Smart-Home Service Opportunities Leveraging App Store Ease of Use

A new breed of app could soon be finding its way onto mobiles or set-top boxes, taking advantage of a new open platform for smart buildings put forward by STMicroelectronics, a global semiconductor leader serving customers across the spectrum of electronics applications and a pioneer in energy efficiency and sustainable development.

STs GreenNet Wireless Sensor Networking technology addresses the challenge to most efficiently use energy for heating and lighting and for increasing consumer safety via monitoring of their environment. The GreenNet platform comprises self-powered nodes that can be positioned around the home for tasks such as temperature, CO (carbon monoxide) or movement sensing, relaying data wirelessly to a GreenNet dongle installed in a PC or set-top box. The data could then be communicated to a mobile device such as a smartphone or tablet via a wireless router to enable monitoring and control.

The fundamental building block of this new GreenNet Wireless Sensor Networking platform is the GreenNet node, which utilizes core ST technologies in energy management, silicon-based sensors and embedded wireless to create the ultimate easy-to-use network node free of wires or any need to change batteries. The node combines a rechargeable battery and solar cell with an on-chip sensor and STM32W 32-bit wireless microcontroller in a compact 3D system-in-package that consumes minimal power and can operate autonomously powered only by ambient light energy.

To facilitate adoption by do-it-yourselfers as well as professionals, this approach reduces smart-home installation to a simple process of placing nodes in suitable locations, and aims to encourage greater consumer use as well as adoption in offices and industrial buildings. By using open standards, such as IPv6[1], the platform offers high performance and flexibility and – more importantly –allows independent developers to create easy-to-use downloadable apps for tasks such as home monitoring, security or fire safety.

ST is now demonstrating the system using a sample node that features an on-chip temperature sensor, a USB dongle, and a service platform including sample app store. Operating from only 150 lux of ambient light available for six hours per day, it can relay one temperature measurement every five minutes. It can still operate autonomously for up to six weeks in the dark as part of an effective environmental monitoring system. Samples for leading customers are available now.

Key technical features of the GreenNet node:
The GreenNet wireless node utilizes an industry-standard IEEE 802.15.4 radio

operating in the license-free 2.4GHz frequency band, but draws less than one-quarter the power of a comparable wireless node. Pairing nodes with the dongle is also significantly easier with GreenNet.

Moreover, the node architecture allows extremely scalable performance, allowing nodes to carry out more intensive tasks if greater energy is available. This allows larger networks to be built using one node positioned near a window, for example, to concentrate data from several nearby nodes and communicate with the centrally located GreenNet dongle. Developers also have the flexibility to provide an alternative energy source, including mains power if required, thereby enhancing flexibility and convenience for system developers and integrators.

Further information on ST can be found at www.st.com [1].

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[1] http://www.st.com