COMPOSE: The market place of the Internet of Things

A consortium of EU researchers, software developers and standardisation bodies is creating a new business ecosystem to unleash the power of the Internet of Things for every type of user – from shoppers and motorists to holidaymakers and sports enthusiasts.

Partners in the COMPOSE project have built a cloud platform that helps developers navigate their way smoothly through the booming, but often chaotic, Internet of Things (IoT). Their mission is simple: to allow developers to create apps that provide people with Internet services and launch them into the market quickly – whether that be shopping or traffic information systems, or home-based apps for monitoring, say, energy and water use.

'We give developers a one-stop shop where it is easy to design and deploy IoT applications, providing building blocks so they can create their own dream apps,' explained project coordinator Benny Mandler, of IBM Research in Haifa, Israel. 'We hope that opening the door to this realm for smaller developers will lead to higher innovation.'

For this, COMPOSE (Collaborative Open Market to Place Objects at your SErvice) has developed and uploaded libraries of software, all of which can be downloaded free from its open source code repository, GitHub, the largest code host in the world. The project is continually adding new items to GitHub so users can acquire COMPOSE smart ‘objects’ or modules from the repository.

They can combine these to create their own apps easily and quickly. It saves building any app from scratch, avoiding wasting time and development money in the process, by using basic blocks that have been developed by programmers in the past and shared through the COMPOSE project.

Shopper behaviour, car sharing and happy skiers

COMPOSE is conducting three pilot projects. One of these involves the start-up U-Hopper, which has won awards for its COMPOSE-based retail analytics platform, RetailerIN, currently on trial at the SAIT-COOP supermarket in Trento, Italy. Shoppers' carts and baskets are tracked to create a heat map of where customers spend their time in the store. From the office, the store manager can monitor the effectiveness of displays and campaigns, and the queues forming at various counters, changing the supermarket's strategies to suit.

The second pilot involves car sharing among around 750 staff and students at the University of Tarragona in Spain. Through social media, the app encourages car sharing by linking it to reserving spaces in the university car park, thus reducing the number of vehicles travelling to the university every day.

In the third pilot in a resort of Trentino, Italy, skiers get real-time snow and weather conditions fed to their smartphones from a network of meteorological stations. The app, Go2Ski, also helps friends meet up and share photos, and even informs on the length of queues at ski lifts. And it is truly an app for all seasons! When the snow melts it uses the same meteorology network, but for warmer weather sports such as cycling.

Creating a developer community
The basic aim of COMPOSE is to connect developers to businesses and consumers in a standardised way in order to make some sense out of the muddled state the Internet of Things has represented to date.

The COMPOSE portal has achieved wide visibility among developers, being accessed by more than 8,000 users in 70 countries. Five ‘hackathons’ held in Zürich, London, Bolzano, Barcelona and Trento, have seen around 200 external developers become actively involved in the validation of the COMPOSE platform. COMPOSE has also launched a Web of Things standardisation initiative for open markets for applications and services based upon the Internet of Things and Web of Data.

COMPOSE is a three-year project receiving EUR 7.4 million from FP7, made up of 12 partners in six countries. It ends in October 2015.

Links to related videos/audios:
- Overview Video
- Supermarket pilot
- Other link: Data Management layer

Keywords
- Internet, information technology, Internet of Things, open source code, smart retail, EU, CORDIS, FP7

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