The Indiana College Network: Information and Service for Distance Education Students via WWW

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Indiana Higher Education Telecommunication System (IHETS)

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The Indiana Partnership for Statewide Education, established by Indiana university presidents in 1993, aims to enhance cooperation and coordination among universities in the state for marketing distance education and providing student services. Among its results is “the Indiana College Network,” the term under which the universities’ distance education offerings in all forms may be marketed. An ICN Web site for Indiana distance education students was inaugurated in early 1997. This presentation considers the ICN Web site in terms of its design concept and capabilities: searchable databases, interactive forms and surveys, and RealVideo clips from classes.
Introduction and Background

The 1990s have marked a time of expansion and transformation for distance education in Indiana. The state’s institutions ventured into distance education via technology 30 years ago when the Indiana Higher Education Telecommunication System (IHETS) was established by a 1967 act of the Indiana legislature. Its purpose was to provide a state-wide communications system for colleges and universities. At its inception, IHETS provided a closed-circuit television network among four state universities: this system was improved and expanded over the next quarter century to today’s one-way video delivery system via Hughes satellite to 325 receive sites. Most are in Indiana, with a scattering in other states and one in Mexico. Indiana’s seven public higher education institutions originate credit and non-credit programming on the network’s eight channels and jointly establish the schedule. Students at the remote sites interact with faculty in the originating studios of the institutions via a dedicated telephone system. (The state’s private universities, while they are full members of IHETS through the membership of the Independent Colleges of Indiana on the IHETS board and while they participate in the data and phone networks that IHETS also provides, have not to date participated in originating video-based distance education.)

Throughout the 1970s and 1980s, most technology-delivered distance education courses in the state were offered via this one-way audio two-way video network, popularly known as IHETS TV. During this period, most students taking college courses via IHETS television were participants in graduate programs offered by individual institutions, such as the continuing engineering education from Purdue University and the Master’s in Business Administration from Ball State University. While such programs attracted many students and served important professional development functions, they did not address the low college-graduation rate in Indiana. This low rate of attainment of bachelors’ degrees was a matter of considerable concern among state policy makers, given its likely effect on the state’s economy in the long term.

In 1993 the landscape changed when Indiana’s university presidents established the Indiana Partnership for Statewide Education to enhance cooperation and coordination among universities in the state regarding distance education. Deans and directors of continuing education from all the state’s public two- and four-year institutions, along with a representative from the Independent Colleges of Indiana, meet regularly as the working group to implement this enhanced cooperation and coordination. The Working Group sets overall direction for the Partnership, delegating implementation work to other subsidiary committees and to members of the IHETS staff.
Among the Partnership’s innovations was a plan to increase the number of options available to adult students for beginning college-level work by providing more lower-division courses via distance education. Unlike the graduate programs which had comprised most distance education college courses up to this time, the lower-division courses were offered across the range of institutions, enabling the universities to draw upon one another’s resources for the earlier and less specialized periods of undergraduate education. The cross-institutional spread of the new lower-division courses made it much more likely that undergraduates taking distance education courses would choose from the offerings of more than a single institution. At about the same time, delivery began expanding to include asynchronous delivery methods such as computers and videotape. In strong contrast with the situation in the early 1990s, a majority of distance education enrollments in the state now utilize a method of delivery other than live courses via the IHETS TV network. One-way video for 1996-97 accounted for 32% of enrollments, with cable/public TV at 43%, videotape at 12%, two-way video on Indiana University’s interactive network among its regional campuses at 10%, and the Internet at 3% (perhaps the fastest-growing).

All in all, it is increasingly likely that a distance learner in Indiana today will take undergraduate courses at more than one institution and will choose among a variety of synchronous and asynchronous delivery methods. These new possibilities bring with them problems and complexities which did not arise in the earlier, more monolithic distance education environment. In response to the new needs, the Partnership has focused on providing information and services that will help learners in a multi-institutional environment and those responsible for advising and supporting them. A result of this focus is “the Indiana College Network,” a term and concept embracing the universities’ collected distance education offerings in all forms.

The Indiana College Network is the label for the range of course offerings and inter-institutionally accepted policies that the Partnership provides. It is a scaffolding for the idea of drawing on the resources of not one but eight institutions for courses and student services. A year ago, the ICN acquired a business address in the form of an Internet domain and Web site - http://www.icn.org. The ICN Web site was inaugurated in its current form early in calendar 1997.

Rationale

The Indiana College Network Web site exists to provide information and services to Indiana’s distance education students and those who advise and support them. From the first, its key feature has been the access to several databases. Learners and their advisors use these databases to locate appropriate courses and, in the case of courses delivered via the satellite network, convenient
places to take them. One database searchable from the Web site is a compilation of distance education courses offered by all Indiana’s institutions searchable by various criteria such as the discipline and the university or college offering the course. A second database contains information about the 325 sites statewide where students can take televised classes on the one-way video two-way audio satellite network maintained by IHETS. The site also affords consolidations developed by IHETS staff of links to resources at the member institutions and elsewhere, interactive forms, and multimedia components.

The idea for a separate site that would address the needs of the distance education student came from one of the inter-institutional committees of the Partnership, the Marketing Committee. The representatives serving on this committee, most of whom are university public relations or marketing staff, saw the importance of providing students with electronic information resources designed specifically to address their needs. However, they also had some caveats. When the Indiana College Network was developed as a concept, the universities had not universally embraced it with enthusiasm. While agreeing to “ICN” as an umbrella marketing concept, they indicated through their Marketing Committee representatives their insistence upon retaining and even highlighting their individual identities at the same time. One of the requirements for the design was that the individual names of each institution appear on the top level of the Web site.

Creating - and Re-creating - the Web Site

IHETS staff responded to the Marketing Committee by releasing a provisional version of the ICN Web site in the fall of 1995. The initial configuration was arrived at by a staff team of three: the person then working as the IHETS Webmaster, the Communications Manager, and the Assistant Director for User and Information Services (the author of this paper). No graphics design expertise existed in this group, although two of us had some background in interface design. We knew what resources we wanted to make available, and we were anxious to produce a site quickly: our approach was to proceed full speed ahead and worry about overarching design concerns later.

Our first job was to brainstorm regarding the appropriate graphical identity for a site for higher education students. We came up with nothing more inspired than a mortarboard or an academic building of neoclassical design. We decided on the latter, and the communications manager tracked down an appropriate piece of clip art: the original site had as its background line art consisting of a row of Greek columns topped by a triangular pediment. The names of the individual Partnership institutions appeared in a row at the base of the columns. In boxes on the columns appeared links to various services on the main IHETS Web site, including the database interfaces. The site was, at this time, a subset of the
IHETS site, with a URL clearly indicating this subordinate position: http://www.ind.net/ICN. This early design contained a few other information resources, such as a collection of online sample syllabi for distance education classes in various disciplines and programs, a compendium of links to the directory lookups for faculty and staff at those institutions which offered them, a list of Internet service providers in the state from which students could identify a local Internet service provider, and some academic resource link collections including a general resource set and another specifically targeting writing resources. What was lacking, apart from a richer set of resources, was a way of presenting this information in a manner that would intelligently address students’ needs.

With the provisional site in place, our staff team of three met with several design firms, intending to hire one of them to pull the site together graphically. We selected a small Indianapolis firm, Dicken OR Dicken. Kent Dicken’s meetings with us were extremely useful, in that he provided not only the graphics we had needed but, in the process of ascertaining what we wanted him to do, instigated a discussion in which we IHETS staff articulated the site’s purpose. We determined that the site should have as its audience the beginning distance education student and that it should be organized around three questions that such students have. We agreed that these questions, reduced to their simplest terms, were as follows: What can I take? How are classes offered? How do I begin?

Dicken also worked through a number of iterations of a possible logo for the Indiana College Network. At each stage we reviewed a series of designs and selected a smaller number for additional refinement: the finished logo incorporates the names of all the individual participating universities in a design reminiscent of the rendering of an atom with its particles in motion. The logo incorporates the color scheme used for the site overall.

The design for the site’s home page is built around these two elements: logo at the top, questions at the bottom, with a set of key resources color-keyed to each of the questions arrayed below the question. Each question is represented by a “swish” not unlike the Nike logo, each with a particular color (green, purple, red) and with its curve pointed in a particular direction (left, upward, right). The subsidiary pages are each keyed to the color and direction of the question “swish” to which they relate. Between the logo and the questions, a short block of text summarizes the basic concept of the Indiana College Network.

Features

A key feature of the site continues to be the provision of access to consolidated databases. Each of the two databases which predate the creation of the site falls...
within the area of one of the questions: the database of courses providing answers to “What can I take?” and the database of receive sites answering questions in the area “How are classes offered?” While access to both these databases predated the creation of the ICN site, the interfaces were redesigned when the site was created. There were two reasons for this redesign: first, to add the appropriate logo and site “look” to the pages and, second, to simplify the inquiries and make them more responsive to the needs of learners and their advisors. In addition to the interfaces to these pre-existing databases, a Web interface created after the inception of the ICN site also provides access to another database, that of the programs on IHETS TV, offering another set of answers to the question “Where do I begin?”

Prior to inaugurating the site, we also applied for and acquired the domain registration “icn.org.” This provides the ICN Web site with an identity separate from that of the main IHETS site, at the same time appreciably simplifying the URL. It is worth mentioning, however, that the site presently exists concurrently with the IHETS site, www.ind.net, on the Sun workstation which is our Web server. The two sites are heavily cross-linked and access the same databases; there are no immediate plans to move them to separate machines.

The original and most basic feature of the Web is, of course, the capability it provides for linking with other materials elsewhere on the same site or on other sites. For a consortium like IHETS, as for an inter-institutional initiative like the Partnership for Statewide Education, one important service that is provided in various ways is the consolidation of information. The ICN site offers learners via distance education a variety of consolidations, each of which provides rapid access to important information:

- a search capability for the ICN site, presently utilizing the Excite search engine (at the bottom of each page)
- a consolidation of the electronic directories of faculty, staff, and (in some cases) students that are offered on the Web sites of the public institutions (http://www.ind.net/Internet/indirs.html)
- a directory of student services sites at member institutions, including links to admissions pages, registration pages, bookstore services, and library services (http://www.icn.org/AdvisingLinks.html)
- an amalgamation of the sites of the libraries of all member institutions, including pages offered by libraries expressly for distance education students (where these exist) (http://www.ind.net/IPSE/libres.html)
- a directory of Internet service providers in Indiana organized by town, including, for each provider, a business address, telephone number, Web address, and areas served, to enable students requiring Internet services to find a local provider (http://www.ind.net/INDnet/IAPSIN.html)

Interactive Features
In the summer of 1997 we added the site’s first interactive component, a quiz entitled “Is Distance Education for Me?” IHETS’ Learning Services Coordinator found the original text (in paper form) on material developed by Northern Virginia Community College and applied to them for permission to utilize it on our site. After a potential distance education student answers the fifteen questions and submits the answers to the site, he or she receives a score, a comment upon the answer to each question, and - depending on the score - an indication of how distance education is or is not likely to suit the potential student’s approach to learning.

More recently, in November, a second (and more strategically important) interactive component was added: an online student information form to expedite admission and registration for courses. The universities and colleges of the Partnership have, since its inception, sought a way for learners to be admitted and to register for classes using a single agreed form; at the same time, registrars and admissions offices have been unable to agree upon a single form to be used inter-institutionally for these purposes. Prior to the existence of the online version of the form, however, representative of the member institutions had agreed upon a single form that would serve to provide the information which each needed to complete these transactions: a printed version of this form appears in the Schedule of Classes which is widely distributed statewide twice a year, about a month prior to the fall and spring registration periods. Because of the political sensitivities involved, the document is called a student information form rather than a registration form. The electronic version requests the same information as does the printed form, except that the student’s Social Security number is not requested and is not transmitted across the Internet. After a student completes the form online and submits the data to the Web server, it is transferred to a table that serves as a holding area in the student information database on a server utilized by the ICN Student Services Center. (ICN’s telephone response services, offered via an “800” number, are handled under contract with the Indiana Career and Postsecondary Education Center [ICPAC], a state agency which provides information and advice to Indiana citizens about college and jobs). Student Services Center staff review the electronic submissions in the holding area, contact each individual who submitted one by phone to get his or her Social Security number, and then enter each student’s data as a permanent record.

Multimedia

Another development direction to move the Indiana College Network Web site beyond a collection of hyperlinks has been to add multimedia components. The increasing capability of the Web to present digitized video will enable potential learners to get a better sense of what video-based classes at a distance are like.
This capability was added beginning in the summer of 1997 in the form of a series of Internet video clips of classes delivered via IHETS TV and cable. To provide access to video clips, IHETS staff developed a multimedia server on a Pentium PC and licensed two applications, RealVideo and Xing StreamWorks, to test for delivering the clips. The IHETS Video Support Manager asked the institutions originating video on the satellite network to provide videotapes of one or more classes; these were then digitized and encoded in both formats for delivery from the Web site. Each clip contains five to ten minutes’ instruction, selected to showcase a range of teaching styles, and uses of technology in the studio classroom beyond the “talking head.” The site also is intended to showcase the state of the technology and provide examples of video delivery across the Internet; it includes a description of the project and a comparison of the two applications used. All clips presently available appear in both RealVideo and Streamworks formats.

Evaluation and Future Plans

In summer 1996 and spring 1997, IHETS surveyed distance learners regarding their satisfaction with the student services available to them. These surveys provide many indications of student attitudes toward delivery systems currently being used. Next year’s version of the survey will also include questions regarding the ICN Web site, enabling IHETS staff and the committees of the Partnership involved with this site to evaluate its effectiveness in meeting student needs and plan for its future evolution. In a related effort that will allow us to observe actual usage rather than users’ reflections after the fact, the Webmaster is now evaluating several applications to provide usage statistics for the site and intends to implement one that will allow us to track patterns of use effectively. We also plan to increase the visibility of our current system of gathering users’ immediate reactions and comments via electronic mail by adding a notice to the top-level page requesting feedback, with that feedback to be routed to an alias that will resolve to the staff with responsibilities for this site.

Also, our plans call for making more services available via the ICN Web site. During the current year, we intend to add a database of faculty teaching via distance education in all delivery methods that includes the faculty members’ email addresses and telephone numbers, enabling current or future students easily to contact them with questions. We plan to provide direct access to the online admission and registration forms of the member universities and colleges as these are developed, ideally by a seamless common interface. The collection of Internet video clips will be expanded to provide many more examples of classes, including asynchronous cable and videotape classes as well as those delivered synchronously via IHETS TV. In addition, a current IHETS pilot project is testing the feasibility of delivering the satellite signal from IHETS TV via the Internet;
should this pilot prove successful, an interface from the ICN Web site would be a natural utilization direction for students participating in televised classes via the Internet. (Any extensive implementation of Internet-delivered video is likely to be dependent upon significant progress on the current project to provide more bandwidth to Indiana’s public institutions in and out of higher education by means of ATM technology known as the Access Indiana Backbone project.)

Conclusion

A year ago, the initial version of the ICN Web site appeared. It had the feel of a project by enthusiastic amateurs. That first columned effort at developing a specialized site apart from our main site lacked something in focus and design, but it served a useful purpose. Staff, following the direction of the college and university representatives, found themselves compelled to lay the components on the table and consider what to do with them. Progress from there to the present version has not only provided a set of resources for the distance learner, but also has provided an arena for discussion and increased understanding of mission and purpose among IHETS staff and among coordinators and other administrators who work with distance learners. Like many other higher education Web sites, the ICN site is a work in progress: it goes beyond the presentation of information to provide communication in multiple directions. It will continue to evolve with the technology, the institutions’ involvement with distance education, and the Partnership’s work of coordination.