

## Chapter 3

# Voice-Based E-Learning Approach for E-Government

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### ABSTRACT

*Government establishments are most times highly involved in different reorganization programs. The processes in e-Government are diversified and complex, hence the need for an appropriate training and learning strategy for governmental employees. Changing business processes and organizational structures always mean that the personnel have to be familiar with the changed procedures. Consequently, the employees need to be trained to develop capacity for new responsibilities. Existing methods of learning and training do not make provision for certain category of employees such as the visually impaired. They do not provide an alternative learning platform for government of employees that are not physically challenged. Many studies have demonstrated the value of several learning platforms, including mobile learning (m-Learning) but with the problems of access barriers and streamlined participation of most learners. The purpose of this chapter is to propose a voice-based e-Learning system, also known as voice-learning (v-Learning) as a variant of the m-Learning with particular relevance for the visually and mobility impaired learners. V-Learning makes possible ubiquitous learning in e-Government and provides additional capacity and speed of response to help facilitate change. Cost reduction is also achieved and there is no shortage of teachers.*

DOI: 10.4018/978-1-61520-789-3.ch003

## **INTRODUCTION**

At the end of this chapter, readers will understand the:

- meaning of e-Government and voice-based e-Learning
- concept of voice-based e-Learning approach for the visually impaired
- technologies for voice-based e-Learning in e-Government
- benefits of voice-based e-Learning systems in e-Government
- challenges in voice-based learning in e-Government
- recommendations for the implementation of voice-based e-Learning in e-Government

## **BACKGROUND**

E-Government is the use of Information and Communication Technologies (ICT) to support government operations and service delivery in a responsive and cost-effective manner (eGovt, 2005). It facilitates administrative and managerial functions, providing citizens and stakeholders with convenient access to government information, facilitating interaction and transactions with stakeholders, and providing better opportunities to participate in democratic institutions and processes (Anttiroiko, 2008).

The use of ICT in government activities has become a common phenomenon in recent years. In the late 1990s, a unique concept known as electronic government (e-Government) was introduced in the field of public administration (Hasan, 2003). ICT has been identified as a tool that provides the services of governance in the areas of e-Administration, e-Voting, e-Democracy, e-Health, to mention but a few. To date, various technologies have been applied to support the unique characteristics of e-Government, includ-

ing interactive voice response (IVR), voice mail, email, web service delivery, virtual reality, augmented reality, etc.

The web and other technologies have shown great potentials for effective and efficient tools that collect, store, collate and manage voluminous information. The most current information can be uploaded and downloaded on the Internet in a real-time. Government can also transfer funds electronically to governmental agencies or provide information to public employees through the Intranet or Internet. Additionally, governments can perform many routine functions more easily and quickly. Web technologies also facilitate government links with the citizenry for services, political activities, other governmental agencies and businesses.

E-learning is a method of facilitating and enhancing learning based on the use of computer and communications technology. The term is commonly used to refer to learning or training that is delivered over an Intranet or the Internet (“e-Learning Glossary”, 2008). There are different categories of e-Learning environment. The first category is the traditional formal education. Here, teacher and students have to be physically present in a classroom. The major communication means between the teachers and students is face to face. Distance education is the second category; with the development of communication network technologies in the industrial age, teachers and students are separated by space and time. Communication between teachers and students is achieved by using traditional mail, phone, radio and television.

The electronic revolution and the invention of Internet gave rise to e-Learning that has become the third category. Since then different types of media like text, audio, video, hypertext simulations and two-way communication have been used commonly in education. The m-Learning that constitutes the fourth category involves the use of mobile communication tools like mobile phone,

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