Towards a Reference Model and a Web-Based Framework for eParticipation Services Design

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ABSTRACT

eParticipation involves the use of Information and Communication Technologies (ICTs) for facilitating the two-way communication between governments and citizens. Designing eParticipation activities is a complex task. Challenges include the need for interdisciplinary expertise and knowledge (e.g., in political, sociology, usability and technology domains) and the lack of widely accepted models and technological standards. This paper paves the way for the definition of a basic reference model for eParticipation, providing guidelines for the design, implementation and management of eParticipation web applications. This model was put into practice for the design of an eParticipation Framework helping users in designing, customizing and deploying web-based services for a given eParticipation process. The authors also report on the experimental use of the Framework in a group of Tuscany municipalities for carrying out participatory budget activities.

Keywords: eDemocracy, eGovernment, eParticipation, Information and Communication Technologies, Participatory Budget, Policymaking, Web Application, Web Science

INTRODUCTION

Many governments around the world are promoting initiatives in the e-Government domain, with the objective of rationalizing internal processes and improving services delivered to citizens, while containing costs (Hassan, Shebab & Peppard, 2011; Heeks & Bailur, 2007; Steyaert, 2002).

Among several e-Government application domains, eParticipation involves the use of Information and Communication Technologies (ICT) for facilitating the two-way communication between governments and citizens. According to the definition provided by Creighton (2005), "public participation is the process by which public concerns, needs, and values are incorporated into governmental and corporate decision making. It is two-way communication and interaction, with the overall goal of better decisions that are supported by the public".

Typically, public participation processes include actions for informing, involving and

consulting citizens within one or more specific stages of the democratic process.

Designing eParticipation activities is a complex task. Challenges include the need for interdisciplinary expertise and knowledge in different domains (e.g., political, sociology, usability and technology domains), as well as the lack of widely accepted models and technological standards.

Despite the widespread adoption of ICT tools for the carrying out of participatory processes, low support is provided to designers in the overall design of the participation process, from high-level requirements specifications to technical implementation and deployment of web-based services.

Public bodies (typically municipalities) can define different policies for participation, by asking for citizens' involvement for different purposes and within different stages of the policy making process. In this context, the main objective of this work consists in devising a configurable and extensible Framework that designers can use to put such high-level participation guidelines and rules into practice. Configurability and extensibility requirements have to be taken into account in order to promote the re-use and the evolution of the framework by public bodies.

In order to cope with these issues, the intended contribution of this work can be distinguished into:

• A general-purpose model for e-Participation defined as the intertwining of a policy-making process and participation activities.
• A set of guidelines helping eparticipation designers in choosing most appropriate information and communication services for each type of on-line participation activity.
• An eparticipation framework helping users in designing, customizing and deploying web-based services for a given eparticipation process.

These activities were carried out in the framework of "Telep@b", a two-year project funded by the Italian Minister for Innovation in Public Administration. Within Telep@b, the eParticipation Framework was exploited to implement participatory budget processes in a group of municipalities in Tuscany (a region in Italy). This reference scenario was especially challenging, since each municipality was administratively and operationally autonomous in defining and implementing its own participatory process. Lessons learnt from this experience are driving re-design and experimentation activities in a follow-on project, named PAAS-Telep@b.

RELATED WORK

The discussion on the exploitation of ICTs to improve quality and effectiveness of governance process and citizens' participation into the democracy process is not novel. Some of the earliest contributions have been provided by Arterton (1987), Becker (1993) and McLean (1989), who investigated the potential role of interactive television and telephone/conferencing systems. In the last decade and half, the focus has been shifted on internet and web technologies, starting from some seminal contributions, including the ones provided by Bellamy and Taylor (1998), Kamarck and Nye (1999), and Gattiker (2001).

Information and Communication technologies can be exploited in democratic processes for three main purposes: *to provide and disseminate information, to facilitate communication and interaction, and to make transactions such as televoting or payments possible* (Anttiroiko, 2003, p.125).

This is also a direct consequence of the great success of the Web, since its conception in the 1990s. The Web cannot be characterized merely in terms of technological factors (e.g. architectures and protocols). Its inventor, Tim Berners Lee, argues the need for adopting a systems approach to model the Web and its impact on the social sphere (Hendler, Shadbolt, Hall, Berners-Lee & Weitzner, 2008). This is required to properly study the evolution of the Web and to prevent possible unanticipated social effects.

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