INTELLIGENCE IN. AMAZING OUT.

Intelligent Consumer Product Introduction Solution Promotes a New Product Category

EXECUTIVE SUMMARY
A big challenge for retailers is keeping inventory levels aligned with the latest trends, especially since consumer preferences for the new products and technologies change quickly. Suning*, the leading electronics store chain in China, is improving its inventory management by deploying a new intelligent consumer product introduction solution capable of learning which Ultrabook® models will have the greatest appeal to consumers. Ultrabook, a fast-growing category of personal computers, is well-positioned to satisfy the increasing demand for slim and fashionable products in China. The intelligent consumer product introduction solution brings the convenience of online retail inside the electronics store while collecting and analyzing anonymous customer data used to better control inventory levels and improve product forecasting accuracy. Moreover, the solution provides customers quick answers to complex questions, raises brand awareness and offers an alternative for private customers who prefer to serve themselves.
KEY BUSINESS OBJECTIVES
Improving the customer experience and brand awareness while improving inventory management.

WHO WILL BENEFIT FROM THIS SOLUTION
The intelligent consumer product introduction solution, developed by Shanghai Six Sense Technology*, serves both retailers and their customers in a number of ways.

Retailers can provide a digital shopping experience that surpasses what is available online with respect to delivering more detailed content, product selection advice, connectivity to mobile devices, couponing and a wide range of other capabilities. At the same time, retailers can learn more about consumer preferences, and target ads and product suggestions based on their demographics.

Product forecasters will have greater visibility into consumers’ product selection process, information that can help them optimize their inventory levels and predict which future products are likely to appeal to shoppers.

Consumers who use the kiosk will get real-time feedback to help them pick the best product for them based on their inputs.

These benefits are indicated in the kiosk process flow shown in Figure 1. Retailers, consumers and product forecasters all benefit from the solution.
MEETING NEW MARKET DEMAND
It wasn’t long ago when most consumers made purchase decisions based on a rather narrow set of inputs, such as store visits, friends and family, magazine articles and television commercials. Today, consumers have access to an abundance of information – anytime, anywhere – thanks to technology that allows them to download detailed product information, read online reviews, text friends for opinions, compare prices and more. It’s no surprise that shoppers walking into a store with smart phones may have much more product information at their fingertips than sales associates can provide.

The intelligent consumer product introduction solution from Shanghai Six Sense Technology Co. Ltd* is a media-rich customer service terminal (CST) that gives shoppers the in-store digital experience they now expect. By offering an interactive touchscreen and wide-ranging content, stores can reinforce their brand image and reputation, thus optimizing their brand engagement. As customers use the kiosk to research products, it senses anonymously the age range, gender and dwell time of users. The system also logs users’ screen clicks indicating their product and feature preferences. This solution has been deployed to promote Ultrabook* computers in Suning electronics stores in China.

Shanghai Six Sense Technology Co. Ltd., founded in 2008, has grown rapidly into a leading media solution provider in China. The company focuses on the delivery of interactive promotional media, product selling media, media activity consulting, innovative estate development, non-governmental organizations (NGO) project operations, strategic capital investments, and product research and development. By combining new technology trends and innovative designs, Six Sense Technology provides vertically integrated solutions worldwide.

THE BUSINESS CHALLENGE
Brick-and-mortar electronics retailers in China and most other regions currently face several major business hurdles:

- **Increased competition:** The rise of online shopping compels stores to offer a comparable digital experience in order to capture sales. Shoppers want quick answers to complex questions.
- **Brand engagement:** The digital age is making it difficult for retailers to hold onto customer “mindshare”.
- **Inherently private customers:** A significant number of shoppers in China are inherently private and would rather look up information themselves than get help from a sales assistant.
- **Product forecasting risks:** The growing number of electronics products makes it difficult to forecast customer demand and hold the right amount of inventory.

Taking a bite out of sales at many electronics stores is a recent phenomenon called “showrooming,” or the practice in which consumers check out merchandise in a physical store and then buy it at a cheaper price online. They get to research, touch and sometimes try out products before reaching for their mobile devices (e.g., smart phones) to purchase the item elsewhere. To reverse this trend, stores are turning to sales promotion terminals, sometimes supporting mobile apps, to entice shoppers to purchase the item right away, either from the store or its web site.

The digital age has put the consumer in the driver’s seat, and retailers are working hard to understand how this new dynamic could impact brand engagement. For example, consumers can post negative reviews of shopping experiences on the Internet and damage the retailer’s brand image. Instead, retailers want to know when customers are dissatisfied before they leave the store (or online portal) to understand why and potentially rectify the situation straight away. To solve this challenge, they must develop a holistic, synchronized, digital experience capable of building and sustaining 1:1 personal relationships with every single customer.

Interactive self service enables unlimited possibilities for imaginative and striking designs that allow consumers to shop the way they want. For example, reserved, self-sufficient or extremely well-informed customers may prefer using a sales terminal over talking to a sales associate. Retailers can build customer loyalty by creating a unique and exciting experience based on the technologies that are already an integral part of daily life. It may also help to attract the mobile demographic, ranging from young people to on-the-go professionals, who are comfortable with technology and short on time.

Predicting which products consumers are likely to buy and stocking them accordingly can be a daunting task for retailers. Since new models are launched once or twice a year, historic register receipts may not provide the insight needed to stock the right level of inventory or forecast a new generation of products. Another approach is to use a sales promotion terminal to capture the features and products drawing the greatest interest. In other words, retailers can analyze screen clicks to understand what customers care about; which is more important, RAM or hard disk drive size? Are people ready to adopt a new technology, like USB 3.0? Do consumers spend more time investigating laptops or desktops? With this type of information, forecasters gain insight into trends that help them predict the high-flying products.
SOLUTION OVERVIEW

Suning, the largest electronics store chain in China, selected Shanghai Six Sense Technology to develop the intelligent consumer product introduction solution. The system was purposely designed for interactivity to allow consumers to easily research the available Ultrabook products and associated features using a touch screen interface.

The intelligent consumer product introduction solution is based on a 3rd generation Intel® Core™ i5 processor with integrated graphics that drive a 46 inch (117 cm) high-definition (1080P) touchscreen. The processor has the computing power to display large multi-zones screens with a variety of 2D/3D graphics and high-definition video with a resolution up to 4K by 2K. Armored glass covers the screen to prevent damage from collisions. The system can be extended to support different connectivity options, including Bluetooth® and 3G/4G cellular networks.

The front panel has an optical sensor that captures images, enabling the system to perform Anonymous Viewer Analytics (AVA) in order to determine the demographics (e.g., age range, gender) of the users. The demographic information is captured anonymously and respects the customer’s privacy. This information, generated by Intel® Audience Impression Metrics Suite (Intel® AIM Suite), can be used to give the customer a customized experience, as illustrated in Figure 2. In this example, the system plays a video clip until a consumer approaches, and then it displays either a blue or pink background on the welcome page depending upon whether the user is a male or female. The backgrounds of the follow-on screenshots maintain this color scheme. The system will also make product recommendations tailored to the preferences of males and females.

The kiosk provides consumers with information about key Ultrabook advantages, a promotional video, product SKU details, as well as entertaining video clips. When making product recommendations, the kiosk can point out what is available in the store or from the retailer’s web site; out of stock or long lead items are filtered out to avoid frustrating consumers.

This intelligent consumer product introduction solution helps address several challenges facing brick-and-mortar stores today by:

- Giving consumers easy access to a well-produced and logical presentation of product information.
- The solution provides a more compelling experience than online shopping channels and enables retailers to influence consumers at the point of purchase.
- Extending brand engagement by reinforcing the retailer’s image as innovative, leading-edge and informative.
- Easy-to-use and resourceful, the solution creates “mindshare” among consumers who will appreciate the exceptionally high quality information they get from visiting the store.
- Allowing consumers to absorb information at their own pace and based on their preferred depth of technical content.
- For inherently private or less-informed consumers, this interactive solution eliminates the intimidation they may feel when speaking to a sales associate.
- Capturing information about consumers’ product preferences with a tie to their demographics.
- Retailers can identify products and features of greatest interest, which can help them better manage inventory and fine-tune their product forecasts.

Figure 2. Software Working Flow
Enhancing the user experience was a primary objective of this intelligent consumer product introduction solution for Ultrabooks. The large, high-resolution touch screen and eye-catching screenshots invite consumers to take an educational tour of Ultrabook computers. To catch the eye of consumers, the kiosk runs an Ultrabook promotion video clip, as shown in Figure 3.

When a consumer approaches, Intel AIM Suite software recognizes the gender of the consumer, and then the system displays a “Welcome” message with either a pink background for females or a blue background for males, as shown in Figure 4. A challenge with the kiosk is getting shoppers to use it, since some may be intimidated or initially disinterested in using the device. The kiosk from Shanghai Six Sense Technology overcomes this hesitation by encouraging people nearby to come over and touch the screen, which can be effective in attracting unengaged shoppers.

Consumers can choose to learn more about Ultrabook features and advantages, described through creative and appealing graphics and images (Figure 5).

The kiosk provides product-related humor during the Ultrabook promotional video, as shown in Figure 6.

After consumers input their feature preferences and how they expect to use the computer, the kiosk provides product suggestions (Figure 7) based on the gender of the consumer.
TECHNOLOGY
Anonymous Viewer Analytics (AVA)
What you can measure, you can improve and optimize. Using Intel AIM Suite technology, digital signage (e.g., kiosks, signs, point-of-sale terminals) can now be used to gauge the effectiveness of the displayed content. The solution measures how much time people spend looking at the display, which is a measure of the effectiveness of advertisements. This information allows brands and retailers to tailor advertising content based on audience behavior and characteristics, helping to show the right message to the right people at the right time. Intel AIM Suite makes it possible for advertisers to measure and maximize the return on investment (ROI) for their digital signage campaigns.

The underlying technology for the Intel AIM Suite capability is Anonymous Viewer Analytics (AVA) technology, which utilizes Intel® processors and small optical devices connected to a digital sign. Intel AIM Suite software contains anonymous face detection algorithms to determine how many people looked at the advertising, how long they watched, and their gender and age bracket. Intel AIM Suite does all of this while maintaining total anonymity and complete respect for people’s privacy as outlined in the 7 Foundational Principles of Privacy by Design.²

Intel AIM Suite is an integral part of the kiosk, with a solution that offers the following benefits to retailers:

- Low initial investment – software can run on existing computers
- Fast deployment – users access cloud-based analytics tools
- High performance – the solution is optimized for Intel® processors
- Scalability – businesses can start small and grow as needed
- Green – displays can dim or turn off automatically if no viewers are detected for an extended period of time
- Flexibility – real-time socket-based
API and HTTP reporting APIs simplify integration with third-party content management system (CMS) vendors.

**Hardware Platform**

The Shanghai Six Sense Technology kiosk is based on a 3rd generation Intel® Core™ i5 processor-based computer. The processor is available in quad-core and dual-core versions with performance and thermal design power (TDP) options ranging from 17 W to 45 W. When paired with either the Mobile Intel® HM76 or Mobile Intel® QM77 Express chipset, this platform offers faster connectivity with integrated next-generation I/O technologies such as PCI Express® Gen 3.0 and USB 3.0. The processor integrates Intel® HD Graphics 4000 with enhanced graphics capabilities, high performance and content mixing capabilities. This platform supports three independent displays, enabling one system to deliver multiple displays without the need for a discrete graphics card.

**Possible Future Enhancement: Comprehensive Data Protection**

In the future, Shanghai Six Sense Technology plans to integrate McAfee® software, which provides multiple layers of protection against data loss and unauthorized access.

- McAfee® Endpoint Encryption is the cornerstone of data protection since it encrypts data throughout the retail environment, including retail systems, network files and folders, removable media, and USB portable storage devices.
- McAfee® Device Control protects critical data and systems by controlling the use of removable media, as in preventing an unauthorized individual from downloading data from a point-of-sale terminal onto a removable storage device, such as a USB drive or DVD. McAfee Device Control, depicted in Figure 8, enables retail organizations to implement data protection without suppressing the flow of vital business information.

**EMPOWERING A NEW WORLD OF RETAIL INNOVATION**

The retail industry is in the midst of a dramatic information revolution that is laying the groundwork for new consumer experiences, enhanced productivity, reduced inventory distortion and brand optimization. Intel is addressing this transformation with the Intel® Intelligent Systems Framework, a set of interoperable solutions designed to facilitate connecting, managing and securing devices in a consistent and scalable manner.

What can emerging intelligent retail systems do? Imagine an intelligent store where incoming weather data indicates a severe storm approaching. The store’s digital signs and kiosks immediately begin promoting items commonly purchased during storms, like umbrellas, and prices are adjusted to reflect the predicted increase in demand. Price updates are transmitted to electronic shelf labels and the back office. Data from checkout confirms umbrella sales are increasing, causing immediate alerts to the stockroom. The store’s warehouses and key suppliers send shipments to replenish the shelves.

The Intelligent Systems Framework helps simplify the deployment of intelligent systems and enables retail OEMs to shift their investments from achieving interoperability to unlocking the value of data. The framework features fundamental capabilities, delivered by components that address connectivity, manageability and security, including software and middleware from Wind River® and McAfee®.

For more information, visit www.intel.com/content/www/us/en/embedded/intelligent-systems.html.
Software Components
Operating System: Microsoft® Windows® 7 Professional
Database: SQL Server Compact
Security: McAfee® Endpoint Encryption and McAfee® Device Control
Communications Protocols: Socket
Applications: Intel AIM Suite and software from Six Sense Technology

For retailers looking for assistance in deploying the capabilities discussed in this solution blueprint, the Intel® Retail Solutions Partner Network comprises industry-leading vendors with expertise in many key areas, including hardware, software, content creation, deployment and networking.

SUMMARY
The intelligent consumer product introduction solution from Shanghai Six Sense Technology can help retail electronics stores address key challenges, such as competing with online shopping and increasing their relevancy in an ever-increasing digital world. In particular, the system can offer a better shopping experience than online retailers, enhance brand engagement, cater to self-sufficient shoppers and provide information helpful to warehouse managers and product forecasters. The solution is based on a flexible and powerful Intel processor-based platform, giving it the capability to incorporate a wide range of technologies, such as Bluetooth, 3G/4G, near-field communications (NFC), as well as deliver the computer power needed to captivate shoppers with amazing graphics and high-definition video.

RESOURCES
Intel® Retail Solutions Partner Network
Redefining what’s possible, leading solution providers have come together to address the specific needs of retailers, whether it’s consulting, content creation and management, retail systems, hardware customization, deployment support, network management or cloud-based services. The Intel® Retail Solutions Partner Network provides one-stop shopping for cutting-edge technologies that deliver new consumer experiences, enhanced productivity, reduced inventory distortion, brand optimization and more. To learn more, visit www.intel.com/retailsolutions.

For more information about Shanghai Six Sense Technology, visit http://www.cnearts.com.

![Figure 8. McAfee® Device Control Safeguards the Use of Removable Media]