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Digital Signage for Growing Businesses

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They are now so common that people take them for granted.

They help you drop off your children at school, locate the right gate at the airport, decide what to order for lunch, or find out what's on sale at your favorite retailer.

They provide information, increase sales, keep people safe or simply offer a welcome and entertaining distraction.

The "they" that does all of this and more are digital signs. For any business or organization that wants smart, cost-effective communications with customers, prospects, visitors or employees, digital signs are the way to go.

Smarter, More Flexible and Less Costly

Digital signs are so popular in retail stores and restaurants that they have eclipsed traditional printed posters and menus. But they are also found in K-12 schools, colleges and universities, hotels, office buildings, casinos, sports arenas and many other locations. The ease of updating content, the ability to show HD graphics and video and the growing opportunities to add different forms of interactivity have all made for a compelling value.

At the same time, the technology that goes into a digital signage solution has gotten smarter, smaller, more flexible and less expensive.

Displays: Taking advantage of the latest LED and LCD technology, displays come in a wide range of shapes and sizes. They can stand on the floor, hang from the ceiling, sit on a counter or get embedded in a vending machine, a pump at the gas station or the elevator in a building. People can interact with signs via touch screens, gestures or mobile devices.

Media players: The dedicated computers that play content for digital signage also come in a range of shapes, sizes and performance. Many are designed to fit into a slot on the back of a display, making for an extremely compact and cost-effective option.

Delivering Value to Your Business

Digital signage has become so pervasive that it's estimated that more people get information from digital signs than look at social media sites such as Facebook.[1] For many businesses where moving graphics are part of the brand message (movie theaters, sports arenas) or where it's important to establish a contemporary feel (hotels, restaurants, clubs), digital signs are essential.

But the biggest factor driving the investment in digital signs is the value they deliver:

Ten Ways to Use Digital Signs

Increasing sales: Using digital signage to make people more aware of products and services is a proven way to increase sales.

Providing information: Providing visitors and consumers with information/directions for specific locations, events, etc., is a classic use of digital signage, particularly in hospitality, schools, stores and many other businesses.

Ambience/entertainment: Businesses as diverse as a bank, medical clinic or auto repair shop may see the primary value as providing an entertaining/ informative distraction that reduces perceived wait times.

Menu boards/shelf labels: Quick-service restaurants have been very active in adopting menu boards so customers can easily see all menu offerings. Grocery stores have been leaders in adopting electronic shelf labels that attach to the front edge of a store shelf and can be automatically updated.

Self-service kiosks: Many signs function as kiosks, offering an opportunity to provide information or process a transaction.

Interactive experiences: With touch screen interactivity, people can step up to a sign and create their own individual experience: accessing information, playing a game or making a purchase.

Virtual merchandising/extending inventory: Using an interactive sign/ kiosk, it's possible to give in-store shoppers access to expanded online inventory via touch screens and 3D graphics.

Business analytics: Anonymous viewer analytics (AVA) software in conjunction with digital signage makes it possible to gather information on customer traffic patterns.

Integrating security: The same network that links digital signs can also be used for digital security and surveillance with cameras on the lookout for POS fraud, intrusion detection and shoplifting behavior.

Internal communications/alerts: Digital signs can also play a role in public communications and alerts—sounding fire alarms or providing evacuation instructions.

Higher revenues: Making use of digital signs can help drive more sales of products and services overall or, depending on the content, more sales of higher margin offerings. By linking the content on signs to internal systems such as inventory or pricing, they can be used to address issues such as inventory overstocks or products that are reaching their expiration date and need to be moved quickly. The ability to rapidly change content makes it possible to respond to conditions in real time—for example, promoting weather-related items when a storm is coming.

Lower costs/greater efficiency: Any business now using traditional printed signs can eliminate or radically reduce the costs of production, distribution, installation, removal, etc. Digital signs also offer an efficient, cost-effective way of addressing common issues such as compliance (e.g., providing an emergency alert system) or supporting wayfinding.

Enhanced customer experience: Digital signs provide a way to efficiently and cost-effectively create an ambience that's fresh and interesting, particularly for repeat visitors. In many businesses, where customers wait for service (e.g., banking, a busy quick-service restaurant) digital signs provide a way to reduce the perceived wait time. Many businesses welcome the opportunity to provide public service/ community information via their signs.

Increased customer engagement: More than just a way to broadcast information, digital signs can also engage customers via touch screen (and/or non-touch, gesture controls), creating opportunities to get customized information, play games, gather input and more. Customers can scan a code from the sign using their smartphone, have information sent to their social media account, update their status in a loyalty program—there is a wide array of options.

Managing Content...And More

Making sure the right content appears at the right time in the right places is the key to the success of any digital signage solution. Intel is making this easy through the Intel® Retail Client Manager (RCM)—software specifically designed for managing content in any digital signage solution, small or large. Simply identify what content is to be displayed, where it should appear and when it should be shown and Intel RCM does the rest. Use Intel RCM to manage video, photos, animated graphics and much more. Its intuitive interface will be familiar to anyone who has used desktop software.

Intel RCM also seamlessly integrates with Intel solutions for remote management, security and audience analytics. The result is a comprehensive platform for managing digital signage solutions and addressing ongoing challenges in marketing and enhancing customer experiences.

Choosing a Digital Signage Solution

At its most basic, a digital signage solution can consist of a single display running still images from an associated computer or media player. This might be appropriate for a small neighborhood store or restaurant.

A more involved solution may include multiple displays powered by one or more media players loaded with video and animated graphics. This might be appropriate for a mid-size store, school or hotel.
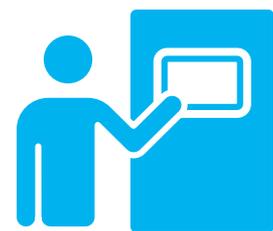
▶ More than just a way to broadcast information, digital signs can also engage customers via touch screen (and/or non-touch, gesture controls), creating opportunities to get customized information, play games, gather input and more.

A large implementation might involve multiple screens at multiple locations displaying a wide range of content, including live feeds from the Web and TV, as well as real-time data from enterprise applications for updates on pricing and inventory. The screens and media players can be centrally managed from a single location and may also be equipped with sensors that gather data about who is watching and for how long—using anonymous viewer analytics (AVA), allowing for relevant content to be showcased. This kind of solution can be appropriate for a chain of retail outlets, health clinics, convenience stores or similar locations.

Why Rely On Intel Technology

Intel has been a leader in supporting innovative digital signage solutions.

In addition to the Intel® Retail Client Manager for managing content, digital signage solutions can take advantage of powerful Intel processors and graphics capabilities, as well as integrated software for remote management and audience analytics.

Powerful, Scalable Processors

There's an Intel processor for every kind of digital signage solution—from the simplest, single-screen installation to installations that involve hundreds or thousands of displays with complex content management needs. Because all Intel processors use a multi-core architecture and offer a common language environment, solution developers can easily integrate devices, applications and processes, resulting in solutions that can more easily grow and adapt to changing needs.

Security

Working together, Intel technologies and McAfee solutions are uniquely capable of delivering hardware-assisted security never before possible. This enables retailers to leverage intelligent retail solutions that are customer- and compliance-ready and offer protection beyond the operating system; real-time and proactive protection technology against sophisticated advanced persistent threats (APTs) and stealth techniques. Solutions such as McAfee® DeepSAFE™,

Security Connected framework address the full range of threats, including virus/malware, content graffiti, identity/account theft, system theft and compromise, data/key theft, and provisioning/updating.

HD Graphics

Graphics processing is essential to the success of any digital signage solution. Fourth generation Intel® Core™ processors have an integrated graphics processor that gives the platform the extra thrust needed for rendering video and animated graphics at the highest possible level, while also handling other tasks such as viewer analytics.

Remote Diagnostics and Repair

Because digital signs can go just about anywhere, being able to easily diagnose and repair a malfunctioning screen or media player is critical. Downtime for any retailer has a negative impact on sales revenue. Intel® Active Management Technology (Intel® AMT), a feature of Intel® Core™ processors, makes it possible

to fix a wide range of systems issues, even when the operating system is down. For example, it's possible to repair corrupted drivers, application software or the operating system for a nonresponsive signage system that won't run or boot.

The Intel technology uses an "out-of-band" link that operates independently of the "in-band" channel of the computing system and provides persistent connectivity.

Measuring Performance

A business can gather information about the people viewing the signs and use this information for planning and marketing purposes. Intel® Audience Impression Metrics (Intel® AIM Suite) software will aggregate the data, categorizing each capture and keep score on how many people looked at the content, how long they watched, and their demographics (e.g., gender and age brackets). The data

is completely anonymous. No image is captured and no identifying data on any individual is stored.

Learn More

Get more information on digital signage including updates on how the technology is evolving, examples of how businesses are using it and steps you can take to put it to work in your business.

Intel® Technology Provider

For more information on digital signage solutions, visit **intel.com/retailsolutions.**