Chapter 1

A Semantic Approach to Evaluate Web Content of Government Websites

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ABSTRACT

Government agencies rely on websites to disseminate large volumes of information to the citizens. As public information changes over time due to changes in laws and regulations, maintaining currency and consistency of the web content becomes acutely important. Government agencies have to regularly evaluate the web content (WC) to ensure high quality of information available to the citizens, businesses, and public administrators. Currently there exists no standardized approach for monitoring and maintaining WC. In this chapter, the authors propose a WC ontology for the systematic and formal representation of the concepts and functions associated with the evaluation of web content on government websites. An ontology-based evaluation tool is proposed that can be used to improve the quality of web content and efficiency of the evaluation process. The ontological approach holds promising features and benefits including information sharing, reducing time and paperwork during evaluation, assuring more accurate results, and communicating evaluation results to knowledge engineers, public administrators, evaluators, and decision makers engaged in e-government initiatives.

DOI: 10.4018/978-1-5225-5966-5.ch001
1. INTRODUCTION

Openness, transparency, and accountability in the public sector are increasingly important to establish trust in public authorities. Many jurisdictions have introduced e-government initiatives and information policies on public services to facilitate these functions and to enhance the effectiveness of public authorities in meeting these obligations (Shepherd, Stevenson, & Flinn, 2010). E-government is fundamental to the modernization of any government (Lin, Fofanah, & Liang, 2011). It enables citizens and businesses to access government services and information through the use of Internet and other channels of communication (Lin et al., 2011; Valdés et al., 2011; Wimmer, 2002).

E-government initiatives provide enormous volume of information via online content and offers numerous benefits to the public and to other government agencies. Content made available through e-government websites include texts, images, scripts, and different types of documents. Information disseminated through government websites educate citizens, elevate the level of government transparency (Hernon & Relyea, 1995), and reduce mailing and paper printing costs (Fountain, 2002; Relyea, 2002). Moreover, it maximizes efficiency, effectiveness, speed, productivity and service delivery of government services (Sarantis, Charalabidis, & Askounis, 2011; Wimmer, 2002).

In addition to textual content, web content (WC) includes the presentation and layout of information and functions on the website (Santos, 2003). Web content management can be defined as the process of creating, storing, publishing, and updating the web content of organizational websites to communicate with the internal and external stakeholders (Qin, 2004). However, managing government web content is complex for several reasons (Eschenfelder, 2004). 1) E-Government initiatives are centralized, yet distributed in nature (Landsbergen Jr & Wolken Jr, 2001). So, it requires extensive oversight and coordination to ensure compliance with policies and standards. 2) Maintaining currency of the content is difficult as public information changes when legislations change over time (e.g., goals, objectives, practices, etc.) 3) The employees who create and maintain content are usually spread throughout the organization and report to different managers. In addition, legislative requirements have to be adhered during the management of web content.

Government agencies have unique requirements that make the evaluation of WC different from commercial agencies. First and foremost, the government agencies have to undertake regular WC evaluation to ascertain that the content delivered is accurate and consistent and offers the desired benefits at an acceptable cost. Second, the evaluation enables continuous refinement of the website content and related processes based on the evolving needs of stakeholders. Third, web content evaluation is important to ensure that government websites meet the standards of governmental and legislative requirements.

Many frameworks and models have also been proposed to assess e-government research and practice (Ramaprasad, Sánchez-Ortiz, & Syn, 2015), yet there exists no standardized process for evaluating e-government WC. To address this gap, many government agencies have independently developed evaluation tools, manuals, and questionnaire-based guidelines for WC evaluation. For example, the government of Alberta in Canada (Govt. of Alberta, 2004) has developed a comprehensive guide to manage and assess web content. The Australian government has an online web guide to monitor and evaluate government websites\(^1\). American agencies rely on HowTo.gov guide to assess their WC\(^2\). Thus, in many cases, agencies develop and follow their own internally developed guidelines for WC assessment. More recently, content management systems have emerged to assist in the designing, managing, and monitoring web content of e-government projects (Joha & Janssen, 2010). They provide capabilities such as decentralized