

Design and Implementation of Web-Enabled Teaching Tools

Mary Hricko, editor
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Reviewed by Norman Coombs

The advent of information technology adapted by specialized software to enable its access by students with disabilities means that those who have been print-impaired have the potential for independent access to education as never before. Poor design choices, however, either in creating a Web interface or in designing the content, can erect new and needless barriers to that group's ability to access that material. The challenge is creating a level learning space. *Design and Implementation of Web-Enabled Teaching Tools* deals with both how to design an accessible course interface and how to create readily accessible content.

The book is divided into five parts, nine chapters, and three appendices. Part I addresses the legal implications of Web accessibility with a chapter by Holly Yu specifically on Web accessibility and another on Section 508 by Mary Hricko. Part II explains Web accessibility with a chapter on strategies to increase Web accessibility in higher education, by Barbara A. Frey, Ashli Molinero, and Ellen R. Cohn. This part also includes a chapter by Jody Condit Fagan discussing text-only alternatives. Three chapters in Part III cover distance learning: one by Sheryl Burghstahler on the digital divide, one on courseware design by Robert Luke and Laurie Harrison, and the third by Maggie Lynch and Patti DeWitz discussing the distance-education teaching experience of a teacher who is blind. Part IV contains two studies of Web accessibility by Axel Schmetzke and Amy Metcalfe. Part V comprises three appendices: Resources for Further Information, Selected Bibliography, and A Select Webliography of Products Serving Section 508.

In the preface, Mary Hricko does the reader a service by giving a good preview

of what is in each chapter, helping a reader quickly locate the most relevant material. Part I, on the law, gives a clear and concise presentation of the legislation that is most significant for education: Section 504 of the Rehabilitation Act and Title II of the Americans with Disabilities Act (ADA). Section 508 does not directly impact educational institutions, but its inclusion here is appropriate. First, it is presently a topic of concern at many institutions, and, second, the fact that it includes measurable standards means that it is being used by some courts as a measurement test for accessibility based on Section 504 and the ADA. Judges basing decisions on these two pieces of legislation are searching for some standard to support their decisions.

Part II is the most practical section because it gives concrete information on accessible Web design. Chapter 3 discusses the World Wide Web Consortium's Web Accessibility Initiative and the set of Web guidelines and quick tips that it developed to help Webmasters understand accessibility problems and their solutions. These guidelines have been developed to enable designers to continue using all sophisticated Web tools and simultaneously make those pages accessible to users with various disabilities. For example, screen-reading software cannot read images, but an associated text tag can let a blind user know what pictures are on the Web. Users with various disabilities cannot use the mouse for navigation and require keyboard alternatives for navigation.

Chapter 4 discusses whether providing a text-only alternative page might be the best solution for some institutions. Both the Web Accessibility Initiative's guidelines and Section 508 standards recommend avoiding this choice because the text-only page is usually not maintained consistently, providing only second-class access.

Part III focuses on distance learning. Chapter 6, which evaluates course management systems, points out correctly that vendors need to provide systems that are technically accessible and offer a high degree of usability. The current

state of accessibility of courseware has improved since the writing of this chapter, but easy use of the systems is still a significant problem.

Part IV provides the disappointing results of Axel Schmetzke's study of library Web pages for their accessibility. Also included is a practical discussion by Amy Metcalfe of the organizational resistance to making changes to provide Web accessibility. The three appendices are particularly valuable because they point to a rich array of information, software tools, and Web sites full of resources.

While the list of books on the topic of creating accessible Web sites is growing, *Design and Implementation of Web-Enabled Teaching Tools* is the first work actually focused on providing accessible Web tools for online learning. It is a must for anyone involved in administering online learning activities. Although there still is room for a more systematic presentation, these nine chapters and three appendices contain a wealth of invaluable resources and insights. Universities and colleges have been rushing headlong into Web-based learning with little planning and even less awareness of the specialized needs of students and faculty with disabilities.

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Innovation in Student Services: Planning for Models Blending High Touch/High Tech

Darlene J. Burnett and
Diana G. Oblinger, editors
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Reviewed by Peter DeBlois

Innovation in Student Services: Planning for Models Blending High Touch/High Tech does a fine job of framing one side of a

debate that continues to engage college and university student service leaders: To what extent do new information technologies call for transforming the culture and administrative structures that traditionally deliver services to students? How much silo-busting and office-melding is needed for an institution to leverage technology to improve students' experience with administrative processes? Lots, the authors suggest, broadly and deeply.

This book will reward CIOs, senior administrative IT managers, registrars, admissions officers, financial aid directors, bursars, advising coordinators, and others responsible for technology-mediated student services. The key word in the title is not "innovation" but rather "models." The focus is not so much on technology innovation as on transforming the delivery of services that technology supports, the skills needed by service staff, and the alignment of service organizations to institutional missions.

The idea of new organizational structures paralleling new technologies in higher education is not new, to be sure. In 1989, at the annual meeting of the American Association of Collegiate Registrars and Admissions Officers, Keith Ickes, then-registrar at Cornell University, in a session titled "Expert Systems and the Application of Artificial Intelligence in the Registrar's Office," predicted the demise of traditional service offices as organizational impediments to the independence that technology was about to enable. Substitute "enterprise resource planning systems" for the outmoded terms "expert systems" and "AI" in his title, and you get to the starting point of *Innovation in Student Services*.

The mantra of "learner-centeredness" that underlies much of the rationale for e-learning has its analog in the "student-centeredness" behind all the case studies and new models for providing administrative services that this book gathers. A follow-up to the Society for College and University Planning publication *Planning for Student Services: Best Practices for the 21st Century* (1999), this book reviews lessons learned from institutions that have implemented

such transformations as one-stop service centers, Web portals, and other Web-enabled services to better meet the needs of both on- and off-campus students. Each of the contributors represents an institution recognized by IBM in its Best Practices Partner Program for having undertaken innovative projects to improve student services using process redesign, technology, and organizational development as change agents.

Eight trends characterize the profiled service innovations: change/organizational management, student-centered services, one-stop service centers, Web portal, service support center (telephone), customer relationship management, document management, and back-office process redesign. The book's first chapter, by co-editor Darlene Burnett, presents a matrix in which the 23 institutions of the Best Practices Partner Program are tracked for each trend in terms of whether it is in production, being implemented, being planned, being designed, or not intended to be implemented.

The value of *Innovation in Student Services* is not in its revelation of *what* these institutions are doing (indeed, most schools are moving along these roads) or *where* they are in their implementations (the matrix ends at 2001) but rather in *how* they have reconceptualized and reorganized the human resources and physical spaces that deliver services.

The University of Minnesota's (UM's) integrated approach to Web, telephone, and personal visit services is one pioneering institution's response to the inefficiency of the former silo-territorial service model. Blending online self-service transactions with cross-departmental, in-person service has enabled UM to improve students' satisfaction with administrative processes, while increasing staff efficiency and accessibility for value-added consultation.

Several case studies address how to change the mindset and skills of employees who previously worked in service niches into those of de facto service ombudspersons. Purdue University Calumet (PUC) developed a well-designed cross-training model for

employees of the admissions, financial aid, registrar, and bursar offices with five modules:

- "Who Are They?";
- "Who Are We?";
- "Answering the Most Commonly Asked Questions";
- "Functional Training"; and
- "Rotation."

The new, leaner organization that emerged at PUC is called the Enrollment Services Center, an organizational model that, with variations, has emerged at many of the other institutions contributing to this book.

In the closing chapter, co-editor Diana Oblinger makes the compelling point that customer relationship management (CRM) is not simply the application of technology to administrative transactions but, more importantly, a new way of looking at relationships. Helping students connect to information and complete processes was the first motivation for moving services online in the mid-to late 1990s. Now, as exemplified by the book's contributing institutions, CRM is about fostering community at many different levels—students to students, students to faculty, students to learning materials, students to processes and service providers, students to institutional identity (branding), and students to external partners and prospective employers. *Innovation in Student Services* provides tangible evidence that only when silos become integrated "touchpoints" will the significant outlays of financial resources for new technologies and the mission-based reshaping of organizations make a worthy difference in higher education. *C*

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