

Digital Displays at Princeton

What are Digital Displays?

Digital displays (also known as dynamic digital signage, digital messaging, narrowcasting or electronic billboards) are the use of computer-driven displays, such as plasma screens, liquid crystal display (LCD) panels, and projectors to present rich-media information to a wide variety of audiences. A digital signage network can be centrally controlled and monitored, ensuring that consistent communications that meet University standards are met, while individual screens display content chosen by individual departments.

How do we use Digital Displays at Princeton currently, and what additional uses might Princeton choose to explore?

Digital Signage provides the platform to communicate with target audiences in a dynamic way. Currently, the University is using digital displays in the following areas:

- Dining Services – Already in use in some dining halls and Witherspoon coffee and ice cream shop in Frist, digital displays show student/customers information such as menu items, hours of operation, and upcoming dining events. Whether located at the main entrance to the servery or behind each serving station, information specific to each meal is updated throughout the day. Some displays also show news feeds and headlines, as well as information about upcoming events.
- Whitman College – As a means to keep students informed and connected, Whitman College utilizes a digital display to keep residents up to date on the latest College news and events.

Other departments that are actively exploring the use of digital signage (that we know of) include:

- Career Services – As Career Services plans their new space above the U-store, they are looking to use digital displays at each of their meeting rooms to allow students and interviewers to find the right room. In addition, Career Services looks to have larger monitors in the main entrance areas to keep students informed of upcoming events and available resources. Leveraging the digital signage would allow all signs to be updated throughout the day from a single point and eliminate the need to print and hang paper signs.
- Lewis Science Library – A key use for the Lewis Science Library would be to advertise many of the resources offered through the library systems. For instance, one possible use is to promote to library patrons the proprietary databases the University already makes available to faculty, staff and students.
- Prospect House has expressed interest in using digital displays to indicate the location of events and remind visitors of upcoming special events

Future uses departments might choose to pursue could include interactive self-service kiosks, map or wayfinding guides for visitors, message boards for employees or building occupants, or video/wall applications, etc.

How does a Digital Display system work?

The digital display system consists of:

- Enterprise Server – The enterprise server houses the Symon Enterprise Software (SES) and the digital content created by any of the departments. The SES allows users to collect information from many different sources and selectively distribute the content instantly. A single server can store and manage up to 1,000 separate monitors/screens.
- Media Player (SDA) – SDA (Symon Digital Appliance) is a multimedia network appliance that allows the user to centrally control, schedule and deliver multimedia content to the digital displays (monitors). In essence, it plays the content stored on the Symon enterprise server.

- **Monitor** - The monitor displays the content or message. Standard LCD or plasma units can be used in a wide variety of sizes. If multiple monitors are showing the same content, then only one SDA is needed. If separate content is being displayed on each monitor, then a separate SDA is needed for each monitor.
- **Desktop** – A computer desktop is needed to run the Design Studio software. Despite its name, the Design Studio software is the scheduling software that tells the SDA what content to play at which times. The software can be loaded on existing DeSC computers. Through the digital signage network, multiple displays (monitors) can be managed from a single point (Desktop).

Where we are in the process of bringing Digital Display Systems to Princeton

While there are a number of digital signage providers, Dining Services and Whitman College are using Symon hardware and software, so this is the de facto University system. Dining underwent a comprehensive selection process in consultation with OIT. Dining Services, utilizing 15 monitors across 4 locations, has been the early adopter and therefore shouldered most of the load in terms of developing the digital signage process to date. Additional screens are planned for Butler and Wilson dining halls when these re-open. Dining handles their own troubleshooting with Symon directly. By special arrangement, Dining Services also provides assistance to Whitman College on an as needed basis (until a central solution can be found). OIT provides installation and networking support, and hosts and manages the Enterprise server centrally.

Dining Services contracted with Diversified Media Group (DMG) to assist with the consultation, design and training related to the digital display system. DMG will likely be used in a similar fashion for upcoming digital signage projects for Career Services and Lewis Science Library.

As the need and demand for digital displays grows, it is clear that Dining Services will not be able to handle the demands from any other departments. A Centralized Service provider (either internal or external -such as DMG) will be needed to provide advice, functional support (including user training), and to help ensure that consistent content is delivered, all as cost effectively as possible.

A working group of staff from Facilities, OIT, and University Services is developing a proposal to create a centralized service that will support departments planning, installation, ongoing operating, and maintenance of digital display systems. We envision a cost recovery model where departments will pay for the cost of the service, in addition to purchasing the hardware and covering departmental costs (eg for content development). We anticipate submitting such a proposal for central approval this summer.

For More Information

Diversified Media Group (DMG) – the consultant/implementer used by Dining Services
<http://www.divmedia.net>

Symon – the manufacturer of the system used by Dining Services
<http://www.targetvision.com>

Tim Downs, Manager of the Facilities Business Office is the point person at the University for our efforts to develop a proposal for a central University service to support digital display systems. Please email tdowns@princeton.edu if your department might be interested in using such a service in the future. Note that until such a service is formally approved, all we can do is

take note of your interest and add you to our estimate of demand for this service. We cannot actually help you advance plans to install a digital display system at this time.

**Digital Display Systems
Proposed Shared Service Model - Functional Split**

| Department | OIT | Centralized Service (Application Owner) |
|---|--|---|
| <p>Ultimate Decision on Set-up (# of screens, players, location, etc.)</p> <p>Determine any Collector needs (system "pulls")</p> <p>Content to be displayed on Screens</p> <p>Scheduling (using Design Studio to determine what content is displayed on each monitor at a particular time)</p> <p>First level of trouble shooting</p> <p>Securing electric for monitors (contact Electric Shop if needed)</p> | <p>Installation - includes purchasing of all hardware (monitors, SDAs, VGAs, servers, etc.), brackets, cabling</p> <p>Server Maintenance</p> <p>Hardware Maintenance - SDAs, computer systems, monitors, UPS, etc. Will ship out for repair/warranty coverage if need be).</p> <p>Assist with Client Software Installation</p> | <p>Project Management - consult on system set-up Determine how customers can meet their needs</p> <p>Symon and SDA software maintenance Updating for new releases, installing patches, etc.</p> <p>Setting up Collector for new data points</p> <p>Train new departments on Design Studio (scheduling) and Content Management (web design)</p> <p>Web Design Determine the PU Brand Identity for Digital Displays Insure Brand Identity is consistent and current Create templates allowing certain dept'l personalization</p> <p>System Admin of Symon Granting access, resetting passwords, etc.</p> <p>Monitoring Services Insure all systems are up and running</p> <p>Ongoing consulting (e.g. recommend new product releases such as wireless SDAs, etc.)</p> |