

Project Results

SUS

The benefits of interoperability for e-city services

The ITEA 2 Smart Urban Spaces (SUS) project aimed to bring suitable design frameworks and urban standards that will enable European cities to introduce easily and seamlessly the most advanced mobile technologies in new interoperable e-services for their citizens. Such services target improving not only the daily lives of European citizens but also the productivity and efficiency of local administrations, especially in terms of their relationships with both citizens and urban service providers.

In the context of ongoing globalisation and fiercer competition, most European cities are confronted with the need to attract investment, a qualified workforce, tourists and consumers with high purchasing power as well as improve the quality of life for their residents and optimise internal productivity. To do this, cities have to differentiate themselves by enhancing their local identity, consolidating their regional positioning and boosting their international profile. All this requires optimum infrastructures that foster the ever changing needs of their stakeholders.

INTEROPERABILITY THROUGH URBAN STANDARDS

Interoperability of services between European cities poses the problem of service standardisation (for example, in mobile payment and mobile ticketing). This resulted in a proposal for a set of associated "urban standards" and a first network of interconnected cities aimed at sharing best practices, tools and platforms at European level. In brief, the SUS project provided software technology bricks and design

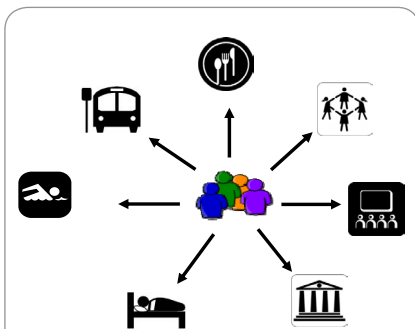
frameworks for designing and adopting mobile, context-based, local and interoperable services in cities/urban spaces. A start was made on building a network of European cities (extending the ones in the Consortium) aimed at specifying, clustering and validating those local and interoperable services through pilot experiments in line with their e-administration strategy and promoting this at European level. Through Consortium contributions to international bodies and intense discussions with the Cities involved in the project an initial set of European urban services standards was ultimately developed.

The users and use situations were directly linked with the latest mobile ubiquitous computing technology concepts and designs and new delivery methods based on a combination of contact-less proximity technologies (like near-field communication, or NFC) with context aware technologies (such as IM, LBS and Social Network). NFC technology is especially experiencing a powerful surge and half of all smart phones are expected to contain NFC by 2015 thereby enhancing the market for new services and applications as well as a strong increase in mobile ticketing and payment. The SUS project has especially extended the NFC service delivery environment to extend it from single applications to the clustering of services in one single "bouquet".

The common business interest verticals for the cities in the consortium was pretty large and included mobile payments, mobile ticketing, smart posters, couponing and loyalty, taxi services, city event and building management and tourism. SUS supported the e-city vision by providing a new service infrastructure and delivery platform together with a user management framework using the latest mobile and context-aware technologies available, and prototyping this in a common platform supporting a set of innovative local or cross-city interoperable services, easily integrated in legacy IT infrastructure and representing the needs of modern cities in an integrated Europe.

PILOTING A COURSE

In all, 47 pilots were developed in the project clustered in four main areas: ticketing, education and day care, transport and city visits.



Citizens require increasing access to services

SUS (ITEA 2 ~ 08010)

Partners

Aicia
 Applicam
 Avanzis
 Bonwal
 CBT
 CEV-Group (Chèque Déjeuner)
 Creativ IT
 ESI Technalia
 Euskaltel
 Fara
 Forum Virium in Finland
 Gemalto
 Intelligéré
 Labri
 NXP France
 Okode
 Palma Tools
 Telvent (Schneider Electric)
 Thales
 TopTunniste
 University of Caen
 Visual Tools
 VTT Technical Research Centre of Finland
 While on the Move
 Cities of Caen, Saint Lô, Helsinki, Oulu, Bilbao, Gijón, Paterna, Poble de Vallbona, Valencia, Seville, Provincia de Guizpuzcoa

Countries involved

France
 Finland
 Spain

Project start

July 2009

Project end

December 2012

Contact

Project Leader :

Jean-Pierre Tual, Gemalto

Email :

jean-pierre.tual@gemalto.com

Project website :

www.smarturbanspaces.org

Project Results

A common e-city service delivery framework was developed, providing identity management, privacy management, user profiling creation and management, and social networking. The development of a SUS Administration Platform provided the user interface to the end user, the city and the service providers while a set of recommendations for both pilots and future rollout of e-city services covered the issues relating to compliance with European and national regulations. A couple of examples of the demonstrations reveal the benefits of this in-depth analysis, which is key for both user and social acceptance.

As an example, Museum Quest is an NFC-based quiz game for museums that demonstrates how interactivity, immersion, fun curiosity and interest can encourage kids to get back to museums and people to talk together. Everything works offline and foreign tourists are therefore not subject to any extra connection fee. The museums benefit from cutting-edge technology and a unique application that can be extended and refined through regular updates.

This is exactly the type of generic application which can interest many museums all over Europe. Another generic demonstration concerns e-ticketing for small events that often need a cheap, simple and lightweight e-ticketing system; this is enabled by NFC and mobile applications, with one client application to browse through a list of events, download and present tickets at the event entrance and one ticket validation application at the event.

EXPLOITING THE RESULTS

The results of Smart Urban Spaces project are already on track for fast exploitation by most of the industrial partners. This is a result which has been enabled by the very close cooperation established between the industrial or academic partners and the cities involved in the project. For instance, Trusted Service Management (TSM) developments, NFC chips have enabled several applications to be successfully tested in Caen (France) including information, ticketing, identification and payment. National certification of Caen as a "Digital Town" early in 2012 by the French Ministry of Industry promises to accelerate the deployment of contactless mobile services. In the same way the project results will be exploited in Finland through companies such as Fara, Bonwal, While on the Move, but also in cooperation between VTT and other partners. VTT as an R&D provider will help cities to identify what are the services that could benefit from mobile solutions. In the second phase VTT will do research on multi-application micro-services in general and in education and ticketing in particular. Some large-scale deployment based on project results have also started in all Spanish cities involved in the Consortium, in most cases initiated by the prototypes developed by the local SME members of the Consortium.

Within this context, service interoperability emerges as a major challenge: the results of the Smart Urban Spaces project will be a real support to the process of demonstrating the relevance and the feasibility of service interoperability.

Major project outcomes

DISSEMINATION

- 25 technical articles published in International Scientific Journals
- 70 project presentations in international exhibitions or symposia

EXPLOITATION

- About 15 new products have been developed in the project such as:
 - New TSM Generation by Gemalto
 - New NFC and contactless components by NXP
 - New wireless portable terminal by Fara
 - SW administrative platform by CEV and Avanzis
 - Taxi video-surveillance platform by Visual tools
- 40 new mobile services have been prototyped in the project

STANDARDISATION

- Several tens of contributions have been made by the project team to NFC related standards (GlobalPlatform, ETSI-SCP, NFC Forum, SD Association, SFS -Finnish Standard association-, SIMalliance, Payez Mobile- French National Initiative on Mobile Payment) and monitoring Transport Related standards (SIRI – CEN TC 278, Google Transit Feed, Google Transit Feeds Real-time, MIFARE for Mobile).

ITEA 2 Office

High Tech Campus 69 - 3
5656 AG Eindhoven
The Netherlands

Tel : +31 88 003 6136
Fax : +31 88 003 6130
Email : info@itea2.org
Web : www.itea2.org

■ ITEA 2 – Information Technology for European Advancement – is Europe's premier co-operative R&D programme driving pre-competitive research on embedded and distributed software-intensive systems and services. As a EUREKA strategic Cluster, we support co-ordinated national funding submissions and provide the link between those who provide finance, technology and software engineering. Our aim is to mobilise a total of 20,000 person-years over the full eight-year period of our programme from 2006 to 2013.

■ ITEA 2-labelled projects are industry-driven initiatives building vital middleware and preparing standards to lay the foundations for the next generation of products, systems, appliances and services. Our programme results in real product innovation that boosts European competitiveness in a wide range of industries. Specifically, we play a key role in crucial application domains where software dominates, such as aerospace, automotive, consumer electronics, healthcare/medical systems and telecommunications.

■ ITEA 2 projects involve complementary R&D from at least two companies in two countries. We issue annual Calls for Projects, evaluate projects and help bring research partners together. Our projects are open to partners from large industrial companies and small and medium-sized enterprises (SMEs) as well as public research institutes and universities.



SUS

(ITEA 2 - 08010)

December 2013