KeyWest
TECHNOLOGY

POWERING THE
DIGITAL SIGNAGE
REVOLUTION

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A new trend in digital signage is emerging that combines the strength of digital signs with the interactivity of digital kiosks. For many areas, such as retail shops, the sum of the two holds greater potential for marketers than either of the individual parts.

Known in some circles as hybrid digital signs and by others as interactive digital signage, these combo systems can capture the attention of those nearby by playing back compelling linear content -for example an enticing commercial or news feed- and immediately switching to an interactive mode when triggered by an external input, such as the touch of a viewer, the mere presence of a passer-by or even environmental conditions.

Like a standalone digital sign, a hybrid system allows communicators to playback a pre-built sequence of elements, including video files, graphics, text, animation and live television. Those staples of digital signage are the makings of an effective message that entices interaction with the flat panel on which the content plays.

Once viewers touch the panel or step within its proximity, the hybrid sign automatically interrupts linear content playback and displays a digital kiosk-like interface that lets a shopper touch hot spots on the screen, launching a pre-built interactive branching presentation. Navigating through the presentation, shoppers can find the information they want like product recommendations, pricing and availability.

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CONSUMERS LIKE INTERACTIVITY

The popularity among consumers of having interactive control over media –whether it's content or advertisements- is undeniable. On the internet, interactivity is reshaping how consumers access news, information and entertainment. It has transformed their relationship with media from the passive recipients into active seekers. No longer content to simply consume a string of professionally packaged entertainment and news with advertisements periodically interspersed, a significant number of consumers are seeking out the content they desire. With the click of the mouse and a few keystrokes, they are finding what they want on the Web and watching or reading it on their computer screens.

This trend appears strong and certain to grow. Strategic market research service Media-Screen LLC in San Francisco released results of a report in May 2007 that examined how Americans are spending their spare time. The report, "Netpop | Play" found that broadband Internet users are spending 48 percent of their spare time, or 100 minutes in a typical weekday) online. Additionally, the report revealed that 54 percent of that time is spent accessing entertainment- and communications-related activities.

UNIVERSITY OF TENNESSEE FOOTBALL HALL OF FAME
Knoxville, Tennessee

The University of Tennessee has updated its Football Hall of Fame by replacing aging DVD-based kiosks with hybrid interactive digital signage.

Multi-Media Solutions in Alcoa, TN, won the contract to design and integrate the system, which included Keywest Technology Media PODs to drive presentations at 20 kiosks, flat panel LCD and plasma displays — some as large as 50 inches and two interactive touch screen panels that allow viewers to navigate through presentations with a simple touch.

Rather than running 24/7, the Media POD players interface with motion sensors that detect the presence of a visitor, upon which audio volume is ramped up. Coupled with directional audio speakers, this audio control solved the problem.

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In February 2007, broadband Internet penetration in the United States exceeded 80 percent among active Internet users, according to Nielsen/NetRatings. When considered along with how Americans are spending their free time, it becomes clear that tens of millions of Americans are demonstrating an affinity for interacting with technology to access what they desire.

IBM Institute for Business Value confirmed this consumer interaction with media not only is present on the Web but also has spilled over into other walks of life. Findings from ''IBM's End of Advertising'' consumer survey released in August 2007, revealed that 24 percent of U.S. households have a digital video recorder and that 48 percent have used video-on-demand from a cable company or other provider. The survey results confirm the popularity of controlling media with 53 percent saying they watched at least half of their shows replayed from the device.

Again, when given the opportunity, consumers demonstrate on line and in their living rooms that they wish to interact with technology to access what they desire and take control of the experience.

Internationally, consumers are demonstrating a strong desire to interact with technology as well. For example, according to a new report from Forrester Research, European online retail purchases will grow 58 percent year-over-year in 2007. A major contributor to that growth is ''increasing consumer confidence and familiarity wit the Web,'' according to a senior Forrester Research analyst.

Essentially, interactive digital signage can extend the private interaction consumers have with technology in the home to public spaces like retail stores, shopping malls, hotel lobbies and museums, to name only a few.

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The report, "Europe's 2007 Christmas: An Online Retail Wonderland," found that in the UK, Germany and Sweden, online shopping will exceed the European average with about 70 percent of all Internet users shopping online.

Another example is the growth of IPTV service throughout the world. A new forecast from Canalys forecasts that by the end of the decade nearly 40 million subscribers will sign up for such IP television services worldwide. In the Asian Pacific region the total will increase to 11 million, according to the forecast, and may exceed that figure if government regulatory hurdles can be overcome. Significantly, IPTV gives television viewers a high level of interactive control over program selection, types of advertising viewed, and on-demand scheduling –all controlled interactively via remote control from the comfort of the living room.

Capitalizing on this trend outside the home is interactive digital signage. Designed with the ability to respond to the touch of a viewer's fingertip, interactive digital signage puts viewers in charge, allowing them to find the information they seek in a way that approximates their broadband Internet experiences.

WALNUT VALLEY GARDEN CENTER
Andover, Kansas

The Walnut Valley Garden Center in Andover, KS, is using a unique hybrid, interactive digital signage system based on Keywest Technology's interactive software.

With interactive content developed by DSX Media of Wichita, the system lets customers access a map of their property via Google Earth. That plus an interactive software component from Keywest Technology allows shoppers to specify the size of their projects through a touchscreen interface and learn the exact products they'll need and how much to use.

For shoppers who don't know anything about gardening and landscaping but want to get started, the unique interactive digital signage system offers a page with 12 different examples of gardens. Simply touching a thumbnail of one opens up a page that tells shoppers everything they'll need and what it will cost.

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Rather than a mouse click, consumers simply touch a panel. Rather than hyperlinks to desired content, hotspots designed into the interactive presentation let users navigate to what they want to find.

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MAKING IT INTERACTIVE

There are a few specific elements necessary to make a digital sign interactive, including display monitor, input device, media player/server and interactive software. While touch-screen interaction may be the input device primarily used for action, other devices like proximity detectors, RFID tag readers, weather instruments and motion sensors also are popular inputs used to interrupt a conventional, linear digital signage presentation and launch the interactive aspect of the sign.

Like a traditional kiosk, digital signage in interactive mode can offer users navigation of sophisticated, branching interactive presentations.

Several different touch-screen technologies are popular, including:

• Resistive panels made up of layers of material, including resistive and conductive metallic layers that sense a touch when connected by the pressure of a finger.

• Surface acoustic wave technology that floods a display panel surface with ultrasonic waves, which are modified by a touch, allowing the controller to discern where the panel has been touched.

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• Infrared technology that relies on infrared sensors placed on the edges of the monitor to sense an interruption by a touch much like an IR garage door closer emergency interrupt senses the presence of an object in the path of the door.

• Strain gauge mounted with springs on the corners of a monitor identify where the surface is touched.

• Acoustic Pulse Recognition in which piezoelectric transducers transform the vibration of a touch into an electrical signal that's converted to an audio sample and compared to a library of existing samples to determine where the screen was touched.

While these are some of the touch-screen interface devices in use, they are by no means all of the methods in use. Additionally, external devices can be easily integrated, including RFID readers, card scanners, printers, motion sensors, and proximity detectors, enabling multiple tactics. Input from these devices can be used to launch and control specific actions like content playback or even sale and dispensing of tickets or the printing of coupons.

Whether it is touch-screen technology or some other input device, data initially registered via the interface launches the digital signage media server/player

RANDY DEAN HOME BUILDERS
Wichita, Kansas

Randy Dean Construction in Wichita, KS, is using a unique implementation of the Keywest Technology Media POD digital signage player to market its model homes, designs and inventory more effectively to prospective home buyers.

The system is a hybrid digital signage implementation that skillfully marries playlist management and video/audio playback of a digital signage system with the interactivity of a digital kiosk. The digital sign cycles through a loop of video that includes a three-minute commercial for Randy Dean Construction followed by 30 second commercials for paid advertising until a prospective home buyer touches the screen.

With that touch, the system shifts into kiosk mode so buyers can interactively retrieve the information they are seeking. In effect, it becomes a virtual sales agent to answer questions while real, sales people are busy with other prospects.

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into interactive mode. Like a traditional kiosk, digital signage in interactive mode can offer users navigation of sophisticated, branching interactive presentations. Users can drill down to desired information via a graphically pleasing interface much as they do online by following hyperlinks. They can even actively submit data about themselves or passively register their preferences with the system by the selections they make.

> *From a marketer's point of view, interactive digital signage provides a tool by which customers can buy into the experience of communications.*

BENEFITS OF INTERACTIVE DIGITAL SIGNAGE

The primary benefit of interactive digital signage from the consumer's point of view is delivery of a high degree of control over their experience with the sign, which mimics in favorable ways their experience on the Web and with other on-demand technologies. Rather than passively viewing linear digital signage content, a simple touch or their mere presence can put consumers in control.

From a marketer's point of view, interactive digital signage provides a tool by which customers can buy into the experience of communications. Rather than attempting to attract and win customers with a shotgun approach to their linear digital signage messaging, marketers can present consumers with content they choose to better match their individual tastes and desires.

Equally important to marketers is the feedback loop interactive digital signage builds with customers. The popularity of various pieces of information as well as the types of screen layout, hotspot positioning
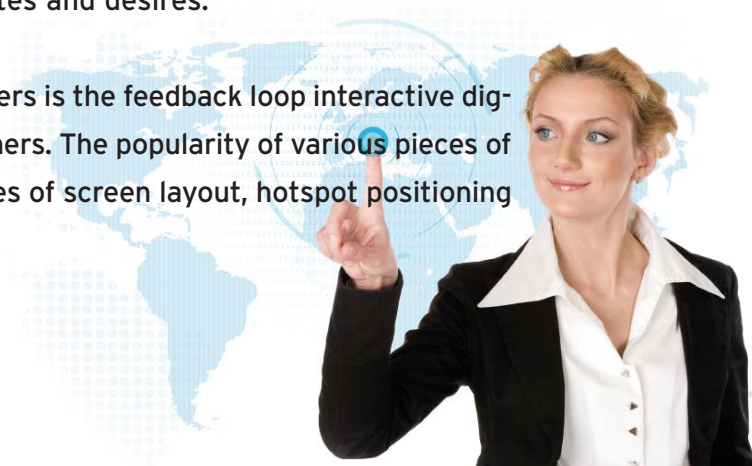
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and overall presentation that attract the greatest response can be tallied. Based on those statistics, marketers can make tactical tweaks to their consumer messaging or adjust the overall strategy behind their communications effort. The statistics also can offer guidance for how interactive navigation and information is delivered to the consumer in the future.

Additional benefits of interactive digital signage in a retail setting include:

- Offering a customizable customer experience
- Assisting in inventory control
- Tracking the popularity of specific types of merchandise
- Offering information making up-sells easier
- Promoting complementary merchandise
- Building consumer databases to be used for subsequent marketing campaigns
- Developing higher degree of customer satisfaction
- Improving workflow efficiency of sales staff
- Multiplying sales personnel resources in the form of a digital sales assistant

Interactive digital signage panel provided by Keywest Technology — 2007 American Royal BBQ Contest

The reach of interactive digital signage applications extends far beyond the retail sector, however. From museums, public spaces like arena and convention center lobbies, and movie theaters to the banking, healthcare and hospitality sectors, interactive digital signage can elevate the level of communications a business or institution has with its customers, improve workforce utilization and tie users –to the degree allowed- into enterprise servers with information to satisfy their inquiries.

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THE FUTURE OF INTERACTIVE DIGITAL SIGNAGE

As marketers re-evaluate traditional media choices and look for ways to capitalize on the how consumers are changing their media consumption from a passive media to interactive digital alternatives, the relevancy of interactive digital signage will increasingly come into focus.

Brick-and-mortar retailers, looking to offer customers a communication experience consistent with those fostered and developed on the Internet are likely to view interactive digital signage as natural extension of that on-line interactive experience. Similarly, those outside the commercial realm, like museums, can exploit the same desire on the part of public to interact with their media devices for fun and learning.

The possibilities for interactive digital signage in this new age of digital expectations are only as limited as the imagination of creative teams using this technology. To be sure, interactive digital signage is in its infancy. However, with the recent availability of the hardware and software needed to bring together the separate worlds of interactive kiosks and digital signage, hybrid interactive digital signage systems will certainly play an important roll in the future.

Keywest Technology hopes this information has been beneficial to you. This white paper highlights several dynamics that make digital signage an extremely creative, effective and affordable choice. We build custom interactive digital signage systems, and we have pioneered the development of interactive software that is sold worldwide. Regardless of where you live in the world, please contact us to arrange a Webinar or personal demonstration of this exciting and paradigm-changing technology that turns ordinary flat-panel displays into custom-interactive digital signs. From mild to wild, interactive digital signage gives your communications plan some personality.