

Case Study

Freescale Works with Medical Device Developer to Help Seniors Stay Independent

Sonamba™ well-being status monitor/medical alert system integrates Freescale technology for processing, power management and wireless connectivity

Challenge

Develop a device for seniors living independently that allows caregivers, family members and other support providers to remotely check on their well-being.

Solution

Freescale provided the applications processor, power management IC and wireless connectivity that pomdevices needed for its device. With Freescale's technology, pomdevices was able to easily deliver capabilities for monitoring seniors' status and providing them with social communications, calendar reminders and a host of other features.

Benefit

The Sonamba well-being status monitor/medical alert system from pomdevices enables seniors to continue to live independently with confidence, and frees those who care for and about them from anxiety about their welfare.

The Problem Isn't Living Alone. It's Living Without Support.

What if I forget to take my medication on time? What if I fall and hurt myself? What if I need help and can't reach my family to let them know? Is assisted living the only

option for me? These are urgent questions for the 11 million seniors in the United States who live alone today, and for the 43 million people who care for and about them. These seniors want to continue to live independently, enjoy the peace of mind that comes with staying socially connected to their families and feel secure in the knowledge that help is available when they need it. Their caregivers and family members want the reassurance of knowing about their loved ones' well-being everyday, not just in emergencies.

Pomdevices Makes the Solution. Freescale Makes It Possible.

Pomdevices developed Sonamba as a well-being status monitor/medical alert system to address the many issues faced every day by seniors who live alone and those who care about them. It's an intelligent monitoring system that monitors seniors' well-being status and uses cellular-based technology to periodically notify caregivers and family members of their well-being via text messages to their cellphones—enabling them to stay involved without being intrusive or compromising their loved ones' independence. Sonamba also provides seniors with a wealth of helpful features, including medication and medical appointment reminders, texting and email,



and an emergency button. Sonamba's lifestyle-oriented digital photoframe look and functionality makes it a much more attractive and acceptable device to the user, enabling well-being monitoring and social connectivity before a trigger event has occurred.

Sonamba's broad functionality is enabled by the Freescale i.MX27 applications processor, which enables the graphics technology that pomdevices needed to provide a rich, easy-to-use touchscreen interface experience.

"Having processor support for large, bright, readable graphics was critical to making Sonamba appealing to the senior market," explained Ajit Pendse, CEO of pomdevices. "Freescale's i.MX27 applications processor was the ideal choice for enabling these and other key capabilities."

Freescale also provided the ZigBee® radio device that enables wireless connectivity for Sonamba remote communications. The device supports functions ranging from transmitting emergency messages to communicating information from Sonamba's activity sensor, and sending email and text messages. Finally, a Freescale power management IC manages the various power aspects of the applications processor.

Freescale: Making It Easy for pomdevices to Make a Better Solution

Freescale designed the products that pomdevices incorporated into Sonamba to be easy and efficient to use. The power management IC, for example, has the ability to provide multiple output voltages with a single power supply, making it possible to keep component size and count low.

“When you’re trying to put as much functionality into one device as we did with Sonamba, you need to save space everywhere you can,” said Ajit Pendse, CEO of pomdevices. “And the Freescale power management IC allowed us to do that.”

The ZigBee wireless-connectivity component helped pomdevices by providing a complete “platform-in-package” solution, with all the necessary parts integrated into the package.

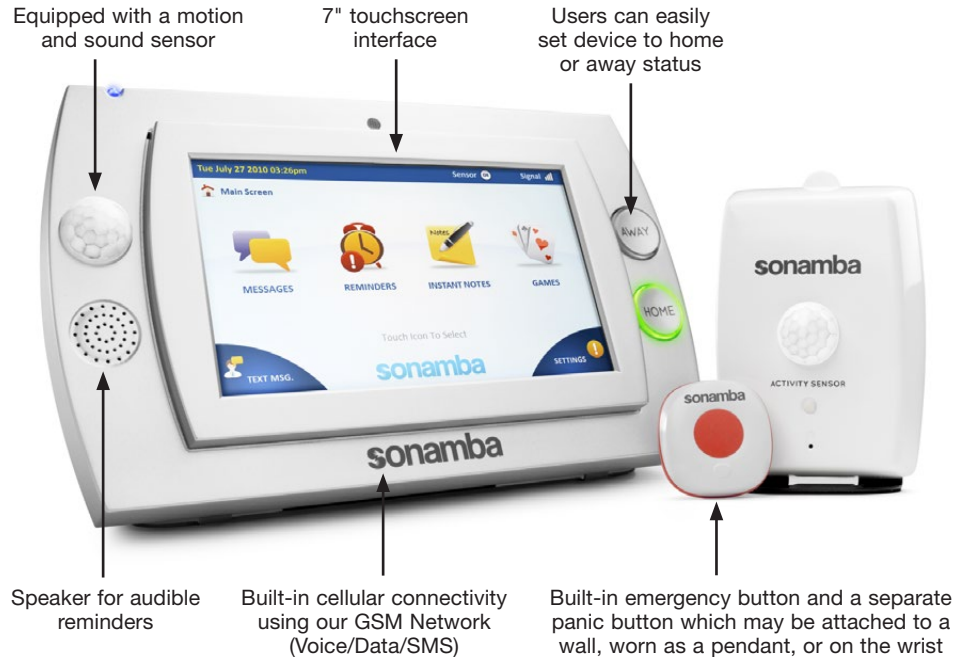
Freescale’s i.MX27 applications processor is equipped with multiple communication and expansion ports, which made it easy for pomdevices to connect the processor to the ZigBee component and other connectivity devices. The applications processor is also designed to provide on-the-fly video processing, helping to ensure that the demanding graphics will not overload system memory and cause performance issues.

Freescale: Medical Expertise for the Long Term

Semiconductor technology plays a critical role in the development of new technologies to assist with patient monitoring, diagnostics, therapy and imaging. Medical device designers need to balance processing requirements with power consumption, help to ensure a fast time to market and navigate the regulatory environment. Freescale is

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Sonamba Overview



a trusted provider of microcontrollers, microprocessors, analog and sensor components, RF amplifiers and wireless technology to meet the unique needs of medical designs. These vital technologies, along with Freescale’s enablement tools, expertise and alliances, enable customers to develop breakthrough medical systems and life-critical applications. Freescale also offers a formal Product Longevity program for the medical segment, ensuring that a broad range of program devices will be available for a minimum of 15 years*.

Pomdevices: Medical Technology for the Senior Market

Sonamba is a product of pomdevices, LLC, a medical technology company based in Durham, North Carolina. The company was founded by entrepreneurs who have successfully created Internet and communications products for

more than 20 years. The founders decided to start pomdevices after becoming increasingly concerned about the well-being of seniors living alone and away from family. When their market research showed a gap in affordable services or convenient, easy-to-use devices to help the elderly stay connected yet live independently, they decided to start pomdevices. The company focuses on building affordable and reliable peace-of-mind devices for everyday living. Sonamba is the first easy-to-use, mass-market device that delivers richer and much needed functionality for seniors and those who care for and about them.

Freescale Technology in Sonamba

- i.MX27: MCIMX27VOP4A applications processor
- PMIC: MC34704B power management IC
- ZigBee: MC13224V wireless connectivity

For more information on Freescale’s health care and medical solutions, visit freescale.com/medical.

To learn more about how Sonamba is powered by Freescale technology, visit freescale.com/Sonamba.

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