



## Benefits of Dynamic Signage in Higher Education

A White Paper By  
**NEC** NEC Unified Solutions, Inc.

Authored by Russell Young

# BENEFITS OF DYNAMIC SIGNAGE IN HIGHER EDUCATION

## CONTENTS

### Introduction

- I. Applications and Key Benefits
  - A. Emergency Messaging
  - B. Revenue thru Advertising
  - C. Lobby Signage and Kiosks
  - D. Instructional Display
  
- II. Considerations Impacting a Dynamic Signage Implementation
  - A. Financial Implications
  - B. Operational Implications
    1. Technology Strategy
    2. Content Strategy
  - C. Designing Content
  
- III. Measuring Effectiveness

NEC Unified Solutions Inc., a leader in integrated communications solutions for the enterprise, delivers the industry's most innovative suite of products, applications and services that help customers achieve their business goals. With more than a century of communications and networking expertise, NEC Unified Solutions, Inc., a subsidiary of NEC America and affiliate of NEC Corporation (NASDAQ: NIPNY), offers the broadest range of communications services and solution choices, flexible product platforms and applications, and an open migration path to protect investments. NEC Unified Solutions, Inc. serves the Fortune 1000 and customers across the globe in vertical markets such as hospitality, education, government and healthcare.

## ***Introduction***

### **What is Dynamic Signage?**

One definition is: The intelligent networking of large format display devices to broadcast advertising or informational content.

Yet another definition is: The ability to centrally manage, store, and forward relative content across a LAN/WAN for the purpose of delivering a specific message, to a specific audience, at a specific time.

Whichever definition one chooses to live by, the fact that the Dynamic Signage industry is exploding across the world is inevitable. The use of Dynamic Signage is rapidly spreading across retail, higher education, healthcare, hospitality, and financial markets.

Before initiating a Dynamic Signage project, one must first understand the terms and components of this market.

### **Terminology**

**PLASMA:** A plasma display illuminates tiny colored florescent lights—red, green and blue—to form an image. Plasma screens are the most affordable dynamic signage option. While the price is right, buyers need to be aware of limitations. Plasma screens are known for having burn-in problems. Images and text that are routinely repeated, sometimes several hundred times a day, will eventually create ghost images that permanently burn into the screen. These effects can be countered by paying close attention to this and creating content in a way to minimize this occurrence.

**LCD:** Liquid Crystal Display screens have only been introduced to the market within the past 18 months. LCD screens cost more than plasma when compared by size, but this may change as manufacturers provide more inventory and price LCD more competitively to cut into the market.

**MEDIA PLAYER:** Media Players are devices used to store and “push” content to electronic displays. Media Players can vary from only MPEG capability to robust, industrial PCs designed to provide a secure, reliable playback capable of utilizing multiple forms of content.

## ***The Basics***

In its simplest form, a “dynamic sign” or a “digital sign” is another name for an electronic, flat-panel screen with content driven by a video controller. These screens have become staples in entertainment venues where they interweave advertising with pictures, trivia and music videos. They are also showing up in many retail chains with the intent to inspire impulse purchases at the point-of-sale. In restaurants, hotels and conference centers, dynamic signs direct guests to events, additional services and even provide real-time local news information. These same signs have now made their way onto campuses where they are being used for emergency messaging, promotional functions, and even academic uses.

Generation X and Y were raised on the moving image. In the age of MTV, HDTV, PDAs and other electronics have made our society immune to the static imagery of print. It really is no wonder that dynamic signage has come as the next form of satisfying our high expectations of media messaging. Higher Education administrators are finding it increasingly difficult to effectively communicate on campus. Breaking through the clutter of today’s multimedia overload is an overwhelming obstacle. How can these administrators cost effectively, and efficiently communicate with students, faculty, staff, parents and visitors in order to inform, create community and educate? The answer is Dynamic Signage.

A visual communication network delivers powerful and appealing video-based messages. On-campus electronic displays deliver these attractive messages, reaching students in a place where they cannot change the channel. Quite simply, this is an attractive method of communications that is very hard to ignore. If there is a sale at the campus bookstore, a concert on campus, or a change in registration schedules, a dynamic sign can deliver the message. Even better than just displaying the message, the message can be incorporated with moving images, animated logos and video clips to increase the aggregation of eyeballs. No print poster can offer this magnitude of attraction.

## ***Applications and Key Benefits***

A network of dynamic signage can be effectively used in a number of different locations on campus and for a number of different purposes. When the content and delivery is coordinated, the aggregate effect creates an effective campus information system.

### **EMERGENCY MESSAGING**

As part of a campus information system, your dynamic messaging system should be flexible. In particular, it should be able to double as an emergency messaging system. With NEC’s dynamic signage solution, campus administration can utilize the same system that offers advertising, announcements, and campus information to provide visual emergency notification and information across campus.

College and university campuses are not immune to the threats and events that challenge every local community – potential weather disasters and threats to

personal safety are unhappily common occurrences that require appropriate action on the campus.

Imagine this scenario: An immediate threat occurs on campus that requires notification to all students and faculty. Campus Security picks up a phone and dials a pre-determined code. Instantly, all dynamic signs across campus replace the information currently programmed on displays across campus with appropriate action procedures. This alert method used in conjunction with traditional measures allows more people to respond faster than ever.

In less extreme situations, this type of immediate notification capability is also beneficial for weather delays, class rescheduling, or event cancellation.

## **REVENUE THRU ADVERTISING**

Digital Signage offers opportunities for revenue generation thru dynamic advertising.

At the campus bookstore, dynamic signs inform students about textbook buy-back programs, current sale items, and promote campus programs and student activities. At athletic ticket sale windows and the campus box office, digital signs preview upcoming events and support ticket sales. Similar to the use of this technology in the retail market, influencing the purchasing initiative at the point-of-sale creates additional revenues.

Around campus, digital signs not only provide official campus information, but they can also advertise events sponsored by campus organizations. Groups can promote charity drives, membership campaigns and social events. Signs can create awareness and excitement for campus elections. And digital signs can provide information on local area events, increasing the tie between the campus and the community.

Advertising does not have to be restricted to campus programs only. Commercial applications offer additional revenue. Local retailers and eateries can place their messages in front of thousands of students, faculty and staff who cross the campus every day. National retailers and tourism companies who know the power and influence of this technology are potential advertising candidates as well.

Dynamic signage is a great complement for summer conferences and seminars. The signs post the current agenda, publish agenda changes, direct attendees to meeting rooms, provide administrative conference information and promote and support special activities. Where the campus rents AV equipment in support of conferences and seminars, the addition of digital signage increases the potential revenue of each event.

## **LOBBY SIGNAGE AND KIOSKS**

A campus information system, including digital signs and interactive kiosks in campus lobbies, provides information to daily campus residents and staff as well as to campus visitors. Dynamically changing information such as sports scores and local weather create a more attractive environment as well as providing information of value and interest. Cafeteria menus can be scheduled weeks in advance to promote daily specials. This valuable asset to your institution can

highlight facilities to prospective students, assist press during sporting events, and guide guests at after-school events or meetings.

Kiosks are an effective way of allowing visitors to find out more about your organization. An interactive presentation can be both informative as well as entertaining. Kiosks supersede previously popular approaches to providing this information – including Internet browser-based applications that are susceptible to hackers, power outages, and viruses.

## **INSTRUCTIONAL DISPLAY**

Dynamic displays have now found their way from halls and bookstores into classrooms. Electronic media can now provide important information directly in the learning environment as part of the curriculum.

In the classroom, large format displays are taking the place of instructional mediums such as whiteboards and projectors. Interactive touch overlays can assist professors by providing a ‘dynamic whiteboard’ to allow for content and research to be saved at the touch of a button. Overhead displays allow for many more uses than traditional projectors. The displays can be directly connected to the professors’ laptop, campus cable network, or other multimedia input.

In the multimedia learning environment, students can utilize signage software applications to create and publish their work to these electronic signs. In fact, students can now collaborate on group creative projects, seeing each others’ work, on a centrally connected display.

## ***Considerations Impacting a Dynamic Signage Implementation***

Implementing digital signage can be as simple as adding a sign or two at the campus bookstore or as complex as creating an entire network of signs to operate cooperatively as a campus information system. Even simple implementations have the tendency to grow into more expansive systems, so regardless of how small or large the initial implementation, it is worth giving significant consideration to financial implications, operational implications and designing content.

## **FINANCIAL IMPLICATIONS**

While the lift in sales at the campus bookstore due to promotional activities and the revenue from selling advertising space can be measured and quantified, it is much more difficult to account for the intangible benefits of dynamic signage, such as enhanced student experience and emergency awareness.

Costs of implementing a digital signage network include video controllers, displays and content creation and management. It is good news that the manufacturing of large format displays is at an all time high with per unit sales prices on a continual downward trend.

One approach to building a campus information system built on dynamic digital displays is to grow the network over a period of time. It may seem very appealing to do everything at once, but it is not required and it may be more effective to create a plan for managed growth. Institutions should choose a flexible content delivery platform that allows for growth at a low cost.

## **OPERATIONAL IMPLICATIONS**

The implementation of a dynamic signage is not independent of the other student-oriented activities of an Institute of Higher Education. Indeed, it must follow the overall business and marketing strategy. Consistency across different locations and activities will lead to the best possible results. The adoption and implementation of a dynamic signage system requires strategic alignment. The framework that education environments can use in assessing a dynamic signage initiative is outlined below:

The deployment of a campus information system built on dynamic signage requires coordination across many function areas of business. Information Technology, Marketing, Administration, and others must collaborate on an effective content strategy to deliver messages with impact. Despite historical distance between these organizations, cooperation is a necessity to get the most effective usage of a network of dynamic signage.

Arguments have been made as to whether the content or the technology itself is most important. In fact, one cannot exist without the other. The content could be the most brilliantly produced message ever seen but without the proper technology, it would go unseen. Likewise, the technology must be utilized to catch the attention of visitors, students, staff and faculty in order to be a wise investment. A solid, cohesive strategy for both of these dynamics will lead to a successful digital signage implementation and the effective transition from a network of digital signs to a campus information system.

## ***TECHNOLOGY STRATEGY***

The element of technology strategy in implementation of the appropriate infrastructure is influenced by the choice of hardware, software, placement, and solutions provider. Campuses should look for a total solutions provider that can guide the entire lifecycle including design, sourcing, implementation, and meeting support requirements.

Two issues must be considered prior to implementation of a dynamic signage network. First, will the content be centrally managed and distributed across the LAN/WAN or will it be reproduced onto DVD? Second, is the current network infrastructure capable of handling the additional traffic? Most content downloads can be performed in off-peak hours to minimize the impact on the data network.

Once efficient content delivery is assured, the next consideration is the optimal medium for display. Numerous options are available, including Plasma, LCD, Projectors, and LED displays. Displays can effectively be placed indoors or outdoors. Enclosures are readily available to protect the display investment. Enclosures can be made to match campus colors and logos, protect against the environment, and protect against the unfortunate circumstance of vandalism.

The most effective location for digital signage must be based on the objective and content for each sign.

## **CONTENT STRATEGY**

With the infrastructure in place, determining the appropriate messaging content and the delivery approach to support the strategy forms the next step in the framework. The objective for the content drives decisions like how long the message loop should be, how often messages will change – during the day, the week, the month, the semester, and what the schedule will be for the messaging. Content strategy also includes identifying additional uses such as selling advertising space to outside companies to help fund the initiative. Ultimately, two decisions will have the greatest impact – who will do the creative work and who will manage the delivery of the content.

There are several things to look for when selecting a software platform to deliver and manage the content. The first thing is to find a flexible platform that allows for the input of multiple varieties of media i.e. MPEG, AVI, JPEG, GIF, TIF, etc. Another necessity is ease of use. Quite simply, an investment that goes unused due to frustration or lack of understanding is a wasted investment. Finally, make sure that the software provider has both expertise and experience in the dynamic signage arena. This is still a very immature market with new companies entering the space every week. Choosing a platform from a stable company will assure consistent technology updates to support the campus' digital signage network and to keep it extensible as new media alternatives are introduced.

## **DESIGNING CONTENT**

Content design is perhaps the most visible contributor to the effectiveness of dynamic signage. And given the appropriate infrastructure to support the network, it will be the real determiner of both soft and hard return on investment.

### ***Set goals***

What effect does the campus desire to achieve with dynamic signage? For example, one goal could be to offer student entertainment that doubles as an effective means of both daily and emergency messaging. Another goal could be to improve sales or drive revenue through campus promotions and fund-raising. Yet another could be to assist in the registration process by alerting prospective students of course availability. An understanding of what can realistically be accomplished at what price is paramount to an effective implementation.

### ***Providing relative content***

Content that is creative and consistent with the overall goals of the campus is imperative. While some existing creative assets can be repurposed for this initiative, fresh content should be created for the majority of the message. Keep in mind that the message and content must be refreshed on a regular basis to keep the audience's attention. If the message becomes stale, the audience won't be looking when new content is posted.

### ***Responsibility and ownership***

Dynamic signage involves the cooperation of many different departments of an organization, and the definition of a clear responsibility chain is a critical element in the successful implementation of these systems. Executive/administrative level involvement and the presence of clearly identified ownership of the dynamic signage system are key to the establishment of an effective campus information system based on digital signage.

## **MEASURING EFFECTIVENESS**

Evaluating the effectiveness of a dynamic signage system after implementation highlights the extent to which the objectives/goals of the technology are met. The evaluation process is somewhat easier when the expected benefits are tangible. If capturing actual data thru interactive signage, tying message schedules to Point of Sale (POS) reports or other like methods are available, judging the effectiveness is much easier. More often, the expected benefits from the implementation of a dynamic signage system include intangible benefits as well. Measuring intangible benefits such as student experience is complex, and filtering extraneous and collateral influences complicate this process. Consequently, the evaluation of the effectiveness of these technologies requires an analytical approach. To assess the performance of this application, we next describe a three-part process to aid in assessing the performance of the project.

The first step in the evaluation process is applying the business strategy to the goals of the dynamic signage system in the application context. Campuses may adopt dynamic signage systems for a variety of objectives, including improving campus sales, fund raising, enhancing the student registration experience and/or improving student retention. These objectives form the basis of establishing the measures that will be used to assess the effectiveness of the dynamic signage system.

The second phase involves establishing measures that are consistent with the goals identified. For example, if the goal of dynamic signage is to improve campus sales, then measures such as sales lift, basket/ticket size, conversion rates or customer traffic can be used to assess the extent to which the goals are met. In the event that attaining more intangible goals is desired, such as enhancing the student registration experience, then measures of prospective student impressions, campus and course education, and/or institute perception should be established. Finally, if impacting student retention is a desired goal of a dynamic system, then measures that involve the enrollment duration might be considered.

Once the measures are established, the final step in the evaluation process consists of data warehousing and analysis to assess the impact of dynamic signage on the measures of interest. A variety of techniques such as POS data, traffic count, exit interviews, student surveys (on-campus/online), touch screen hits if an interactive format is adopted, can be used to collect information and data on the measures established.

The analysis should follow a systematic process to test the effect of dynamic signage systems on the measures in the presence of other currently used methods of providing messaging information. For example, in assessing the

sales impact in the campus bookstore for determining ROI, one approach is to compare the baseline performance using static signage and comparing it to store performance after adding dynamic signage. In assessments using ROI, care must be taken to include not only the tangible impacts but also to factor in the intangible benefits such as enhanced student experience and campus brand image. If students are able to purchase the same merchandise off-campus, consider the value in customer retention of that student and the lifecycle benefit of shopping exclusively on campus.

At present time, there are no clear and accurate methodologies established to determine ROI for those seeking to measure thru experience, helpfulness, or other intangible. However with the amount of attention this creative new media has generated, multiple organizations are attempting to define these metrics to continue and strengthen the definition and requirements for new applications.

## **CONCLUSION**

Implementing a digital signage solution in a higher education environment requires not only a knowledge of the technical requirements but a practical approach to ensuring best practices. NEC Unified Solutions can help your organization develop a Solution Roadmap to identify your needs and make sure that the technology meets your business requirements. Such a roadmap can serve as a basis for designing an effective content program as well as the technology architecture. This program will include policies, procedures, and assessments as well as metrics associated with the measurements of effectiveness in your higher education environment.

If you are interested in partnering with NEC Unified Solutions for your digital signage needs, contact us at 1-800-240-0632.

### ***About NEC Unified Solutions***

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