

USE-ME.GOV: USABILITY- DRIVEN OPEN PLATFORM FOR MOBILE GOVERNMENT

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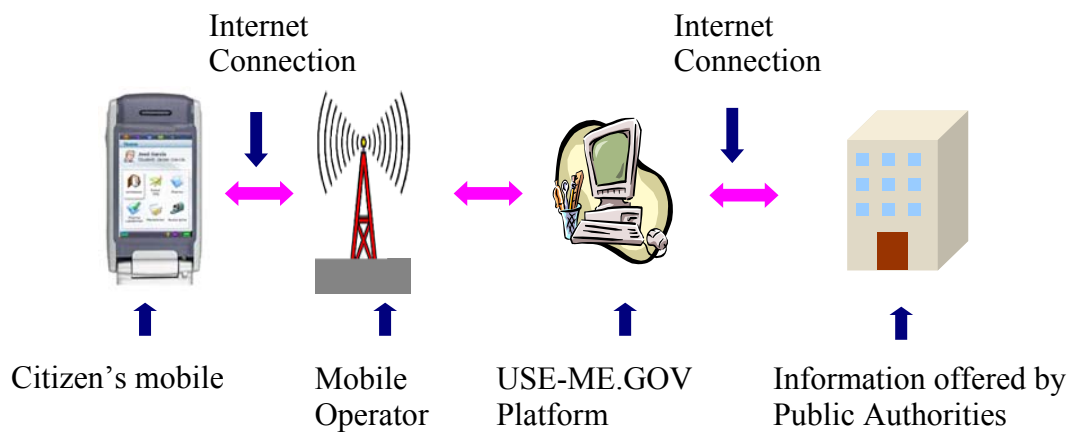
USE-ME.GOV is a project carried out by an European consortium formed by three town halls, a regional government, two universities, two research institutions, and several technological companies from different countries: Spain, Portugal, France, Italy, Germany and Poland. The project, which is included in the VI Framework Programme of European Union, started in January 2004 and will finish in February 2006.



Figure 1. USE-ME.GOV logo

The main goal of the USE-ME.GOV project is to support and encourage public administrations to provide access to new e-government services at any time and anywhere through the use of Internet in the mobile communications technologies, and a next-generation open service platform for mobile users that can be shared by networked authorities and institutions in terms of technical infrastructure, information as well as a framework for commercial exploitation. This contribution is seen as a promising approach to harmonise the quality of public services.

The best way to understand how USE-ME.GOV platform works is with a picture.



Figure

2. USE-

ME.GOV operation

In this picture, it can be seen that the USE-ME.GOV platform is a communication bridge between the information offered by public authorities and the citizen. The user, using his mobile, will establish an Internet connection with the USE-ME.GOV service platform through the telephone network. In his mobile, this platform will show a friendly interface with the different options he could want to know. After selecting the right option, the USE-ME.GOV service platform will carry out an information request to the database of the public authority, using an Internet connection, too. Once the USE-ME.GOV service platform has the user's required information, this will be shown in the user's mobile.

Four representative pilot services have been selected to be implemented during the course of the project, covering identified common as well as particular needs, whilst maintaining diversity of service characteristics and adequacy with regard to the research and development objectives of the USE-ME.GOV project.

The first pilot service that is going to be explained is the Mobile Student Service, which is going to be deployed in Spain, specifically in two high schools of the Extremadura region, and it will provide parents and students the possibility to consult academic information about students.

For this service to be operative has been necessary to install some open software in the servers of the high schools. Over the Linux operative system (set in all high schools computers of the region), it has been installed Java Runtime Environment, Tomcat (an open source project of Apache web server), and the open source database system PostgreSQL, which are the tools with which the USE-ME.GOV platform works. Besides, that software is necessary for a web application, which is going to be managed by teachers, works. This application, which is easily handled, has been installed in the computers that teachers have in their classrooms to introduce the academic information about students. The academic data that can be consulted is different for parents and students. The one that can be checked by students includes: class schedule, class information (homework and exams of every subject), mark of every exam, information about extracurricular activities, excursions... The parents can not only consult this information but also they can select the student they want to get the information about (if they have more than a son or a daughter in that high school), report and validate students' absences, validate students' marks and receive other kind of information like meetings of parents and students association. Figure 3 is an example of the interfaces that can be shown to parents. To access to any kind of service, the user must introduce a password or pin at the beginning, for information of other users not to be accessed, or, for example, for students not to validate their own absences or marks.

The second pilot service is the City Information Broadcast Service, which is going to be deployed in Italy, and specifically in the City of Bologna. This service will offer the latest up-to-date information to the citizen, namely short-term announcements concerning public road workings, road closure and other occurrences with impact on local traffic conditions, including notifications on strikes or emergencies, and information about local events.



Choose Student Parent Main Menu Parent Secondary Validate Marks
Menu

Figure 3. Parent interfaces for Mobile Student Service.

The third pilot service, called the Health Care Information Service, is going to be tested in Poland, particularly in the City of Gdynia. The main objective of this service is to provide information on healthcare prevention programmes and initiatives in particular for target groups through mobile means. In addition, this service offers to the mobile user the opportunity to request appointments at the healthcare centre according to his/her needs (medical specialty) and personal preferences (data, time).

The fourth pilot service is the Complaint Service, and is going to be tested in the Portuguese city of Villa Nova da Cerveira. It aims to foster the participation of citizen in local community matters by allowing them to exercise citizenship and report detected problems and to make corresponding complaints and suggestions right from the spot and at any time, taking at the same time into account that the complaint is directed to the correct entity that signs responsible for the kind of reported problem.

One goal of the USE-ME.GOV platform is to stay open and interoperable both among the already designed components and possible future enhancements in terms of platform functionality, being

open to all stakeholders that jointly participate in the exploitation framework. Research and innovation therefore considered existing and evolving standards for open and interoperable solutions design as well as sharing and re-utilization of platform components, with positive impact on deployment and maintenance costs for the participating organisations. However, the most innovative aspect of the platform design is actually a functional one: the platform is designed to be multi-operator (not to be depending of a particular operator) and multi-service due to the use of common open standards (OSA Parlay) and Web Services, since technical aspects of USE-ME.GOV impose the platform to utilize and accept common standards of the most influential standardization bodies, notably W3C (World Wide Web Consortium) organization. Therefore, the platform design includes:

a) Service Oriented Architecture (SOA): to ensure broad accessibility of the platform, architecture needs to be extensible and new entities must be enabled to join the platform. Web services were found to support most appropriately our SOA approach allowing for sharing of resources and platform functionality. Moreover, the selection of pilot services followed the need to consider the largest possible set of functional platform capabilities.

b) OSA/Parlay: interoperability with mobile operators is considered a key issue. The platform hence supports OSA/Parlay, however it was found that the support (by the operators) for this standard is still limited.

c) Open standards: openness is ensured by the utilization of open standards, namely with regard to W3C that is regarded as the leading organization for open standards provisioning. Open standards used are: HTTP (HyperText Transfer Protocol) and XML (eXtensible Markup Language) for transmission and message encoding; WSDL (Web Services Description Language), SOAP (Simple Object Access Protocol) and XML for message representation, transport and resources representation; RDF (Resource Description Framework), OWL (Ontology Web Language) and OWL-S (Ontology Web Language- Semantic) for service description; OWL DL (Ontology Web Language Description Logic) for simple inference rules; UAProf (User Agent Profile) for representation of terminal capabilities and preferences; and XACML (eXtensible Access Control

Markup Language) for provisioning of authorisation rules.

To conclude, the objective of this project is to provide access to new e-government services through the use of Internet in mobile phones at any time and anywhere. To obtain this objective, four pilot services are going to be tested to find possible technical difficulties or problems to be solved, to find attractive business models to be implant into society... In short, if it is possible to convert mobile phones in the most useful and efficient tools to access to the information spread by public authorities.

Keywords: USE-ME.GOV, open platform, mobile phones, e-government

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