Chapter 50

Designing a Semantic Tool to Evaluate Web Content of Government Websites

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ABSTRACT

E-government initiatives provide enormous volume of information via online content. As public information changes over time due to changes in laws and regulations, maintaining the 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. By analyzing the guidelines of three government organizations, the authors develop WC ontology for the systematic and formal representation of the concepts and functions in evaluating web content. 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 paper work during evaluation, assuring more accurate results, and communicating evaluation results to knowledge engineers, public administrators, evaluators and decision makers associated with e-government initiatives.

1. INTRODUCTION

Openness, transparency, and accountability in the public sector are increasingly important to establishing trust in the 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){Shepherd, 2010 #59;Shepherd, 2010 #59}. E-Government is fundamental in 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).

To maximize the efficiency, effectiveness, speed, productivity and service delivery (Sarantis, Charalabidis, & Askounis, 2011; Wimmer, 2002), e-government initiatives provide enormous volume of information via online content. The content made available through websites include texts, images, scripts, and different types of documents. Government websites offer numerous benefits to the public and to other government agencies. Information disseminated through government websites educate citizens, elevate the level of government transparency (Hernon & Relyea, 1995), and reduce mailing and paper printing costs (J. Fountain, 2002; Relyea, 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 web content of the organizational website to communicate with the internal and external stakeholders (Qin, 2004). However, managing government web content is considered complex for several reasons (Eschenfelder, 2004). E-Government initiatives are centralized, yet distributed in nature (Landsbergen Jr & Wolken Jr, 2001). Thus it requires extensive oversight and coordination to ensure compliance with policies and standards. Maintaining currency of the content is difficult as public information changes when legislations change over time (e.g., goals, objectives, practices, etc.). 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 undertake the evaluation of WC to ensure that the agency websites meet the needs of government agencies and citizens. The evaluation of WC is carried out for many reasons. First and foremost, the evaluation process is needed to ascertain that the content delivered is accurate and consistent. The content provided should offer the desired benefits at an acceptable cost. Second, the evaluation process helps to continuously refine the scope of the website content and related activities based on the needs of the stakeholders. Last but not least, the evaluation process helps in ensuring that the website content meets the standard of governmental and legislative requirements.

Although the evaluation of WC has clear benefits to the government agencies, research in this area is limited, and there exists no standardized process for this function. Many government agencies have independently developed evaluation tools, manuals, and questionnaire based guidelines for this purpose. 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]. If an agency wants to assess its WC, they follow the guidelines and answer a set of detailed questionnaires. This traditional approach requires the user to complete a form based questionnaire, the answers to which are subsequently appraised manually to determine if the various criteria have been satisfied.

Currently, there exists no solution to automate or semi-automate the process of evaluating the web content associated with e-government programs. Maintaining consistency, establishing quality and ensuring accuracy of the web content are a tedious and time consuming process. Recently, content management systems have emerged to assist in the designing, managing, and monitoring the web content of e-government projects (Joha & Janssen, 2010). They provide capabilities such as decentralized authoring, workflow management, and separation of content from presentation. However, challenges

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