

BEST PRACTICES

# Digital Signage Content



Presented by  
Digital Signage Association  
Best Practices for Content Committee



**DIGITAL SIGNAGE**  
ASSOCIATION

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## I. PURPOSE OF BEST PRACTICES FOR CONTENT SERIES

Digital signage is a concept familiar to the marketplace, and it is more established and understood now than it was just a couple of years ago. We have come a long way, baby!

But while many people are comfortable talking about screens, mounting and connectivity, the most significant component of a successful digital signage deployment often fails to get its due: Content. It is king, and the monarchy content leads is different from the ones that came before.

One of the previous, of course, was television. In its early years, TV was described as “radio broadcast pictures.” It was an entirely new medium. What a dynasty it had. Enter the PC and the World Wide Web, and again we have entirely new media for advertisers and content. Now, arguably, the third screen is the mobile screen (cell phone), which again has a new size and purpose with a new media and new ways to advertise.

The fourth screen? Digital signage. A completely new format. And the best part of this advancement is that by being involved in the creation and deployment of digital signage, you are part of a revolution in media, something we have not seen the likes of since the launch of media on the www a little over a decade ago.

Digital signage media is special. It is not TV. It is not a PC. It is not a newspaper circular. The content created for it is new, refreshing and different from any other medium we have encountered.

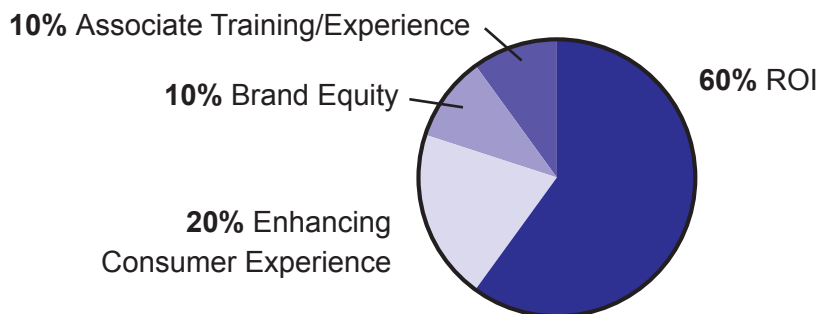
This guide, “Best Practices for Digital Signage Content,” is the first in a series of planned Best Practices guides designed to help you harness the power of one of the most exciting media for messaging of our time. In future editions, we will delve into verticals in specific markets while addressing specific needs of each major developed and developing markets. Here, though, we give the king its due.

Delivering your message to  
the right place at the right time  
is very, very cost effective  
with digital signage. And guess  
what else? It's green.  
**Save a tree, hug a sign!**

## II. RETURN ON OBJECTIVE (ROO)

Evaluation of the return on investment (ROI) alone is not enough. You must also consider your return on objective (ROO) if you are to understand the impact of content in driving the ROI. ROO considers the objectives, messages and overall mission of the digital signage deployment. ROI and the elements of ROO may be weighted differently according to what your goals are. One deployer may have non-ROI considerations almost as compelling as monetary return.

For example:



Below are several considerations impacted by digital signage content.

### Return on your investment (ROI)

There is a cost associated with creating content, whether developed in-house or outsourced. Budgets typically are allocated to a few different areas: advertising (TV, newspaper, direct mail), in-store marketing and general marketing. A portion of each budgetary area can be allocated to create a digital-signage content operational budget. The first area to make a shift would be traditional signage printing and delivery costs. The cost of printed messages and delivery of paper signage is huge.

Also, ensuring that printed signage gets posted properly is a constant battle with facilities and operations. According to one POPAI report, 60 percent of the time signs are not put up at the right time and in the right place. Delivering your message to the right place at the right time is very, very cost effective with digital signage. And guess what else? It's green. Save a tree, hug a sign!

### **Enhancing the customer experience**

Customers who are educated and entertained by digital signage are better informed, more receptive and more easily motivated to purchase. Most case studies about digital signage report that consumers like the screens. Giving the consumer a new positive experience changes the attitude of the consumer.

Using digital signage helps retain customer loyalty by making an emotional connection. This helps you push sales activities and intensifies your personal relationship with the customer. Digital signage has the power to create an emotional connection. Driving that experience means driving an uplift in sales (retail), which in turn supports ROI.

### **Creating brand equity**

Creating brand equity is all about building brand loyalty. Loyalty is driven by the experience and community. Initiatives that are communicated to the consumer about your brand and the support your brand is giving the community ties into customers, their lives and their community.

Creating this kind of relationship between you and your customer creates brand equity that links to customer retention. Does your customer know what you are doing in the community? From the customer's point of view, it's "What are you doing for me?" Is it about the product or is it about how the product affects our customer's life? How does your company fit into this equation? Getting your brand positioned in your customer's life helps create brand equity. Your messages can be up close and personal. For example, think about how a bank makes a customer's life easier. Is the message, "We have ATMs in 20 locations for your convenience," or is the message, "When you need us, we are there for you, with ATMs in 20 convenient locations"?

With digital signage you have the opportunity to create messages often and keep communication with your customer fresh. This is a huge advantage over paper POP. Using digital signage to create an emotional connection with consumers attaches your brand to their lives and in turn creates loyalty and builds equity in your brand. Digital signage is a powerful emotional driver and, when used professionally, connects your customer with your company.

### Associate training and experience

Associate training and experience are two keys to great content results that are very often overlooked. How do you get everyone on the same page consistently chain-wide? Via e-mail? Via newsletters? Introduce digital signage. This incremental messaging is a very powerful support for employee training, experience and knowledge of your product.

First, the associate experience is affected by the customer and by customer attitudes. Digital signage can directly affect customers' attitudes. In turn, this affects your associates' attitudes on a daily basis.

Second, the associate learns passively by being exposed daily to the messages on digital signs. The associate absorbs the messages and becomes more knowledgeable about the products you are promoting.



Finally, specific messaging and training for associates can be held before opening and after closing once or twice weekly. Most associates do not have access to company e-mail. Digital signage is a powerful tool for the corporate office to communicate with associates about products, news, events, community philosophy, contests and special offerings. Some of the same consumer content assets can be used to create these messages for associates.

When considering your ROI, take a look at all areas of ROO and tie these into the actual benefits and returns that are possible. Every type of digital signage network will have slightly different ROO and ROI model associated with it.

### III. GENERAL CONSIDERATIONS

#### Average dwell time

The rule of thumb that most marketers use is that you have less than three seconds to provide a compelling reason for a consumer to linger on your message. Your content needs to be relevant, compelling, entertaining, colorful and readable.

When building your playlist, assume that most messages will last approximately 15 seconds. The duration of your audiences' average visit should be taken into consideration when determining the number of spots within a given loop. Digital signage, interactive screens, 3D modeling, RFID and Bluetooth all use a variety of engaging techniques that can capture the attention of prospects long enough to convert them into customers. Dwell time directly correlates to how well your message communicates benefits to your audience. If you are using digital signage for menu boards, in a waiting room, or behind the checkout counter, dwell time will vary with traffic flow.

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colorful and readable.**

Dwell time also will vary based on content usage. Signage offering an entertainment aspect or RSS feed can increase the dwell time at a given location or zone within an environment. One major advantage of digital signage is "content testing," which is more cost effective than traditional POP testing. Initial results can be quickly analyzed and revisions made prior to full-scale rollout. With interactive digital signage, capturing and mining data has provided in-depth insight into consumer interests and knowledge-based needs. Having the ability to track your audience's choices regarding styles, models, colors and price allows you to provide solutions based on targeted consumer needs and wants.

#### Average number of visits per month

Many industries have guidelines profiling average number of visits by consumers. Use of primary and secondary research is appropriate when mapping content creation and guidelines for content development to align with audience needs. Inventory turns and visual merchandising frequently link up with traffic patterns, seasonal change, events, sales and promotions. It is not unusual to see campaigns with shelf lives of four to six weeks based on visit-per-month analysis.

Gas stations, banks, retailers, educators, doctors and others market segments all deal with their own unique customer patterns. Leveraging fresh content based on consumer visits is an important part of the communication mapping within an environment. Today, many digital signage networks look to RSS feeds to provide fresh content through news, weather and financial feeds. With digital signage, rotating of specials, featured products and product knowledge is easy.

When addressing visits per month, it is important to consider your individual product and service offerings. If you are using visits per month to determine how many spots to include within your playlist, also consider and prioritize the messaging you wish to display. Basic logic works well in determining playlist scheduling. Schedule your traffic patterns and then overlay your communications plan. Execute, analyze, review, refine, correct and repeat.

For example, let's say you are a retailer and your goal is to highlight trends, new products, events, specials and the manager on duty. If your audience is in-store weekly, your trends may be highlighted for the season, but rotate through the top 10 trends with special attention to the trends where you already have an inventory. New products may be highlighted as those weeks' featured specials. Events might be your own events or community events where you remind your customer that a new line of gowns has arrived just in time for the Opening Gala. Specials and manager-on-duty updates run as appropriate.

You need to plan the content loop length to ensure that the viewers have a chance to see the content at least two to three times

### Content loop length

The playlist length should be planned according to the venues and the interaction between digital signage screens and viewers. In the case of "captive audiences," such as a patient waiting room in a medical care office, the content and content loop could be longer to provide in-depth information to take advantage of the focused viewer attention and longer viewing time. For the screens that are planned to reach viewers on the go, such as screens on the city streets or in supermarkets, a better approach is to use a much shorter content loop made up of high visual impact content. In general, you need to plan the content loop length to ensure that the viewers have a chance to see the content at least two to three times within the venue for achieving the



lasting impression. One example is a 40-minute healthcare content loop that might include a mix of health care tips, infotainment and ads, versus a one-minute content loop with four to six short but high visual-impact video clips.

### **Demographics — Who is your audience?**

Depending upon how, when and where your digital signage will be used (e.g., in-store, public spaces, transportation, education), content will vary based on your audience. It's safe to say if you don't know who your audience is then you don't know what their needs are, making it considerably more difficult to create compelling messaging.

In any business, one of the most important initiatives is to define your target audience. This will limit the guesswork in creating and programming your content. If you already have your audience profiled for traditional media such as radio, television, direct mail and/or online advertising, build on the work you've already done by layering communication on-site to align with existing campaigns or communications.



If you are in need of demographic information, consider the following: Vast amounts of market research are available depending upon your demographic needs. Basic objective descriptive classifications of consumers, such as their age, sex, education, income, size of household, ownership of home, etc., can be found online or through third-party vendors.

Secondary research is a great place to start and is usually less expensive than primary research. However, primary research can address specific needs, wants, desires as well as provide basic

demographic information on your customer. Do you know what your customers want? If not, ask them. Customer surveying in-store, online, through snail mail or via the telephone are all effective ways to gather data about your customers. Don't think because you've done it once you're done — far from it. Buying patterns, trends, the economy and financing options all affect buying decisions of consumers. Loyalty programs have historically been an effective way of gathering data on your in-store audience, as have opt-in newsletters, private label credit cards and comment/suggestion cards (these can also be used in interactive digital signage efforts). Effective communication starts with knowing your audience and understanding their needs. Once you know your audience, you are able to focus on their needs and direct communications that are relevant and compelling, and which ultimately drive results. For example, if Tuesday mornings were identified as “senior discount day,” messaging should be pushed to that specific audience. Or, if in the retail bank branch Friday afternoon carries a heavy in-branch check cashing audience, consider cross-selling opportunities such as auto or home loans.

The better you know your audience  
and their needs, the **more targeted**  
your message can be.

One thing we know for sure is that the better you know your audience and their needs, the more targeted your message can be. With digital signage your message is always 100% compliant, targeted by zone within a given environment and can even be day-part programmed if your audience or promotion shifts throughout the day. Consider quick-service restaurant menu boards and the advantages behind varied menus throughout the day taking into consideration inventory, weather, meal time and promotional opportunities.

## IV. CONTENT CONSIDERATIONS FOR DIGITAL SIGNAGE

When planning your network, it is imperative you consider a few critical elements to ensure a successful deployment and continued operation.

### a. Weather, news, trivia, information

A successful digital signage network must have engaging content in order to grab attention and must continue to display interesting content to keep the viewer's interest. Showing continual ads is by far the quickest way to provide a negative experience to the audience. Providing content that is interesting and relevant to the audience you are trying to reach will ensure you keep their attention.

Currently there are a number of sources for almost any type of content you may want to display – sports, weather, news, financial – and this content is available as live streaming, files, static images and RSS feeds, just to name a few. Adding these services to your playlist is an inexpensive way to enhance the consumer experience by giving them something that is usually relevant.

### b. Education

Displaying educational content can assist in a number of ways. Obviously, an informed shopper can make the best decision for products or services to satisfy his needs. This type of educational content can include demonstrations on the proper use of the product or service, comparisons to competition or even testimonials and other types of promotion.

**Employees and associates can also benefit from educational content during slow traffic periods**

Employees and associates can also benefit from educational content during slow traffic periods or before/after store operating hours by viewing training content.

Whether providing information to customers or associates, the benefit will be realized in sales lift and a measurable ROI.

### c. Ads

Continual ads are ineffective as viewers will quickly tune them out.

However, a good mix of engaging content along with other types of entertaining or informational content will keep the viewers' attention. Ads that are produced for conventional outlets can sometimes be repurposed for use in a digital signage network.

Often, ads need to be produced with the venue and dwell time in mind. The loop of content will depend on the dwell time in a particular location. Some believe that you want a particular ad to have two impressions during a loop. This is not the case for advertising banners or crawls. Also, if no audio will be associated with the screen content, the segment will have to rely solely on visual appeal. This can be challenging, but interfacing with professional producers will ensure the effectiveness. In some models, especially in retail, it is about merchandising, not advertising. Merchandising and getting uplift from product that is in reach of the consumer is clearly an advantage. This type of "ad" varies in length and most of the time has a call to action portion of the message. For retailers, presenting contextually relevant content can aid in the overall shopping experience and increase sales.

#### **d. Snack size vs. long form**

We prefer "snack size" content, keeping it coming in small, bite-size pieces. Too much text is too much text. Communicate with visuals. Break up complex messages into short bursts. This is not a brochure, this is an enticement, an emotional plea to get the consumer to request more information or make that purchase. Do not try and tell them everything. Entice them to ask for more. Change the messages often, and change subjects during the loop. Change the durations from 15 seconds to 30 seconds. Mix them up and create a "non-pattern" loop changing it often for customers and associates alike.

#### **e. Dayparting**

Many content management systems available today allow you to target your audience and deliver content tailored to a specific demographic. For instance, if you are deploying in a quick-serve restaurant, the daypart could resemble the following:

- 6 to 9 A.M. - Commuters on their way to work. Ads specific to this group along with traffic and weather information.
- 9 to 11 A.M. - Retired people stopping in for coffee and to visit

with friends. Ads targeting seniors along with content specific to this demographic, such as vacation information.

Dayparting is a valuable tool to deliver the right message, to the right target at the right time.

### **f. Feeding the monster**

Coming up with digital signage content has been described as “feeding the monster” or “feeding the beast.” How do you keep feeding the monster? We suggest the key to keeping ahead of content demands is to develop assets upfront. Create key graphic elements and templates and create a large library of them. Have them at hand and available to manipulate — keep it fresh. Know your campaign objectives for the quarter and for the year and create the relative content sooner rather than later. The more planning for content, the more successful your digital signage implementation will be. Mix up the length of time spent on each area. Create 15- and 30-second spots for the same message.

**The more planning for content, the more successful your digital signage implementation will be.**

We recommend you create a multitude of assets that can be tapped at anytime. Create a series of templates that can be easily adapted in many different ways. Create graphics elements that can be put together in a number of diverse ways to change the look slightly. Having elements on hand will keep you ready and rolling with relative content that can be refreshed and varied. Consider a series of community messages and just good old “eye candy” that give the customer a reprieve in the daily grind. Give them something to smile about. Do get the product message out, but spice it up and offer something more. This will help your brand equity.

Using a message matrix, we can lay out in a spreadsheet the number of versions of the message we need in a given month and understand what time of day our demographic is in the venue. This will reveal how many versions of the message needed to keep it fresh and when to put them in the schedule. For example, say dwell time is six minutes and the average number of visits is two per month. Lay out who your audience is (demographic) and what time of day they visit. You’ll then know that during the week, at lunch, you need to play one baby boomer ad and one Gen-X ad. Furthermore, you know the number of versions that you need to create. The versions can be altered slightly

based on templates and the order that the message is delivered, its colors, etc. Keeping fresh will keep your digital signage network watched!

### Using templates

Many digital network operators struggle to produce an ample reserve of content to keep screens fresh. One solution to this is the use of content templates—in essence, pre-designed canvases that can be populated with text, video or other graphical elements as needed. Templates simplify content production, allowing those without graphics training to produce professional-looking spots in minutes. For even greater ease, some templates can be populated automatically through dynamic data feeds (weather and news are two common examples) or configured to automatically cycle through graphic elements depending on external triggers (for example, a rotation of seasonal images during a given holiday period).

Templates can be created using common authoring tools. In addition, some CMS (content management system) packages will incorporate their own template-building toolkits. In both cases, the fully populated templates will be output in a specific file format — and subject to all the advantages and disadvantages associated with each format.

Keep in mind that using templates can cause image retention (burn-in) on LCDs and especially in plasma screens. It is best to swap out the templates and use a mirror image of the same template and even run motion content between templates.

Dynasign created a successful digital signage campaign at East Carolina University that includes live news feeds to keep students and faculty up-to-date.



Image courtesy of DynaSign / East Carolina University.

## V. CONTENT TYPES

Digital signage messages can be created by means of a variety of authoring tools that result in a variety of different multimedia file types (including animation). The most common are:

- Video /HD video files of various forms, such as MPG, Quick Time, WVM9
- Flash

Less frequently used file types include SVG, still images files as JPEG, PNG, BMP, PowerPoint and files that are created by proprietary authoring tools included in some content management packages.

The two primary media formats, video and Flash, differ in a number of significant ways that affect how content is designed, refreshed and managed:

	VIDEO	FLASH
File size	Larger – will require more bandwidth and/or longer transmission times	Smaller – requires less bandwidth and/or shorter transmission times
Cost of production	Generally higher	Generally lower
Bit rate	Higher	Lower
Picture clarity	Supports HD (720i, 720p, 1080i, 1080p, etc.)	Supports HD resolution and can incorporate HD video elements
Picture quality	From ~24 to ~60 frames per second	Variable depending on hardware, but generally ~20 frames per second
Ability to update based on external data sources	Minimal to none	Extensive
Flexibility in updating messages	Updates to images and/or text generally require complete reproduction/retransmission of spot	Text and or image updates can be produced/transmitted independently of the spot, reducing transmission time and permitting more effortless and affordable message localization
Interactivity	No	Yes

### Proprietary tools

In addition to these formats, certain content management systems may include creation (authoring) tools that produce messages in proprietary formats. These formats should be evaluated using criteria from the previous section. The following advantages and disadvantages of proprietary authoring tools should also be considered.

	PROPRIETARY	STANDARD TOOL
Pro	<ul style="list-style-type: none"> <li>• A purpose-built tool that may be easier to learn than standard tools with broader uses in mind</li> </ul>	<ul style="list-style-type: none"> <li>• Frequent new releases</li> <li>• Supported by major software companies (Adobe, Microsoft, etc.)</li> <li>• Follows established Industry standards for content creation.</li> <li>• No specialized training or skill set required, beyond what would typically be resident in an agency.</li> <li>• Compatible with standard content distribution or content playback technology.</li> </ul>
Con	<ul style="list-style-type: none"> <li>• Typical content providers (agencies) unlikely to be familiar with tool, will require special training</li> </ul>	<ul style="list-style-type: none"> <li>• May require more design proficiency/ training.</li> </ul>

### Content types and CMS systems

Many first-time digital signage operators believe that content creation is a stand-alone activity that is unaffected by the CMS package used to target, schedule and manage other day-to-day network tasks. It is not. This is one of the critical distinctions to be understood clearly before making decisions regarding a CMS package.

For example, not all content management systems accept all forms of content. Others may “ingest” all forms but require them to be reformatted before they can play out again. This reformatting may result in reduction or complete loss of functionality related to external data references (See more in “Data-Driven Content”). It is critical to understand these limitations on a CMS system up front, as you will be living with such constraints for a long time.



## VI. DATA-DRIVEN CONTENT

Keeping content fresh is expensive and labor intensive. There are many cost-effective content sources for subscription on the internet. Make sure to use content management technology that allows for easy data integration such as through RSS or XML live feeds. With the latest technologies, the live feeds are no longer limited to the text-based content. The screens could display live video clips, images, web pages, even third-party database content without involving daily content-programming of playlists.

Data-driven content — content that is automatically assembled or updated based on external business rules or data sources — is one way to “feed the monster.”

### **Data-driven messaging**

Data-driven spots are automatically refreshed based on incoming data feeds. In general, this involves updates to both visual and text elements of a base template.

Examples of data-driven content include:

- News, weather, traffic conditions, flight status, or stock market updates fed by RSS or XML feeds
- Directional messaging (such as arrows or aisle numbers) fed by store plan-o-grams
- Calls-to-action updated based on time of day (a countdown clock, for example)
- Message backdrops fed by postal codes (for example, skylines, local monuments, menuboards or emergency notification systems).

### **Data-driven playlists**

Playlists can also be data-driven. Examples include:

- Using individual store performance results to choose the right spot among a pool of product spots designed for this purpose.
- Matching loop length to traffic-flow data based on pre-defined business rules

### Event-triggered content

With the integrated interactive technologies, the playlists could have conditional branches to engage the individual viewer for in-depth information exchange or targeted marketing. Interactive screens can be updated by SMS text messages from cell phones. This is a good example of event-triggered conditional playlist use cases.

### Rule-based playlist

There are many cases where content in a playlist is formed based on a series of business rules instead of manual programming. Some well-designed content management systems systematically construct the playlist based on the business rules and tags that are associated with the content. The rule-based playlist ensures the content mix and flow to achieve desired results without involving ongoing content programming efforts.

If an interactive kiosk is registering widespread interest in a particular topic, screens elsewhere in the store may be updated with content loops more strongly weighted toward that theme.

### Viewer-generated data-driven playlists

Data-driven playlists can also be updated based on local user interactions versus centrally established business rules. For instance, if an interactive kiosk is registering widespread interest in a particular topic, screens elsewhere in the store may be updated with content loops more strongly weighted toward that theme.

### The benefits of data-driven content

- Enables very high-frequency message refresh
- Integrates “outside world” information for a more entertaining and engaging content loop
- Improves message relevance and timeliness — fully leveraging the power of multimedia messaging over static paper-based P.O.S. communications
- Reduces daily management attention while ensuring messaging is closely aligned to business priorities
- Reduces production costs by creating spots “on the fly” with a library of visual assets versus commissioning agency production of each spot

### Important considerations

Not all content management systems manage data-driven content with ease. Some questions to ask:

- Is the CMS restricted to video playback? If so, each iteration of content will need to be specifically rendered up front, minimizing flexibility and cost-savings that might normally be associated with data-driven content
- Does the CMS play common multimedia types in native format? If not, the spots may act more like video spots in the file conversion process, losing some or all of their original ability to ingest — and update — based on external data feeds.
- Does the CMS player have the necessary processing capability to manage “on the fly” store-level assembly of content?
- Does the CMS system permit rules-based scheduling or event triggered content?
- Does the CMS system manage interactive content? If so, does it have the ability to instantly monitor interactive results and use those findings to update playlists?

The importance of each of these is a function of the type of content envisioned for each network and the ideal frequency with which it will be updated.

### VII. LEGAL USE

First and foremost, content takes time, talent and money to create. Someone or a company makes an investment to create content from an RSS feed to a beautifully produced video. The realization that content is a valuable commodity for digital signage comes with a simple rule of thumb: Pay for or negotiate the rights of any content that is not yours. Simple? Right?

The defining notion of the law is “commercial use” versus “personal use.” If you “purchase” a piece of content and then make a copy for your personal use, meaning your use only, not your friends, not your co-workers, but yourself, then you are within the law. If you start making copies for others and/or use it for commercial gain, the law is very clear: pay for that use if proper rights are granted.

Building content and licensing content into your business models and standard operating procedures will enable you and your company to thrive and charge equally for your value adds.

Before you negotiate with a digital content owner you will need to make sure that you ask yourself the some of the following questions:

- What do you want to do with the content?
- How do you want to distribute the content?
- Who may access the content?
- Can you create handouts for promotion in a conference using the licensed content?

The most important section of the license that needs to be carefully reviewed is the “Rights Granted” section. The rights may include the right to re-license, view, reproduce, store or save copies, display, download, print, and forward electronically to others.

Remember, you have not purchased the content outright, you have only licensed the content according to specific agreed upon terms and conditions and you can only use the licensed content.

In addition, the section that deals with “Authorized Uses” is going to determine how widely you may distribute the content or which markets you may use the content in. Corporate communications, for example, may be the only area that the content can be used.

And finally, the “Usage Restrictions” section can have clauses that cover modification of content or how many times a piece of content may be used.

Educating your team and potential clients on how the content can be used is critical to keep within the guidelines of the agreement. This and monitoring use can be very problematic, if not communicated up front. You certainly should not have any clause in the agreement that asks you to monitor use by your clients, but having the same terms and conditions signed off by your clients will protect the integrity of the agreement. Your agreement may even require passwords or software to limit who can use the content.

Let’s look at more a popular content type: RSS feeds.

There are a lot of news feeds/RSS feeds available on the Web. For example, look at the fine print on a website for a Fox News or a CNN feed. Yes you can put it on your computer for personal use. But when you take the feed and put it on a digital signage network for commercial purposes, that is a negotiated or paid-for legal right to use.

### **What about TV or cable?**

If you have cable TV at home, you pay for that service and pay for each TV it is connected to. In a commercial environment, cable companies have special commercial use license agreements. We have seen some commercial applications where the on screen commercial ad was replaced by a digital signage ad. Clearly this is in violation of copyright laws and in fact alters the content coming from the cable or network channel. Altering the broadcast in any way, including putting it in one zone and using a banner ad or ticker, is illegal unless the rights are granted.

**Altering the broadcast in any way, including putting it in one zone and using a banner ad or ticker, is illegal unless the rights are granted.**

Fines are hefty and can range from \$750 to \$150,000 per infringement.

The bottom line is this: if you did not create it, then you need an agreement to use it.

As the industry grows, content will be one of the most important parts of our screens. So let’s get it right.

### VIII. BUY OR CREATE?

Shakespeare once penned, “To be, or not to be. That is the question.” For those deploying digital signage, the question – especially as it pertains to content – may be more appropriately: “To buy, or not to buy: that is the dilemma. Whether ’tis nobler to buy and present something generic or create something custom and more compelling.”

Like most things in life, it all comes down to money. Yes, custom content, if created by professionals with the time, skills and tools to “do it right,” can be very engaging. It can also convey a message that is more aesthetically pleasing and better aligned with the target audiences. Custom content can range from inexpensive Flash-based content to expensive video-based content.

Let us clarify what it means to “make or buy” content. First, it is important to point out that there is no – pardon the pun – black or white answer when it comes to content.

Content, as the previous segment “Content Types” suggests, can come in many different forms. To “create content versus buying content” actually has several different meanings. First and foremost, if you have the in-house resources to create content, then you are off to a great start. Most content created for digital signage is using leveraged assets that are pre-existing in one form or another and potentially outsourced to professional designers that bring those elements to life. Some is “made from scratch” original content, again hiring outside resources to create the content.

Typically, custom content is created using purchased elements, e.g. stock photos, sound loops, etc., combined with designer-created elements, e.g. backgrounds, skins, composites, etc., to create a special look or feel and create motion on the screen.

“Made from scratch” content, e.g. that in which every element (photos, videos, audio, graphics, etc.) is unique can be more costly. A couple of minutes of video or animation of purely original content could cost



in the tens of thousands of dollars. At the other end of the spectrum, purely “stock” content, if not combined with some custom elements, is generally rather boring and typically misses the mark with the audience.

Since very few want to present content that is either outrageously expensive or incredibly generic, most content – unless it is a television feed, stock ticker feed, weather feed, etc. – will likely be a combination of custom designs mated with purchased elements. The real differentiator is the degree of customization and effort put into each segment of the message.

**The real differentiator is the degree of customization and effort put into each segment of the message.**

Since we have determined that there is no real “make or buy” decision connected with content and that all good, economical content has a degree of customization coupled with purchased elements, let us better understand some tips and techniques for creating digital signage content.

### **Working within the system’s means**

Even though today’s media players and PCs possess enough computing power to display high-definition graphics and video, it is important to keep in mind that these computing resources are finite. Motion graphics and/or video playback can consume a lot of processing overhead, and if any of these are used excessively and/or simultaneously in large amounts, playback quality (in terms of smoothness) will be adversely affected. So when creating content or designing concepts for digital signage, it’s a good idea for the designer to think within the boundaries of what the display devices are capable of running, making sure the designers are viewing it on a digital signage player.

### **Content should match your target resolution**

When creating graphics or video, it’s a good idea to specify a size that matches or exceeds the output resolution you have selected. This is important, as frequently the default settings in digital signage systems tend to accommodate the lowest resolution displays. Media players or PCs will scale content to fill a screen, but ideally, creating and displaying content at exactly the resolution of the output device will yield maximum visual fidelity.

### Use standard aspect ratios

Typically, areas within layouts vary in their resolution and/or aspect ratio. It's wise to use areas with industry-standard aspect ratios (4:3, 16:9) as much as possible. That way, you can easily share the same message or video within and between the different areas of the layout, or across multiple different layouts across an organization or digital signage network.

A media player connected to a smaller screen across a room can act as a **cost-effective preview system.**

### Content Creation and Previewing

When creating content on a computer screen that's an arm's length from the creator, it's easy to forget about how the content will be viewed in the real world when sent to displays. When investing in digital signage, it can be smart to use a "preview system" connected to a display that provides a viewing experience similar to what the audience will see. A media player connected to a smaller screen across a room can act as a cost-effective preview system. As authors or designers create content, they can first publish content to the preview system before publishing to the world at large.

### Efficient use of Bandwidth

There's no reason to utilize graphics that are a higher resolution than what your display provides. For example, if you have a six Megapixel digital camera, its photos are approximately 3,000 x 2,000 pixels. If your display is 1280 x 720 pixels, there's no benefit in using the high-res image as it comes from the camera. Actually, you can adversely affect playback performance by forcing the system to read and decode a file that's got six times more pixels than what is necessary. Like authoring a bandwidth-friendly web page, it's a sound practice to be efficient with content by downsizing graphics before importing and displaying them. This can also greatly ease any network congestion as well, as graphics are distributed around the digital signage network.

### Contrast

Readability of text from a distance requires that the text be significantly different from the hue and brightness of the background on which it's displayed. When using a dark background, use white (or nearly



white) text; when using a light background, use black (or dark) text. If you want to use a pattern or texture as a background behind text, use a pattern with minimal fine detail. High-contrast patterns or textures can adversely affect the readability of text placed over the top of it.

### Font sizes

One rule of thumb followed by traditional sign-makers is “three inches at 100 feet,” meaning that high-contrast text three inches tall is the minimum size for readability at 100 feet. When establishing an authoring workflow, it can be helpful to create a text “test pattern” message, using lines of text, each labeled with their point size. Display the message on all screens, and then view them from the farthest reasonable vantage point. Have several different people participate and determine the minimum type size that provides clear readability, and then use that size as the minimum allowable type size on your system.

### Tickers

Unless you have a specific need for it, it is advisable to use no more than one ticker or “message crawl” area in a multi-part screen layout. When designing and placing tickers, keep in mind that too much on-screen motion can be distracting, and can detract from the quality of the presentation.

There’s no “best way” to craft a painting, write a book or design a poster. Similarly, there’s **no one “best way” to create digital signage content.**

### Digital video

Using digital video files can often present a major challenge to those new to digital signage. The landscape of different versions of software, codecs, and authoring tools offers much flexibility for generating content, but at the same time, introduces a world of complexities when creating and optimizing content for efficient and high-quality playback on digital signage screens. Some digital signage technologies will have limitations regarding what types of digital video files it can support; it’s important for key stakeholders in digital signage projects to understand these limitations, and ensure that they won’t interfere with the goal of the project.

There’s no “best way” to craft a painting, write a book or design a poster. Similarly, there’s no one “best way” to create digital signage

content. But the more the designer understands the technical boundaries of the media, and the more the technical person understands the creative intent, the easier it becomes for all parties to come together to deliver compelling, engaging and visually stellar content across a digital signage network.

### IX. ON-SCREEN ZONES

Virtually every digital signage network software or player system has the capability to customize the layout of the display screen. They can also operate in a landscape or portrait configuration. Some can even operate across multiple screens in a whole or fragmented configuration.

One point to keep in mind is the size of the surrounding area to first determine the screen size and the customer viewing distance. Once you have a screen size selected, you can take a look at different on-screen layouts. Certainly if you only have the physical space for a 19-inch display and the customer is viewing it from a distance over eight feet, your information will get lost if you layout three or four on-screen zones. A simple layout on a 37" screen is a side "banner" of six to eight inches, the "feature window" on the remaining screen and a text "crawler" on the bottom.

A majority of operators believe that this simple layout works best for engaging and keeping eyes on the display. Many more believe than this creates a screen that is too busy.

Some think that if the content is truly compelling, then no banner or crawl is needed and the entire screen can be used as the feature window. You can also create a playlist or loop that alternates content between full screen and multi-zone layouts.

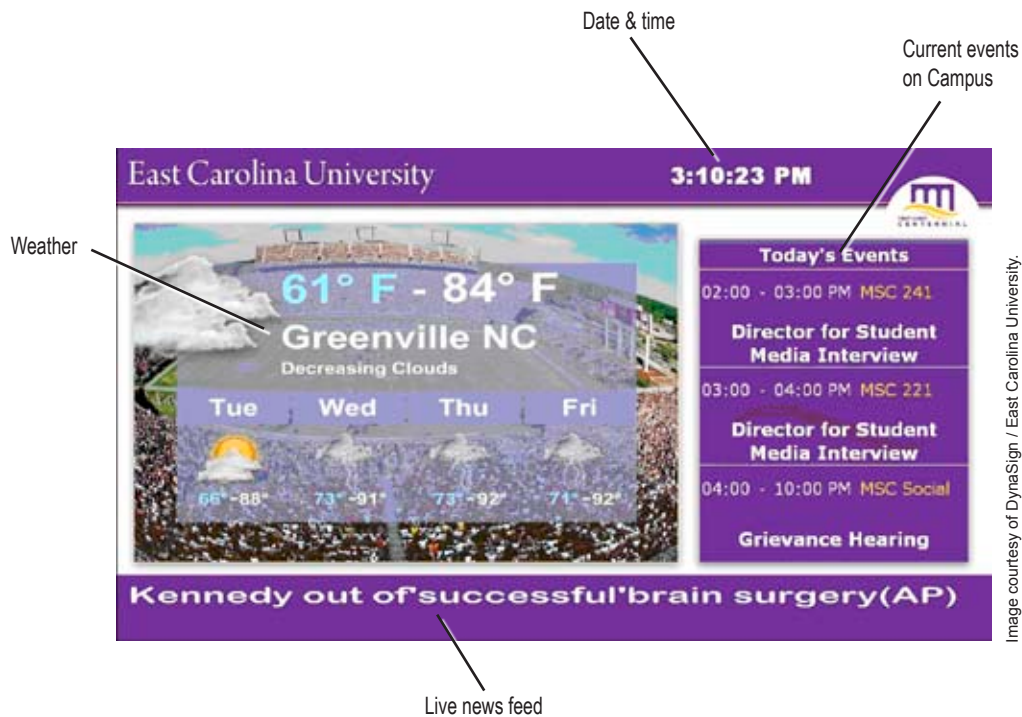
For those who wish to divide their screen layouts into multiple areas, current video hardware limitations make it unwise to build more than five or six defined areas. Similarly, video and/or motion-heavy graphics (video or scrolling tickers) should be confined to no more than two areas simultaneously. Using more areas and motion than this tends to create visual overload for most people; it is just too much information to be able to process quickly and intuitively.

#### Layout Considerations

When creating a multi-area screen layout, keep the following considerations in mind:

- Content needs — how much content the system manager would like to deliver at the same time (messaging, video, live TV, tickers, news feeds, etc.)

- Viewing distance - the more areas in use, the smaller the areas in divided-up screens will become, which can limit the optimal viewing distance
- Size of the displays
- Traffic patterns of the audience and their proximity to displays



### X. PLAYLIST

In addition to the quality of the content on digital signage screens, a well planned and balanced playlist is crucial in the overall effectiveness in reaching and engaging the viewers. The content relevancy, content flow and number of impressions during the viewer's visit are important attributes that make a successful digital signage network. The content loop length and content mix within the loop are two key ingredients in constructing the playlist (see General Considerations).

#### Content mix in playlist

One of the goals of a good content mix is to capture the attention of the audience and to engage the viewers for the longest possible time. Remember ROO? This will drive the ultimate playlist with loop length, target audience, etc. One of the considerations is shuffling the playlist. Taking the same content and shuffling it in the playlist will help with highly frequented locations and will definitely help the associate cope with digital signage in a positive way.

While there is no simple answer to an effective playlist, the following considerations should be carefully thought through in planning a playlist and even as early as during the network business planning stage.

#### Content flow

Well-programmed playlists also ensures smooth content flow throughout playlist. It should be part of creative process in determining content flow or play sequence. The content flow includes the consideration and balance of the content topic, visual transition and spread of important content in the playlist. A playlist with well-arranged content sequences and a good content-mix balance will certainly increase the average viewer engaging time.

What is included?

- a. What is included in the playlist? Brand, products, community, eye candy, educational content?
- b. Typical playlist for a six-minute loop:
  1. Corporate brand – 15 sec.
  2. Community involvement –30 sec.
  3. Product – 15 sec.

4. Eye candy – 30 sec.
5. Education – 60 sec.
6. Product – 30 sec.
7. Corporate brand – 30 sec.
8. Eye candy – 15 sec.
9. Product – 30 sec.
10. Community involvement – 15 sec.
11. Product – 15 sec.
12. Education – 30 sec.
13. Corporate brand – 15 sec.
14. Eye candy – 15 sec.
15. Product – 15 sec.

### Repeat/Shuffle

Many systems allow for “intelligent” playlists that “shuffle” spots based on attributes. Others have “attract/repel” rules that prevent inadvertent scheduling of two overly similar—or competing—messages back to back. Others may automatically refresh content to reflect time of day (for instance, changing backdrops to weather spots).

When creating the playlists, it is important to keep in mind that every venue is different and no one playlist will work for all.



Courtesy of MediaTile

## **XI. FORMATION AND IMPLEMENTATION OF A CONTENT PLAN**

After reading this document, take pause to know that you probably have assets (content) in your possession and can potentially use pieces to create the media for this new and exciting medium. Here are some considerations:

- a. Take an inventory of all assets you currently have in print, web and electronic formats.
- b. Expand on themes and create new assets for digital signage. Use primarily Flash to create cost-effective pieces.
- c. Create many graphic elements, templates that can be used throughout the year.
- d. Create specific branding pieces and create different lengths (15 seconds and 30 seconds).
- e. Create specific product pieces that are “bite size” and create interest and again create different lengths: 15 seconds, 30 seconds and 60 seconds
- f. Create specific community-awareness pieces (15 seconds, 30 seconds) – these may be events that the store participates in every year.
- g. Create or purchase/subscribe to specific content centered on seasonal, eye candy and holiday content.
- h. Subscribe to services that may be news, weather, etc.
- i. Synchronize all programs with planned campaigns for marketing, in-store marketing and advertising to leverage themes used throughout the quarter and year.
- j. Determine content production budget.
- k. Determine bandwidth and transmission times.
- l. Will content-refresh rely on external data feeds?

- m. What degree of localization will be required?
- n. Will interactive content likely form part of any playlist(s)?
- o. Look to professionals to assist in the planning and creation of elements that will leverage your messages.
- p. Understand your venue
- q. Understand your customer
- r. Understand your objectives
- s. Understand visit patterns
- t. Understand your system's transmission, playback or other limitations

Keep in mind that digital signage is different from print and TV, and when the content is good, the results are great!



## XII. SUMMARY

Digital signage is a new medium and creating a digital signage network is like starting a TV network; once turned on, “content is king.” Remember this is more like a “live poster network.” You have prepared for and researched the technology to make the right investment decision. The same amount of effort and more is required for researching and creating content. Content on the screen formulates your return on objective. What is at stake is your brand, your customers’ experience and your associates’ experience. All of these elements are driven by the content you create for the network.

We hope this brief is valuable to your strategy for content development. We are always interested in your feedback and your success.

### ***About the Authors:***

#### **Keith Kelsen, Committee Chair – CEO, MediaTile Company**

As a worldwide leader in the digital signage industry, Keith Kelsen was recently recognized by independent global analyst Frost & Sullivan for his best practices in the industry, and has received the “Digital Technology of the Year Award” for MediaTile’s “Digital Sign in a Box.” As CEO of MediaTile, Mr. Kelsen has built a world-class company with a professional team that has over 20 distribution/offices and digital signage deployments in over 25 countries. In addition, Mr. Kelsen is on the Advisory Board for the Digital Signage Association. Before founding MediaTile, he co-founded Enterprise Broadcasting Company, a retail and entertainment company. He began his career in film and television. For three decades, he produced, directed and executive-produced commercials, documentaries, corporate communications and television programs.

### *Contributing Committee Members*

#### **Charles Ansley – president and CEO, Symon Communications**

Charles Ansley has responsibility for all operations of the company globally since joining the company as CEO in 2002. Throughout his career, he has served in almost every facet of the broad information services marketplace.

Previously, Mr. Ansley was president of EDS's Information Solutions U.S., where he was responsible for client relationships, service delivery, client satisfaction and sales. In addition, he served as president of units at EDS including the Communications Industry Group. Before joining EDS he served at DSC Communications as senior vice president of sales and services for the global telephony equipment manufacturer.

In the mid-1990s, Mr. Ansley was an officer at AT&T serving as vice president of client services and marketing, where he helped create and found AT&T Solutions, an organization focused on the fast-growing systems integration and network outsourcing marketplace. During his long tenure at IBM, he held successive senior-level roles in general management, sales, marketing and business development in both IBM and IBM Global Services.

### **Jimmy Dun – vice president of business development, Dynasign Corporation**

Jimmy Dun's 20-plus years of business and technology service management expertise provided great influence on the positive company culture and key contributions to the success of Dynasign's world-class content management technology and hosted digital-signage network service. Mr. Dun is on the Advisory Board for the Digital Signage Association. Before joining Dynasign Corporation, he was a managing partner of a management consulting firm in New York that provided business and technology services to Fortune 1000 financial services, media research and transportation companies.

### **Linda K. Hofflander – vice president and chief marketing officer, Wireless Ronin**

Linda K. Hofflander is vice president and chief marketing officer for Wireless Ronin Technologies in July 2007 and has served as vice president and chief marketing officer since June 2008. Previously, she held various senior-management positions in communications strategy and brand management. She has launched countless products and driven highly innovative marketing programs at Gabberts, Arnold/Ostrom Advertising and John Ryan Performance. Linda brings 20 years of experience developing and executing strategic marketing plans in a variety of media, including television,

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**Nancy Radermecher – president and managing director,  
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Nancy Radermecher is president of John Ryan, a retail marketing agency specializing in “total store messaging systems.” The company is a pioneer in the field of customer visit management—a disciplined means of making customer visits more pleasurable and productive. Based in Madrid, Spain, Nancy is responsible for the company’s global network of offices in London, Minneapolis, Singapore and Tokyo.

**Greg Weaver – manager, digital signage networks, Microspace**

Greg Weaver is the manager for digital signage networks for Microspace communications. He began his career more than 25 years ago providing technical support for a satellite equipment manufacturer. His company offers complete turnkey management services for all types audio, video and data distribution from conventional TV and distance learning to digital signage and digital cinema.