(intel)

Intel® Core™ vPro™ Processor Enables Interactive Digital Signage for OFSC

High Performance and Remote Manageability of Intel Core vPro Processor Underpin Interactive Digital Signage Solution
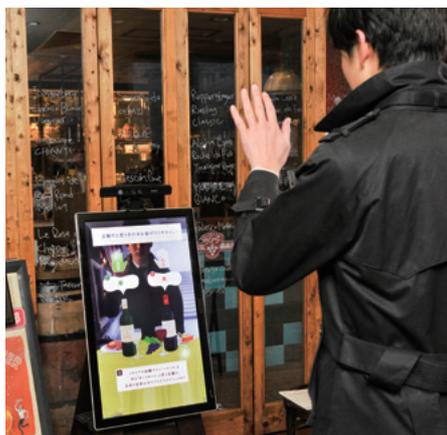
Open Foodservice System Consortium

Open Foodservice Systems Consortium

Address: 4F DMJ Building 5, 4-7-16
Kudanminami. Chiyoda-ku, Tokyo
Established: February 2002
(voluntary association) and April 2010
(general incorporated association)
Activities: Information systems
applications, research into future systems,
and solution of day-to-day problems
through its member network
www.ofsc.or.jp/

Challenges
- Enhance sales promotion for food service companies
- Digital signage unit for display of high-quality images
- Improve maintenance efficiency of digital signage unit

Solutions
- Third-generation Intel® Core™ vPro™ processor
- Kinect* for Windows* (Microsoft)
- Windows Embedded Standard 7 (Microsoft)
- Interactive digital signage (Open Food Service System Consortium)

Benefits
- Integration of motion sensors with interactive digital signage
- Implementation of high-performance digital signage units
- Improved efficiency through use of remote management functions
- Prevention of unauthorized access to digital signage units
- Optimization of digital signage operations through use of embedded OS

Testing of Interactive Digital Signage Using Kinect for Windows

The Open Foodservice Systems Consortium (OFSC) is a consortium of food service businesses and IT vendors that seeks to standardize information systems and the infrastructure that underpins business operations. Its aim is to help the industry progress by developing interconnection standards for equipment and systems in response to the requirements of its food service company members. As Secretary General Yasuo Sakami puts it, "To help establish global standards for catering services, we develop interconnection standards though an alliance with the Association for Retail Technology Standards (ARTS), a U.S. organization involved in standardization in North America and Europe."

To operate efficiently, OFSC has established eight working groups that investigate solutions to the problems faced by food service companies. One of these is the Sales Promotion Working Group that deals with promotion-related measures. The use of IT technology for promotion is one of the areas covered by the working group, and its past work has included research into strategies for utilizing technologies such as virtual space and social networks (SNS). As part of this work, its latest topic for investigation is digital signage. Working in collaboration with Intel and Tokyo Electron Device Limited, the working group conducted testing of interactive digital signage that combined Microsoft's Windows Embedded Standard 7 operating system for embedded systems with Kinect for Windows

motion sensor devices. The working group chairman, Kazuhiko Yuzawa, described their objectives by saying, "In considering potential advanced applications for digital signage, we hypothesized that we could better attract people's attention by adopting interactive methods that react to their movements."

While the Kinect sensor is used as an input device in Microsoft game consoles, it has also in recent years found new applications in healthcare, education, and commerce. One reported example of this is an application in which a surgeon uses Kinect to remotely operate a PC screen during surgery.

"A common requirement in the food service industry is to be able to operate equipment without having to touch it, such as when working in a kitchen. Considering the future possibilities, we realized that testing the use of Kinect would be very valuable," said Yuzawa.

Digital Signage Unit Automatically Detects People's Movements and Prompts them with Questions about Beverages

The testing was conducted at a Yurakucho Store Club run by OFSC member company, Dynac Co., Ltd. A 32-inch digital signage unit fitted with Kinect for Windows was installed at the entrance to the store. When the Kinect sensor detected someone approaching the store, the screen displayed a promotional video showing beverage and food pairings set out on a table along with audio effects such as the sound of drinks being poured into a glass. When a customer approached, the digital signage unit would then display a two-choice

Third-Generation Intel Core vPro Processor also Supports Embedded Systems

question about different beverages that the customer could answer using a gesture (i.e., by raising their left or right arm to indicate their choice). Looking back at the testing, Kenji Ohashi, information systems manager at Dynac, commented that, "In addition to considering such issues as where to locate the unit, how to get it in and out of the store, customer safety, and development time, there was also a lively debate among the working group members on questions such as the screen size and what sort of content to display."

During the test period, the information displayed on the digital signage unit was made to change according to seasonal events such as Christmas and New Years. In addition, a number of improvements were also made in response to customer reaction, including the addition of an audio guidance function.

"What we found in practice was that the number of customers stopping to look at the video and quiz increased day by day after the unit was first installed," Ohashi said. "We also got a favorable reaction from the staff at the store where the unit was installed. While our testing did not extend to measuring the cost-benefit, in terms of assessing the level of customer interest in interactive digital signage, we are satisfied that our initial objectives have been achieved."

Remote Diagnosis and Repair Using Intel® vPro™ Technology Management Functions

The performance and maintenance of the digital signage unit were key points in the implementation of the test system. Displaying smooth, high-quality video on a large screen and performing complex audio processing demand a high level of device performance. Also required are ways of making maintenance of the in-store system more efficient so that it can be managed remotely from headquarters. To achieve this combination of performance and maintenance efficiency, OFSC selected a digital signage unit fitted with a third-generation Intel Core vPro processor.

The digital signage unit with the Intel Core vPro processor can use Intel® Active Management Technology (Intel® AMT)1 to perform operations such as diagnosis and repair on the digital signage unit remotely. Intel AMT is an Intel vPro technology management function included as a standard feature. This means that centralized control can be performed from headquarters even when systems are installed at a number of stores.

"The ability to operate the digital signage unit even when it is initially turned off provides significant benefits," said Yuzawa, "and I like the convenience of being able to perform maintenance at any time, including during the night or holidays when the store is closed. Another benefit is that, because we used a wireless LAN for access to the digital signage unit when implementing the test system, the store does not need to worry about where to keep the unit."

Updates were made to the content or application on the digital signage unit during the test. Examples included a Christmas version with effects that conveyed a suitable atmosphere during the Christmas season, and additional functions such as improvements to gesture recognition accuracy and the addition of audio effects. Furthermore, because Intel vPro technology allows the device and applications to be updated remotely, without having to visit the site, the system also made administration more efficient. Device security was another important requirement for OFSC. "Since digital signage is the face of a business, we must prevent it from displaying forged information by unauthorized parties. Devices that support Intel vPro technology have comprehensive security features and can lock their functions to unauthorized external access," noted Sakami.

Also, because the system runs on Windows Embedded, staff at the store do not need to be aware that the device is actually a PC. They simply take it out and plug it into the power when they open the store, and then

unplug the unit from the power again when the store closes. This question of whether or not the signage is simple to operate, without store staff needing to perform tasks such as launching applications or shutting down the OS, is a very important consideration.

Use of Digital Signage to Display Restaurant Menu Samples

Based on the results of its testing, OFSC is also investigating another advanced use of digital signage in addition to its concept of using Kinect for Windows for interactive operation at restaurants or bars.

"Digital signage also provides a simple and low-cost method for the flexible updating of display content such as sample menus or menu boards in accordance with customer requirements. We intend to try out other new ideas in the future based on feedback from food service companies," said Yuzawa.

Speaking about Intel, Sakami made the comment that, "the spread of mobile devices means that companies are expected to offer services that can deliver an excellent user experience at a variety of different points of customer contact. To achieve this, security enhancement and operational management methods that integrate both the field units that act as the points of contact and the back-end server that provides the service are becoming increasingly important. As Intel has the capabilities to deliver on both of these aspects, we look forward to even closer support in the future."

For more information on the third-generation Intel® Core™ vPro™ processor, visit: http://www.intel.co.jp/jp/go/vpro/ Find the solution that's right for your organization. Contact your Intel representative, visit Intel's Business Success Stories for IT Managers, or explore the Intel.com IT Center.

Yasuo Sakami
Secretary General
OFSC

Kazuhiko Yuzawa
Sales Promotion
Working Group
Chairman
OFSC

Kenji Ohashi
Information
Systems Manager
Dynac Co., Ltd.

328645-001US

JPN/1304/PDF/SE/ESS/AY