Digital Accessibility in Iran: An Investigation Focusing on Iran's National Policies on Accessibility and Disability Support

Laleh Nourian
ln2293@rit.edu
Department of Computing and Information Sciences
Rochester Institute of Technology
Rochester, New York, USA

Kristen Shinohara
kristen.shinohara@rit.edu
School of Information
Rochester Institute of Technology
Rochester, New York, USA

Garreth W. Tigwell
garreth.w.tigwell@rit.edu
School of Information
Rochester Institute of Technology
Rochester, New York, USA

ABSTRACT

Digital accessibility has become an important topic in the field of HCI, but when looking at accessibility on a global scale, we find that the representation of accessibility research is mostly centered in the Global North with countries that are WEIRD (Western, Educated, Industrialized, Rich, and Democratic). Our paper explores digital accessibility in Iran, focusing exclusively on its national policies on accessibility. Iran is a non-WEIRD country located in the Global South, with no reports on its digital accessibility status from the Global Initiative for Inclusive Information and Communication Technologies (G3ict). We found that there is not enough focus on accessibility in Iran's regulations and we conclude our paper by recommending directions for improving this situation such as HCI and disability organizations in Iran cooperating with G3ict.

CCS CONCEPTS

• **Human-centered computing** → **Accessibility**.

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1 INTRODUCTION

The term postcolonial computing emerged to encourage reflection of cultural influence on the design and evaluation of technology due to increased globalization [21], and such reflection must also encompass accessibility [44]. Digital accessibility typically ensures that all disabled people[1] can use digital content and services (e.g., websites, mobile applications, etc.), while also providing wider benefits to anybody who might encounter contextual challenges.

However, prior studies demonstrate a bias in HCI and accessibility research publications highlighting that the findings of the published papers are mostly from specific regions of the globe (e.g., Global North[2] [7] and WEIRD countries (Western, Educated, Industrialized, Rich, and Democratic) [26]). The existing bias within our accessibility and HCI communities might have consequences for digital accessibility when we consider that research from published work often goes on to influence many sectors, government legislation, and industry practice [4, 12].

There is still a need to increase the representation of people from different parts of the world and the effort from the Global Initiative for Inclusive Information and Communication Technologies (G3ict) partly fulfills this need by developing the Digital Accessibility Rights Evaluation Index (DARE Index). The DARE Index assesses how countries incorporate accessibility in digital content [14] and the assessment is completed with the cooperation of Disabled People's International (DPI) Assemblies, and the experts and national organizations of disabled people in the countries. However, not all countries are represented in the DARE Index.

We present our initial work on the status of digital accessibility in Iran to identify the extent that digital accessibility is codified in Iran's national policies. Our investigation could be valuable since there is no work on the status of Iran's digital accessibility in the DARE Index and the fact that it is a non-WEIRD country located in the Global South makes it generally under-represented in HCI and accessibility research [7, 26] (i.e., there are only a few HCI studies investigating Iranian website accessibility [18, 32], with others focusing mainly on usability [11, 31]). Moreover, prior studies have shown that the policies of a country can influence accessibility awareness in society [6, 28] and the results of this investigation ascertain an initial understating of accessibility regulations and awareness in Iran. Thus, we seek to answer the following questions:

RQ1: *What regulations, if any, does Iran set for accessibility and supporting disabled people in digital spaces?*

RQ2: *What accessibility guidelines, if any, do the national regulations require or suggest that designers use?*

We provide the first review of Iran's policies on accessibility and disability, showing that digital accessibility is not extensively codified in its national laws and there are no regulations about adhering to digital accessibility guidelines. We call on the HCI community and disability support organizations in Iran, and the Global Initiative for Inclusive ICTs (G3ict) to cooperate and conduct extensive investigations on digital accessibility in Iran. A cooperative effort will result in a deeper understanding of digital accessibility knowledge within Iran and identify knowledge gaps for future accessibility research to address.

[1]We will be writing with identify-first language in this paper [5]

[2]Global North countries are typically richer, economically developed, and located in northern hemisphere (including Australia and New Zealand) [16].

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2 RELATED WORK

2.1 Accessible Digital Design

Despite the availability of accessibility guidelines, methods, and tools [23], many mobile and web services remain inaccessible [6, 17, 22, 35, 38]. One of the most widely used international accessibility resources is the W3C's Web Content Accessibility Guidelines [9]. However, some designers are critical of the W3C's Guidelines because they are difficult to understand [40], not to mention that they are yet to be translated into all official languages (e.g., there is no Persian translation, which would provide better support for Iranian designers).

Although accessibility research has grown in the past 24 years [29], inaccessible design remains a concern, likely caused by numerous factors [37], such as inadequate education, inappropriately scoped and budgeted projects, lack of accessibility awareness and experience, and a need for improved design tools or guidelines that support accessible design (see: [2, 10, 24, 34, 39–43]). This lack of access is a serious issue because website inaccessibility is globally prevalent [1, 6, 19, 22, 35], with many studies focusing on government websites because they are usually the primary communication platforms to citizens and businesses [3], and typically are under the jurisdiction of accessibility laws.

2.2 Digital Accessibility in a Global Context

Prior work has discussed accessibility in the global context showing the dominance of some countries in HCI publications. For example, recent work from Barbareschi et al. [7] argued that most of the findings at the intersection of disability and technology in HCI venues are from the Global North while 80% of disabled people in the world live in the Global South, making it crucial that accessibility becomes an important issue to consider on a global scale. They also argued that there is a lack of literature on accessibility and disability studies in the Global South which results in a lower level of awareness about accessible and inclusive technology for disabled people in this region [7]. Moreover, only around 8% of all countries are responsible for 80% of the papers published in CHI [8]), and a majority of the findings at CHI belong to WEIRD countries (Western, Educated, Industrialized, Rich, and Democratic) [26]. One contributing factor to this issue is that the majority of HCI researchers are located in Western countries [25] which in general, indicates serious inequalities in the structure of research communities [7]. One of the resources of digital accessibility in the global context is the DARE Index [14] which reports on the progress made by 137 countries that are parties to the Convention on the Rights of Persons with Disabilities (CRPD) [14] by measuring three main factors: 1) countries' digital accessibility regulations and programs, 2) their capacity and resources to implement accessibility considerations, 3) and the effects of digital accessibility on disabled people.

In our study, we focused on the first factor from the DARE Index: the role that a country's regulations play in digital accessibility, focusing specifically on Iran. Previous studies suggest that a factor contributing to inaccessible websites in a country is insufficient laws and policies [6, 28]. Thus, investigating accessibility regulations in Iran provides the opportunity to learn about the state of digital accessibility in this country and help to improve the existing gaps.

3 METHODS

The goal of our study was to find the extent to which digital accessibility was codified in Iran's national policies and if there were any requirements or suggestions about using accessibility guidelines in digital design. One important reason to explore accessibility-related laws in a country is that regulations to support disabled people can influence other aspects of society that intersect with the work of designers and can impact the output of their work [6, 28].

Since the lead author of this paper is fluent in the Persian language and literature, we used certain search terms and keywords in both Persian and English to investigate existing regulations. We utilized a combination of full-text search, short terms, and stemming in both languages (Table 1) and searched through the constitution of Iran and the Iranian national website for all regulations called *National Laws Portal* (qavanin.ir). We also used three search engines: Google (www.google.com), DuckDuckGo (duckduckgo.com), and Parsijoo (parsijoo.ir)—an Iranian search engine—to obtain more information about accessibility/disability in Iran from the perspective of international organizations.

On the national laws portal (qavanin.ir), first, we categorized the laws by searching in their titles manually using certain keywords (English root words and full words and the corresponding Persian words for them) and found the ones that met our criteria. The key words were the root words: "Disable=ناتوان، معلول " and "Access=دسترس " and the full words are "Disability=ناتوانی ، معلولیت" and "Accessibility=دسترس پذیری، قابلیت دسترسی"

Afterward, we searched the full text of the selected laws using the search terms in Table 1.

4 FINDINGS

After investigating Iran's Constitution, we found that out of 177 Articles, only one of them (Article 29) slightly pointed out the government's responsibility for providing social support for disabled people. However, no more details were provided on this matter [36]. On the Iranian national laws portal, we found 32 laws that spoke of disability, mostly about physical disability that were linked with martyrdom, and only one law that addressed digital Accessibility. We identified the sections of the laws related to disability and accessibility using our search terms (Table 1) and read through them to find how, if any, each law codified accessibility in the digital spaces.

The governmental "*Comprehensive Law on Protection of the Rights of Persons with Disabilities*" was ratified 2004 which included 16 articles [20]. In 2018, the "*Law to Protect the Rights of the Disabled*" was published [13, 36] and replaced the previous law aiming to support disabled people by ensuring their access to national services [13]. The new law [13] is a Federal law for the public, private, and governmental organizations. The "*Law to Protect the Rights of the Disabled*" [13] includes accessibility in the physical world and work environments, healthcare insurance for disabled people, education and employment, etc. Additionally, it mentions that accessibility should be included in technological spaces, but no more detail or articles were written on that topic, and it does not explicitly prohibit discrimination [46]. In 2009, Iran acceded to the Convention on the Rights of Persons with Disabilities (CRPD), but it is unclear to what extent Iran is willing to comply with its

Table 1: Search Terms in both Persian and English

Search Terms	Accessibility Laws and Regulations
Persian	قوانین حمایت حقوق معلولین دسترس پدیری، قابلیت دسترسی، دسترس ، وبسایت، سامانه قانون ناتوانی، معلول، ناتوان فضای الکترونیک
English	Disability Law/Act/policy Disability, Disable, Disability Policy Access, Accessible Accessibility Law Accessibility Regulation, Accessibility policy Web, Website, Digital

obligations under the convention, as it claimed that "*it does not consider itself bound by any provisions of the Convention which may be incompatible with its applicable rules.*" [33].

The results of our investigation demonstrated that accessibility and disability support is not sufficiently codified in the national regulations of Iran in either of physical or digital spaces. Many disabled people in Iran face discrimination, humiliation, and inaccessibility in public spaces [46] and are unable to participate in social activities independently [46]. Unsurprisingly, there were also no specific regulations for accessibility in digital spaces or websites in any of the national policies. It is important to mention that there were some standards relating to accessibility for disabled people, but they are only restricted to "movement disabilities" [45]. Accordingly, since insufficient laws and policies [6, 28] can be a factor contributing to the existence of inaccessible websites, we anticipate that Iranian developers and designers may not be aware of accessibility of digital content to a good extent.

5 DISCUSSION AND FUTURE WORK

The main implication of our work is that it can inform Iranian policymakers to reflect more on limited accessibility regulations and motivate the HCI community and organizations of disabled people in Iran to help the government in supporting disabled people, thus increasing the awareness of accessibility among Iranian designers.

Despite the Iranian government not having sufficient policies for accessibility, there are Iranian organizations such as the Iranian Society of People with Disabilities (www.iransdp.com), and the Iranian Disability Support Association (www.iraniandsa.org), which indicates an interest and need for increased disability support.

As such, since there is no indication about Iranian organizations cooperating with G3ict, we recommend that a first step would be for the HCI community and the organizations of people with disability in Iran to work with the government and cooperate with international organizations like G3ict to improve accessibility regulations. Our study is beneficial since it helps to provide an initial background of accessibility and disability support in Iran. Having a source of information about the status of accessibility in Iran can help identify opportunities in promoting and implementing digital accessibility in this country [15].

5.1 Future Work

Laws and policies are one of the assets to spread accessibility knowledge and insufficient laws can create barriers to informing the designers about accessibility in digital spaces [6, 28]. As one of our future plans, we aim to conduct interviews with Iranian designers to understand their accessibility awareness and any challenges that they face.

Moreover, another important aspect to take into account when discussing accessibility are the universities that play an important role in serving governmental agencies [4], in training experts, and in bringing new ideas to a society [12]. Accessibility education and training are crucial if we want designers to fully understand and create accessible content [27, 30, 47] Thus, we are motivated to focus on education settings in Iran to find out whether they impart knowledge on accessibility by connecting to instructors and students in Iranian universities.

6 CONCLUSION

We investigated the state of digital accessibility in Iran by exploring its government policies and we wanted to know to what extent accessibility was addressed in Iran's laws and regulations. We presented the first study on the above criteria in Iran showing that accessibility is not considered an essential topic in this country. Our results suggest that there is a possible lack of accessibility awareness in Iran and this work could be beneficial for informing the Iranian policymakers, designers, and HCI and disability communities of the importance of digital accessibility. Our study with our long-term plans is a starting point for improving digital accessibility in Iran.

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