

## Project Results

# Mobile service platform

## Providing personalised micro-service applications on the fly

*User-generated content is playing an ever-growing role in fixed Internet content but is even better suited to the mobile environment for anywhere, anytime social interactions. The ITEA 2 uService project has developed a flexible service infrastructure to turn mobile users from passive consumers into producers and providers of micro services. A ubiquitous service platform makes it possible to provide and charge for a wide range of simple services for use by other consumers in real time and easily on their mobile devices.*

The uService project targeted the ad-hoc generation of user-created services from mobile terminals able to act also as servers providing constantly-updated information relevant to other users instantaneous interests and context. As a result, the user is no longer just a consumer but also an active provider of services – a ‘super prosumer’.

Resources, interaction possibilities and user attention are much restricted on mobile devices compared with the fixed web environment. Therefore, uService proposed a new way to look at mobile information provision, delivering services that users are expecting – above all the non-technically skilled.



### SHARPLY-FOCUSED APPLICATIONS

The proposed micro services are small, sharply-focused applications with their own graphical user interfaces that allow users to obtain and provide information to fellow mobile consumers. Uses included additional services in a map-based environment such

as points of reference, picture and sounds. This enables for example a local business to advertise its services to passers-by, tourists to find activities where they are or runners to meet up with partners en route.

While similar applications are emerging, the majority involve passive users. The uService approach opens up a wide range of possibilities for active service creation that have not yet been exploited. And the focus of uService has been not just on map environments but on any kind of open application which can obtain additional value from publically available data.

Services are distributed for both personal use and for that of others. Prosumers can exploit device capabilities such as geographical positioning or motion sensors, and have access to external sensors and actuators. On the server side they are supported by intelligent, personalised search-and-recommendation engines with trusted security-and-identity management functions using the subscriber identity module (SIM) smart card in the mobile device. They also offer fair real-time mobile charging and billing functionality.

### BASED ON NEW PLATFORM

A key element is the new uService platform to process the information concerned and let prosumers create services on-the-fly for their own needs or to sell to others. The project also developed the constrained application protocol (CoAP) which makes it possible to leverage the necessary web-based communications. This technology can be used for any web-based project to provide additional functionality. CoAP is in the process of standardisation with the Internet

Engineering Task Force (IETF). Service execution is based on the OpenSocial component hosting environment which provides Interfaces for social networks, communication with the backend and inter-gadget communication. A service accounting-and-billing component enables direct web-based payments as well as providing mediation, rating, charging and billing.

## uService (ITEA 2 ~ 08001)

### ■ Partners

Atos  
Communology  
Defne  
Deutsches Lauftherapiezentrum  
DFKI  
Orga Systems  
Safran Morpho  
TB Solutions  
Tempos 21  
University of Rostock  
University of Vigo

### ■ Countries involved

Germany  
Spain  
Turkey

### ■ Project start

July 2009

### ■ Project end

April 2012

### ■ Contact

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## Project Results

Security and trusted infrastructure are hosted inside the uService global architecture with security components for identity management and digital signature based on implementation of a public key infrastructure. Client-side security, privacy and trust are enhanced by the integration of secure elements such as smart cards into the architecture.

### OFFERING ENORMOUS POTENTIAL

There is an enormous opportunity for exploiting the market potential of mobile micro services created, provided and consumed by mobile users with only their mobile devices. Network use as well as subscription services can benefit network operators. Prosumers can benefit from

discounts from network operators. Third-party companies and individual mobile users can provide targeted services with great accuracy to special interest groups or communities based on their current context.

Results of this project will facilitate the generation of services and applications leveraging new business opportunities and commercially exploiting the new possibilities offered by the mobile industry, extending current European leadership in mobile communications to the mobile software and services field. Commercial exploitation is already starting in Germany, while health and tourism applications should be on the market in Spain within a year.



Ubiquitous Service Infrastructure for the Mobile Prosumer (IF08001)

## Major project outcomes

### DISSEMINATION

Total of 48 communication actions including:

- 32 papers
- 4 workshops
- 9 participations in exhibitions
- Collaboration with other R&D&I projects (Ciudad and Mugges, DiYSE, OSAmI)

### EXPLOITATION

- Introduction of the concept of Mobile Super Prosumers
- Enhancement of industrial partner's products and portfolio
- Publication of several Open-Source components and prepared courses by Academic partners

### STANDARDISATION

- Active Contributions to Sensor and Device Intercommunication
  - Constrained Application Protocol (CoAP)
  - IETF draft (v08) close to become a standard RFC
- University of Rostock took part in the standardization activities
  - Reference implementation ( jCoAP)
  - Proposal of a new IETF draft (Lightweight SOAP over CoAP binding)

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■ 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.

