Bologna engages with Open Source

Sensitive to Open Source development, the city of Bologna takes part in further Open Source actions among which two EU projects: USE-ME.GOV Project (I) and the ACTOS Project (II). In addition to this projects, Bologna hopes to launch another project based on Open Source Software technology and called "TARTESSOS" (III).

In these projects, Bologna mainly focused on the development of Open Source technologies.

I. The USE-ME.GOV Project

The USE-ME.GOV Project (USability-driven open platform for Mobile GOVernment) aims at creating an open service platform for mobile users that will be shared by networked authorities and institutions (e.g. on a regional scale) in terms of technical infrastructure, information (content) as well as a framework for commercial exploitation. The USE-ME.GOV initiative is a European research and development project designed to support and encourage the access to new e-government services and any time and anywhere through the use of mobile communications, Internet and Open source technologies**.**

EDISOFT acts as the project coordinator and contributes with research on the distributed sharing of content, namely with regard to the use of open standards for the sharing of geographical information in open service environments.

 In terms of platform design and implementation of core services, EDISOFT is in charge of content provision and aggregation.

The Content Provision Service (CPS) for example is responsible for retrieving content from GIS, Textual, Video, Sound and Image external data sources. These types of content can be bound to the external end-services, allowing public authorities to integrate their own information combined with content provided by other (public or private) external entities. In order to ensure openness and interoperability of the USE-ME.GOV platform, access to external data sources is implemented through a translation layer that can be adapted to particularities of the data sources (type of content, open standards).

As mentioned above, geographical information is one typical area for the use of open standards for distributed sharing of content. In this respect, EDISOFT ensures that the platform is compliant with W3C openGIS standards, namely the Web Mapping Service (WMS) and Web Feature Service (WFS). EDISOFT is also the provider of the City Information Broadcast Service that aims to deliver information to mobile users according to the specific context in terms of interest and preferences, which also includes time, type of occurrence as well as the geographical scope.

Project Objectives

The project objectives centre on a usability-driven approach for service conception, platform sharing and service application design as well as business models that allow for sustained service provision in order to overcome the major constraints for the exploitation of public mobile services.

The project team will base their work on a few selected types of services that have universal applicability for different countries and regions and that are intended to have a clear, positive impact on the quality of public services. The main goal of this project has therefore been translated into the following objectives:

Open Service Platform for Mobile Government

The USE-ME.GOV project supports authorities entering the mobile market by providing an open source platform that enables authorities:
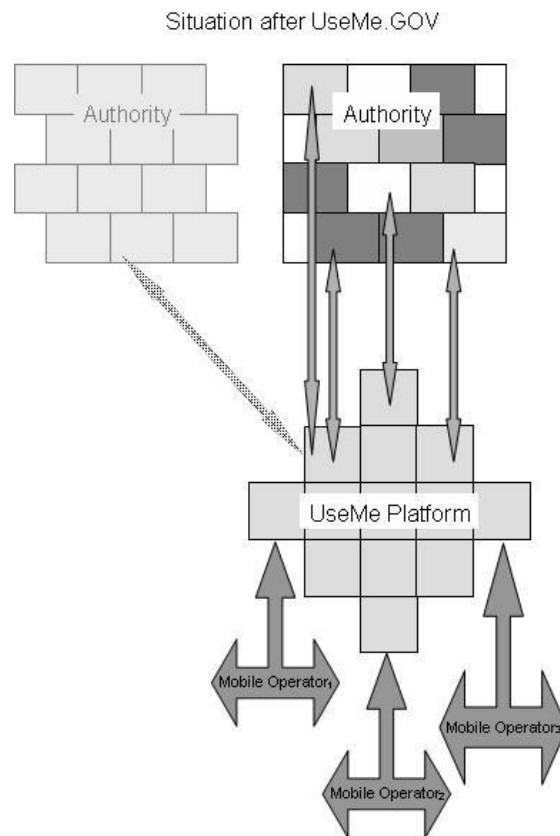
- to share common modules with other departments or authorities (for example subscription, alerting components),
- to secure development and operation by open source transparency,
- to attract further mobile operator independent of respective interfaces, and to estimate efforts, outcome and benefits in advance.

The open service platform must satisfy the most important and critical usability requirements in terms of user-friendly application interface design and interactivity with regard to information search, retrieval and presentation, user-friendly and easy service design, configuration and deployment for the public authority.

Open Service Platform with high-levels requirements

From a rather technical point of view, the platform should further comply with high-level requirements that impact positively on the overall cost of deployment:

- sharing of information (content),
- independence from commercial off-the-shelf software,
- interoperability,
- scalability.

Situation after UseMe.GOV

Attractive Business Models for Mobile Government:

The USE-ME.GOV project will elaborate business models for collaborating partners including public authorities as well as telecommunication and portal providers. A business model is seen as "the way a network of companies intends to create and capture value from the employment of technological opportunities".

The project has already identified a list (non exhaustive) of actors:

- platform operators
- mobile operators
- authorities (as a whole)
- departments and sub-responsibilities
- technical consultants for platform
- portal operators

This list is likely to be extended during the inventory state of the project.

The business models to be elaborated in the course of the project, and in particular under a work package dedicated to the recommendations for service planning will serve as a recommendation for all partners to evaluate who and how partners in the respective service chain act together. This will also give further insights on:

- how services can be provided sustainable in a long term perspective,

- which organisational changes/support are required,
- how service components can be shared among different scenarios.

Recommendations for Service Planning and Implementation:

The USE-ME.GOV project wants to deliver a service planning methodology that can be used by different actors in the planning process, such as the manager for the IST strategic planning working for a regional or local governmental authority, the operational manager who is elaborating new service scenarios for his authority, the technical manager who has to understand the impact of technology choices and requirements for service integration and implementation as well as equivalent roles with regard to the mobile operator and other external (to the authority) provider of content, services and technology.

The project will consider various geographical scenarios throughout Europe and look at fundamental differences in terms of public administration and organisation, existing or planned regional initiatives, crucial social issues, and to a certain extent the impact of legal issues/constraints.

The work will focus on three main areas:
- business planning, apart from providing business models (see second objective) for the particular pilot services and end-user partners (authorities), a methodology for business planning of public mobile services,
- implementation planning, further providing a detailed description of technical and service integration requirements,
- standardisations and regulations, further providing a description of international and national regulatory framework and constraints and standardisation issue to be taken into account.

Conclusion:

The central point the USE-ME.GOV project is to carry out an Open Service Platform allowing networked authorities and institutions to share their technical infrastructure, information as well as a framework for commercial exploitation. It will be designed in order to meet the criteria for openness, interoperability, scalability and security. The USE-ME.GOV service platform will be built on Web Service technology. Open Standards will be applied to service interface descriptions, local service protocols, privacy policies, security models and to data formats such as for geographical and location information.

II. The ACTOS Project

The ACTOS Project (Active Citizenship Through Open Source), still in the "proposal" phase, regards the experimentation of an "open source lab" involving local developer communities to design software for the civic network, portal and community.

For Bologna, horizontal networking is a way for the civic authorities to foster, through the potential of ICT, active citizenship for cultural, economic and social goals, acting as brokers and promoters and not as external controllers

Project objectives

The project aims to develop a coherent Open Source platform of services, methodologies and tools based on a user driven innovation process. The development process will follow the so called bazaar style of the OS model, and users will be treated as co-developers. Through this OS civic platform, news forms of networking between citizens' groups based on knowledge sharing and common interests will be possible. For Bologna, horizontal networking is a way for the civic authorities to foster, through the potential of ICT, active citizenship for cultural, economic and social goals, acting as brokers and promoters and not as external controllers

In parallel, the project will investigate the economic and social conditions that make the OS economy sustainable in the medium-long term, with a clear focus on the role of the local governments.

The project will set up and test the financial, administrative and political viability of an OS Observatory in each of the cities involved, and will carry out a comprehensive policy framework to exploit at different levels the added value created by the OS model.

Finally, recommendations for the progressive migration towards OS solutions in the Informative Infrastructures of the City partners will be formulated.

Open source platform of services, methodologies and tools

ACTOS centres on the users' perspective, the second generation of ICT projects after the civic networks projects. ACTOS would allow cities to enhance an active citizenship based on ICT because citizens are seen as actors at all levels in the decision making processes in e-government issues.
ACTOS' methodology which focuses not on individuals but on network of individuals inspires from the Open Source Software community. The OS of free software communities consist of programmers and users, who contribute to the development of software products by using the internet to communicate and cooperate. Their objective is to produce software that can be distributed freely through Internet without the usual copyright restrictions and, by means of releasing it with source code, to allow everyone to read and modify it. The OS communities depend on horizontal, collaborative and open links in an organised network of people. This knowledge production process, based on co-operation and solidarity as opposed to centralisation, and promoting the participation of users, can be chosen as a model of structuring an active citizenship. It will help to renovate and reshape goals and services realised by local civic networks: civic networks have to pass from the age of common production, e-democracy processes, partnership between communities and cities and have to realize an environment where values, goals and contents could be shared.

<u>A cooperative methodology:</u>

ACTOS follows the OS communities approach: the system of services and tools will be developed with the OS methodology involving the OS local communities under the leadership of the local Universities, and appropriate training will be redesigned and delivered to the young OS developers taking part in the development process. The vital core of this process will be the development of the OS labs in the partners' cities. The design methodology will be cooperative. The same methodologies promoted for cooperation among citizens will be used for the design with less accessible tools and more technical tools.

<u>Consolidate OS communities and encourage active citizenship:</u>

The development of this platform is seen as a chance for the consolidation of the local OS communities in a long lasting and vital economic activity. To help this objective, the project will develop a business framework for sustainable OS activity in each of the city involved and will develop the basic requirements for such a model to be developed all over Europe; further observatories to monitor this development will be set up. The public authorities will utilise the development of the platform and the creation of the observatories as a chance to speed up a process of migration to OS systems of the public authorities ICT systems.

The OS platform of services and tools will also encourage active citizenship through networking between citizens' groups based on knowledge sharing and common interests. The platform is designed to promote the active participation of citizens in the life and choices of their city, and to encourage the creation of communities of people across different cities. Integrated set of accessible web-based services, will facilitate the set up of various types of interest group (politics, music, arts, science…). The platform shall become an indispensable tool for activity management within each group, and it will be a useful communication channel for cooperation between the groups, towards the city itself, and between cities. It will allow informed interaction between the citizens, and shared knowledge creation. Citizens will be given the means to take part in the development process through the mechanisms that are typical of the OS world. Particular groups, general public, authorities will be active within the platform.

<u>A common modular platform architecture</u>

The platform will be agreed among the partner cities that will be based on open standards, including web services, open document format, application programming interfaces, and a common management infrastructure. The architecture will enable new services to be plugged in as required and will provide mechanisms for agreement to be reached on the implementation of such services into the future. The use of open standards will facilitate the integration of business services in the platform as they become available, for such areas as urban planning, transport, regulatory information…

Web-services based APIs will be capable of integration into developments tools such as Netbans and Eclipse, and API libraries will be made available where appropriate to assist developers.

The economic and social conditions

The ACTOS project intends to carry out a research along three lines of actions:

- research on social aspects: new forms of horizontal, multilateral and polycentric aggregation between citizens, stakeholders and Public Authorities, by means of a platform of services and tools developed in OS, using the methods of the OS communities,
- technical research (platform of services and tools development) contributing to local eGovernment standards and infrastructure;
- research on the potential of OS knowledge in terms of social and economic development: the project intends to investigate a business model encompassing the main actors of the value chain of knowledge, which could be sustainable in the long term (with a special focus on employment perspectives).

Open Source Observatory

ACTOS wants to set up an Open Source laboratory/observatory in each of the cities involved composed of representatives of the civic network, the University and the OS community.

This Observatory it shall coordinate the development of the platform in each city, operating as an interface between the design/development/integration activities and the local actors.

For non experienced software developers, apprenticeship will be organised in addition to vocational training modules for the young professionals developing OS software. These trainings will be divided in two main phases: the first oriented to technical skills/needs, the second oriented to OS business creation.

Recommendations:

Recommendations will address the need from a local/regional perspective, but designing global strategies that address not only local setting but the global aspect of the OS economy. A data mining exercise will be conducted to identify existing OS migration. Based on the results, a working document will be developed to elaborate a common trans-European approach on the OS policies conducted at the local level, based on the exchange of good practices as well as on the sharing of work progress and emerging results in the partner Cities.

III. The TARTESSOS project

The participation of Bologna in "OS-focused" EU Projects is not an isolated action. The new City Administration, coherently with its Mandate Program, is now experimenting new methodologies to actively involve citizens in the decision-making processes, and expects that the results of such projects will strongly help the diffusion of a "knowledge sharing" philosophy among citizens through the spread of OS solutions.

TARTESSOS is one of the future projects of the municipality.

Recycling is today the most frequent response for electric and electronic equipments management. Today, comparing with the huge quantity of materials and energy used in the electric and electronic equipments production, only few products are coming from recycling. This implies a big waste of value for this king of equipments. Among electronic and electric equipments, professional computers are the best able for the recycling process, since there are produces in a whole slew and since their lifetime is short comparing their life of usefulness.

The TARTESSOS project aims at developing a professional computing recycling methodology for three Occidental Mediterranean countries (Italy, Spain and Portugal) confronted to computing access difficulties. The project will help these countries to overtake the computing gap between themselves and further European regions.

Three parallel actions will be launched:

- an Open Source Software creation, easy to install and to use. This computing tool will be adapted to potential users and will be able of making use of PC resources in end of life;
- scheduling the different stages salvage end life computers;
- realise digital alphabetisation programmes in regions where computers and computing knowledge are missing.

Based on Open Source software technology, TARTESSOS wants to develop a common methodology for computer recycling. On the long view, the project will encourage employment creation and equality of chances notably in rural areas suffering for economical and social difficulties. Furthermore TARTESSOS participates to a sustainable goods consummation respectful of environment considerations.

The development of an Open Source Software will enable a large participation of users and the support of public authorities.

For Leda Guidi who is responsible of the Iperbole civic network and the communication services for citizens of the Municipality a key element of Open Source development is its agency in pursuing the goal of open standards adoption. Virtual machines and networks based on open standards can play a fundamental role in breaking the lock-in between operating systems, applications and data that prevents many users from changing their environments or working across environments. This is a particularly important issue in relation to local government/governance and municipal information systems for communities.

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With the active participation of the USE-ME.Gov Partners among theme, the Municipality of Bologna (Lorenzo Bertorello and Daniele Tarozzi).
- Michael Nagler, MERIT & Maeva Zebrowski, EUROCITIES

Further information:

- Use-Me project - http://www.usemegov.org
- Commune of Bologna - http://www.comune.bologna.it