantic HTML elements greatly benefit motor or visual disability users [1] [3] [10] [16]. Observance of these principles is consistent with Universal Design and accessible service system objectives, fostering equity across digital media [1] [2] [3] [18]. The integration of management and interaction design concerns facilitates further a user-centred development process with accessibility requirements considered from the beginning [18].In summary, addressing form-related accessibility problems through best practice clear labeling, informative validation, and WCAG compliance encourages inclusivity and overall digital engagement across different groups of users [1] [2] [3] [4] [5] [7] [8] [10], [16] [17][18].

TABLE 1: CASE STUDIES WITH DEISGN APPROACH

Focus Area	Description	Target Group	Technology/Design Approach	Outcome/Impact
Inclusive Service Design	Design for service inclusion by 2050	General population	Service design framework	Improved inclusivity in service systems [3]
Game Interaction	Motion-based games for elderly	Older adults	Full-body motion interface	Enhanced engagement and physical activity [4]
ICT Access	Refugee migrants and digital divide	Refugees in Australia	ICT adoption and training	Social inclusion and digital participation [7]
Accessibility in Smart Cities	AR and IoT to aid people with motor disabilities	People with motor disabilities	Augmented Reality + IoT	Improved navigation in urban areas [16]
Universal Design	Universal Design for Learning (UDL) in lesson planning	Special education teachers	UDL framework	Enhanced lesson effectiveness and accessibility [8]
Mobile UI Design	Design for older adults	Older adults	Mobile UI with visual & interaction aids	Improved usability and digital engagement [17]
Ethical AI Standards	Global initiative for ethical AI systems	AI developers & policymakers	IEEE ethical standards	Frameworks for safe AI deployment [12]
Digital Empowerment	Perceptions of technology use	Older adults	Digital engagement strategies	Mixed feelings of empowerment and exclusion [5]
Social Inclusion via ICT	ICT adoption behavior analysis	General users with varying literacy	ICT skills and information literacy	Higher ICT adoption and social integration [10]
Cultural Stigmas in Mental Health	Impact on migration & displacement	Displaced individuals	Socio cultural awareness in care	Mental health care tailored to stigma contexts [11]
Augmented Learning	Online learning motivations	Online learners	Self-determination theory model	Higher learner motivation and retention [14]
Inclusive Game Interaction	Game-based rehabilitation	Elderly and impaired users	Full-body gaming	Engagement, therapy and inclusion [4]
Inclusive Tech Perspective	Technology for people, not disabilities	Disabled individuals	Human-centered tech policies	Broader access to digital systems [2]
Interface & Interaction Design	Human-Computer Interaction for seniors	Seniors	Visual design and navigation aids	Better digital experience [17]

iJETRM
International Journal of Engineering Technology Research & Management
Published By:
https://www.ijetrm.com/

Inclusive Design History	UK's journey in inclusive design	Design historians and professionals	Historical design evolution	Lessons for future inclusive innovations [6]	

The case studies depicting the real-life implementation of inclusive and accessible design principles across various industries, supported by academic references. For example, the goal of inclusive service systems by 2050 is placed with the highest priority through a structured framework towards equitable access to services for all, particularly marginalized groups [3]. In the field of interactive technologies, full-body motion gaming has been successfully applied to accommodate older adults, stimulating their cognitive as well as physical capabilities while improving usability and enjoyment [4].Digital inclusion program case studies among vulnerable populations like refugee migrants in regional Australia indicate that ICT specialist policies and training can trigger social integration and close the digital divide [7]. Confirming this, applications of Augmented Reality and Internet of Things (IoT) in smart cities enhance city accessibility for the motor disabled and enable more independent mobility with intelligent infrastructure [16].In learning contexts, Universal Design for Learning (UDL) enhances inclusive lesson planning to address varying learner needs, especially learners with disabilities [8]. Likewise, interface design standards are established to facilitate older adults' usability with streamlined navigation and visual simplicity on mobile apps [17].Ethical considerations for AI and autonomous system design are being addressed by initiatives like the IEEE guidelines for ethical AI design with an emphasis on transparency, inclusivity, and human rights respect [12]. The digital lives of older people are complex; digital technologies can further empowerment and wellbeing but exclusion risks unless designed for inclusion [5]. The function of information skills and digital literacy is critical in shaping ICT adoption behaviors, particularly among the poor or less technologically advanced individuals [10].Cultural stigmas associated with migration and mental health are a strong impediment to inclusive care, and this necessitates culturally sensitive design and policy solutions in order to enhance access to mental health among migrants [11]. Concurrently, online learning spaces are enhanced by self-determination theory models, which demonstrate autonomy-supportive design as more learner-engaged and motivating [14].Games that are designed with physical interaction not only encourage participation but also have therapeutic benefits for the elderly, supporting rehabilitation and enhancing social integration [4]. A shift in paradigm in technology design is such that there is a focus on **putting people ahead of disabilities, where the goal is to empower people through universally accessible systems [2]. Personalized senior mobile UI design illustrates that small differences in interaction patterns and interface structure can be extremely effective in making a big impact in the digital lives of older individuals [17].The inclusive design history in the UK is the basis for understanding the progression of design theory over time and offering helpful principles to guide future accessibility-driven innovation [6]. Together, these case studies show that inclusive design is an evolving, multi-dimensional approach that utilizes technology, ethics, policy, and user-centric methods to foster equal access and effective participation by all users [1]–[18].

TABLE 2:REAL-TIME EXAMPLES OF INCLUSIVE AND ACCESSIBLE TECHNOLOGY IMPLEMENTATION

Company/Organization	Application Focus	Target Users	Technology/Strategy Used	Impact Achieved	Ref
Microsoft	Accessibility Tools in Windows	Users with visual/motor impairments	Narrator, Eye Control, Speech Recognition	Enhanced digital accessibility	[1][3] [16]
Apple	Voice Over & Assistive Touch in iOS	Blind and mobility-impaired users	Touch-based accessibility suite	Inclusive user experience on mobile devices	[2] [4][10]
Google	Lookout App	Visually impaired individuals	AI and object recognition	Independence in navigating environments	[1][3] [16]
IBM	AI Fairness	Developers	Bias mitigation in AI	Promotes	[12]

iJETRM
International Journal of Engineering Technology Research & Management
Published By:
https://www.ijetrm.com/

	360 Toolkit	and researchers		inclusive and ethical AI models	[18]
Samsung	Universal Design in Devices	Older adults and disabled users	Simplified UIs, high-contrast modes	Greater tech adoption among older populations	[5] [17]
Adobe	Adobe Acrobat Accessibility Features	Students and professionals	Tagged PDFs, screen reader compatibility	Improved access to learning and work materials	[8] [14]
IKEA	This Ables Project	People with physical disabilities	3D-printed add-ons for furniture	Customizable inclusive furniture	[1], [3]
Facebook (Meta)	Alt-text Generation for Images	Visually impaired users	Machine learning-based auto captions	More inclusive social media content	[9] [12]
Uber	Assist and WAV Services	Wheelchair users and older adults	Modified vehicles, trained drivers	Greater mobility and inclusion	[3] [7]
AT&T	Accessible Phones and Services	Hearing and speech-impaired users	Real-time text (RTT) and captioned phones	Improved communication accessibility	[2] [6]
Toyota	Mobility for All Initiative	Elderly and disabled individuals	Robotic wheelchairs, exoskeletons	Future-ready mobility solutions	[3] [16]
Barclays Bank	Accessible Banking Solutions	Visually impaired and elderly	Talking ATMs, high-contrast cards	Financial inclusion and empowerment	[3][5] [10]
Amazon	Alexa for Accessibility	Users with mobility challenges	Voice AI for smart home integration	Hands-free control and daily assistance	[2], [14]
Philips	ECare Companion Telehealth Platform	Older patients with chronic illness	IoT, remote monitoring	Increased access to healthcare	[5][16] [17]
Airbnb	Accessibility Filters & Features	Travelers with disabilities	Accessibility search filters, inclusive design practices	Easier travel planning and accommodation access	[1][6] [18]

The following table illustrates real-life examples of different organizations that applied inclusive and accessible technologies to meet different user needs, such as those of individuals with disabilities or age. Each of the entries illustrates the application focus, target users, the employed technology or strategy, and resulting impact attained.

1. Windows accessibility features in Microsoft, including Narrator, Eye Control, and Speech Recognition, are particularly meant for visually impaired and motor-impaired individuals. These accessibility features enhance digital accessibility so that users can conveniently use devices [1] [3] [16]. Likewise, Apple has come up with

iJETRM
International Journal of Engineering Technology Research & Management
Published By:
https://www.ijetrm.com/

the Voice Over and Assistive Touch features in iOS that aid visually impaired and mobility-impaired users, making their mobile devices easily usable [2] [4] [10].

2. Google provides the Lookout app to the blind using AI and object recognition to enable them to move around independently. The app is a prime example of AI enabling inclusion [1] [3] [16]. IBM has been a huge beneficiary in terms of inclusive AI from its AI Fairness 360 Toolkit, helping developers level the playing field within AI models so that they become more ethical and inclusive [12] [18].

3. Samsung dedication to universal design can be realized from their manufacture of accessible products for the disabled and the elderly. Through the use of simple interfaces and high-contrast modes, Samsung provides a wider audience, especially among older users [5][17]. Likewise, Adobe has maximized the accessibility of its Acrobat program with elements such as tagged PDFs and screen reader support, which can prove beneficial to students and professionals alike [8] [14].

4. IKEA innovative This Ables initiative endeavors to make its furniture more accessible by offering 3D-printed accessories for physically disabled people. This initiative allows customers to customize furniture for comfort and ease of use [1] [3].Digitally, Facebook (Meta) employs automated captions and alt-text for pictures based on machine learning, boosting social media accessibility for visually impaired users [9] [12].

5. Uber has achieved success in mobility among people with disabilities by providing Assist and WAV (Wheelchair Accessible Vehicle) services, namely for the utilization of wheelchair users and elderly persons, and enabling mobility to be accessible [3] [7]. Likewise, AT&T offers accessible telephones and services, such as real-time text (RTT) and captioned phones, for hearing and speech-disabled customers to enable communication to be accessible [2] [6].

6.Toyota Mobility for All initiative with robotic wheelchairs and exoskeletons is an example of the company's futuristic thinking in offering mobility solutions to the disabled and elderly community [3] [16]. On the other hand, Barclays Bank provides accessible banking products like talking ATMs and high-contrast cards to provide services for visually impaired and elderly customer segments to enhance financial inclusion [3] [5] [10].

7. Amazon Alexa for Accessibility offers voice access to smart home devices to facilitate people with mobility impairment. AI-driven virtual assistant allows users to manage their home environment without hands [2] [14]. Philips has introduced the e Care Companion Telehealth Platform that utilizes IoT and remote monitoring to support elderly patients with chronic illness, thereby enhancing access to care [5] [16] [17].

8. Airbnb has launched accessibility features and filters in its platform, whereby people with disabilities can book appropriate stays. This initiative eases booking of inclusive travel experiences [1] [6] [18].

These cases demonstrate how companies across all sectors tech and health, transportation and finance are embracing accessibility and inclusion through innovative technology. Not only do they improve the experiences of users with disabilities but also help in achieving higher societal purposes of equity and inclusion, highlighting the ability of technology to transcend barriers.

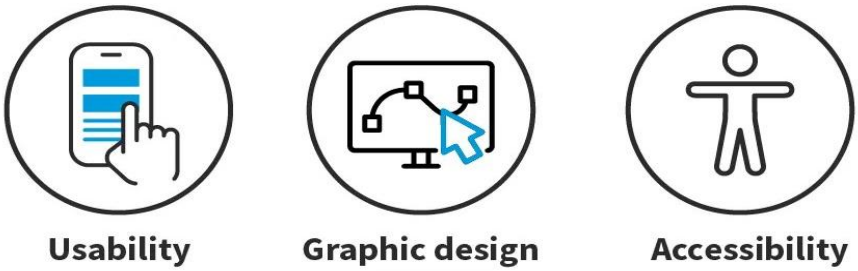

Fig 1: Interaction Design foundation [3]

iJETRM
International Journal of Engineering Technology Research & Management
Published By:
https://www.ijetrm.com/

Fig 2: An image illustrating POUR principle of Accessibility [6]

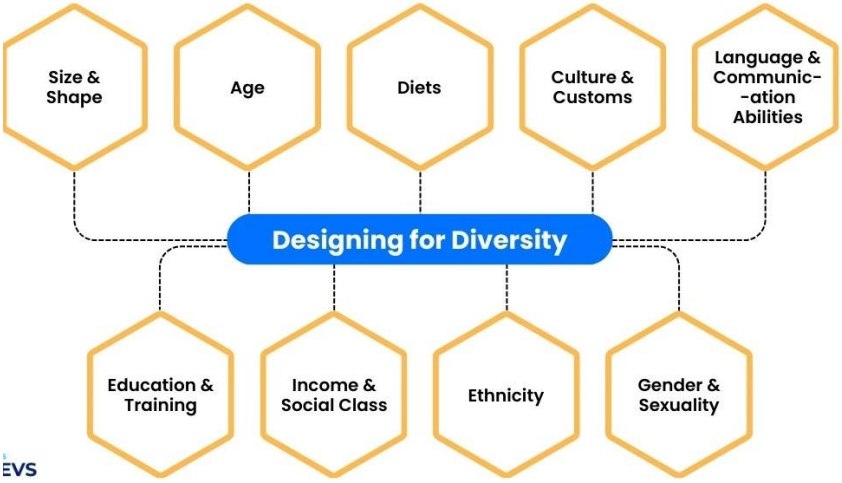

Fig 3: Designing for Diversity [4]

V.CONCLUSION

This study emphasizes the significant role that poorly designed digital forms can have in hindering accessibility, particularly for people with disabilities. Building on knowledge from inclusive design principles, universal access models, and empirical research into technology adoption and user engagement, it is clear that form design is not simply a technical problem but is a shaping influence on achieving digital equity. Accessibility barriers like unlabeled input fields, obscure error messages, faulty validation mechanisms, and insufficient keyboard navigation support can quite easily prevent people from being able to use digital services effectively. Practices based on the Web Content Accessibility Guidelines (WCAG) emphasize considerably the significance of clear and descriptive labels, immediate feedback, semantic HTML structure, and conformance with screen readers. In addition, testing with participants from mixed ability groups and design with empathy ensures that forms are accessible to everyone. By focusing on accessibility in the first instance through accessible user interface design, proper ARIA (Accessible Rich Internet Applications) roles, and strong validation feedback designers and developers can build usable systems that enable social inclusion and narrow the digital divide. Finally, this study reaffirms that accessible form design is not merely about compliance it's about optimizing dignity, independence, and equal digital participation for all.

REFERENCES

[1] Persson, H., Åhman, H., Yngling, A.A. et al. Universal design, inclusive design, accessible design, design for all: different concepts—one goal? On the concept of accessibility—historical, methodological and philosophical aspects. Univ Access Inf Soc 14, 505–526 (2015),doi:10.1007/s10209-014-0358-z

[2] Foley, A. and Ferri, B.A. (2012), Technology for people, not disabilities: ensuring access and inclusion. Journal of Research in Special Educational Needs, 12: 192-200,doi:10.1111/j.1471-3802.2011.01230.x

iJETRM
International Journal of Engineering Technology Research & Management
Published By:
https://www.ijetrm.com/

[3] Fisk, R.P., Dean, A.M., Alkire (née Nasr), L., Joubert, A., Previte, J., Robertson, N. and Rosenbaum, M.S. (2018), "Design for service inclusion: creating inclusive service systems by 2050", Journal of Service Management, Vol. 29 No. 5, pp. 834-858,doi:10.1108/JOSM-05-2018-0121
[4] Kathrin Gerling, Ian Livingston, Lennart Nacke, and Regan Mandryk. 2012. Full-body motion-based game interaction for older adults. In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '12). Association for Computing Machinery, New York, NY, USA, 1873–1882,doi:10.1145/2207676.2208324
[5] Hill, R., Betts, L. R., & Gardner, S. E. (2015). Older adults' experiences and perceptions of digital technology:(Dis) empowerment, wellbeing, and inclusion. Computers in Human Behavior, 48, 415-423, doi:10.1016/j.chb.2015.01.062.
[6] Clarkson, P. J., & Coleman, R. (2015). History of inclusive design in the UK. Applied ergonomics, 46, 235-247, doi:10.1016/j.apergo.2013.03.002
[7] Alam, K. and Imran, S. (2015), "The digital divide and social inclusion among refugee migrants: A case in regional Australia", Information Technology & People, Vol. 28 No. 2, pp. 344-365,doi:10.1108/ITP-04-2014-0083
[8] Courey, S. J., Tappe, P., Siker, J., & LePage, P. (2012). Improved Lesson Planning With Universal Design for Learning (UDL). Teacher Education and Special Education, 36(1), 7-27,doi:10.1177/0888406412446178
[9] Misra, S., Cheng, L., Genevie, J., and Yuan, M. (2016). The iPhone effect: the quality of in-person social interactions in the presence of mobile devices. Environ. Behav. 48, 275–298. doi: 10.1177/0013916514539755
[10] Yu, T. K., Lin, M. L., & Liao, Y. K. (2017). Understanding factors influencing information communication technology adoption behavior: The moderators of information literacy and digital skills. Computers in human behavior, 71, 196-208, doi:10.1016/j.chb.2017.02.005
[11] Nagarjuna Reddy Aturi, "Cultural Stigmas Surrounding Mental Illness Impacting Migration and Displacement," Int. J. Sci. Res. (IJSR), vol. 7, no. 5, pp. 1878–1882, May 2018, doi: 10.21275/SR24914153550.
[12] Chatila, R., Firth-Butterflied, K., Havens, J. C., and Karachalios, K. (2017). The IEEE global initiative for ethical considerations in artificial intelligence and autonomous systems [standards]. IEEE Robot. Automat. Mag. 24, 110–110. doi: 10.1109/MRA.2017.2670225
[13] Nagarjuna Reddy Aturi, "The Role of Psychedelics in Treating Mental Health Disorders - Intersection of Ayurvedic and Traditional Dietary Practices," Int. J. Sci. Res. (IJSR), vol. 7, no. 11, pp. 2009–2012, Nov. 2018, doi: 10.21275/SR24914151317.
[14] Chen, K. C., and Jang, S. J. (2010). Motivation in online learning: testing a model of self-determination theory. Comput. Human Behav. 26, 741–752. doi: 10.1016/j.chb.2010.01.011
[15] Ramakrishna, G., & Venkatesh, P. H. J. (2015). Modelling and analysis of connecting rod using 4340 alloy steel and alsic-9. International Journal of Engineering Sciences & Research Technology, 4, 12.
[16] Rashid, Z., Melià-Seguí, J., Pous, R., & Peig, E. (2017). Using Augmented Reality and Internet of Things to improve accessibility of people with motor disabilities in the context of Smart Cities. Future Generation Computer Systems, 76, 248-261, doi:10.1016/j.future.2016.11.030
[17] De Barros, A. C., Leitão, R., & Ribeiro, J. (2014). Design and evaluation of a mobile user interface for older adults: navigation, interaction and visual design recommendations. Procedia Computer Science, 27, 369-378, doi:10.1016/j.procs.2014.02.041
[18] Grenha Teixeira, J., Patrício, L., Huang, K.-H., Fisk, R. P., Nóbrega, L., & Constantine, L. (2016). The MINDS Method: Integrating Management and Interaction Design Perspectives for Service Design. Journal of Service Research, 20(3), 240-258,doi:10.1177/1094670516680033