OSAmI-Commons
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Open ecosystem platform makes possible the next generation of innovative software-intensive systems

The ITEA 2 OSAmI-Commons project has developed a universal networking platform enabling reuse of software components across vertical application domains. This is crucial when tackling urgent societal challenges such as energy sustainability or the ever-growing care costs for an aging population. This software ecosystem will help address such problems efficiently by increasing the level of innovation and allowing development of more complex solutions and applications with less effort. The open modular platform can be used across many sectors and has been trialled and exploited for applications in ambient assisted living, energy-sustainable homes, telematics-based city services, smart homes, software development tools and edutainment.

A major challenge faces the software-intensive systems industry as a result of the disruptive transition caused by the Internet. The relationship between humans, computers and electronic devices has evolved rapidly. From one computer to many users in the enterprise domain during the 1960s, this moved to the family environment with the launch of personal computers in the 1980s. The mobile phone established a more personal 'one-to-one' connection ten years later.

The move now is to a one user to many devices relationship with phone complements, WiFi routers, gaming consoles, MP3 players, set-top boxes, digital TVs and infrastructures with impressive computing and storage capabilities. A new concept of global and transversal platforms is emerging to exploit the real potential of networking and affecting all business areas.

DYNAMIC SERVICE-ORIENTED PLATFORM

OSAmI-Commons targeted open-source common foundations for a dynamic service-oriented platform able to personalise itself in a wide range of co-operating software-intensive systems. The resulting platform makes easy what was difficult by seamlessly facilitating:

- Service retrieval from external centralised or distributed data repositories;
- Connection and exchange of information and services between devices; and
- Linking up various vertical markets to make possible new business solutions.

It was the expected acceleration of the already fast convergence pushed by open source and service-oriented architecture (SOA) that motivated OSAmI-Commons. The open-source approach encourages software reuse with a process which leads to increased code quality and security, speed of patch distribution, decreasing vendor lock-in, reduced cost of acquisition, increased customisability and a developer status closely linked to skills leading to an increase in productivity.

The motivation of the industrial members in the consortium was strongly linked to the technologies addressed and the business potential of a component-oriented architecture in combination with the open-source approach. Such industries have to compete in a context in which software is becoming increasingly important. Research and academic partners were interested in the technology but also in supporting these industries.

Project member benefits, by extension, are also relevant at a European level and obviously for consumers, since project members have tested and are already offering the first modules for applications and innovative business solutions in various markets.

DOMAIN-INDEPENDENT ASSETS ON A COMMON PLATFORM

Open software business models entail significant challenges for the industry because of the various intellectual property licensing programmes and proprietary solutions. This resulted in discussions to allow partners to build solutions in a context in which both open-source and proprietary developments could co-exist.

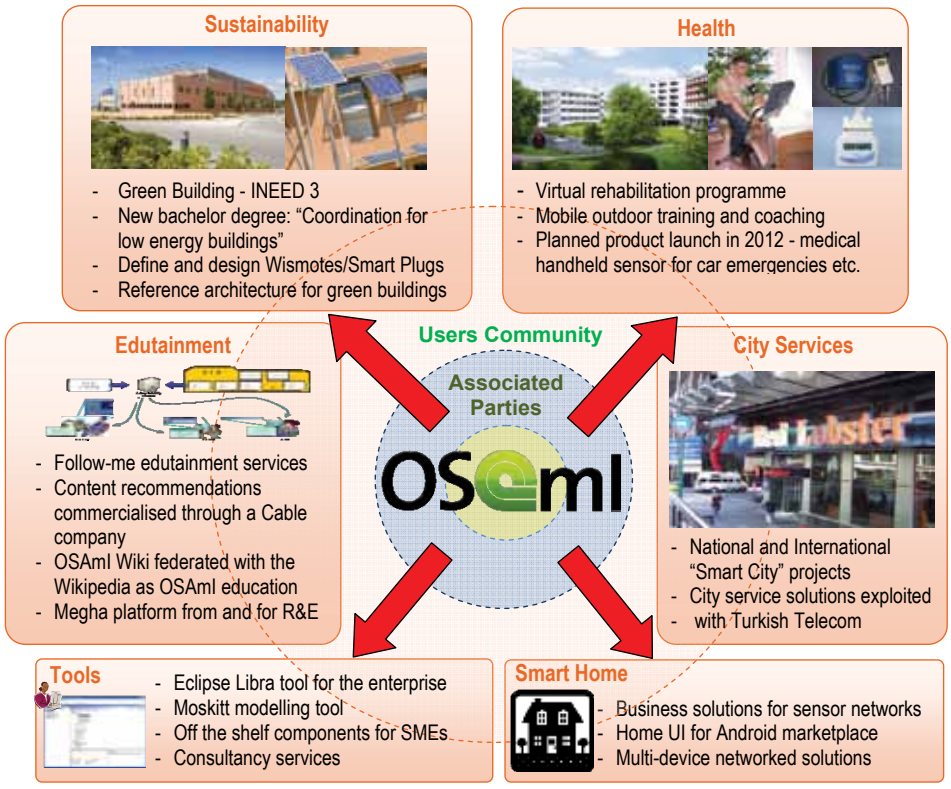
For better co-ordination, the project was organised in national clusters, each focusing on a specific domain. The vertical sectors contributed domain-independent assets to a common platform. In addition, a new demonstrator involving services from different domains and countries was defined to improve co-operation and transversal synergies and to prove the feasibility.

This approach facilitated the short-term exploitation of results and also made it possible to build the foundations for a transversal platform that can be used across many industries.

OSAmI-Commons led to the development of an ecosystem platform. This enables actors to share development efforts in areas where applications and software components can be used in various solutions as well as across industries. Such a platform also supports commercialisation of the results from research and academic partners that would not normally reach the market owing to lack of networks and other barriers.

The ecosystem platform makes possible new business solutions by offering an open-source-based platform for the exchange and re-use of applications and software components. This platform has now been tested and can already offer the first modules for use in building applications in various industries. Methodologies developed include an approach to how such software modules have to be developed as well as policy recommendations on how to benefit and further foster this ecosystem.

The ITEA 2 project has contributed results on web services for devices to several standards such as OASIS WS-DD; IETF 6LowPAN- Coap and OSGi Alliance. The solutions developed as part of the different subprojects are being used for telemedicine, sustainable buildings, telematics, smart homes, software development tools and edutainment. They include new products and business solutions that will be launched commercially.



SHORT AND LONG-TERM EXPLOITATION

The OSAmI-Commons approach combines short-term exploitation with mid- to long-term objectives. A spin-off to exploit results in Zigbee sensor networks was set-up during the project. This is already involved in the launch of new products.

In the context of green building, the monitoring infrastructure has been incorporated in the INEED series which provides reference architecture for the next generation of sustainable buildings. In addition, a degree programme has been launched on co-ordination for low energy buildings.

The first products in the health domain will be launched in 2012/13. They include a new medical handheld sensor as well as a rehabilitation programme for cardiology patients with the potential for saving many lives. This programme enables heart-attack patients to continue training on an exercise machine at home after rehabilitation, connected to the doctor online. The doctor can not only monitor the training and a patient's vital signs, but also control exercise-machine settings online.

Other outcomes include telematics services and smart home solutions. Content recommendations from the edutainment demonstrator are being used in a cable company. Service solutions for existing intelligent city systems are being exploited with Sampas and Turkish Telekom. Additonal tools such as the Eclipse Libra Platform are ready for commercialisation in the business market.

OSAmI Commons project results will also be used in other research projects such as the ambient assisted living project universAAL, by the Ambient Assisted Living Open Association (AALOA), and by the Megha-Intercloud cloud computing initiative from the Research and Education domain. Moreover, Thingtrack – a recently established innovative SME in Spain – is keen to adopt the platform for its current commercial developments in the web applications field. This demonstrates the business relevance of OSAmI beyond the project partners and will contribute to external validation and commercial exploitation of the project results.

STRENGTHENING EUROPE'S POSITION

The most important potential of the open, modular and transversal approach in OSAmI-Commons is in stimulating innovation. This is demonstrated by the further use of project results in business solutions as well as other on-going research projects. As a result of the increasing dependency of innovation on software, OSAmI-Commons building blocks, including the component-oriented ecosystem platform and first open-source software modules, can support Europe's position and competitiveness in the global market. This will have an impact on leadership, employment and the European economy.

The open-source based ecosystems platform and its software modules will also be used to increase innovation and strengthen Europe's position in tackling societal challenges. Building blocks can be further exploited by the partners and external companies. The platform can also be a rich niche for SMEs to start their own businesses as it makes is possible to reduce initial investments.

MORE INFORMATION:

www.osami-commons.org