INSIDE: The best digital signage deployments are the ones that are backed by extensive planning. Learn the steps to success before the screens are lit up.
Contents

Page 3  About the sponsors

Page 4  Introduction

Page 5  Chapter 1  |  An overview of digital signage
  Why is it so challenging?
  Building the plan
  Unique features of digital signage networks
  Expert advice: Successfully implementing digital signage

Page 12  Chapter 2  |  Assess the need and build the team
  Assembling the team
  Planning with all departments
  Questions to expect from IT
  Expert advice: Assessing the need and building the team

Page 19  Chapter 3  |  Take an inventory of the content and network
  Making your content multitask
  Make a plan for your content
  How much content do you need?
  Plan your network
  Options for digital signage solutions

Page 25  Chapter 4  |  Building the plan
  Building a content strategy based on customer expectations
  Content plans and transmission quality
  Expert advice: Avoiding mistakes

Page 30  Chapter 5  |  Rollout and beyond
  Monitor, refine, repeat

Page 31  Appendix  |  Additional reading
About the sponsors

Diversified Media Group (DMG), founded in 2001, is a preeminent, managed network provider that designs, engineers, implements and manages private video, rich media and digital signage networks to viewers in corporation, consumer retail and public venues. DMG implements managed networks for corporate communications and business distance learning, and aggregates broadcast and cable programming to private television networks and the corporate desktop. DMG supports networks ranging from a few sites to more than 1,000 sites globally.

Digital Signage Today, operated by Louisville, Ky.-based NetWorld Alliance, is the leading online publisher of news and information on the emerging world of digital signage, dynamic messaging and cutting-edge business communication technologies. The content, which is updated every business day and read by professionals around the world, is provided free of charge to readers.

Published by NetWorld Alliance.
© 2008 www.networldalliance.com
Written and edited by James Bickers, editor, Retail Customer Experience, and Bill Yackey, editor, Digital Signage Today
Dick Good, CEO
Tom Harper, president and publisher
Bob Fincher, executive vice president and general manager, Technology Division
Joseph Grove, senior vice president and associate publisher
One of the most life-changing books I’ve ever read is “Getting Things Done” by David Allen. Published in 2001, this modest little book on time management has spawned a passionate community of followers (“the cult of GTD”) and has thoroughly re-invented the way thousands of knowledgeable workers tackle their day-to-day business.

At its core, GTD says we are doing ourselves a disservice by endlessly writing and re-writing to-do lists. Instead, it advocates building one comprehensive list of projects — every “open loop” in your life that requires some action by you, whether at the office or in the gym or at home — and then breaking each project down into the smallest manageable steps needed to move it along.

The result? Instead of a daunting list of projects that seems impossible to tackle, you have a hierarchical system of smaller tasks, each of them simple enough to do in a single sitting. Set ’em up, knock ’em down.

GTD has been a major factor in my approach to work for several years now. For me, it is the best way to accomplish the things that I want to do. But central to this or any other system of time and project management is the initial research — the discovery phase that reveals what projects need to be tackled, and which open loops need to be closed.

In this guide, we explore the big-picture steps of planning a digital signage deployment. They are complex projects with lots of moving parts and potential “gotchas,” so having the major milestones marked off will help enormously as you attempt to break them down into smaller, manageable goals.

“In training and coaching thousands of professionals, I have found that lack of time is not the major issue for them (though they themselves think it is),” Allen writes in his book. “The real problem is a lack of clarity and definition about what a project really is, and what the associated next-action steps required are. Clarifying things on the front end, when they first appear on the radar, rather than on the back end, after trouble has developed, allows people to reap the benefits of managing action.”

Hear, hear. I don’t know about you, but I have enough trouble as it is, and have no desire to incubate more. Thoughtful project planning, paired with intentional action, is the answer.

I’d like to thank Diversified Media Group, whose kind sponsorship of this guide allows us to provide it to you at no charge.
Chapter 1  An overview of digital signage

In a landmark Supreme Court case from 1964 (Jacobellis v. Ohio, for you trivia buffs), Justice Potter Stewart remarked that although he couldn’t provide an iron-clad definition of obscenity as it applies to the cinema, “I know it when I see it.”

Providing an iron-clad definition of digital signage proves to be less of a challenge, but once again, seeing is believing. Semantics can be argued and hairs can be split about what, exactly, constitutes digital signage; but on the whole, it can be expressed in simple terms that are intuitively understandable:

Digital signage is any form of business communication where a dynamic messaging device is used to take the place of, or supplement, other forms of messaging.

Up until very recently, this simply wasn’t viable or cost-effective. Screens were too expensive, too big and wore out too quickly. The return wasn’t strong enough.

But the LCD/plasma revolution changed, and is changing, all of that. Screens are so affordable they can rival the printing costs of static posters over the course of time; they are thin and can hang on a wall (no more CRT units suspended from frightening-looking ceiling mounts); they can communicate with computer networks and fetch new content, eliminating the “sneakernet” days of employees trotting from screen to screen with armloads of VCR tapes.

Some of the ways digital signage is being used today include:

- In retail, communicating with customers about in-store specials, directing customers to other parts of the store, managing traffic and hotspots and conveying brand messages.
- In banks, displaying interest rates and product information, as well as lifestyle messages and branding.
- In airports and bus stations, keeping travelers up-to-date on arrival and departure times while providing an advertising vehicle for shops and restaurants.
CHAPTER 1  An overview of digital signage

➢ In casinos and entertainment venues, creating a customer experience that is consistent with the ambiance and atmosphere of excitement.

➢ In doctors’ offices and waiting rooms, providing entertainment to bored patients while giving an ad vehicle to pharmaceutical companies and other providers.

➢ In schools and on corporate campuses, facilitating a level of communication between parties that would have been unthinkable just a few years ago.

And the list goes on. Virtually any place that has printed signage — bus shelters and payphone booths, shopping malls, the tops of gas pumps — has the potential to improve its worth with an upgrade to digital, dynamic messaging.

Despite all the progress that has been made, digital signage still is a very complex proposition for the company installing it. Mike White, president of systems integration firm Multi-Media Solutions, called digital signage “one of the toughest A/V installs in the world.”

Why is it so challenging?

On the surface, our definition might make digital signage seem like simplicity itself. After all, almost everyone has a television set in his home, and in most cases, that set was installed by the person who bought it. Take it home, plug it in, turn it on — that’s all there is to it, right?

In the case of televisions and homes, yes, that usually is all there is to it, although even this is changing as the evolving nature of home theater becomes more and more complex. But dynamic signage in the business environment is exponentially more complicated, for a number of reasons:

➢ The content strategy usually needs to be tackled from scratch. Digital signage content has a completely new set of requirements; existing media assets often provide a good starting point, but none of them can be reused outright.

➢ Content needs will vary across the enterprise. In all but the simplest digital signage deployments, multiple screen sizes and orientations are used — and a 42-inch screen in landscape mode calls for very different content than a 32-inch screen in portrait. The greater the number of
screens in the network, the greater the organizational challenge for content.

➢ Multiple networks might be involved. The most beneficial digital signage products touch one or more networks. At retail, for instance, the signage network might be designed to communicate with the POS network, in order to gauge content effectiveness versus sales. But getting any two (or more) networks to communicate is an IT challenge, and it increases with the number of networks and nodes involved.

➢ Very different business disciplines are at work. Digital signage appears on the surface to be an IT project. And yet it is also a marketing initiative. The rub? It’s both, and calls for some real teamwork and sharing of duties.

Building the plan

In this guide, we’ll walk you through five basic steps involved in planning a digital signage network:

1. Assess the need and build the team
2. Take an inventory
3. Build the plan
4. Roll out
5. Monitor, refine, repeat

Your specific needs for each of these steps will vary greatly depending on the specific nature of both your business and your digital signage project. But breaking the whole process down into these five smaller pieces will make the affair much more manageable — and much more likely to succeed.
CHAPTER 1  An overview of digital signage

Unique features of digital signage networks

Place is known. Because the location of any display will be known, this information can be used to make the content more appropriate to the place. If a display is near one particular product, the content on the display can be crafted strategically with this in mind. For example, the content could promote that product or its benefits, create an appropriate mind set (ambiance, reminder) or promote a complementary product or service available elsewhere. Another aspect of “place” that is quite relevant is the fact that often a display is near the point of purchase. A great deal of research has shown that advertisements near the point of purchase are far more effective. Although the size of this effect and the explanation for why it happens are controversial, it is clear that point-of-purchase information has a massive impact on behavior.

Time is known. Because a digital signage network is controlled by a computer system, content is “served” as a function of time of day. For example, content aimed at business travelers might be shown at an airport on Monday mornings and family-aimed content might be shown Friday afternoons.

Events are known. Information related to the fusion of time and place can also be known. For example, current weather conditions can be known. The traffic flow can be known. The specifics of an event can be known (concert, sale, flight delay). Such information — and its use — is limited only by the creativity of the digital signage network designers.

Audience is known. Because time and place are known, audience demographic and psychographic information can be well specified. This allows for highly relevant “narrow-casting” that should speak directly to the audience at that moment.

Content is dynamic. Having dynamic, digital content has numerous advantages over other forms of advertising. Compared to print, the content creation/distribution process is more rapid and less costly. Also, the content can be customized and tailored “on the fly” to each display device separately. Finally, the medium allows for animation and, in the case of kiosks, interactive opportunities.

(Excerpted from “Digital Signage Networks: Theory, Psychology and Strategy” by Pixel Inspiration Ltd., reprinted with permission.)
CHAPTER 1 An overview of digital signage

Expert advice: Successfully implementing digital signage

By John Melillo
President, Diversified Media Group

Whether your business is marketing banking products, entertainment venues, sweaters, cars or the newest breakfast cereal, digital signage could be in your future.

If you answer “yes” to any of these questions …

➢ Are you responsible for the upsale of new products or new options to existing products?

➢ Is your department leading the overall brand enhancement efforts — including the in-store experience?

➢ Do your goals involve moving 300,000 yellow cotton sweaters by Labor Day?

… then sooner or later you will need to deploy point-to-multipoint marketing techniques via digital signage.

Digital signage has many benefits, but it comes with an important list of responsibilities. From content strategy, hardware types, software capabilities and deployment logistics to support services, it is an involved process requiring a myriad of skills. I can tell you that without a skilled partner at your side, what began as a forward-thinking business decision could become a morass very quickly.

You have two choices: Build a coalition of resources (three to six different entities) to handle various parts of your network. The alternative is to select a single organization with integrated services to help define the network, manage design, coordinate deployment and provide ongoing support.

As a managed network company executive, I’m obviously biased. However, I’ve been the head of advertising in a large company, so I know that having an experienced single resource can make all the difference — one that knows the most important things are still the “message” and the “targeting” of your message. Your main objective should be building effective content and outlining in-store demographic targets.

Your signage partner should be an expert in its business, so you can focus solely on yours. Your marketing agency is your trusted partner for branding and sales. I would suggest that your digital signage company must become a trusted partner — your guide into a world of hardware and software considerations, systems configuration, deployment and support, content strategy and auditing.

A solid managed network company will have a team that understands marketing and production. Poor content execution
CHAPTER 1  An overview of digital signage

is the main culprit in unsuccessful digital signage networks. Translating your goal into a point-of-sale message is different than creating TV commercials. However, a managed network company is not your “creative” team, but it should be able to work with your agency or marketing department to optimize usage of this technology.

A good partner must be able to work with your IT and facilities departments as well as your architects. The firm should have its own senior IT team able to address concerns within your own IT department and manage software and IP-network details. If it is buying that knowledge from a subcontractor, this could be a major point of service failure.

Deploying your new marketing network on an existing data network is a sensitive subject in most companies. Your partner should be a key resource in recommending the most secure solutions.

Diversified Media Group decided early on that the key to our clients’ success was to develop a strong IT department of our own. Having software development people on staff was essential to working with the various software suppliers we recommend. We feel it is in our client’s best interest to have experts ready to work through any issue — allowing us to maximize the effectiveness of the technology deployed.

Another major factor is “mechanical”: Does the installation meet ADA standards? Are there special needs? Your partner’s team must include construction-savvy experts. Depending on the situation, you could require a simpler “hang and bang” solution, or it can be quite complex.

We tend to use the words “scalable” and “flexible” regarding software and networks. You also should ask, “How scalable is my network partner?” Many networks start out modestly with a few displays scattered among several locations — easy to deploy and manage. In fact, many networks begin as “sneakernets” with DVDs or USB drives. What happens when you decide to expand? Can your provider offer you the ability to compete on a larger scale?

Options that you eliminated from consideration early on may prove to be essential as you expand. You may choose a limited-service firm at the outset, but this could have serious consequences later. The most important phase of any network deployment is in the initial planning — when you account for a phased rollout with a keen eye for the future.

A good partner will recommend solutions that may be beyond your early needs, but will be exactly what’s needed as you build out. This is true of cultivating the “customer experience,” as well. It is amazing how initial client needs are very basic — utilizing a single type of display device. Then the retail visual
design team sees the possibility for special construction at a key location. The network quickly develops into a combination of varied displays across multiple platforms. This is where knowing how scalable your partner is really comes into play.

The skills required for deploying and servicing LED screens — indoor and outdoor, seamless rear projection cubes, DLP projectors, large screens and end-cap displays — are quite different. If your resource is subcontracting unfamiliar equipment, there’s another point of potential failure.

I would caution any size organization from dismissing the need for a full-service company because “we’re only going to build a very small network with limited needs.” This could end up being the most costly decision of all.
Chapter 2  Assess the need and build the team

The journey of a thousand miles begins with a single step — and for any intelligently executed IT initiative, fact-finding and discovery is where it all begins. The business that is deploying digital signage must come up with a concrete list of reasons why it is doing so. Is it to improve the customer experience? Save employee time and effort? Reduce costs? Speed transaction times? Increase per-ticket sales?

On a superficial level, it might seem like the answer to each of those always would be “yes.” But greater specificity is needed to give the project a target.

“From a project planning standpoint, it is important to specifically define the project objectives, the technology and business requirements and the deliverables expected from both the vendor and the customer, and have all parties at the table agree,” said Wah Chu, vice president of professional services for software company Netkey. “This helps keep the deployer from attempting too much and guides them toward project success.”

Clarity can be gained by looking at the project from a “need standpoint” — in other words, what need is this system going to meet? What pain is being alleviated? If the business has trouble answering this question, it needs to take a step back and reassess why it is pursuing the technology in the first place.

Once goals are determined, it is time to decide how progress toward those goals will be measured. Let’s say you want your installation to increase customer satisfaction. How are you going to measure whether it is working? Will you conduct exit surveys? If your goal is to use digital signage to increase sales of store-brand products, you’ll need to plan to monitor sales figures throughout the day and compare them to the playlists to see whether the content is moving people to put that specific product in their carts.

“This is one of the first discussions we have with customers, because it is so important to quantify your goals up front,” said Tom Weaver, vice president of sales and marketing for KIOSK Information Systems. “Without the up-front analysis on success measurements, funding approval on a full deployment can get stalled or blocked.”

With goals and measurement criteria in

“It is important to specifically define the project objectives, the technology and business requirements and the deliverables expected from both the vendor and the customer, and have all parties at the table agree.”

— Wah Chu, vice president of professional services for Netkey
CHAPTER 2  Assess the need and build the team

hand, it’s time to build the team that will be responsible for the project. Weaver recommends that at least four groups within the company be represented: IT, marketing, finance and procurement. Make sure IT is present at all meetings, especially early fact-finding sessions when the basic landscape of the company’s network is being explored.

But when building the team, resist the urge to get overly complicated in terms of task management. Brian Dusho of BroadSign says to beware of committees, because “typically no decisions will be made.”

Assembling the team

So, who should be invited to those crucial meetings where the rubber begins to hit the road?

A digital signage project team needs to be delicately balanced and proportioned — too many attendees and nothing will get done, too few and things will get done incorrectly.

Dave Haar, vice president of digital signage for Minicom, said at least three groups need to be represented on the team: IT, management and finance.

“In most cases, the marketing department will be driving the image and message, especially in retail,” he said. “In other deployments, human resources or sales may need to be consulted for the design of the system.”

KIOSK’s Tom Weaver said his company usually is contacted initially by someone from one of these two camps.

“We encourage the introduction of their counterpart right from the start,” he said. “A well-rounded team should have involvement from IT, marketing, finance and procurement. The most important thing, however, is a balance between executive endorsement and daily logistical project management. The smoothest programs have strong elements of
CHAPTER 2  Assess the need and build the team

high-level leadership to keep the funding and vision in place, but also have heavy logistical representation to execute and track the day-to-day elements that keep the project on track.”

Planning with all departments

Ask any digital signage provider, and you will learn that a digital signage deployment of any size is not a one-man job. Implementing screens into any environment and business model requires the combined work of several key parties. When planning for a screen or network deployment, one must make sure that the important stakeholders are identified from the beginning.

At the beginning of the deployment process, the key stakeholder in the company generally is the marketing department. Marketing usually presents the idea of using digital signage, does the research of the effectiveness of the medium and decides what kind of advertising budget will be necessary to support the systems. Particularly at the beginning, the members of the marketing department are the ones who drive the requirements of the network.

CEOs also have been known to drive the interest in digital signage networks. Since they are the head decision-makers in the company, their ideas sometimes resonate better with the entire team.

“CEOs will talk to other CEOs or come back from conferences with new ideas about using digital signage,” said Thomas Wyatt, general manager of Cisco’s Digital Media Systems business unit.

Marketing will identify features of the network that it wants included, such as RSS news feeds, interactivity or live TV. Those ideas usually are presented in a meeting with IT, another significant stakeholder. They bring the features they want to the table, and then ask IT if they can figure out if those features will work in the planned network.

“Marketing makes a wish list, IT makes a real list,” Wyatt said. “In most cases, marketing is driving the idea and IT is driving the implementation of the idea.”

Wyatt also warns deployers in advance of some of the expectations involved with multidepartmental implementation of digital signage. He said marketing usually wants the solution installed and running quickly and wants a lot of features. That department often doesn’t consider the impact of running video on the existing network and how it might affect other mission critical applications that are run on the network.

Wyatt said you may hear this from guys in the IT department: “You’ve already given us 24 other projects — where does this stand?” Prioritizing is important when dealing with IT. Because the department has a lot of other projects, members have to know where the imple-
CHAPTER 2    Assess the need and build the team

mentation stands on the company “to-do list.”

On the plus side, IT is more familiar with the existing network and the impact that digital signage and running video may have on it. IT is a key stakeholder because of the department’s familiarity with the existing network infrastructure. In some situations, the company LAN or network may require an upgrade to accommodate digital signage. Wyatt said he sees this more with retailers, but not as much with banks, which usually have an advanced, secure existing infrastructure.

“One of the biggest pressures for IT is maintaining the hardware associated with digital signage, particularly media players,” said Janice Litvinoff, manager of product and technical marketing for Cisco’s Digital Media Systems business unit. “If they’re PCs, do they need to be constantly updated with windows patches and updates? What is the lifespan of the hardware? Who will maintain the equipment and repair moving parts, etc. Who is in close proximity that can fix it?”

Regardless of the type of video being used, it all has to run on the company’s IP network. For that reason, Reilly reiterates that close work with the IT department is crucial.

“Have conversations with teams to determine the needs of the different departments of the company,” Reilly said. “And they need to keep them in the loop and tell them results of the project as they happen.”

Discussing the technology requirements needed for a digital signage project is not just an IT discussion. The end user — be it the marketing team, executive board or even store managers — must be involved. Marketing especially needs to be represented and involved to decide the messaging and brand awareness associated with the high-quality video.

“One misconception when using video over IP is thinking that all video is the same,” said Bill Reilly, product manager of digital signage for Cisco Systems. “But that is not true. There is desktop video, video conferencing, digital signage, etc. Each video medium has its own set of unique requirements. To have a ubiquitous video vision throughout the whole company is impossible.”

When making the decision to use IP-based video on your network, you need to consider that just about everyone in the company is using the network infrastructure. Some run their communications, both internal and external, off of this network. Others may use the network to relay important point-of-sale information from POS systems to analytic computers. Any organization that is planning for a digital signage deployment involving video needs to take into consideration all of the groups involved.

© 2008 NetWorld Alliance Media | Sponsored by Diversified Media Group
CHAPTER 2  Assess the need and build the team

A former IP personnel himself, Reilly said that, in return, the IT department may need to dumb down the conversation about network requirements so everyone can understand what is going on. Have the conversation in normal discourse so everyone will understand and be on the same page.

“It is essential to have representation from the various departmental functions impacted by the project both from a development and operational standpoint,” said V. Miller Newton, CEO of Netkey. “These include the line-of-business executive sponsors, the project sponsors, the project managers, the functional leads, IT and, in retail, store operations. The goal is to get all team members on the same page at the beginning of the project and have a clear set of roles and responsibilities. Communication is most important — establish an effective communication plan throughout all phases of the project.”

A successful deployment requires teamwork, but it also requires good leadership. Andy Teoh, product manager of digital signage at DT Research, suggests having a designated leader for the rollout.

“I think it’s definitely important to have a dedicated project manager/leader whose sole responsibility is to get all parties involved in a company to coordinate the digital signage deployment,” Teoh said. “From the IT department, who handles network deployment and server setup expertise; to upper management, who gives support for the project; to marketing, who coordinates with content providers; to HR who makes sure that messages conform to company policy; someone needs to be in charge.”

“Gridlock happens when there are too many chiefs,” Reilly said. “The teams are not seeing the shared vision. It creates a tug-of-war as to who does what. In the end, applications end up being destroyed.”

Questions to expect from IT

What IT will ask:

- How many hours of content can be stored locally on each sign?
- How much time is needed to propagate?
- What kinds of authentication and access are needed for the content administrators?
- How many users will have access to the network?
- What kind of security do we need in place for wireless systems? (Hard-wired networks don’t need as much security.)
- How many IT hours is it going to take to install and support the network?
- Will new servers need to be added?
Expert advice: Assessing the need and building the team

When doing the initial planning of a project, it is important that deployers decide which metrics they will measure and what their goals are. What are the smartest ways to build that list of goals? How can the deployer avoid aiming for too much — or too little?

Wah Chu, vice president of professional services, Netkey: "There are three major parameters that need to be considered by the vendor during the initial planning of a project: Identify the key stakeholders in the project, as their opinions, concerns and requirements must be addressed; have the agreed-upon metrics of success be business-results-oriented versus technology-oriented; and those success metrics must be measurable, preferably quantitatively. From a project planning standpoint, it is important to specifically define the project objectives, the technology and business requirements and the deliverables expected from both the vendor and the customer, and have all parties at the table agree. This helps keep the deployer from attempting too much and guides them toward project success."

Dave Haar, vice president of digital signage, Minicom: “In my opinion, it is essential for the creators of a digital signage project to take a very hard look at the content and what that content can do for the organization. In some retail cases, increased awareness of product offerings and brand may be all that is necessary to make the whole system a success. In other cases, increased sales of advertised products or increased involvement of customers with a service or product are the only measurements that really count. Obviously, in a non-retail installation, goals need to focus on the information being presented; its relevance to the audience and what value there is in it for the organization. Goals need to be specific to the environment, realistic and measurable. I also think that time needs to be factored into the equation. New technology always tends to take longer than the proponents of a project would like."

John Melillo, president, Diversified Media Group: “It is vitally important that the internal owners of the network develop a clear set of goals. Are you selling products, brand image or handling employee information? Developing a clear vision for the network first will intuitively give you the return on investment metrics. If you are thinking of mechanical or technical metrics that is different — the size of your network is the key factor: Is it multistate, global or multidivision? Those factors are key to your deployment metrics. They add complexity of various levels depending on the network company you use. What looks like a three-month goal on the surface may really be a six-month goal.”
Ideally, how many different roles should there be on the planning team?

Melillo: “This, of course, will vary by company, but IT, management, marketing and financial should be on any team. For instance, in a retail environment versus an entertainment venue you may have store planning as a team member, and at a sports or arena complex it would be more apropos to have the facilities director. Generally, you should build a team that covers financial, internal facilities, information services and the end-use client.

“It is very important that your external network partner is an important part of this team, as well. The benefits of using digital signage are many, but it comes with an important list of responsibilities. From content strategy, hardware types, software capabilities, deployment logistics, to support services, it is an involved process requiring a myriad of skills. As the leader of a managed network company, I can tell you that without a skilled partner at your side, what began as a forward-thinking business decision could become a morass very quickly.”
Chapter 3  Take an inventory of the content and network

Most digital signage projects come in at least two stages — pilot and rollout. One major mistake is to do all of the planning with an eye on the pilot, leaving the team with some significant growing pains when it comes time to deploy the full battery of screens.

To stave off those growing pains, begin by making three basic projections: pilot, initial rollout and one year later. For each of these landmarks, catalog and project estimated needs for each of the following:

- Number of hardware devices that will be deployed
- Number of software licenses needed
- Network bandwidth requirements — what is needed to deliver the content, process transactions, etc., across all of those devices?
- Media assets needed — how much creative will be needed to fuel the project? How will that change over time, and as the number of devices increases?
- Human resources needed — how many people are going to be tasked with keeping the deployment running smoothly on a day-to-day basis?

Deployers often make the mistake of focusing on the first two items in that list — hardware and software — because they are the biggest and most expensive, at least on the front end. But over time, content creation and network management can end up being the heaviest loads to bear.

“The biggest overall mistake that deployers make is in underestimating the time and energy that is needed to create and maintain fresh content,” said Dave Haar, vice president of digital signage for Minicom. “In the deployment phase, the biggest challenges tend to revolve around the cost and time for installing mounts and cables.”

Human nature being what it is — inherently more concerned with immediate, pressing needs than long-rang planning — companies often tend to focus a dis-
proportionate amount of effort and time on what will be needed for a successful pilot and rollout. But it is post-rollout when the real work begins, and early planning needs to account for that.

“Everyone reviews hardware, software, network connectivity — but very few look to what will be necessary to maintain a programming network once it is in full deployment,” said Brian Dusho of BroadSign. “Overlooking this very large variable will slow future growth. How many people does it cost to schedule, monitor, upload content, enter contracts, track assets? How much infrastructure will I need? What will the bandwidth costs run my company?”

Making your content multitask

The introduction of digital screens into the business environment drastically increases the number of bits of media needed. That ad that used to hang at the front of the store telling people which way to the eye care center? It now needs to exist in three additional formats, two of them widescreen, and all three of them different sizes.

Ideally, content would be created once, then repurposed to the size of the target device. This may be the goal, but it is not always carried out.

“The tools do not exist in the typical organization to multipurpose content,” said Doug Peter, president of St. Clair Interactive. “Everybody’s creating content for their own purpose. So they’re doing their weekly flier or their catalog or their in-store merchandising or their digital displays or their kiosk, but nobody is creating content once and publishing it through multiple channels. They’re trying to, but it’s still a manual process.”

To make repurposed content a reality, three guidelines must be followed:

- Publish content at the largest size needed
- Publish content at the highest resolution needed
- Publish separate content for separate aspect ratios

So, if the largest screen in the store is a high-definition 60-inch display, content must be created at that size and resolution. Your digital signage software should be able to “down-sample” as needed to lower sizes. However, you never want to “up-sample,” as it results in a loss of quality that can be drastic.

As for the third item, widescreen displays (those with a 16:9 aspect ratio) require different content than normal displays (4:3). Your signage software most likely can stretch or compress the media as needed, but this results in distortion that is unpleasing.

“A lot of people are satisfied with playing back JPGs at 640-by-480 resolution,
and then scaling that up onto a plasma screen,” Ardinger said. “You can do that, but is it the best use of that nice, expensive screen you’ve paid for? And does it give the best brand impression?”

Another key strength of digital signage software is the flexibility to modify the workflow, the process by which media assets are added, approved and scheduled. Every business has its own workflows, and usually these have evolved organically over time; seldom do they match any step-by-step procedure from a book.

Likewise, a digital signage software platform that requires its users to conform to its step-by-step procedure will create a large amount of work and heartache that could be avoided. Look for software that will allow authorized users to customize the workflow and approval processes, change the places along the “digital supply chain” where assets can be inserted and generally allow the flexibility needed to run a team of both creative and technical individuals.

Make a plan for your content

“Content is king” is quickly becoming a cliché in the digital signage industry, but no one will deny that content is the single-most important aspect of creating a successful digital signage network. If content is not compelling, no one in the facility will watch or listen to the message and the investment is not worth its return on investment. However, when content is creative, inviting and easy to understand, customers will listen, watch and flock to the information for a successful digital signage application. Content is created in several ways, including in-house by the customer or through a digital signage provider’s value-added partners that specialize in the field of graphics and video design.

To have an effective, dynamic presentation, video content needs to be created for any digital signage application. If the deployer has its own creative/marketing company, the most effective way of creating content is to have its own group produce the product in-house. If the creative group can understand the target the company is seeking, creating effective content can be simple and easy to do. Most companies start by asking some simple questions:

➢ Does the content already exist, or will it need to be created from scratch? If it does exist, what form is it in (MPEG-2, QuickTime, Flash, etc.)? If it does not exist, what resolution does it need to be created in, to properly present the information (are there specific close-ups, clarity, etc.)? What format should the new content be created in (HD, SD resolutions, etc.), and what delivery format (MPEG-2, QuickTime, WMV, Flash, etc.)?

➢ What is the typical length of a video session (minutes, hours)?
CHAPTER 3 Take an inventory of the content and network

- How many different videos (topics/products) are there? How many have to be created? What is the total amount of content?

- What other special considerations are there for viewing the video?

(Adapted from “Digital Signage Options 2008” from Diversified Media Group.)

How much content do you need?

Deployers know they need good content, but how much? It’s easy to say “Yeah, let’s get a few hours’ worth,” but those expectations aren’t always realistic. Aside from the large amount of time and money it would cost to create several hours of content, you would need to consider if the size of the content could be sent through your network. Later in this chapter, we will discuss assessing the capabilities of the network. One of the first things people are surprised to learn about networks is that they are limited to the size and quality of video they can send to screens.

“A common misconception is that you need a lot of content. No one is going to stand there for two hours and watch a movie on digital signs.”

— Janice Litvinoff, manager of product and technical marketing for Cisco’s Digital Media Systems business unit

the dwell time is normally around 10 seconds.

Less content seems to be more of a trend. As audience measurement tools become more refined, digital signage companies are able to calculate the dwell times of digital screens in different areas and applications. But no two areas are exactly alike and the customer base may be different. Determining the amount of content relies on what kind of customer a company is trying to reach.

“Determining how much content to publish depends on the captive audience,” said Andy Teoh, product manager of digital signage at DT Research. “For instance, for screens deployed in an airport baggage claim area, you would ideally want each advertising piece to play back in 15-second time slots. However, if you have screens being deployed at each departure gate area, the content could be longer because the captive audience in this case will be staring at the screen for a longer time period. Ideally in conjunction with providing relevant television programming,
the digital signage network should also be displaying relevant advertising and information, such as weather conditions for the destination cities and/or the latest hotel/dining promotions available throughout the metro area.”

Plan your network

Effectively planning your network will save you headaches in the long run. Most larger-scale digital signage applications run on networks. They allow the users to control the content on the screens and remotely manage screen activity through IP connectivity. For anyone looking to deploy digital signage in more than one location, a network is a necessity.

That being said, careful planning has to be done to ensure that your network will be able to support the digital signage solution you have planned. This includes the sending of content, remote management and real-time reporting.

Darshant Bhagat, product manager of solutions integration for Cisco Systems, said when planning for a network or assessing an existing IP network, ask yourself the following questions:

1. What is your bandwidth? A 45-minute high-definition training video can take up to 80 hours to download on a dial-up connection. For this reason, bandwidth can be a limiting factor. As a solution, consider planning for a caching device and hardware. This hardware can download content one time for five signs, instead of downloading it five separate times. That downloading can be done at night, or after hours, so that it doesn’t interrupt and any other applications on the network that run in the middle of the workday.

2. What are your quality of service settings?

3. Who is going to be scheduling, editing and controlling the content and network? Is it going to be done by your company, or is it going to be a managed services situation where the provider takes control?

4. What is your current IP infrastructure? Companies can leverage their existing network infrastructure, although they most likely will need to upgrade their network bandwidth and hardware to support digital signage.

Options for digital signage solutions

Most digital signage providers can offer three basic options to a customer looking to deploy an network or even just a few screens for digital signage. Each one can be modified depending upon the requirements of the customer, but this list can act as a starting point to get to know offerings in this application space.

The customer controls the entire network. In this option, the customer
CHAPTER 3  Take an inventory of the content and network

purchases all products from the provider and controls the end points, the head-end and the delivery for the content from the creation to the playing of that content. Providers will give the documentation, engineering resource, network concept, appropriate vendors to work with and installation and test of the equipment based on the needs of the customer. Digital signage providers also will provide assistance in warranty and maintenance of the systems with the customer if the appropriate levels of service are purchased, and will partner with the customer to make sure that all aspects of the project are understood and completed under contract in this scenario. The customer is in total control of the content, software, hardware and network connects to make this digital network succeed.

The customer selects the digital signage providers to become its managed service provider for the digital signage application. In this option, the customer enters into a managed services agreement with a digital signage provider to provide all services for this digital signage network. Providers can help in the development of content through value-added resources or they can take the content given by the customer, ingest it into the network and manage the content from start to finish on the network. Under this option, the customer can purchase or lease the end-point hardware and software from the provider, with the head-end equipment residing at the provider’s headquarters. The customer can purchase the head-end equipment or some providers will allow customers to lease it on a monthly contract. The customer is able to be flexible with the options based on how hardware and software centric they wish to be. Some companies like to own the equipment and pay a monthly charge for providers to handle the content and end-point solutions; others like to own their end points and lease a spot on the managed service network.

The customer uses a flash player at each site and downloads or forwards content to each player via a flash device. Some providers, such as Diversified Media Group, can offer the customer a solution that is IT friendly for those customers with large IT and creative departments. With this option, DMG and others will work with the customer to find a suitable end point that is flash compatible and install this product in the field. The customer then can employ its IT and creative departments to create content and deliver that content through the network or through flash devices to each end point to run locally. This solution is used primarily when the information on the digital signage end point is not changed often and is more static-based in nature.

(Adapted from “Digital Signage Options 2008” from Diversified Media Group.)
Chapter 4  Building the plan

With all of the parts lined up like so many toy soldiers on a boy’s tabletop map, the importance of a holistic plan starts to emerge. Those toy soldiers need a general — and likewise, any digital signage project needs a champion within the company.

“In any organization, there are multiple competing projects, so having a champion means someone is taking the lead on obtaining the proper resources and funding to successfully complete and operate the deployment,” said Wah Chu, vice president of professional services for Netkey. “The success of a project is not based on a one-time event, but is itself a process.”

The project’s champion needs to build a plan that the rest of the company can get along with. It begins with things such as software research, media asset planning and environment analysis; it ends with things such as hardware procurement, installation logistics and contingency planning for the inevitable things that will go wrong. The champion builds this plan on a timetable that works for everyone involved.

That plan needs to be broken down into manageable steps — in the parlance of project management guru David Allen, it needs to be chopped into “next actions,” each of them self-contained and doable within a reasonable period of time. This step-oriented approach means there is as little confusion as possible about who is to be doing what, and when.

Building a content strategy based on customer expectations

Human beings enter into virtually everything they do with one or more expectations, and when those expectations are met, they feel happiness. When their expectations are not met, they feel any number of negative emotions — disappointment, betrayal, anger, frustration.

Imagine picking up a glass filled with iced tea and taking a drink — only to find out that it actually contains soda. The immediate visceral reaction is a negative one, as if the drink tastes bad.

What customers don’t see: the planning, the network and the installation are the most important parts of a digital signage deployment.
It does not, in fact, taste bad — it's just not what you were expecting, and your subconscious threw an alert at you, saying “Something is wrong here.” In fact, you like soda, and a moment later you take another sip, and this one tastes much better. The liquid did not change; your expectations did.

Customers entering your space will have expectations about the experience they think they are about to have; the same is true of each individual aspect of the experience as a whole. If you serve coffee, it had better be good coffee; if you have shopping carts, the wheels had better not stick; if you hire “customer service representatives,” they had better give good customer service.

When customers look at a digital sign in your place of business, they likely expect one of two things: information that is directly related to their relationship with you (marketing-driven messages, product promotions, etc.) and information that is not (weather, news, community events, etc.). Critical to the success of a digital signage network is delivering the information customers expect, when and where they expect it.

For instance, do subway commuters looking at a screen want to see information about what is on sale at the nearby grocery store? Probably not, even though they might find that information valuable at a later time. They more likely would appreciate weather information, since they are about to step out into the world where weather will directly affect them.

“Customers walking in a shopping mall will not stop or even slow down to watch an advertorial,” said Anke Gill, director of marketing for 1-2-1VIEW Corporation. “These customers want quick and relevant information that can be digested in a short period of time. Customers sitting in a doctor’s waiting room or in a bank, however, expect something very different from digital signage — they want to be entertained so that their waiting time is perceived to be shortened. The content emphasis here should be on longer content segments with high entertainment value.”

“Shoppers want to be entertained and informed, not just advertised to,” said Tony Turiello, group manager for Panasonic System Solutions Company. “Don’t broadcast advertising for 40 or 50 minutes at a time — break it up with other non-advertising content. While the audience is captive, don’t penalize them for it — creatively engage them.”

Some possible goals for marketing-driven messages include:

“Shoppers want to be entertained and informed, not just advertised to.”
— Tony Turiello, group manager, Panasonic System Solutions Company
CHAPTER 4  Building the plan

- Improved customer experience — making the customer happy through entertainment clips, lifestyle messaging, or positive affirmation (“Thank you for your business!”)

- Product information — not just where things are, but creative use of video to demonstrate product value (recipes in a grocery store; tax-time tips in a bank; in an auto parts store, video on how to change your own oil)

- Special promotions — weekly sales, overstocks, upcoming events, “micro-sales” (“For the next 15 minutes, get 10 percent off XYZ!”)

- Ambiance — nebulous content that might not create a top-of-mind impression on viewers but instead aims to create a general feeling of well-being, to make the customer glad he is there

Most digital signage networks will benefit from a selection that draws from both lists, usually woven together (e.g., don’t stack all of the sales information up next to one another; intersperse community information and ambience between promotions to eliminate the subconscious notion that “this screen just shows ads”).

“Consumers want to be engaged,” said Richard Fassio, founder and president of creative content agency Modern Digital. “Engaging can encompass everything from entertainment to informational content. Every situation will have a different definition of what is engaging. This is why it so important to define what the user experience will be in order to create a compelling media strategy. If you aim at nothing, you’re going to hit nothing smack dab on the head. Defining what experience you want someone to have … this is the first step.”

Goals for information-driven messages include:

- News content — headlines, weather, financial news, sports

- Community events

- Corporate communications — welcome messages in a lobby, cafeteria menus, upcoming building events

- Wayfinding

- Public relations messages
CHAPTER 4  Building the plan

Content plans and transmission quality

One of the theoretical benefits of a regulated industry such as broadcast and its exacting standards is that a certain level of quality can be assured. And for the NTSC television standard used in the United States, a decent quality has been maintained. But should government dictate quality? Who should define quality? The industry has leaped far beyond NTSC as the standard of quality; that is, if we are defining quality by pixel resolution and color palette, etc.

All of this soon will improve for consumers as the ATSC (U.S. HDTV committee) shuffles analog broadcast bandwidth to the new digital television standard. The entire allocation scheme is past due for a major overhaul and it appears this will happen in the next few years. The old worries of transmission signals interfering with each other are a thing of the past with today’s digital technology, but flexibility, quality of reception and signal dispersion are and remain pressing issues for digital broadcast. The popularity of the ATSC standard has given way to the more robust DVB standard adopted by the majority of nations, but not in the United States. Somehow, regulated industries seem to settle for the lower common denominator, offering reliable but lackluster results.

Fortunately for marketers, digital signage is not limited to what the broadcast industry and its government regulations deem as best for the masses. Today, using IP technology, digital signage can play back 1080p signals all day long that provide stunning clarity and depth on a 50-inch monitor. The ATSC signal will go to 1080i, which is still good, but a compromise nonetheless. This only matters, really, if you are looking at a very large screen. At this juncture, very few digital signage screens are that large, or even need to be. Since digital signage networks can use ATM transfer, the quality of packet transmission is ensured and can be scaled to meet individual needs. The bigger benefit for digital signage is this kind of creative control of the media.

Most significantly, the resolution and the aspect ratio of the display as chosen by retailers should determine the format of the media, not a committee. ATSC defines an aspect ratio of 16:9. Marketers deploying digital signs may not want a landscape view; a 9:16 may be more suitable. Digital signage gives them this flexibility. This is the kind of flexibility digital signage always needs to offer, or it will begin to resemble broadcast. This is not a one-size-fits-all industry, but offers the flexibility to be tailored to the individual needs and whims of marketers who want to capture and engage patrons at the point of sale or, in some manner, provide a better customer experience. That is what digital signage is all about.

— David Little, director of marketing, Keywest Technology
CHAPTER 4  Building the plan

Expert advice: Avoiding mistakes

What are the biggest mistakes you’ve seen deployers make? What do they most often overlook or fail to take into account?

**Wah Chu, vice president of professional services, Netkey:** “It’s important to have on the project individuals with domain expertise — people from the deploying organization who understand the unique functional requirements of their human resources system, or e-commerce system, for example. Having that knowledge available during the planning phase can prevent operational deficiencies later on. One mistake we have seen is the deployer not fully anticipating the total cost of ownership of the project — ongoing maintenance, replacement, etc.”

**Dave Haar, vice president of digital signage, Minicom:** “The biggest overall mistake that deployers make is in underestimating the time and energy that is needed to create and maintain fresh content. In the deployment phase, the biggest challenges tend to revolve around the cost and time for installing mounts and cables. Another point often overlooked is the maintenance and upkeep of the system. For instance, many times players are placed at screens, mounted on walls or from ceilings. In a retail environment, this creates a nightmare for maintenance and upkeep. Access is often granted only in off-hours, requiring workers to do overtime. Access is difficult because of space and height and requires ladders, watchers and usually more than two hands. All of this adds to the total cost of ownership of a system. In a best-case scenario for us, screens are strategically placed and players are consolidated in a very few secure locations for the ease of access and maintenance and content is driven to the screens over Cat 5 cable.”
Once all of the pieces are in place and the necessary purchases have been made, it’s time to test the waters. That normally is done in the form of a pilot installation, which serves as a sort of real-world lab test for the project as a whole.

“Opening day — really, opening season — of a pilot can be a valuable window in terms of measuring how to optimize the overall investment,” said Tom Weaver, vice president of sales and marketing for KIOSK Information Systems.

“Opening season” is a time to take copious notes — what works and what doesn’t, both from a nuts-and-bolts perspective (the company’s goals, the hardware, the software, etc.) and a usability perspective (the customer’s goals, his perceived needs and how well they are met). Exit surveys are a wise choice at this stage.

Monitor, refine, repeat

In time, the pilot will find its legs; it will prove its value to both company and customer. It will become like the gas-powered lawnmower or the cell phone: Now that we have them, we can’t imagine life without them.

Here is where entropy starts to kick in. Even the most beautifully developed system will, if left to its own devices and the pull of gravity, start to break down. Procedures will get ignored; updates will be skipped; preventative maintenance will be put off for “more important work.”

Again, it’s important to take what appears to be a herculean task and break it down into manageable pieces. That inventory you built of hardware and software? Divide it up by whatever criteria makes the most sense — geographical location, in-store location, cost center — and assign calendar-based tasks for inspection, maintenance and upgrade. Put the creative team on a defined schedule for the creation of new content and the refreshing of old.

Careful planning for a network rollout will ensure that content is effective, screens stay lit and both customers and deployers are satisfied.
Digital signage, live TV and the law

By Robert Scott
Scott & Scott LLP

This article originally appeared on Digital Signage Today on Nov. 14, 2007.

Embedded high-definition content combined with television feeds from popular networks such as CNN, ESPN or MTV, for example, enables retailers to draw customers in, promote products and specials, bring the retail environment to life and generally enhance the customers’ overall in-store experience. One popular method of display lets retailers display digital advertising around cable television content. While an effective and burgeoning market for advertising, this format is not without its potential legal implications. Before you run out and buy a set of monitors to display digital signage around cable television content, good planning and investigation into any legal ramifications should be your first step.

Common uses and copyright obligations

The concept of using television display in consumer environments has been around a long time, but it is only with the recent proliferation of affordable flat-panel monitors that digital signage has become a marketing stronghold. Retailers are incorporating LCD or plasma display panels into store design; banks and financial institutions are incorporating televisions into lobby areas; even public spaces such as transit hubs, fast-food restaurants and gas stations are benefiting from the electronic medium.

As a communications tool, digital signage offers the ultimate capability: Retailers can deliver targeted messages as dictated by customers’ interests, requirements and spending habits. Content is king. Promotions, announcements, product information, retail spots and brand loyalty messages permeate the consumer environment, while cable television feeds offer entertainment.

However, with this amount of television content being pulled from numerous sources and providers across varying networks come considerable copyright considerations for the content user.

When using a signage provider to access and deliver cable television content, it is important to be aware of the parameters of the contract between your provider and the cable companies. The signage provider’s contract with the cable provider often includes a provision limiting use to “noncommercial” settings.

Even if commercial use is allowed, the subscriber — in this case, the retail outlet — must obtain permission from the cable provider before such use is possible. Displaying cable television in a digital signage medium without express
written permission probably would constitute prohibited commercial use and the subscriber would have breached its contract with the cable provider.

In addition to potential contractual violations the content user may have made, the Copyright Act may be implicated. The content in cable television is copyrighted in its entirety and the replaying of it in a digital signage medium constitutes what is known as a “secondary transmission.” A secondary transmission in this case is the transmission of cable television broadcasts by the digital signage network simultaneously with the primary transmission from the cable channel itself. In other words, the digital signage network retransmits a cable signal simultaneously with the cable provider. The retailer’s digital sign is duplicating the cable provider’s service. This is where contractual and copyright issues come into play.

**Potential pitfalls to avoid**

**Altering content:** According to copyright laws, any user other than the owner of the cable transmission does not have the right to alter the transmission in any way. This means that if the digital signage network in any way changes the original appearance or delivery of the cable content — for example, by dividing the television screen into parts and displaying advertising around the cable content — the signage provider would be liable.

**Licensing:** If secondary transmission of cable signals, modified or not, is illegal, how do bars transmit sports events for patrons? Licensing. And the same applies to music. Bars and other venues license the right to play cable television for a fee. Ignoring an available license program and transmitting content without permission could result in fines or a lawsuit. One such licensing organization is The American Society of Composers, Authors and Publishers (ASCAP). ASCAP has been known to pursue even small, family-owned bars for copyright infringement actions.

**Potential damages**

If copyright infringement claims are brought and upheld, remedies could include actual damages, statutory damages and injunctions. In extreme cases, remedies may include the impounding or destruction of the offending articles and charges of criminal liability. More often than not, however, the copyright owner will seek monetary damages and an order, called an injunction, to prevent further infringements by the digital signage user.

Actual damages include profits earned by the user as a direct result of the digital signage displays. In such cases, it is imperative that the content user can deliver accurate records. The copyright owner is required to present proof only of the infringer’s gross revenue, and the infringer is required to prove his or her
deductible expenses and the elements of profit attributable to factors other than the copyrighted work.

Statutory damages are determined by the judge. The guidelines dictate that damages may range from $750 to $30,000 per infringement, though if the court finds the content user acted willfully, that ceiling is raised to $150,000 per infringement.

The defendant in a copyright infringement case may be forced to pay the plaintiff’s court costs and attorney’s fees, which, depending on the complexity of the case and the amount of work involved, could reach into the tens of thousands of dollars. Courts use a number of factors in determining whether to assess costs and fees against the infringer.

**Protecting your businesses**

Though there are some potentially costly consequences when discussing copyright infringement, businesses can take simple steps to mitigate these risks. Remember that with new technology and ingenuity come new considerations and obligations for both providers and users.

Conducting some research early into the benefits and pitfalls of digital signage is the first step in preparing a plan to ensure your business is protected. Retailers should examine their subscriber agreements carefully to determine the extent of their transmission rights. When reviewing these or any legal documentation, the advice of an attorney with expertise in licensing and copyrights can be an invaluable resource, and one well worth the cost to avoid costly mistakes down the road.
Google’s nine points of innovation

By Bill Yackey

This article originally appeared on Digital Signage Today on Sept. 5, 2007.

When you think about innovative companies, you’d be hard-pressed to find one more notable than Google. On the outside, the company is one of the leaders of search and advertising on the Internet. Behind the scenes, it is fueled by innovation.

While most companies keep their trade secrets, well, secret, Google is willing to broadcast its findings. The second day of Digital Signage Expo 2007 began with a power breakfast focused not on digital signage, but innovation. The speaker was Jim Lecinski, managing director for Google.

I can imagine the information was both eye-opening and welcomed by the digital signage professionals in attendance, most of who represented companies considerably smaller than Google. The presentation was comforting as it was informative, like a big brother giving his little brother advice as he enters high school.

Google’s innovations are seemingly endless, and obviously the company is doing something right. Lecinski broke down his company’s innovation strategy into nine notions. Each notion contains an important lesson that all professionals can learn from.

1. Innovation, not instant perfection. Google believes in launching new products and ideas early and often, rather than trying to perfect those ideas behind closed doors before releasing them to the public. Then, customer feedback and popularity prove which projects are most successful.

2. Share everything you can. Small teams that communicate openly have proved the best results for Google. The company believes in transparency in the workplace so that everyone knows what everyone else is working on. (Scary, right?) It has a computer program where employees can look up names and see what others are working on, so if they have an idea to contribute they know who to talk to.

3. You’re brilliant, we’re hiring. When Google interviews employees, Lecinski said the company sets the bar very high. It focuses more on hiring generalists rather than specialists, as it has found generalists are more valuable and can contribute ideas to different parts of the company.

4. Allow employees to pursue their dreams. Lecinski said Google allows its employees time in a 70/20/10 model. Seventy percent of the time they work...
APPENDIX  Additional reading

on Google’s search and ad flagships; they develop new programs such as Images, Desktop and Finance 20 percent of the time; and 10 percent of the time employees are allowed to pursue their own high-risk/high-reward projects. Lecinski said Google Earth is a result of one of those projects.

5. Ideas come from everywhere. Sometimes Google turns to the public for new ideas. The Google mastheads, which are customized for holidays and events, are taken from non-employee submissions. One of the mastheads was designed by a 12-year-old girl.

6. Don’t politick — use data. With all the ideas floating around Google, the best way to determine which may work is to use supportive data. As Lecinski said, “Data beats opinion.”

7. Creativity loves restraint. Again, Google has to have some way to keep all of the employee-generated ideas streamlined towards the company’s goals. “Let people explore, but set clear boundaries for that exploration,” Lecinski said.

8. Get users and usage — the money will follow. This goes back to one of Lecinski’s larger points, “respect for end users,” but is a principle to follow in any form of business. He says to focus on creating things that are innovative and useful for people, not something you can sell.

9. Don’t kill projects, morph them. Google doesn’t waste ideas. Instead, it tries to change and transform them into something the company finds useful.