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A knowledge-based approach for developing multi-channel e-government services

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Abstract

Having realised the benefits resulting from delivering on-line public services in the context of electronic government, administrations strive to extend the spectrum of services offered to citizens and enterprises, as well as to engage multiple communication channels in service delivery, in order to increase the target audience and, consequently, the service effectiveness. Insofar, however, only the web channel has been sufficiently used for service delivery, whereas other channels have not been adequately exploited. One of the main reasons of this lag is the cost incurred for the development and maintenance of multiple versions of an electronic service, each version targeted to a different platform. In this paper, we present an approach and the associated tools for developing and maintaining electronic services that allows the automated production of different versions of the electronic service, each targeted to a specific platform.

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1. Introduction

According to the European Commission, electronic government can be defined as an ever-increasing and pervasive use of information and communication technologies in the context of the Information Society, which more and more affects the public sector; the importance of this development is increasingly acknowledged in many countries around the world and experiments are being conducted at all levels of government – local, regional, national and European – to improve the functioning of public services concerned and to extend their interaction with the outside world [1]. This interaction is mainly performed in order to achieve three goals: providing public services, improving managerial effectiveness and promoting democracy [2]. For public services provision in particular, benchmarks have been defined [3] and studies have been conducted regarding the development and sophistication of on-line services ([4–6]).

Besides however promoting on-line availability and sophistication of their services, administrations should also take into account the channels through which their services are delivered. Traditionally, administrations deliver their services through the web, while other potential service delivery channels (e.g. WAP, i-mode, SMS, phone centres) are not adequately considered in most cases. This policy though introduces additional barriers to the service acceptance and use by citizens for a number of reasons including:

1. Internet usage: in order to use some service deployed through the WWW a citizen should have access to the Internet. Since not all potential service users have access to the Internet (studies report that Internet usage – either from home or from work – ranges from 66.5% in North America to 31.6% in Europe (in average) [7]), limiting a service to the WWW channel effectively excludes a large portion of the population. Although several measures can be taken to alleviate this problem,