STM32 - Bringing Intuitive Design to Everyday Electronic Equipment

Computerized devices such as white goods, office equipment and industrial controls could soon present users with rich graphical features such as animations and widgets, as seen in smartphones, thanks to new technology from STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications.

Gadgets such as smartphones and media players have become increasingly attractive, dynamic and easier to use than other electronic products in the kitchen or workplace. One reason for this is advanced Object-Oriented Programming (OOP) software-design environments, such as Java; the mobile industry is using Java, while microcontroller systems mainly use traditional structured programming languages such as C. In particular, Java simplifies building graphical user interfaces, which by nature are object-oriented using features such as hierarchies of widgets.

“Today we are announcing breakthrough professional Java tools ideally suited for embedded designers to create new generations of products offering unprecedented familiarity and ease of use,” explained Dominique Jugnon, Microcontroller Development Tools Manager, STMicroelectronics.

ST has worked with its partner IS2T® an innovative Java tools specialist, to create ready-to-use Java development kits for its STM32 microcontrollers. The STM3220G-JAVA Starter Kit combines an evaluation version of IS2T’s MicroEJ® Software Development Kit (SDK) and the STM32F2 series microcontroller evaluation board providing everything engineers need to start their projects.

The MicroEJ Software Development Kit can be regarded as the world’s first professional-quality tool-set enabling embedded system designers to leverage Java Object-Oriented Programming (OOP). MicroEJ provides extended features to create, simulate, test and deploy Java applications in embedded systems. Support for

Graphical User Interface (GUI) development includes a widget library, design tools including storyboarding, and tools for customizing fonts.

GeeseWare contributes to the ecosystem supporting Java for STM32 with its complete one-stop-shop hardware and software solution. It combines IS2T's MicroEJ SDK with a comprehensively featured development board supporting STM32F2 and STM32F4 microcontrollers.

STM32: the ideal microcontroller for embedded Java applications:
The ARM Cortex-M core processor technology of ST's STM32 microcontroller is capable of supporting rich human-machine interfaces in miniature, low-cost, power-sensitive applications, making STM32 the ideal platform for Java to enter the embedded world. The tools announced today support Java development on STM32F2 devices, which use the ARM Cortex-M3 processor, and STM32F4 devices featuring the Cortex-M4. Cortex-M4 adds DSP extensions and a floating-point unit. The advanced Cortex architecture delivers a combination of high processing performance, low power and cost-effectiveness that many proprietary 8-, 16- and 32-bit microcontrollers from other manufacturers cannot match.

STM32 microcontrollers combine leading-edge Cortex-M series processors with high-performance peripherals and large number of product variants to provide unprecedented choice as well as advanced performance and functionality. All devices are pin, peripheral, and software compatible, allowing developers to adapt or scale their designs quickly and without high engineering costs. The STM32 range now comprises over 300 devices, offering designers a selection of variants integrating up to 1Mbyte of Flash memory, connectivity-centric USB/Ethernet/CAN or OTG devices, ultra low-power microcontrollers, and high-performance variants.

ST supports STM32 developers with resources such as evaluation kits, drivers, firmware, programming tools, debugging tools, which can be used with development environments and tools from leading independent vendors. The STM3220G-JAVA Starter Kit, including IS2T MicroEJ SDK evaluation version represents the latest addition to this rich ecosystem, and will allow STM32-based products to deliver even better user experiences in a wide variety of environments and markets.

The STM3220G-JAVA Starter Kit is available immediately from ST or distributors, priced at $349. The full MicroEJ development kit is available from IS2T (www.is2t.com [1]).

GeeseWare development boards are available from GeeseWare (www.geeseware.com [2]) and the company's distributors in North America, Israel and France.

Further information on ST can be found at www.st.com [3].

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