

# Good Practices in E-Government Accessibility: Lessons From the European Union

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**Fernando Almeida**

 <https://orcid.org/0000-0002-6758-4843>

*Polytechnic Institute of Gaya, Portugal*

**José Augusto Monteiro**

 <https://orcid.org/0000-0001-8743-3826>

*Polytechnic Institute of Gaya, Portugal*

## INTRODUCTION

e-Government has assumed a growing importance in society, enabling the modernization of public administration through the use of information and communication technologies. Several studies worldwide, particularly in United States, Europe and Gulf countries, have reported the evolution of this paradigm and proposed several frameworks for its adoption (Baker, 2009; Alhomod & Shafi, 2012; Mansour, 2012). However, technology is not the only pillar that contributes to the success of an e-Government system, and the involvement of public institutions, their employees and citizens is also crucial. The aim of e-Government is to bring public administration and public services closer to citizens in order to maximize the efficiency of public services and, therefore, contribute to a more democratic and fair society.

At European level, e-Government is seen as one of the pillars in the construction of a Europe that promotes the integration and inclusion of citizens and contributes to the creation of European citizenship. The e-Government Action Plan 2016-2020 defines three main axes in its mission (EU, 2017a): (i) to modernize public administration; (ii) to achieve the digital internet market; and (iii) to engage more with citizens and businesses to deliver high quality services. It is conceivable to conclude that e-Government is seen by European institutions as an important policy to promote citizenship, to drive change in public services, to disseminate technology, to foster the integration of systems and processes, and to promote digital inclusion of citizens.

e-Government platform should be inclusive and provide the same access opportunities to all citizens. In this sense, e-Government should be accessible. Thus, the concept of accessibility in the context of Web applications is associated with the effective availability of information to all users, regardless of the technology and platforms used and the sensory and functional capacities of the user. e-Government services should contribute to the inclusion of people with special needs and provide mechanisms to help them overcome traditional physical barriers (Leist & Smith, 2014). In fact, the European Commission (EC) argues in its program of employment, social affairs & inclusion that it is fundamental that the European Union (EU) promotes the full participation of disabled people in society (EU, 2017b). EC clearly states that “disability is a right issue and not a matter of discretion” (EU, 2017b). Additionally, it is important to consider that the European population is aging, which increases the relevance of accessibility, because it is expected that older people will face greater difficulties in using technology.

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In this sense, we intend to identify the accessibility standards that must be adopted in the development of European and National e-Government services. We perform a comparative analysis of each of them, emphasizing their benefits for the inclusion of citizens, but also presenting their current limitations. Likewise, we intend to distinguish between the existing accessibility standards that are mandatory and the good practices that are suggested to be relevant to the inclusion of people and to promote a growing adoption of online public services by all citizens. Finally, we identify and describe how the best practices are implemented and achieved in e-Government solutions, giving some examples in Europe and in different EU countries.

The manuscript is organized as follows: Initially a literature review is performed to identify the main relevant accessibility standards adopted in European and National e-Government services. Also in this section, this study discusses the main good practices in accessibility that can be found in e-Government platforms. After that, the methodology is presented, which includes an analysis of the top-4 countries in the e-Government Benchmark 2017. Four case studies are considered: (i) Malta; (ii) Denmark; (iii) Sweden; and (iv) Estonia. Subsequently, the manuscript presents some solutions and recommendations and provides insights on future research directions. Finally, the conclusions of this study are drawn.

## **BACKGROUND**

Web accessibility starts from the assumption that the content provided to the users should be delivered and perceptible in, at least, one of three human senses: vision, hearing or touch (Anderson, Bohman, Burmeister, & Sampson-Wild, 2004). The available means to users' interaction with Web must provide an easy and quick way to access all content available, through one or more senses, founded in four principles (Anderson et al., 2004): (i) perception; (ii) operation; (iii) understanding; (iv) robustness. Web technologies had the virtue of making accessible the information, participation and even entertainment, for people who suffer some type/degree of disability. Nevertheless, the inability to operate new ubiquitous devices, due to some type/degree of disability, still exclude people from opportunities in areas such as citizenship, work or leisure (Baptista, Martins, Gonçalves, Branco, & Rocha, 2016).

A report of World Bank (2011) estimates a thousand million people in the World suffering some type/degree of disability. More recently, Baptista et al. (2016) project towards approximately 15% of the population around the world is disabled. The perception of facts, such as: (i) the rise of the global population; (ii) the rise of disabling diseases derived from old age and the rise of live expectancy; (iii) the rise of new disabling pathological phenomena, derived from modern societies; and (iv) the recognition of new forms of disabilities reveals the impact of this population in the social, economic and political plans (Priestley et al., 2016). Socially, the awareness emerges that no one can be considered immune, to someday, suffering from an incapacitating disease or a decrease in mobility, dexterity, and cognitive ability (Money, Lines, Fernando, & Elliman, 2011). In the economic plan, the need emerges to provide goods and services to improve the life quality of the people who suffer some type/degree of disability or whose physical conditions, restricts the access to services and the ability to carry out independent living tasks, such as grocery shopping, bill payment, and accessing social services. In the political plan, the consciousness of individuals who live with people with some type/degree of disability and the disabled people themselves, put pressure on governments to adopt policies to improve his own life quality (Priestley et al., 2016). Some of the barriers of Web accessibility that justifies differences among countries meet explanation in the socio-economical differences, more particularly on aspects like, connectivity and the cost to get access to the Internet, policies to encourage the adoption of the digital or lack of inclusive Websites (Andreasson & Snarud, 2014; Kubitschke, Cullen, Dolphin, Laurin, & Cederbom, 2013).

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