Web-Based Portal Implementation at Columbus State University: A Case Study

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Introduction
Institutions of higher education have responded to the challenges of increasing student enrollments, shrinking budgets and the ramifications of our “on-demand” world in significant ways. The implementation of an enterprise-level web-based portal was chosen as one of the means of meeting these challenges at Columbus State University. We chose an enterprise-level web portal because it improves the delivery of information to student, faculty and staff and maximizes the use of college and university resources. Deployment and continued use of the portal will allow our university to provide service at a higher level to its users as well as integrate the diverse platforms existing before the portal implementation.

The impetus for a portal came from a recent overhaul of Columbus State University’s web site. During this major revision, the idea of developing a more user-centric, commanding virtual gateway was discussed and approved. Students, faculty and staff were polled about their needs and the results showed that a more flexible milieu was needed in the portal with elements such as single sign-on and web-based e-mail. We discuss the pre-implementation considerations, the benefits of portal implementation, the problems we encountered during and post-implementation and future issues with portal use.

Background
Initially, portals were commercial developments (e.g. AOL) that provided a one-stop access to the Web. They were searchable directories of Web sites (e.g. Yahoo) or search engines such as Excite or Hotbot. Even though portal terminology is still evolving, general categories of web-based portals include horizontal, vertical, or corporate portals today.

The well-known mega portal MSN is an example of a horizontal Web portal. Visitors are not required to complete an authentication process to view the site and everyone sees the same page initially. Vertical portals, called niche portals
or Vortals, are narrower in scope and provide users with specialized information such as gourmet cooking. Business or corporate portals center on developing a relationship with customers and providing an environment for organizational collaboration and content management. Rapid updating of information is essential in corporate portals to keep current with changing market trends.

Institutions of higher-education are collaborating to develop a free, sharable portal, uPortal, which can be classified as a corporate portal. Portals of this nature are adaptive and customizable. At Columbus State University, we decided to implement an enterprise-wide portal rather than develop a home-grown portal for reasons more fully explored in [1]. A brief history of our institution and a detailed discussion of the portal planning and deployment follow.

Pre-Implementation Issues
A senior unit of the University System of Georgia (USG), Columbus State University has an enrollment of over 7,000 students and is located in an urban area of west Georgia. Columbus State University (CSU) and the USG officials recognized the potential an enterprise-level portal can have upon an institution’s Web presence. An enterprise-level Web portal not only strengthens the institution’s image, but also provides students with access to university information and services at one place. Portals providing a full range of services, anytime any place, will favorably influence the regard students have for the institution. Additional pre-implementation goals were identified as follows:

1) centralization of databases,
2) single sign on,
3) Web-based e-mail, and
4) Ease of website maintenance.

In August 2004, CSU launched phase one of its Campus Pipeline application. Full implementation was set for early 2005. Before the concept of a campus-wide portal, each department or unit within the university created and maintained its own web pages. Technical expertise was required to do so (i.e., knowledge of HTML or Web page editor) on the part of the person generating and maintaining the web pages. It also involved coordination of information so that policies and dates are consistent on all pages of the university. During the planning stages of the portal, the university administration decided to only allow technical staff, i.e. the campus computing staff, to publish changes to the portal pages. This change and the portal enabled instant modifications to web pages and avoided delays due to departmental or unit difficulties.

Implementation Benefits
Prior to fall 2004 semester, databases were housed using different platforms, forcing faculty and staff to retrieve information from several locations. CSU
had a variety of disparate applications and systems that did not “talk” to each other; the Cougarnet portal of CSU unified these systems, thereby increasing efficiency and access for everyone.

The portal is dynamic in that it is not just a collection of electronic pages full of information; it is customized according to the role of the user, i.e. student, faculty, or alumni. Alumni or donors see items of interest to them instead of a general web page. This stimulates a paradigm shift with regard to the way information is presented. Each user is able to further personalize and customize the portal according to his or her preferences by inserting or deleting specific links.

The Cougarnet portal allows each user to maintain a personal calendar or to-do-list. Information about the university is easier to locate and the student perception is that navigation is easier. The portal is user-centered as opposed to the previous web site, which was university-centered. Authentication and single sign on from inside or outside the university creates greater efficiency when using the portal to access information. Without a portal, multiple sign ons are necessary for students to access disparate information. However, a decision was made to maintain a home page separate from the portal to ensure that non-authenticated visitors such as prospective students can access information about the university and its departments.

A major benefit of the portal was web-based e-mail. Prior to portal conception, CSU’s email was not web-based and was a prime source of annoyance and inconvenience to faculty, staff and students. The Cougarnet portal supports collaboration and e-conferencing in addition to anytime, anywhere email access. Users can share folders via a “subscribe” feature that allows them to contribute directly to the collaborative project. They can also enter a group or engage in a discussion or chat with other logged in users at the same time in an interactive atmosphere. There is also a search feature which permits searches of both the portal (CSU information) and the Web.

The new portal has eased the burden of web site maintenance with regard to updating information. For example, if the date of registration for a term must be changed, the portal application finds the registration date on all web pages and changes it on each page displaying the date. This alleviates the possibility of failing to change the date on a page, thus providing conflicting information to students, faculty and staff. Students are encouraged to be responsible for accessing and modifying their contact information in the event of an address or name change. The portal provides instant, any time, anywhere access to university related material. The university URL becomes as familiar as a telephone number.

Students are able to find all their course materials in one location and faculty are able to maintain course materials by using the course design tools.
Announcements can be posted via the announcement channel to the entire campus or to students according to their major or course section. With a single click, faculty have the ability to email all the students in a class about important announcements or changes.

**Problems Encountered**
A huge commitment of time and resources was initially needed for portal planning, deployment, training and implementation. Also, conversion issues from the older implementation to the portal-based implementation proved paramount. Training students, faculty and staff was time and labor-intensive. Providing publicity about the portal and obtaining buy-in from existing users also posed a challenge. However, after almost a year of implementation, the initial challenges have been overcome and the Cougarnet portal has been a useful and successful tool for the students, staff and faculty at Columbus State University.

**Future Considerations**
The single sign-on presents security and vulnerability issues because of the use of a single password for accessing wide-ranging information from registration records to financial data to course transcripts. What is needed is mandating and enforcing a stronger password to gain access into the portal. Also, the AS400 mainframe used in some classes still needs a password separate from the portal password.

We face a paradigm shift in the way we view the presentation of information to students, faculty and staff. In order to change the fundamental way students use information about CSU, we implemented the Cougarnet portal. Students now have high expectations that they will find or have access to all university services in the online environment through the portal. Therefore, content management becomes one of the most pressing concerns in portal management in the future.

**References**