Chapter 9
Enhancing Accessibility to E–Government Processes

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ABSTRACT

Many governmental institutions have started to provide their customers with access to governmental documents by electronic means. This changes the way of interaction between authorities and citizens considerably. Hence, it is worthwhile to look at both the chances and the risks that this process of change implies for disabled citizens. Due to different laws or legal directives governmental authorities have a particular responsibility to consider also the needs of handicapped persons. Therefore, they need to apply appropriate techniques for these groups to avoid an "Accessibility Divide". This discussion is built on the observation that governmental processes are mostly based on the exchange of forms between authorities and citizens. Authors state that such processes can be distinguished into three scenarios, with the use of paper as means of transport on the one end and complete electronic treatment at the other end. For each scenario there exist tools to improve accessibility for people with certain disabilities. These tools include standard technologies like improved Web access by magnifying characters, assistive technologies like document cameras, and more sophisticated approaches like integrated solutions for handling forms and government processes. This chapter focuses on approaches that provide access to governmental processes for people with visual impairments, elderly people, illiterates, or immigrants.

Additionally, it sees a chance to enable electronic government processes in developing countries where the citizens have less experience in handling IT-based processes. The main part of the chapter describes an approach to combine scanned images of paper-based forms containing textual information and text-to-speech synthesis yielding an audio-visual document representation. It exploits standard document formats based on XML and web service technology to achieve independency from software and hardware platforms. This is also helpful for conventional governmental processes because people within the group of interest stated above often also have problems to access non-digitized information, for instance when they have to read announcements within public administration offices.

INTRODUCTION

In recent years much effort has been spent in Human Computer Interfaces to improve access for handicapped persons to computer systems (Muller et al. 1997). To a major extent these activities are enforced by legislative constraints that exist in the US, e.g. the Americans with Disabilities Act (United States of America, 1990) as well as in the European Union (European Commission, 2000), and in its member countries, like in Germany (Bundesrepublik Deutschland, 2006, Bundesrepublik Deutschland, 2002). However, in most countries these efforts have not yet reached their final destination. To a large amount these realizations allow the user only to download particular forms, to print them, and to send it back to the governmental institution after some information has been inserted. While for the web based information systems accessibility aspects are often considered in e-Government platforms, for the procedure of forms filling support for disabled persons is often missing. In many cases it is necessary to process printed documents, yielding a point of media disruption which is difficult to handle for many users with particular handicaps.

In this chapter, authors want to evaluate possible scenarios and interim steps while implementing electronic processes in authorities. Thus, more is necessary then supporting electronic forms. They want to take a look at the e-Government sector and the efforts to make it accessible. To clarify the special needs we must have a closer look on the impairments and corresponding assistive tools. Therefore, this chapter discusses in more detail an approach to build interfaces to governmental forms. This exploits different computer science techniques e.g., from the fields of document analysis, language processing, and distributed systems to develop a solution.

Its document representation is based on XML structures and communication is implemented by using web services, which guarantees independence from software and hardware platforms. In most cases when people speak about documents, they have in mind governmental forms, which are used to provide and to maintain information that is necessary to execute governmental processes. This research affirms the stringent necessity of making e-Government processes available for almost all people to lead them to an autonomous and self-determined life.

BACKGROUND

Regarding accessibility to e-Government processes, at first it has to consider the processes that already occur in general (<- or re-write, please). In this aspect, authors explained three main E-Government scenarios in this section showing the diversity of the integration of IT in public authorities. Thereafter, they describe how these scenarios are related to accessibility issues.

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