

Chapter XV

Virtual Assistants for E–Government Interaction

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ABSTRACT

The objective of this chapter is to provide an example of a user-friendly interface for knowledge management and information retrieval, through the use of virtual assistants in E-government applications. The chapter is going to provide a short state of the art on virtual assistants technology, highlighting the knowledge management aspects. Two case studies: the Mexican state of Guanajuato, and the Federal Government Citizen's Web Page will be presented and discussed. These case studies provide new insights into access methods, interfaces and ways to query and present information in e-government applications.

INTRODUCTION

E-government portals are improving the way citizens interact with government. However the government officials are not always aware of the users needs and expectations; many e-government portals start as an unidirectional communication channel designed to provide general information about bureaucratic processes and transactions.

The new trend of e-government portals is to establish a bidirectional communication to better address the citizens needs and expectations, becoming more friendly sites. According to this goal, the governments – local, state and federal – are increasing their efforts to assess their portals and improve them. The search for better communication and interaction paradigms has led to the use of virtual assistants as an important element in the user interface of an e-government portal.

The aim of this chapter is to explain how virtual assistants can be used to facilitate the interaction of citizens with e-government portals and analyze their effectiveness in a real situation (e-government portal of the Guanajuato state). virtual assistants are usually presented in the form of virtual characters that can have a realistic or a cartoon-like appearance. They are visualized using video or 3D graphics and are able to answer questions asked in a written or even oral form. Furthermore, the chapter will try to relate the implications of virtual assistants in the e-government processes. Eventually, it would justify the insinuation of data mining in the knowledge management system, utilizing virtual assistants.

This chapter will be divided in the following sections:

A review of the e-government concepts required to understand the use and potential benefits of virtual assistants in e-government portals. A brief introduction to virtual assistants technology. Role of virtual assistants in the knowledge management processes and effectiveness of virtual assistants in the e-governance systems. Two case studies representing the use of a virtual assistant in the e-government portal of the Mexican state of Guanajuato. The description will include: history about internet achievements in government, process of implementation, analysis of recently obtained data concerning the performance and user acceptance of the technology.

Discussion and conclusions, providing a set of best practices and other recommendations concerning the use of virtual assistants in e-government portals.

The Methodology of the chapter will contain two kinds of information: Theory about the virtual assistants research and e-government. Data collected by the authors directly from the sources, including: interviews with the systems director in charge of the virtual assistant, and statistics from the governmental source: number of visits, number of questions answered, costs, etc. The final section is on future research.

BACKGROUND

E-Government Theoretical Framework

There are numerous conceptualizations about electronic government. West and Berman (2001) state that the electronic government "... refers to the delivery of information and services online through the internet" that implies the use of web pages – Internet- to deliver government information and services to the citizens.

Araujo (2004) understand e-government as: "the way in which the government employs the new technologies to offer the people a better access to the information and the government services, to improve the quality of public services and to provide more opportunities to participate in the democratic institution and the processes".

Gil-Garcia and Luna (2003) tried to integrate the concept and understand the electronic government from more administrative or organizational perspectives. They have also studied the evolution of the concept. On the other hand, the concept proposed by Holmes (2001) is the closest one to this study and complements the concepts of West and Berman:

Electronic government is the use of information technology, in particular intern, to deliver public services in a much more convenient, customer oriented, cost effective, and altogether different and better way

From a more institutional perspective, the World Bank (2008) states that e-government

refers to the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens,

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