Implementing a Digital Signage Solution

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With the ability to deliver highly engaging and targeted content, digital out-of-home signage brings information, education, and advertising closer to patrons, shoppers, visitors, travelers, staff, and students. It entertains, captivates, and informs them at points of purchase, transit, waiting, and gathering throughout their day. It is convenient, compelling, and customer-centric.

Implementing a Digital Signage Solution

Implementing a successful digital out-of-home solution involves more than just selecting a suitable display. Key variables to consider include: screen size/type, location, configuration and wiring, media players, networking, testing, content creation and management.

Screen Sizes and Types
Something as simple as a digital photo frame can be the perfect signage solution for a small shop. On the other hand, digital signage also encompasses billboard-sized displays and multi-screen video walls. In theory, any display can be repurposed as a digital sign. In reality however, this type of corner cutting will do more harm than good. A traditional consumer television makes for a poor digital signage solution, and is liable to wear out before the benefits of digital media can be achieved.

Professional-grade commercial displays, by comparison, are engineered to an "always on" usage model and ruggedized for 24/7 operation in demanding public environments. These commercial displays may include some or all of the following advanced features:

- Support for a wide range of content types, including video, still images, HTML web pages, Flash, PowerPoint and more
- Multiple input options to enable a broad variety of content from a number of different sources
- Built-in speakers and audio output for external speakers
- Remote control, networking, programming and scheduling, and screen saver functionality
- Enhanced brightness and contrast levels for superior image quality

- True high-definition images
- Ability to operate in both portrait and landscape modes
- Options for wall-mounted and free-standing installations
- Video wall support
- Touch screen interactivity

Location, Location, Location
The old adage about real estate is just as true for digital signage – location is everything. If content is king, then location defines the scope of the realm. Even the most engaging content will do little good if it's not seen at the right time, in the right place, by the right audience. Sometimes location is obvious. In a quick service restaurant, the digital menu board will occupy space previously filled by the old-fashioned "analog" menu. Travel schedules and maps in a transportation terminal should be positioned in convenient locations where travelers would expect to find them. Some environments, such as medical facilities, may be subject to regulations governing where displays can be mounted and how far they can protrude from the wall. Other factors that influence choice of placement as well as content development include:

- Will the audience be walking, standing or sitting?
- What placement will comfortably enhance viewing?
- Length of exposure to the signage?

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- Does content need to capture attention in seconds or engage the viewer for several minutes?
- Do the locations provide maximum visibility without impeding traffic flow?
- Do differing locations draw different audiences and call for content adjustments?

Configuration and Wiring

Integral to the selection of location is determining whether signage units will be free-standing or wall-mounted. Most mounted installations are affixed to a wall; however ceiling mounts are also available, including quad-mount configurations that hold four displays, each facing a different cardinal direction. Free-standing units require a base, if one is not included with the display. Wiring becomes an important consideration with more complicated installations. At a minimum, displays will need to be connected to a power source while keeping cables safely concealed.

Media Players and Networking

The media player – the device that sends content to the displays – is a critical component in a digital signage solution. The key requirement is that the media player support the types of content desired. Most x86-based media players support popular photo and video file formats, as well as common office documents and PDFs. Some newer models extend support to HTML5 and may include pre-made widgets for enhancing signage design.

Although most often a discreet component in the overall solution, integrated media players are included in some commercial displays. For smaller installations, such as an individual shop or lobby, employing a small digital display with built-in media player is often sufficient. In these cases content can be housed on a removable storage medium such as a thumb drive or the media player's internal storage for an easy, cost-effective solution.

Multi-screen installations often require one or more dedicated media players with networking capability. A single media player can drive a network of several displays, delivering the same content to each display. Pairing a separate media player with each display enables delivery of unique content to each and every display. While networking is not required when each display has a dedicated media player, deploying a network provides enhanced capabilities for scheduling, programming, content management, and remote control. Without a network, new content must be manually reloaded onto each media player; when media players are networked, content can be managed and updated remotely from a single location.

Bandwidth requirements and number of displays in an installation will set the bar for network requirements. An organization's existing network infrastructure may suffice, or may need to be expanded to support a given solution. For larger deployments and applications requiring high bandwidth content delivery, it can be most efficient to install a dedicated network to support the digital signage. If scalability of the solution is a goal, it is helpful to consider this from the outset when assessing network requirements.

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Taking a Test Drive

As with any technology implementation, testing a digital signage solution is a critical step along the path to deployment. Running a pilot program can help gauge the feasibility and effectiveness of a proposed solution and ensure that technical requirements are met. Taking the time to perform a small-scale test run can identify problem areas that would be more difficult to address further down the road.

Content Creation

As critical as the displays themselves, content can make all the difference in the success of a digital signage solution. Whether designed to sell, educate, or inform, the more engaging and entertaining the content the more it will compel attention and action from an audience. Unless requirements are very basic, such as a few JPG photos or PowerPoint slides, it may be well worth the investment to contract with a professional graphic designer or content creation specialist experienced in working with multiple content types and configurations, which can include dynamic screen regions, real-time information, on-screen widgets, video, animation, interactivity, and more. A mid-range option is to use software tools for creating digital signage that offer the ability to import multiple media types and assist with layout.

Some best practices for developing content include:

- **Keep it moving** – Motion, including animation, video, special effects and other dynamic content, is more eye-catching and compelling than still photos.
- **Keep it real** – Real-time data deliver fresh, timely and relevant content; this can include RSS feeds and other data pulled from the web.
- **Size correctly** – Build to the proper screen resolution and aspect ratio to avoid distorted or blurred images.
- **Have fun** – Even in the most serious and professional environment, digital signage will be more effective if it is entertaining and engaging.

In addition, it is worthwhile to consider the following while developing content:

- Will all displays mirror the same content or will there be different content displayed on each screen?
- What resolution is required? For the most part, content is built to match the resolution of the display. For video wall configurations, more calculations may be required to determine proper resolution.
- Is the signage interactive? This requires more design and programming.
- How many regions will be on screen? Digital signage can consist of a single region for displaying full-screen photos or video, or may include multiple independent screen regions. In the latter case, each region can include unique and dynamic content.
- Will the signage include real-time data (such as weather or stock ticker) or a TV feed? In the former case, Internet

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connectivity will be required; in the latter, the media player will need a TV tuner.

Content Management

For the most basic digital signage implementations, content management may require nothing more than swapping out files on the media player's built-in or external storage device. For more complex configurations with multiple displays and content streams, a robust management solution is needed. A variety of software tools exist for scheduling and managing signage networks and content. According to one report, there are an estimated 350+ such software packages available.[1] Depending on the software solution implemented, a wide variety of scheduling and management options may be available, which can include:

- **Location management** – The capability to deliver content to as many unique streams and screens as needed may vary significantly among software solutions
- **Dayparting** – Originating with TV and radio, this term refers to delivering targeted messaging based on type of audience likely at varying times of the day.
- **Facial Recognition** –This functionality combines an integrated camera and facial recognition software to capture audience metrics – such as age range, gender, number of viewers, and length of time spent looking at

screen – for use in tailoring content based on this data.
- **Instant Updates** – Standard with most content management solutions, this feature offers the ability to instantly update content as prices, item availability, or special promotions change.
- **Emergency Alerts** – Instant updating capabilities can also be used for emergency notifications in reaction to inclement weather, earthquakes, terrorist events or emergencies on campuses, in medical facilities or other locations.
- **Remote Control** – Networked multiple-display solutions call for single location remote management to control updating and scheduling. Many content management providers offer web-based solutions enabling this control from any remote PC.
- **Monitoring** – Some content management systems offer remote monitoring of display analytics and content streams, enabling periodic quality control checks. Analytics reported can include continuous hours of runtime, downtime, crashes or bugs, as well as data on the most frequent contact points on interactive signage.

Conclusion

With the ability to deliver highly engaging and targeted content, digital out-of-home signage brings information, education, and advertising closer to patrons, shoppers, visitors, travelers, staff, and students. It entertains, captivates, and informs them at points of purchase, transit, waiting, and gathering throughout their day. It is convenient, compelling, and customer-centric.

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After a decade of rapid transformation and growth, digital signage today is mature enough to offer affordable and reliable solutions. However, it represents relatively new and rapidly evolving technology. As innovation continues and interactive displays and kiosks become more cost-effective, marketers and administrators will enjoy ever-greater opportunities for effectively communicating with audiences in virtually any environment, including retail, healthcare, manufacturing, education, transportation, hospitality, the workplace, and more.

About ViewSonic

Building upon our 25-year heritage as a pioneer and innovator in desktop display technology, ViewSonic has become a leader in the commercial display and digital signage market. With a forward-thinking, solutions-focused approach, ViewSonic is dedicated to elevating out-of-home display marketing to new levels of creativity and success. Our innovative commercial and institutional digital signage solutions include media players, hospitality TVs, ePosters, immersive video walls, and interactive full HD commercial displays up to 84 inches.

[1]CorporateTechDecisions.com., Digital Signage for Corporate Facilities: What you Need to Know.