Chapter 8
Use of Audio–Based Mobile Assistant for Reading Texts as Support for Blind Users

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ABSTRACT

In order to give visually impaired people a greater degree of inclusion in society, it is necessary to consider not only aspects related to independence in their physical mobility but also in their intellectual and labor mobility. Currently if a blind person needs information from a book, it must be previously translated in Braille language; in addition, the person must know this language or in the absence there should be the audio version. Most public and private libraries do not currently have books in Braille versions or in their absence audio books, so getting the information to perform some task is complicated. On the other hand, translating books from their original version into Braille language or its audio version is a titanic and expensive task, so in the chapter, the authors propose a technological solution based on the mobile platforms for the blind to perform this task in the place and time necessary without more resources than a Smartphone.

INTRODUCTION

We have all heard different terms used to refer to people with visual disabilities, often not knowing the officially accepted terms or their definition. In the International Classification of Functioning, Disability and Health (World Health Organization), disability is considered as "a generic term that includes deficits, limitations in activity and restrictions on participation" (2018).

For the INEGI, disability is a term that "includes the deficiencies in the structures and functions of the human body, the limitations in the personal capacity to carry out basic tasks of daily life and the restrictions in the social participation that the individual experiences" ("General Law", 2013).

In Mexico, in May 2011 the General Law for the Inclusion of Persons with Disabilities was published in the Official Gazette of the Federation, establishing the conditions under which the State should promote, protect and ensure the full exercise of human rights and rights. Fundamental freedoms of people with disabilities, ensuring their full inclusion in society in a framework of respect, equality and equalization of opportunities. This law recognizes their human rights and mandates the establishment of the necessary public policies for their exercise ("General Law").

According to the INEGI in 2010, for every 100 people with disabilities, 27 reported having difficulty seeing, even wearing glasses, which represents around 1.6 million individuals in the country, a number only exceeded by those with mobility limitations; that is to say, the visual limitations occupy second place in the country (INEGL, 2013).

The "Digital gap" is the distance that exists in the different activities of individuals and their geographical, social or work environments in the different socioeconomic strata in relation to their opportunities to access ICT and Internet use (INEGL, 2013). One of the most vulnerable populations in this context are people with some disability, because they do not have the availability of information, access to education or public spaces. The educational institutions, governmental and private, operate without thinking about all the capacities of the population that inhabits them. Get the displacement from one place to another for a person with visual impairment (DV) in the city or town where they live so they can perform their daily activities such as going to work, school, supermarket or perform a procedure of any kind it can be a complex activity. Most people with DV perform these tasks in the company of a family member and very rarely do it independently (OECD, 2001).

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