Redeveloping a Website

Organization: Are your webpages difficult to navigate? Is important information missing or difficult to locate?

Addison Ching, California State University

Pause a minute and take a look at your website's home page. Consider that this page is likely the first exposure someone in your community or elsewhere might have to your agency. Does your home page clearly:

- Give the name of your agency?
- Describe the agency and its mission, e.g., grade levels and communities it serves?
- Describe where it is located?
- Provide easy navigation to your site's information?
- Provide methods of follow-on contact for additional information such as a contact person or office, an e-mail address, telephone number or FAX number?

A website conveys information about our business. It is a vehicle that allows us to tell others about us; to be sure, people visit our website specifically to gain information about our business and answers to their questions. Yet many of today's websites are difficult to navigate and don't serve information in a manner that is easy to use or understand. Some information sites are poorly organized, contain out-of-date information and don't provide any means of follow-on contact. Add to this garish colors, moving graphics, poorly-constructed frames and misbehaved Java applets and you have a website that anyone will gladly leave in an instant. Forget about a return visit.

First-generation websites were sometimes quick-and-dirty attempts at throwing something together to have a presence on the World Wide Web, and without regard to a potential audience that might gain something from visiting the website. Some early websites were nothing more than a collection of cute GIF files, audio sound bites, blinks and links to popular points of interest on the Internet. I remember including a link and audio bite to the Whitehouse's Socks the Cat on one of my first websites (thank goodness it's gone!) I'm assuming that most of us have matured past this point, have visited Vincent Flanders' website (http://www.webpagesthatsuck.com), and have digested some of the information offered by Vince so we now know how to design and implement reasonable-looking and functional web pages. For those that haven't reached this point, visit Vince's site to see how you can buy his book so you can come up to speed!

**CEDPA 1998 Fall Conference-October 14-16, 1998
Palm Springs Marquis Hotel**

CEDPA Information

CEDPA is an association of Educational Data Processing Professionals (technologists) within the State of California. Founded in 1960, the major emphasis of the association's activities are directed towards improving Administrative Information Processing in public education within the State of California and to prepare its membership to better meet and support the technological needs of the Instructional Program.

CEDPA is a California non-profit corporation, as recognized by the Internal Revenue Service.

As cited in CEDPA's bylaws, the purpose of this organization shall be:

(a) To provide information to the California public educational community concerning educational data processing via dissemination at an annual conference and through periodicals and special interest seminars.

(b) To foster the exchange of knowledge of educational data processing concepts, systems and experiences between educational data processing installations and other associations both at the state and national level.

(c) To inform the association membership of important information concerning educational data processing.

(d) To provide recommendations to the State Department of Education, State Legislature, school districts, County Offices of Education and other public educational organizations concerning educational data processing.

(e) To develop professional standards for the Educational Information Systems Community within the State of California.

Yearly membership in CEDPA is granted to attendees of the Association's annual conference. Individuals interested in the Association's mailings may request to be added to CEDPA's mailing list by writing to the address below or filling out the interest form at CEDPA's website.

The *DataBus* is published bimonthly by the California Educational Data Processing Association and is distributed without charge to all members of the association and other selected technologists within the State of California who are interested in information systems processing and technology in education. Submissions, correspondence, and address changes should be sent to the editor at:

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President's Corner

Russ Brawn, WestEd

At this time of year, the primary focus of the CEDPA Board is to finish the myriad planning efforts, plus finalize the schedules, participants and content of the upcoming Conference. As an organization and as a profession, we have much of which to be proud. The 38th Conference, "Reaching the Classroom" will be a forum that recognizes the challenges we face and enables us to share experiences from which others can learn. A special part of each of these annual events is being witness to the successes and lessons, which are the source of deserved pride, both from colleagues and supporters from those vendors serving K-12.

My message in this "*Corner*" is not to extoll the event in detail, but rather to invite you to review and consider the Conference Announcement. Please take time, as soon as possible, to take in the breadth and depth of what promises to be a very special opportunity. Then, sign up! We want to see you there.

Recently, in a completely different context, the Board was fortunate to witness some of the sense of pride and accomplishment addressed in the first paragraph of this message. We held a Board Meeting in Sacramento and had the pleasure of the company of two previous CEDPA Directors, Ken Jones and Paul Fracolli. Ken, who only a year ago was serving as our Past President, is working at the CSU Foundation in Sacramento. Since he was so recently a contributing officer and member, each of us was of course familiar with Ken.

However, with Paul it is different. Many of our current board members have not had the occasion to meet and know those individuals, including Paul, who meant so much to CEDPA in its formative and growing years. Paul Fracolli was a pioneer of this organization and a longtime Board Member and served multiple terms as President. Some of the veteran board members remember Paul from past conferences or from his tenure at the San Jose Unified School District and have a sense of CEDPA history, but the newer board members learned for the first time of the origins of the organization. After dedicating many years of service to education and to CEDPA, Paul is now enjoying retirement in suburban Sacramento.

For me, the reward in the discussion over lunch was not pride in the past successes of our organization. Rather, it was in the renewed pride from two former colleagues of different eras, in their recognition of our current accomplishments. Both were impressed with the growth in the *DataBus*, and especially appreciative of CEDPA's growing, statewide advocacy for K-12 technologists. We're getting better in finding avenues for raising critical issues, as well as avenues for understanding and resolving them. This issue of our newsletter gives you some information on these efforts. At the Conference, you'll get additional feedback about these efforts and have an opportunity to provide further comment and input to the board regarding your needs.

To all our retired CEDPA colleagues, plan to attend this year's conference as a retired member. We'd love to share the perspectives and memories of the rest of you out there.

1998 Vendor Show

Mike Caskey
Stanislaus County Office of Education

The 1998 CEDPA Vendor Show is shaping up to be an excellent one. As of now, we have registrations and commitments for about 48 of the 55 booths and three of the 4 kiosk displays. There will be a wide variety of products on display, including networking hardware and software, document imaging hardware and software, scanning hardware and software, administrative systems, computer systems and software, and just about anything else appropriate to our K-12 environment.

The Palm Springs Marquis is a great place for a conference and I know the 1998 Vendor Show will help make this the best CEDPA conference yet.

The CEDPA vendor show puts you in contact with the companies that are familiar with, and work well in the education environment. These companies support CEDPA and, in turn, deserve our support as we provide technology to our districts and county offices, and go about the business of "Reaching the Classroom."

We'll see you at the 1998 CEDPA Vendor Show!

Calling on the Network for Voice Communications

Integration: Combining voice and data on a single network opens avenues for new applications, cost savings.

Sue Mangiapane, Cisco Systems, Inc.

The emerging technologies for transmitting voice traffic over data networks present key opportunities for enterprises to reduce costs and enable new applications. By running real-time voice and fax transmissions over existing wide-area networks, companies can realize significant savings in long-distance telephone costs, especially for communications between company locations. In addition, this technology positions companies to implement capabilities for sending voice over the Internet, opening new avenues for marketing, customer service, and workgroup collaboration.

The standards and products for transmitting voice over data networks are coming to the forefront because of a fundamental shift in the economics of both private and public networks. Today, many enterprises have made substantial investments in private data network facilities, which have capacity available to carry additional traffic with little incremental expense. At the same time, these companies are sending voice traffic on separate networks, with the associated additional costs of links, equipment, and toll charges.

Enterprises used to justify the expense of private WANs by the cost savings these networks enabled for their voice traffic. But today, bandwidth requirements for data networks are so great that enterprises can add voice capabilities to these networks for minimal incremental cost.

Sending voice transmissions over data networks can be useful not only for regular telephone calls, but for specialized networked applications such as videoconferencing, discussions that accompany electronic whiteboards, and voice calls placed from World Wide Web pages.

Data Network Support for Voice Traffic

Voice and data traffic have different requirements for network bandwidth. (From a technology standpoint, voice and fax transmissions are treated similarly.) A voice transmission requires only a small amount of bandwidth, but that bandwidth must be available continuously, with very little delay. Even delays measured in milliseconds can create a noticeable echo or gap in the conversation.

In comparison, data traffic can adjust easily to network delay, and with its bursty nature, can use the amount of bandwidth available in the network at any moment.

Technology Directions

In order for voice over data to become a practical consideration for most organizations, it requires support on a variety of data network types, including IP, Frame Relay, and Asynchronous Transfer Mode (ATM). On an IP or Frame Relay network, technologies must transform "best-effort" communications into functionality that can support both continuous, streaming voice conversations as well as bursty data transmissions. ATM networks can already carry voice, because their design integrates all communications types–including delay-sensitive traffic–over a single network.

In addition to these general capabilities, specific features supporting voice transmission must also be implemented in network platforms. These features include:

Compression–Low bit-rate voice compression significantly reduces the amount of bandwidth used by a voice conversation while maintaining its high quality.

Silence suppression–The ability to recover bandwidth during periods of silence in a conversation makes that bandwidth available for data transmission and other network activities.

Quality of Service (QoS) functionality–Assuring priority for voice transmission is essential. On the Internet and other IP networks, QoS functionality is provided by Cisco Internetwork Operating System (Cisco IOS™) software features such as the Resource Reservation Protocol (RSVP), which reserves resources across the network for a voice call. (More information on Cisco's support for RSVP technology is available at the URL.) For ATM networks, Constant Bit Rate (CBR) services provide QoS throughput and delay guarantees for voice traffic. And in Frame Relay networks, QoS capabilities include frame fragmentation, frame priorities, and frame-to-ATM interworking.

Signaling for voice traffic–Data network equipment

Microsoft Happenings

Tuan Nguyen, Microsoft Corporation

Microsoft Windows 98 ... in K-12 Education

New Microsoft Windows® 98 makes educators' jobs easier. It's that simple. Windows 98 works better, runs faster, requires less maintenance, streamlines communications and connectivity, and offers greater ease of use than Windows 95. And it does it for all: students, teachers, IT staff, and administrators. Imagine what Windows 98 can do for those of you who wear two hats.

- You'll save support time, too, because Windows 98 does much of the work itself, automatically gathering support information with its System Information Utility, System File Checker Utility and Dr. Watson Utility, which intercepts information about software failures.

- Windows 98 is easier to deploy, support, maintain, troubleshoot, and manage. For schools, better performance means lowered demand on precious resources-staff time and budget. Your deployment costs will be as much as 22% lower with hands-free, hassle-free installation using Batch 98, Gather Now, and other deployment tools. Windows 98 delivers better utilization of resources that can sometimes be limiting. Launch applications and access files 30 to 50% faster with the new Windows 98 defragmenter.

- Windows 98 fully supports the new generation of hardware for multimedia and education. Compatibility problems will disappear and adding external devices and peripherals, such as digital cameras and printers is simplified with the Universal Serial Bus.

- With a fully Web aware user interface, Internet access becomes seamless, too, delivering fast access and serving as a single utility to view content on individual PCs, your network, or the World Wide Web, with full support for all major Internet standards. The result? You get the information you need faster and easier.

- New tools in Windows 98 allow vision, hearing, and motor-skills impaired users to adapt the system to suit their needs and preferences.

Users can adapt options for cursors, screens, and keys with one-step configuration that's easy and instant. The vision-impaired can select large icons and text, high-contrast screens, or a customized cursor and mouse trail, while Closed Captioning and Synchronized Accessibility Media Interchange (SAMI) technology delivers information in real time for users with hearing impairments.

Tuan Nguyen is Education Marketing Manager for Microsoft Corporation's Southern California District. He may be reached by telephone at (949) 263-3081 or by e-mail at tuanng@microsoft.com

Conference Update

Terrell Tucker
Panama Buena-Vista Union School District

With this issue, you have the 1998 CEDPA Conference Announcement. The decision to send your registration forms in and plan to attend this year's Conference seems obvious. Never before has CEDPA been able to offer the breadth of breakout sessions that will be on display this year. Vendor participation will be at an all-time high with the unveiling of our Network Operations Center. A few new twists on the exhibit area will also allow attendees to see some vendors in a way never before possible.

Naturally, the structure of this year's Conference will not have changed. The Board of Directors has tried to insert some subtle, as well as not-so-subtle changes designed to heighten the experience for attendees. We will enjoy keynote speakers that truly experience the pulse of the educational community on a daily basis. Rarely do we have the chance to listen to two speakers with more clout in the educational software world.

The pre-conference sessions are especially relevant this year. A virtual how-to for any wireless connectivity will be followed by a presentation of one of the hottest items around–the world of terminal servers and thin clients. You won't want to miss either of these presentations!

I would be remiss to not also tout the location of this year's Conference. We discovered how gracious a host Palm Springs can be at the 1996 Conference. The Marquis Hotel is a wonderful host and its amenities are outstanding. We will also be able to experience a beautiful golf course in the third annual, post-Conference golf tournament.

I know you won't want to miss this year's Conference, so I'm sure I'll see you there!

Conference Materials Available at CEDPA's Website

Additional copies of the 1998 CEDPA conference announcement and/or conference registration forms are available at 1998 Conference Central at CEDPA's website (www.cedpa-k12.org). The documents are in Adobe PDF format and can be downloaded and either viewed or printed using Adobe's Acrobat Reader. Also, be sure to check the site for updated information about the conference.

Website

(Continued from Page 1)

Many websites have not grown past this first generation development, except to gain in girth. These websites are sometimes bloated collections of departmental data thrown together under some semblance of organization. However, this organization is just that: *the organization.* You'll find that information on these sites closely aligns with the company's organizational structure. While perhaps appropriate for an intranet and meaningful to the company's employees who are familiar with the organizational structure, it is less useful to someone on the outside who is visiting that website to gain information about the agency. Less useful, that is, unless the visitor is familiar with the company's organizational structure. For example, would a vendor wanting to find an RFP know enough to navigate a company's website through the following sequence of pages and links?

> Home page
> Central Office
> Administration
> Fiscal Services
> Procurement
> Contracts
> Proposals
> RFPs

The Problem

The California State University (CSU) website (www.calstate.edu) was a second-generation website that comprised about five thousand pages of information. This information was collected, and continues to be collected and published, by various departments within the Office of the Chancellor (the headquarters of the University system) on behalf of the CSU. In order to develop material for the website, departments were encouraged in 1995 to create and publish material for the web, and without regard to standards or content format. This development effort resulted in a large collection of information that was developed by various departments, many who had their own "webmasters" and who called their department information "their website."

In 1996, a departmental web committee was formed. This committee developed an Internet Use Policy and agreed on the content and format of the CSU Systemwide page, but web content standards were not addressed at that time.

In 1997, a thorough review of the CSU website was conducted and the following realizations were made:

- Web pages were department-focused; departmental pages contained department-specific, rather than enterprise-oriented, data;
- Look and feel was inconsistent;
- There was a lack of content standards and guidelines;
- No formal approval for content dissemination existed. The implication of this was that any department could publish virtually *anything* under the CSU corporate name.

The Strategy

In order to bring the various departmental web development efforts under a common dissemination umbrella, a Web Oversight Committee ("Websters") was formed. This committee included representatives from each division within the Office of the Chancellor: University Advancement, Business and Finance, Academic, and so forth. The mission of the committee was "To ensure high quality and consistent content, organization and presentation of information about the California State University system to help users find pertinent information to answer their questions." Recommendations developed by this committee would be presented to the Executive Committee of the Office of the Chancellor for endorsement and policy creation. Only with this support would the efforts of the committee become successful.

The Recommendations

The committee met throughout 1997 and developed what they felt were guiding principles for the CSU Corporate website. These were to:

- Create a consistent, recognizable CSU image with a "strong" CSU identity, consistent look and feel across pages, with pages useful, friendly, and easy to navigate;
- Reorganize the information and pages to present a unified, corporate-oriented presence, rather than a department-oriented presence;
- Establish guidelines and standards, including standardized design templates and navigational tool bars. All content will be assigned a contact name, given a date of last update, and reviewed periodically to ensure content currency; and
- Formalize an approval process.

Website

The Politics

Endorsement and support of an Executive Committee, Board of Trustees, or Board of Directors is key to the success of an enterprise-wide project such as this. Departments that previously had complete control and editorial license over "their" websites were now being asked to relinquish some of their control. While departments could previously include virtually any information they wanted on "their" websites, their content now had to be approved by a central approving authority before it could be deployed or published, and they were no longer and could not be responsible for that deployment. Why is this central approving authority necessary?

Consider that information deployed on a corporate website is information that is published or disseminated *on behalf of that corporation.* In a typical corporation, the Public Information Office is responsible for information that is disseminated to the public. Publications and other material that is published on behalf of that corporation is normally approved by the PIO before it is distributed to the public. The realization was made that disseminating information via the World Wide Web was another medium for publishing corporate information and would therefore be subject to the same conditions as other corporate publications. This ensures that all information published, whether it be printed or deployed on the corporate website, is consistent, accurate, and conveyed in a professional manner consistent with the mission of that corporation.

The Deployment Mechanics

New design templates and navigation bars were created using graphic images approved by the oversight committee. The committee recommended using these templates on the top level tiers to ensure consistency and ease of navigation. New, corporate-centric information categories were developed for the top tiers to assist in rapid and easy location of corporate information. Departmental websites will now contain department mission statements, staffing and contact information, with other corporate-centric information from that department reorganized as necessary for consistency with the top-tier information categories.

Departments will still develop content using the new design templates. Departments can make recommendations for content placement within the new information structure. However, department and division heads and a central approving authority must all approve the content before it is deployed. Once approval is granted, the deployment team will publish the content using deployment standards and guidelines and ensuring that the content includes contact information and revision date information.

Departments will upload their pages and other documents to a staging server where the information can be reviewed by the central approving authority. When all approvals are received, the web deployment team will transfer the information from the staging server to the corporate web server, ensuring that the deployed information meets the standards and guidelines recommended by the web oversight committee.

The Conversion

At present, the main CSU website is in a state of transition. The top-level tiers have the new, standardized look and feel, but information at the lower tiers is still department oriented. During the next months, all existing department sites will be evaluated to determine appropriate information organization under the new information categories. As department sites are redeveloped, they will be brought under the new, standardized look and feel.

One of the challenges faced by the web deployment team is keeping website content current during redevelopment. It is quite possible that department information may change while that department's information is undergoing conversion, so in a sense the deployment team will be working with a "moving target."

Departments with the highest public exposure will be given the highest priority for redevelopment.

The Result

The redeveloped website will be a professional, corporate-oriented information repository with a standard look-and-feel that can be navigated without difficulty. Information on the re-engineered website will be reorganized by corporate-centric information categories that make sense to the browsing public and will use standardized templates for consistent appearance. Document revision and contact information will be included where appropriate. Finally, all information published on the web will be approved by a central approving authority to ensure it is appropriate and consistent with the California State University corporate image.

Voice and Data

(Continued from Page 4)

can provide more sophisticated services–such as least-cost routing and virtual private networks–than simple voice transmission, by recognizing and responding to voice signaling.

Voice switching–Data network equipment can not only perform sophisticated voice transmission between company locations, but can provide private branch exchange (PBX) functionality by performing call processing and voice switching capabilities either within a campus or over the Internet.

Cisco Plans to Expand Voice Support

Cisco Systems currently supports voice over data in the StrataCom. IGXTM and the LightStream. 1010 ATM switches. In the coming year, Cisco plans to expand support in these products and its remote access products and offer additional capabilities for switching in enterprises and the public network. This support will extend over all network types–IP, Frame Relay, and ATM– with full interoperability that will allow a call initiated on one network to be completed on a different network in another part of the enterprise.

Voice communications will be enabled through a combination of hardware and Cisco IOS software features, and customers will add voice equipment to their existing network platforms.

In addition to Cisco's forward-looking product development for voice over data, Cisco employees participate in several industry groups that are defining key technology standards. These groups include the Internet Engineering Task Force (IETF), which is defining RSVP, and the Voice over IP Forum, which is addressing interoperability issues for voice transmission over the Internet and IP networks.

The Year for Voice over Data

For network managers, now is the time to begin considering the opportunities for transmitting voice over enterprise data networks. As a leader in developing the required technologies, Cisco will help customers turn the potential cost savings and communications gains into a reality. Enterprises will be able to realize significant cost savings by moving voice traffic to their existing data networks– whether ATM, frame, or IP–across the wide area.

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Register Early to Qualify for Earlybird Prize Drawing

Be sure to complete and send in your conference registration forms today! All early registrations will qualify for a special earlybird prize drawing. A gift certificate to The Resort Spa at the Palm Springs Marquis hotel will be awarded to a lucky recipient drawn at random from all conference registrations received prior to September 1, 1998. Don't miss this opportunity to win both ways–you'll win by registering for this important conference, and you'll have a chance at the earlybird prize drawing!

Mail or FAX your registration forms to Jane Kauble to ensure receipt by September 1. The earlybird prize winner will be announced at the conference.