Dual RFID-ZigBee sensors to enable NFC applications for the Internet of Things

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Zaragoza, Spain-based Libelium [1] has launched a new RFID/NFC module for its Waspmote sensor platform. The new radio module extends Waspmote features allowing the sensor data to be used in Location Based Services (LBS), such as asset tracking, supply chain monitoring, intelligent shopping or access management.

By using RFID/NFC (passive sensors) along with ZigBee (active sensors), Libelium says asset tracking can be more accurate than ever along the whole supply chain process. Product management software such as ERPs will have access in real time to information related to remaining stock, storage and transportation conditions (temperature and humidity levels, vibrations, light exposure, etc), expiration dates and even consumer profiles, knowing time spent in front of a shelf or products picked up and not bought.

Security applications, including access control, can also be covered with this technology as the RFID standard Mifare uses a 6 byte key to ensure maximum privacy and authentication requirements, a major concern with this technology.

The information given by the passive tags (cards, keyrings, stickers) is read by the RFID/NFC interface and then transmitted using the ZigBee radio to an Internet Gateway which will finally upload it to a Cloud server making it accessible everywhere. The identification data can also be sent to the Cloud directly using the Wifi radio which performs secure connections with the web servers (HTTPS).

This RFID/NFC radio completes Waspmote connectivity – which already covers ZigBee, Wifi, Bluetooth and 3G/GPRS – making it compliant with any wireless technology in the market. Libelium provides an intuitive and open source programming API and complete documentation with examples in order to help developers to easily start working with the platform.

“Soon, we will scan products in the supermarket with our Smartphones to check if they contain anything our family is allergic to and see nutritional information while our fridge will warn us about expiring dates and suggest shopping lists according to our preferences,” says Libelium’s CTO David Gascón. “The new module is available in both 125KHz and 13.56MHz bands to ensure compatibility with previous RFID deployments,” adds the Libelium CTO, David Gascón.

SOURCE [2]

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Links:
[1] http://www.libelium.com
[2] http://ecneurope.wordpress.com/2012/03/30/dual-rfid-zigbee-sensors-to-enable-nfc-applications-for-the-internet-of-things/