



Digital Signage for Experiential Graphic Design

DIGITAL SIGNAGE WHITE PAPER



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Introduction

Digital signage is not just a buzz word, and it's not something new. Everywhere you go today, you see screens. They are on walls, in lobbies, at elevator banks, in cafes and restaurants, in shop windows, at public transit stops (and even on the public transit itself) and, perhaps more ubiquitously, in just about every person's hand. Digital presentation of information is clearly one of the defining characteristics of the 21st century. Our environments already communicate with us.

The SEG website says, "XGD [Experiential Graphic Design] activates, informs and organizes the way we live, work, play and learn.... (Designers) shape experiences that orient, inform, educate and delight users and visitors." Digital signage augments and enhances these principles and goals in spaces that people move through or congregate in. It's modern, flexible, dynamic and responsive.

The Benefits of Digital Signage

Institutions, organizations, companies, and universities worldwide have found immense benefits from using digital signage for both their internal and external communications. Messages are presented in a timely way, with an engaging, modern look.

A digital signage system is dynamic and adaptable, allowing real-time updates, so information is always current, and replaces time-consuming and expensive printing costs. Think of every kind of communication an organization might need, and digital signage covers them all.

A comprehensive digital signage deployment can be used for any target audience and type of communication:

- Back office and front office can tie together as internal communications are streamlined and enhanced, with employees getting the information they need where they need it.
- Management can keep everyone in the loop on policy changes and promote events with a centralized and cohesive communication plan.
- HR can send important reminders and deadlines, and enhance their training offerings.
- Employees and visitors can be recognized for achievements, and kept up to date on progress and other vital statistics.
- Visitors can be welcomed to a facility, and aided in getting around using interactive wayfinding.

Digital signage replaces unattractive paper posters, leaflets and bulletin boards, and saves staff time with auto-retirement of outdated messages. A web-based system allows content to be created and managed from anywhere with a web connection, and you can reach any display, anywhere with network access, knitting a widespread physical area into a cohesive whole.

A well-planned digital signage deployment is indispensable to any 21st century organization – be it an office, a school or university, a manufacturing facility, a conference center or hotel, a government services office or chamber of commerce, a museum or exhibition center.

However, some clients may still get uneasy when faced with the term "digital signage". They may have the feeling that they need to integrate it into their business, but aren't really sure what it is. This white paper will help you inform them of the basics, as well as some best practices for implementing and utilizing digital signage to the fullest. You can put their minds at ease – they already know more than they think they do.



Digital Signage 101

Technology

Digital signage is any kind of information presented in a rotating playlist on any kind of digital display – usually screens. You need three things:

Displays

Most people use LCD screens, but they could also use a digital projection display, a scrolling message board, a video wall, digital room signs or an interactive kiosk. In fact, anything with a screen can be a display – desktop PC monitors, mobile devices such as tablets and smartphones, and whatever new technologies are coming soon, such as wearable computing devices. Literally any screen that displays digital information can be used as a digital sign. But usually people mean large monitors when talking about digital signage.

Software

Content management software allows you to create, import, manage, approve and schedule messages to be shown on displays. The software lives on a content server, and clients access it to create and manage their playlists - which messages go to which displays, how long each message will be shown, and when each message will retire from the playlist.

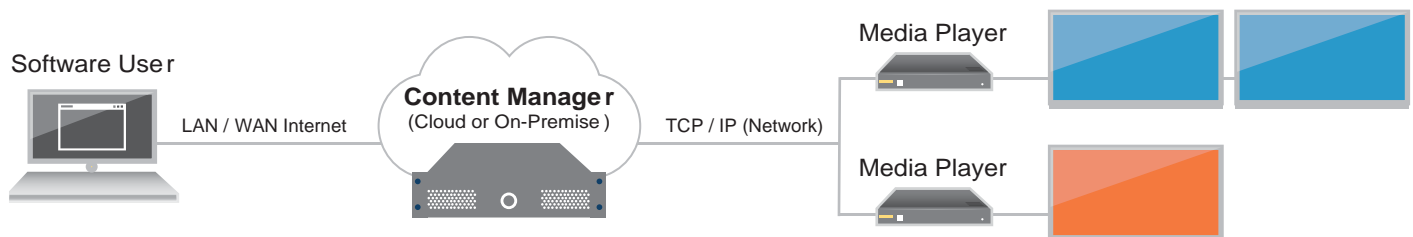
There are options for how to display messages as well – use a single large image that takes up the entire screen for maximum impact, or use multi-window layouts that not only show messages, but also have tickers, animations, video windows and more. The software can be used and maintained by a single individual or a team, even one whose members are geographically scattered if a networked or web-based deployment is used.

Hardware

These are the machines that distribute and play back the content – taking whatever is in the software and pushing it onto the displays. Technically, this could be something as simple as a single laptop pushing PowerPoint slides to a display (the laptop and cabling to connect it to the display are the hardware, PowerPoint is the software). But this is so limited in today's information-oriented society that it is far better to have multiple media players distributed in a network, pushing content to many displays.

The content server, with the software installed, sends a complete screen layout with playlists to a media player (which is essentially a computer). This media player then feeds one or several displays at the same time, all showing that same layout. Networked deployments allow greater flexibility, with different layouts being sent to multiple players at once – allowing different content to be shown on different screens at the same time.

The content server and software can also be remotely hosted in the cloud – all that's needed is an internet connection to the media players.



That's it for the basics – all that's needed are the screens, software sitting on a content server, media players to push content to the displays, and cabling to connect it all together.

Infrastructure

Your clients need to have displays, but what kind of displays, and where should they go? These are key questions that need to be answered before making a big purchase.

Screens

What kind of displays would be best for their environment? Flat panel LCDs are popular because they have high native resolution, consume little power, are lightweight and have long lifespans – making them a solid long-term investment.

However, the environment and desired experience should be paramount when choosing displays. Kiosks with integrated screens, video banks or video walls, menu and donor boards, interactive touchscreens and room signs are all options to consider, depending on the needs of the client, the physical space the displays will be in and the overall experience the client wants to create for their audience.

Should screens be mounted on walls or freestanding? Should they be portrait or landscape? Will they look best surface mounted, or should they be recessed or framed to match the overall décor?

It's best to do some on-the-ground research instead of making decisions in a bubble. Walk through a facility as an employee or visitor would. Where do they naturally look for information? Are there areas where they frequently stop people to ask questions? Drive technology to the user, not the other way around.

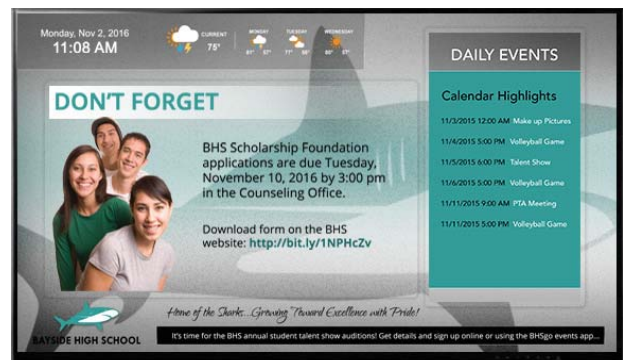
Placement

Once they decide which types of displays will work best, clients need to consider where and how to place them. The experience drives everything, so some things need to be planned out before thinking about displays placement.

For example, it makes more sense to place displays that will show weather or current commute traffic near exits or in break rooms, rather than in hallways people are just passing through. Menu boards with daily meal specials for employees don't need to be in the lobby, unless you want to invite visitors to the café. Staff announcements shouldn't be in public areas, and college students don't need to know about the teachers' retirement plan.

Where should screens go? It's best to observe where people congregate and naturally look for information. Lobbies and welcome areas, hallways, waiting rooms, elevator banks, cafeterias, service centers, book shops and libraries are all perfect indoor locations for displays. High traffic areas are usually best – the more people that pass by a display, the more people are likely to see and notice the messages.

Place displays at a comfortable height – if people have to crane their necks to look up at a display, they will just ignore it. Just at or slightly above eye level is optimal. Putting displays near windows can be a nice way to integrate the outside with an interior space, but glare can be a problem – either directly on the screen obscuring the image, or back glare can make it uncomfortable to look at a screen. Think about how light travels through the space throughout the day. Also keep in mind overhead lights.



Cabling is also something to consider – where are there already existing network and electrical hubs? If building a new space or overhauling an old one, where should outlets go? Get a qualified IT person involved from the very beginning - have them do a survey of power, network connectivity and IT security policies.

If your clients want interactive content, the displays need to be easily accessible and ADA compliant, and at a comfortable height with plenty of space around them so users don't feel crowded. Does the client want to use audio? Maybe not in a space that echoes, or in a quiet zone such as a library. Video tends to grab attention, so only use this in areas with sufficient space to accommodate people stopping and watching. Your clients don't want to create choke points in hallways every time a video plays.

Interactive room signs are mounted on walls or glass outside meeting rooms, so make sure there's enough space for people to see the whole screen and not feel boxed in when using the on-screen options. E-paper room signs can have customized faceplates - reinforcing the client's brand, helping identify and differentiate the space, or helping the room sign blend in to the décor of the environment. Because they communicate with the content server wirelessly, these signs can easily be moved from one location to another – a perfect solution for office hoteling, or a space that's frequently reconfigured.



Content

Design and the environment work together to create a harmonious experience for the audience, and the content shown on digital signs has to be part of that equation.

Messages should be concise and to the point, and easy-to-read fonts are key to making sure a message is quickly understood. On digital displays, sans serif fonts work better than serif ones. Consider how far away the display is, and adjust the font size accordingly. Backgrounds need to contrast well with the text, and the whole look should be harmonious with the space the display is in.

Many people use themes and templates to reinforce and compartmentalize their messages. Again, think about what will be on the screen, and where it is likely to be located. This will help content creators decide what sort of layout works best – a single, full screen; a two window layout, or multiple windows. Or maybe the message or image is displayed across a video wall, which changes the design considerably. Will there be a news feed window, or tickers across the bottom or top? All these things need to be thought out.

Using the software to create and manage playlists means that messages simply stop being displayed when their end date is reached. But fresh content is important, so clients should think about whether they want to have auto-updating content, or have staff members create everything from scratch.

Being able to override the entire system in the event of an emergency is also a key factor. Concise and clear instructions for what to do in an alert, like where to go, is vital to ensure everyone's safety. Color-coding alert types saves people precious seconds – for example, a green background for extreme weather, a red background for a fire. Running drills for staff helps keep the system fresh in their minds, so when they see the specific color and font, they know exactly what to do.

Video, used judiciously, can also be a great addition – nothing captures attention like motion. Audio can be a great attractor, but in the wrong environment it can be a distractor. Think carefully about where and when to use audio with your messages or videos.

Interactive screens are becoming ubiquitous – it's not uncommon to see people today simply walk up to a screen at an accessible height and start touching it. This is ideal for directories and wayfinding content – the audience chooses what they need and the displays provide it. This is also true for donor boards, queuing systems and digital menus – the audience can learn what they need at their own pace.

Social media boards link an organization's online presence with their digital signage, with real-time updates keeping everything current and in sync. Digital signage can also pull and display webpages or any RSS feed from the internet. Data visualizations on screens can show event schedules, energy usage, real-time shuttle maps, animated weather forecasts, news-in-pictures, spreadsheet data and more.

Regardless of how simple or in depth the information being displayed is, adding some sort of call to action involves the audience and offers soft ROO possibilities, so organizations can see how effective their messages are.

Ownership

A successful digital signage deployment needs a champion, someone who "owns" it, runs it, gets the right people involved and conducts measurements to see what works and what doesn't. A digital signage system is dynamic – not just for the audience, but for the people using it. Content, design, even display placement are all flexible and can be changed as needed.

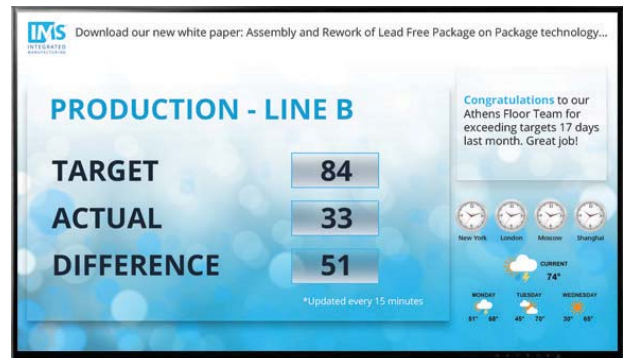
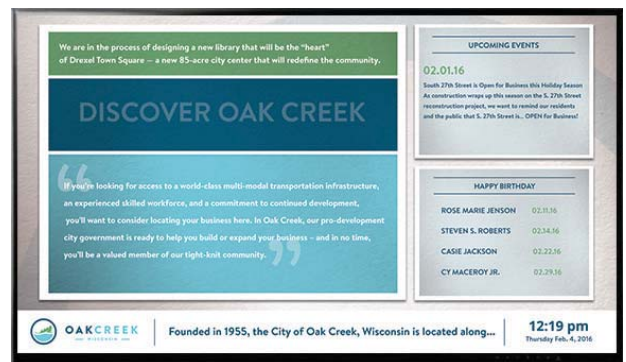
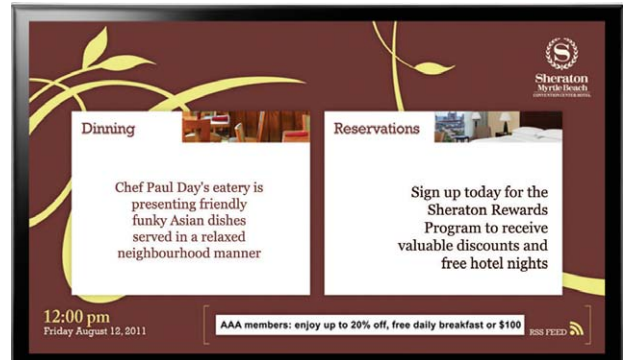
The IT department is certainly going to be involved in setting up a digital signage system, but once the initial work is done, someone else should take it over. IT will continue to be an important part of the team, but only someone with a clear overall view of communication and engagement goals can really make the system successful.

A good, comprehensive plan needs to be in place before anything else is done. Roles will have to be defined – who has access, who can create content, how the approval process for messages works; templates for people to create messages, and who maintains those; who will write, publish and update policies. Setting up clear workflows before anything is done will make the entire process easier to implement, easier to use, and easier to alter or expand later.

Planning the Strategy

It's vital your clients develop their objectives in a clear, logical and consistent way. The objectives in turn inform the strategy, which determines the roadmap for deployment and execution. The overarching thing to keep in mind is the audience – what sort of experience do they want people to have as they move through the facility?

The technology you use will be determined by what you want to use it for. Consider the needs of your staff and the public when developing your objectives and strategy.



People

Include everyone who might contribute content in the early stages. This could be marketing, HR, admin, web staff, department heads, purchasing agents – even the security team. Getting everyone involved and on the same page early can give unexpected insights and gives everyone a sense of ownership in the new system. It's crucial to get buy-in at every level, or people won't use the digital signage system to its fullest potential. It is better to involve too many people at the beginning than not enough.

Goals

Outline goals in as much detail as possible – this will help clarify workflows implementing and using the system, and give some ideas on how to measure return on investment once the system is up and running.

Think about how people will use the digital signage system, and what their experience, needs and interests might be. Once these are clear, consider how it will operate within the facility. What kind of content will be displayed? Who creates and approves it? Where are those approval standards? Where the hardware going to be and who will maintain and upgrade it? Who manages the software?

Write up a detailed project plan with key action items, timeframes and resources. The more that is covered in advance, the fewer unwelcome surprises, like unexpected costs or delays, will crop up. Consider things like:

- Where the displays will go
 - Think about traffic flow past them – high traffic areas get more views
 - Placement – putting them too high makes them hard to see or interact with
 - Walk through the space and see where the eye natural falls, where there are choke pints and where there are areas that feel empty
- What kind of content to use
 - Should you use static images or moving ones? What about video or news feeds?
 - Do you want a color scheme to integrate into your décor? Or should the displays stand out?
 - Should you use audio? (This only makes sense in areas where sound will not be intrusive.)
- IT issues
 - Connectivity
 - Bandwidth
 - Network security policies
- Potential revenue sources
 - Grants
 - Advertising from local businesses
- Outsourced services
 - Content creation
 - Paid data subscriptions
- Crisis communication plan
- Future expansion of the system

Content

Once the overall goals have been clarified, it will be obvious what kind of content should be displayed. Get as detailed as possible:

- Who creates, schedules and approves content? How many people? What's the procedure?
- List the content that needs to be regularly created by topic or department
- Will you incorporate auto-updating content, like social media and weather feeds?
- What other data feeds need to be integrated?
- List content sources or file types (MP4, Flash, event schedules, RSS feeds, etc.)
- Will there be interactive wayfinding or kiosks?
- What is the alert notifications plan?

Budget

You need to think about more than just initial costs, but about the foreseeable future – try to budget for 18-24 months, at least. Think about software and hardware upgrades in the future, or additional displays and bandwidth as the system expands. What about training users – at the beginning but also on an ongoing basis? When it comes time to refresh the look, will this be done in house or by outside designers? Think about technical support costs.

A closed or inflexible system will lock your clients in, making it difficult to change configurations when needed. The digital signage system is almost sure to attract the attention of other buildings or departments, and soon they'll want to be a part of it. Or your client might move to a bigger facility. Don't let them box themselves in for expediency's sake at the start – it will end up costing more time and money in the long run. It's better to have a single, well-thought-out system that can grow, rather than creating a series of smaller, ad hoc systems that have to somehow link together.

Experience

As the plan is discussed and finalized, the projected deployment will seem to grow larger and more complicated. Once everything is in order and the client is ready to start purchasing software and hardware, they should take a little time to look once more at the plan and see what can be simplified.

Especially consider the entire experience from the audience's perspective. Then do a walkthrough of the spaces that will have screens, and think about each one and how the displays can enhance the user experience. Finally, revisit the plan and make adjustments as needed.

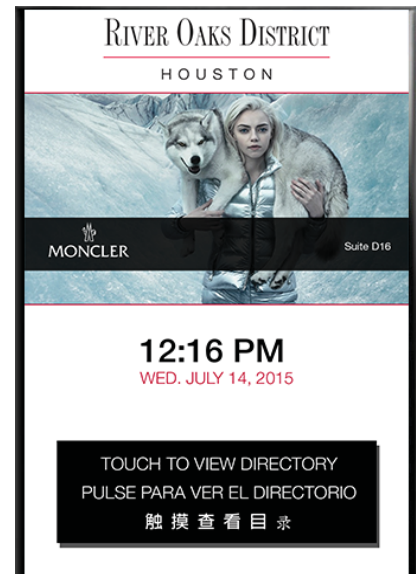
Choosing a System

Again, working a lot on the front end makes life much easier later. Do some research and get a clear picture of available options before buying anything. Doing things in the right order really helps in the long run.

Software First, Hardware Second

It's great if there's an opportunity to buy a bunch of flat screen displays for a good price, but if it isn't clear how content will be managed, it might be best to wait. It's the software that people will be interacting with to create content and run the digital signage system, so make sure the hardware supports the software, not the other way around.

Having the system live on just one computer, run by just a single person, can limit your clients in terms of flexibility and expansion. A web-based system, or purchasing a licensing agreement, enables more people to participate, and gets more variety in the process and type of content that can be delivered. The more people who get involved and get excited, the better overall for long-term success.



Consider these points when choosing which software to run:

- It needs to be user-friendly - easy to use, learn and update
- It needs simple import options and/or high-quality content creation tools
- It needs to meet technical requirements, supporting desirable file types and data feeds
- It should have day-part scheduling and automatic message retirement
- It should include alert notification capabilities, preferably CAP-compliant alerts
- It needs to meet the hierarchy worked out in the plan – allow multiple contributors and separate content approvers, and enable both centralized deployment and individual department access

Think about the software vendor. Are they primarily a software company or do they offer digital signage software as just one of their many products? Do they understand digital signage for an organization like this? Will they offer ongoing support and services? Do they have credible references?

Hardware is an Investment

Don't get locked into a single vendor or some proprietary hardware. The software provider should either be able to offer industry-standard hardware, or supply the proper specs.

Every year, hardware value depreciates, and planned obsolescence means that things are no longer built to last. Operating systems update and change, I/O interfaces evolve, and physical components fail. Make sure the machines are flexible and adaptable enough to still be useful in a few years' time and as your client's needs change. Otherwise, equipment replacement costs will have to be budgeted in, which adds to the overall cost of the system.

ADA Compliance

Don't forget to comply with the Americans with Disabilities Act (ADA), which will affect wording and typography (including Braille lettering), placement of displays and kiosks, and more. [Find details online at http://1.usa.gov/1ZAJb0X](http://1.usa.gov/1ZAJb0X).

Pilot First

Before launching the system everywhere, run a pilot program in an isolated environment. This allows evaluation of the software and hardware, as well as processes and workflows. It also lets your clients determine how their content is being received, and what changes might be needed before rolling out the digital signage system-wide.

This even allows testing of different branded layouts and content templates, so that everything is as good as it can be on the day of the total deployment. Your clients will see which designs work best, who their best content creators are, and who might need a little more training.

It's best to run a pilot launch for 60-90 days, getting feedback from all stakeholders during the run, and then check in with the digital signage vendor to go over what was successful and what needs to be adjusted.

Get Interactive

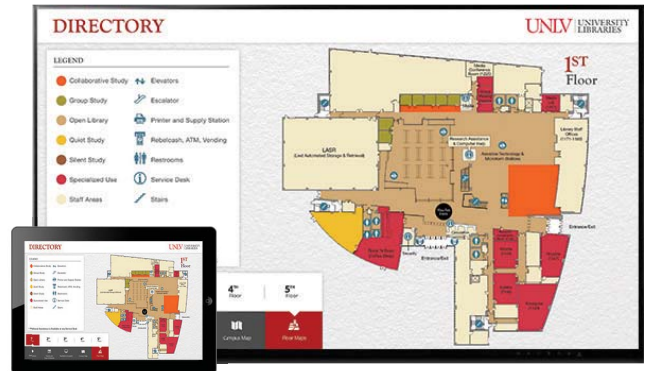
People are accustomed to interacting with their information, and having interactive displays can pack a lot of information into a single location.

Touchscreen Directories

A directory with dozens of names is easy to sort through on an interactive screen. The audience chooses what is important to them at their own pace, so no employee is needed to offer support. There are no printing costs, no wear and tear on a physical object, and no waste. A searchable directory could also be paired with an online reservation system, so people can make their own appointments.

Wayfinding and Mapping

Interactive screens and kiosks can also serve as touchable, self-serve maps. These could be for a single building, for several buildings spread out over a campus, or an entire community. Combining this with a downloadable app for mobile devices, such as smartphones and tablets, puts the directions right there in the audience's hands. Combining a wayfinding app with proximity beacons can give them turn-by-turn directions as they move through the environment. Adding a geofence, a virtual perimeter that prompts GPS-enabled devices to download the app, lets your clients communicate with people the moment they enter their facility's grounds.

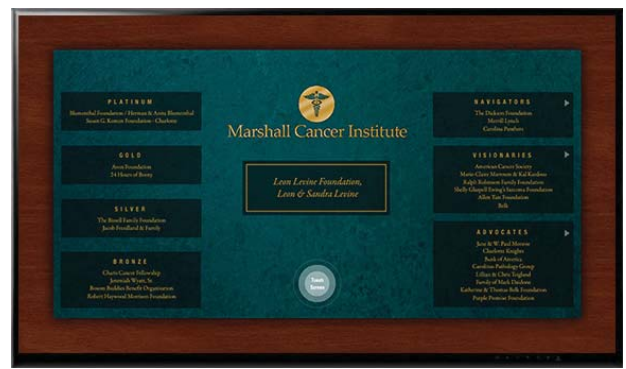


Donor Boards

One interactive screen can access as many things as you like, and takes up a lot less space than dozens of plaques. Recognize volunteers and patrons with photos, videos and bios. Names can be sorted by individual, group or company, alphabetically or by giving category. Use screens to promote ongoing campaigns and programs, and provide instructions for people who might like to donate.

Menu Boards

People are usually in a bit of a rush when they go to a cafeteria or food court. Touchscreen menus can present options and daily specials, plus add nutritional and allergy information in a fun and informative way. Combine this with an ordering system, and the entire process gets streamlined.



Queuing Systems

Sitting in a waiting room or waiting in line can be a frustrating experience for visitors. Interactive screens can let people know how long they have to wait, and supply forms and other info they might need before their appointment. And while they are there, they are also exposed to the organization's other messages, reducing their perceived wait time.



An Interactive Experience

Imagine Zarah has entered your client's building. She needs to see someone about renewing some paperwork, but is unsure where to go. She steps up to an interactive kiosk, and searches the database directory by subject. She then sees which people and offices are currently open that can help her.



She uses the online reservation system, accessed right there at the same screen, and discovers the next appointment is in two hours. The system knows that is a bit of a wait, so a message displays that suggests she visit the cafeteria. Another message prompts her to turn on the GPS on her phone. Once she does, the geofence notices her device and gives her a link to download the wayfinding app.

Zarah downloads the app, and looks up the cafeteria and the office where her appointment is.

The app prompts her to walk through the lobby to corridor A, showing her a photos of landmarks to aid her. As she is guided through the facility, she passes proximity beacons which send out short directions and pictures to help her make sure she is going the right way.

There's another interactive screen in the cafeteria. After sorting through the day's offering, looking for something without milk or butter (she's lactose intolerant), she places an order using that screen's ordering system. She waits a few minutes, selecting a table near a window, and then gets her food when it's ready.

After lunch, Zarah is guided again by the wayfinding app to Room 15B, where her appointment is. Because she didn't have to run around trying to find people to help her, she arrives with plenty of time to spare. She checks in at an interactive kiosk, securing her appointment time, and sees a message asking her to fill out a form located in a tray below the screen.

While she is doing this, she sits in the comfortable waiting area, and watches an amusing yet informative video on health tips, learns about two interesting events coming up that this facility is sponsoring, and sees that car traffic is terrible because of an accident, but that the subway is running on time. Good thing she didn't drive today! She also sees that it is going to be a lovely evening, and then sees a message about a free outdoor screening of a film she's been wanting to see. She texts some friends and arranges to meet near the park where the film will be shown, and is just finishing up when it is time for her appointment.

Things go quickly since she had already filled in the correct forms, and she gets out much earlier than she thought she would. She glances at a screen on the wall and sees that the weather is warm, with only a slight breeze, so she decides to walk to the park before meeting her friends.

Oh, and Zarah's not a native English speaker, so all this information was accessible in her native language as well.

This is just one way that interactive digital signage can enhance the user experience, making what might have been a tedious and confusing experience a positive and relaxed one. In our example, Zarah collaborates with a communications-rich environment which gives her the information she needs as well as other info she might find interesting.

Conclusion

Digital signage is, at its roots, a fairly straightforward thing – displays, software on a server, media players and cables connected to the displays. But the possibilities today are nearly endless, and only limited by the imagination of the people using the system.

Organizations all over the world are leveraging the power of digital signage to create engaging content that enhances the experience of employees and visitors, and sends the message that this place has taken the time to think about making their experience pleasant and informative.

Digital signage helps create an environment that is information-rich, and – when combined skillfully with other XGD concepts – doesn't feel overwhelming, but enhances audience interactions.

Whether the goal is to orient, inform, educate or simply delight users and visitors, digital signage is an invaluable, cost-effective, adaptable and dynamic addition to any organization.

Want to learn more? Contact us at salesteam@visix.com.