This report describes the analysis, design, development, and testing phases of an informational and training Web site I developed during my Master of Technical and Scientific Communication (MTSC) internship at Miami University Hamilton between August 12 and November 29, 2002. I provide an overview of the major tasks I performed during the project, and also examine the design, development and testing of the Web-based training component in detail. Finally, I discuss three elements that came together during the construction of my project: my MTSC training, Dr. Paul Anderson’s Problem-Solving Model for Technical Communication, and useful software tools. I also discuss technical communication in the context of a quote from Victorian art and social critic, John Ruskin.
DEVELOPING AN INFORMATIONAL AND TRAINING WEB SITE
FOR NEW FACULTY MEMBERS: AN INTERNSHIP
AT MIAMI UNIVERSITY HAMILTON

An Internship Report

Submitted to the
faculty of Miami University
in partial fulfillment of
the requirements for the degree of
Master of Scientific and Technical Communication

Department of English

by

Elizabeth Agnew Miller

Miami University

Oxford, Ohio

2006

Advisor____________________
Dr. Jean Lutz
Reader_____________________
Dr. W. Michele Simmons
Reader___________________
Dr. Cynthia Lewiecki-Wilson
# Table of Contents

List of Tables iv  
List of Figures v  
Dedication vi  
Acknowledgements vii  

**Chapter One** 1  
Job Title and Position at Miami Hamilton 1  
Miami University and its Organizational Structure 1  
Nature of the Work I was HIred to Perform During the Period of the Internship 4  
How Work on my Internship Project Contributed to the Overall Work of the Organization 5  

**Chapter Two** 7  
Analysis Phase 7  
Design and Development Phase 9  

**Chapter Three** 14  
Planning, Designing, and Developing the Electronic Topics 15  
Example Electronic Topic: Checking Your schedule on BannerWeb 18  

**Chapter Four** 24  
Foundation, Framework, and Tools 24  
“Doing Practical Duty well” 28  
“Being Graceful and Pleasing Doing It” 29  
Conclusion 29  

References 31  

**Appendices** 32  
Appendix A: Organizational Chart 32  
Appendix B: Schedule 33  
Appendix C: Goals 34  
Appendix D: Notes for Audience Survey Questions 36  
Appendix E: User/Learner Profile 39  
Appendix F: Information Plan 42  
Appendix G: Design Document 45
<table>
<thead>
<tr>
<th>Appendix H: Testing Questions and Results</th>
<th>52</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix I: Mind Maps</td>
<td>62</td>
</tr>
<tr>
<td>Appendix J: Images of Electronic Topic Planning Materials</td>
<td>67</td>
</tr>
<tr>
<td>Appendix K: Screenshots of the Online Guide Web site</td>
<td>69</td>
</tr>
</tbody>
</table>
List of Tables

Table 2.1 On and off-campus online resources used by Miami Hamilton faculty members 8
### List of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Map of Butler and Surrounding Counties</td>
<td>2</td>
</tr>
<tr>
<td>2.1</td>
<td>Mind Map of Navigation Structure</td>
<td>10</td>
</tr>
<tr>
<td>2.2</td>
<td>Mind Map of Test Solution Phase</td>
<td></td>
</tr>
<tr>
<td>3.1</td>
<td>Pencil Sketch of Electronic Topics Interface Design</td>
<td>14</td>
</tr>
<tr>
<td>3.2</td>
<td>Image of Asset Table Used to Build Electronic Topics</td>
<td>14</td>
</tr>
<tr>
<td>3.3</td>
<td>Sample Navigation Buttons</td>
<td>17</td>
</tr>
<tr>
<td>3.4</td>
<td>Electronic Topics “How To” Page</td>
<td>18</td>
</tr>
<tr>
<td>3.5</td>
<td>BannerWeb, Main Menu Screenshot</td>
<td>19</td>
</tr>
<tr>
<td>3.6</td>
<td>BannerWeb, Faculty Services Screenshot</td>
<td>19</td>
</tr>
<tr>
<td>3.7</td>
<td>BannerWeb, Select Term Screenshot</td>
<td>20</td>
</tr>
<tr>
<td>3.8</td>
<td>BannerWeb, Select Term, Step Two Screenshot</td>
<td>21</td>
</tr>
<tr>
<td>3.9</td>
<td>BannerWeb, Faculty Detail Schedule Screenshot</td>
<td>22</td>
</tr>
<tr>
<td>3.10</td>
<td>BannerWeb; Printable, Text-only page Screenshot</td>
<td>23</td>
</tr>
<tr>
<td>4.1</td>
<td>Hackos’ Model: The Five Phases of the Publications-Development life Cycle</td>
<td>24</td>
</tr>
<tr>
<td>4.2</td>
<td>Timeline for Phase I of Project: Define Problem</td>
<td>26</td>
</tr>
<tr>
<td>4.3</td>
<td>Hand-Drawn Mind Map</td>
<td>27</td>
</tr>
<tr>
<td>4.4</td>
<td>Implement Solution Mind Map</td>
<td>28</td>
</tr>
</tbody>
</table>
I dedicate this report to my husband, Larry F. Miller,  
my father, Robert G. Agnew,  
and in memory of my mother, Mary H. Agnew.
Acknowledgements

It is important to note that although this report describes what I did during the internship period, I had a great deal of technical assistance and good advice from the following people: Pam Neves, a manager in the Learning and Information Services (LIS) group at Miami Computing and Information Services (MCIS, now named IT Services) in Oxford who was my mentor and who is now retired; and Joyce Buttery, also of LIS, who is a Coordinator of Electronic Information in what was then Pam’s group.

Personnel at Miami Hamilton also deserve my thanks for sharing their time and expertise: Kirsten Ruggiero, former Webmaster; Jim Lipnickey, Director of Computing Services; and Bill Sylvester, Miami Hamilton’s Network Coordinator. I especially wish to thank Dr. Lee Sanders, Senior Associate Dean, who was Interim Executive Director during my internship.

I also wish to acknowledge the use of Figure 1.1, adapted from Miami University’s Workplace Orientation and Welcome Microsoft® PowerPoint® for the regional campuses.

Finally, my officemates in 201 Mosler Hall, Director of Marketing, Michele Dienno, and former Director of Public relations, Carole L. Johnson, deserve my gratitude for their patience, good humor, and unending support during the period of my internship, and beyond.
CHAPTER ONE

This report describes my process for analyzing, designing, developing and testing a major project I did during my Master of Technical and Scientific Communication (MTSC) internship at Miami University Hamilton between August 12 and November 29, 2002. The end product of this project was a Web site that provided information and online software training for new Miami University Hamilton faculty members.

In this chapter I discuss my position at Miami Hamilton, the structure of the organization and how it fits with one of the metaphors described in Gareth Morgan’s book, Images of Organization. I also address the nature of the work I performed during my internship and how my work contributed to the overall work of Miami Hamilton.

Job Title and Position at Miami Hamilton

The circumstances of my employment at Miami Hamilton changed when I was hired to work on the project that is the focus of this report. In the year preceding the internship period, I was employed by Miami Hamilton’s Marketing Department on a part-time contract basis with the generic job title of “Marketing Coordinator.” During the internship period, I was offered an opportunity to work on a special project under the auspices of the Department of Computing Services, and my contract was extended to full-time. My job title remained the same—probably for administrative purposes—but did not reflect the more technical nature of my job. As I worked on the project that took up most of my time during the internship period, I assumed the roles of project manager, Web and graphic designer, technical writer, and Web developer.

I spent approximately 80 percent of my time during the internship period working on the online guide project. The remainder of my working time was spent on projects associated with the Miami Hamilton Web Site Task Force and on creating PowerPoint® presentations for visiting speakers and the Acting Executive Director. Tasks included working with Task Force members to construct a new navigation structure for the campus Web site and consulting with the Webmaster and the Director of Marketing in the design of a new home page and sub-pages. I discuss the nature of the work I was hired to perform in more detail later in this chapter.

Following the completion of my internship, I was hired full-time in the Department of Marketing; in March 2004, I became Miami Hamilton’s Webmaster, a position I hold at the time of this writing.

Miami University and its Organizational Structure

Miami Hamilton is one of Miami University’s two regional campuses in Butler County, Ohio. Geographically, Miami Hamilton and its sister campus, Miami Middletown, are unique to Ohio in that they are located in the same county, only 10 and 25 miles, respectively, from their “parent” institution in Oxford (see map, Figure 1.1, below.)
Both regional campuses were founded in the 1960s as part of a statewide initiative to provide broader access to education for Ohio citizens. The close geographical location of the campuses is explained by the overwhelming community (and financial) support from Butler County’s two major industrial cities, Hamilton and Middletown, which resulted in the campuses being sited there.

The regional campuses have an open admission policy for first-time entering, first-year students. Students are admitted if they have earned a diploma from a secondary program chartered by the state board of education, or a General Educational Development (GED) diploma, or if they are alternatively educated. Miami Hamilton’s student body is also made up of students who transfer from other colleges and universities, and many non-traditional aged students. In 2002 through 2006, the average age of Miami Hamilton’s student population was 24. During that same period, enrollment has been in the 3,200-3,500 range.

According to its mission statement, "The mission of Miami University Hamilton is to provide general and technical education at the associate degree level and courses leading to many bachelor’s and master’s degrees.” At the time of my internship, Miami Hamilton offered students a choice of five associate degrees, two bachelor’s degrees that could be completed entirely on the Hamilton campus, and graduate-level courses that could contribute toward MBA and M. Ed. degrees.

The information above fails to give an entirely accurate picture of the Hamilton campus. It is a friendly, relatively compact campus with small class sizes and faculty and staff who care about the students, and work hard to help them achieve their educational—and sometimes, personal—goals. Without being over-sentimental, the campus has a “family” feel that makes it a terrific place to work.

Many Miami Hamilton students complete their core liberal arts required courses on the regional campus and then relocate to the Oxford campus or transfer to another four-year educational institution. There are many different reasons why students begin their academic careers at Miami Hamilton or Miami Middletown and then move to Oxford and beyond. For
some it’s the opportunity to get the basics of a first-class education with credits that will transfer anywhere, at a very affordable cost. (Miami Hamilton and Middletown’s tuition and fees are consistently among the lowest in Ohio.) Others relocate or transfer to complete a baccalaureate degree that is not available on the regional campuses. In addition, many of our non-traditional aged students find that the flexible schedules offered on the regional campuses—for example, evening classes and Miami Hamilton’s weekend program, SaturdaySelect—fit well with their busy schedules and family responsibilities. As a result, several in this group earn as many degree credit hours as possible at the regional campuses before relocating or transferring.

Until fall, 2005, when the job title of the top regional campus administrators was renamed “Dean,” the regional campuses were each led by their own Executive Director. At the time of my internship, Miami Hamilton had an Acting Executive Director, Dr. Lee Sanders. Typically, the Executive Director would work with a team of Associate Executive Directors, academic department coordinators, and chairs. (Coordinators are departmental administrators who are based on the regional campuses if the department exists on all three campuses and the department chair is based on the Oxford campus. When an academic department exists only on the regional campuses, for example, the Department of Nursing, the chair of that department will be based at either Miami Hamilton or Miami Middletown.) Directors of administrative offices, for example, the Office of Development, would also be part of the Executive Director’s team. (See organizational chart, Appendix A, for an overview of the organizational structure at the upper levels of the organization. I reported to Director of Computing Services, Jim Lipnickey.)

In his book *Images of Organizations*, Gareth Morgan suggests a number of different metaphors that illustrate organizational structure. In the chapter “Organizations as Machines,” Morgan delineates the principles of classical management theory wherein “the motions of organizational structure thus produced are made to operate as precisely as possible through patterns of authority” (18). This model is clearly the best to describe the organizational structure of Miami University. The list below represents some characteristics of classical management theory followed by examples of my experiences and observations during my internship:

- **Unity of command.** During my internship, I reported directly to the Director of Computing Services and attended the departmental meetings. I met with him regularly to keep him updated on the progress of my project and my Web site did not “go live” until he decided it was ready. Although I collaborated with people higher in the organizational structure than my immediate supervisor, he had the last word when it came to publishing material on the campus Web site.

- **Initiative.** Morgan says that initiative is encouraged at all levels within the organization, and I found this principle to be the case when working in this academic environment; however, there are limits to the expression of this initiative. For example, when I wanted to use a server-side technology that was not commonly used at Miami Hamilton, I could not simply authorize it without going through the chain of command. Luckily for me, my supervisor was always open to listening to new ideas and providing departmental support to try out my more practical ideas.

- **Disciplined behavior.** Morgan notes this characteristic includes “outward marks of respect with agreed rules and customs.” In the academic world it’s acceptable—even desirable—for academic personnel to have opposing points of view. It’s very common for some kind of discussion space, for example an open meeting with peers or a personal
interview with a dean to be created to accommodate the expression of different views. Nevertheless, a code of collegiality is strongly encouraged so that issues are articulated without creating rancor.

- **Subordination of individual interest to general interest.** This characteristic is a given in an academic environment where financial reward is not what drives individuals to employment in that sphere. People work in education for a variety of reasons including the advancement of scholarly research, or perhaps a passion for teaching. Regardless of position, whether faculty or staff, everyone on an academic campus is a cog in the educational machine.

The problem with the Organizations as Machines model is that, as I said before, Miami Hamilton’s working environment is anything *but* machinelike, as the majority of faculty and staff are truly dedicated to helping students transform their lives through learning. Perhaps the campus is the exception that proves the rule, or maybe the model has its limits because the “cogs” are human beings working in what is, ultimately, a service environment.

While re-reading Morgan’s book, I was drawn to a short section titled “Organization and the Patriarchal Family” (226-228). The concept presents an intriguing way to look at the relationship between the Oxford campus and the regional campuses. In summary, organizations that fit this model have a “bureaucratic approach to organization” (227) and “typically build upon characteristics associated with Western male values and, historically, have been dominated by males.” In particular, “…the dominant influence of the male is rooted in the hierarchical relations found in the patriarchal family” (227).

In the model above, 197 year-old Miami Oxford might be seen as the family patriarch (so much for “Mama” Miami!) and the regional campuses (still known to some in Oxford as the “branch” campuses, a term that implies a lower place in a hierarchy) as upstart teenagers who occasionally question Dad’s authority as they strive for some level of autonomy within the “Miami family.” Some day this model might be an interesting one to further explore, especially as leadership changes, as the university president inevitably brings in new ideas and attitudes and sweeps out older ones previously thought to be carved in stone.

**Nature of the Work I was Hired to Perform during the Period of the Internship**

My main project during the internship period was to design and construct an informational Web site for new Miami Hamilton faculty members. The Web site (also referred to as the “online guide” in this report), was to introduce new instructors to the support services that Miami Hamilton offers to faculty and students. It was to provide a Web-based training (WBT) component that would deliver brief, interactive tutorials to assist users in learning basic tasks in three software programs commonly used by faculty at Miami Hamilton. I called this component “electronic topics.”

The purpose of the online guide was to supplement two long-established means of communicating information about the campus and its resources to new faculty. The first is a print document named *New, Part-Time & Overload Faculty Information Guide* that is issued to all new instructors before they teach their first class at Miami Hamilton. The second is an in-person orientation session that new faculty members attend on a voluntary basis before the semester begins.
The internship project came about because of a discussion I had with Dr. Lee Sanders when I still was working in the Department of Marketing and was updating the New, Part-Time & Overload Faculty Information Guide. The document had evolved over the previous few years from a collection of handouts to a professionally-printed, comb-bound booklet. I asked Dr. Sanders if there was an online component, and she answered “no.” We talked some more about the possibility of my creating one, and thus, my internship project was “born.”

Content for the Web site was made up of a combination of previously written and new material. The print document mentioned above provided the basis for approximately 60 percent of the information found in the online guide. The remainder of the content was new and now includes the following:

- **Home page.** The Home page gives users an overview of the site and forecasts the kind of information that they might find in the major sections.

- **Technology Support section.** This section gives new faculty members information about the resources available to them in connection with computing and technology, both university-wide and locally, at Miami Hamilton.

- **Electronic Topics section.** This section provides brief interactive software tutorials in a Web-based training format.

- **Photo gallery section.** Each person who is named as a resource in the text has a page devoted to his or her contact information, an e-mail link, and a photograph. To access this information, a user may go to the photo gallery section and select an individual’s hyperlinked name from a list, or click an individual’s hyperlinked name in the text of any of the other sections.

- **Tour the Campus section.** The Tour the Campus section provides images, brief descriptive text, and links to more information about places and activities on the Hamilton campus.

**How Work on my Internship Project Contributed to the Overall Work of the Organization**

Broadly speaking, Miami Hamilton’s purpose is to provide students with an excellent academic education and the organizational support necessary for them to succeed. Given that my project is a resource solely for faculty members, how does this contribute to the overall work of the organization? Briefly, the more knowledge that new instructors have about the resources that are available to them and their students, the better they can serve their students and fulfill the mission of the university.

From day one, both the university and the students have certain expectations of faculty members. For example, students expect their instructors to be knowledgeable about the administrative life of the university and to help them navigate bureaucratic obstacles that have nothing to do with any specific academic discipline. Equally, the university expects new instructors to be aware of their professional and teaching responsibilities. The online guide offers new faculty a searchable reference that answers many basic questions about life at Miami Hamilton. In addition, hyperlinks within the guide quickly direct users to more detailed answers on the Miami Hamilton and Miami Oxford Web sites, or links them to the contact information for a person who can help.
In the remaining chapters of this report, I will provide an overview of my internship, present a detailed description of the online training element of my project, and analyze my process for completing the entire endeavor.
CHAPTER TWO

During the internship period, I essentially performed tasks that broadly could be termed as belonging to three phases: Analysis, Design and Development, and Testing. These also correspond to the first three phases of Dr. Paul Anderson’s Problem-Solving Model for Technical Communication: I. Define Problem, II. Design Solution, and III. Test Solution. As I discuss in chapter four, I used Anderson’s problem-solving model as a starting point and framework for planning my project.

In the paragraphs that follow, I provide an overview of the major tasks that I performed during the 16 weeks of my internship and a brief description of two periods of “wheel spinning” due to technology issues and some wrong choices. Please see Appendix B for a detailed timeline of individual tasks/activities and the time frame within which they occurred.

Analysis Phase

Weeks one to three: The first three weeks of my internship formed the analysis phase of my project. During this time, I conducted a needs analysis and also surveyed members of the audience for whom my project was designed. I also analyzed the context in which new faculty would use the online guide and learned about technical constraints that might affect my project.

Needs Analysis. I conducted a needs analysis by interviewing the two senior staff members who administer the orientation program and by surveying a sample group of six faculty members who were new to the Hamilton campus at the beginning of the fall semester the previous year (2001). (I invited seven faculty members to participate and six responded. Before constructing my survey questionnaire, I also had an informal discussion with one other faculty member whose comments helped frame my questions. She joined the team of testers later in the process.) I deliberately chose to sample faculty members who had just gone through the cycle of their first academic year at Miami Hamilton because this group was more likely to clearly recollect the challenges of being new but had enough experience to give informed opinions on the deficiencies of the information they received.

Informational goals for the revised orientation program included creation of the following:

- A ready reference regarding Miami University Hamilton’s key policies, personnel, and resources for new faculty.
- An easy way for faculty members to quickly and directly communicate with the administrative person responsible for answering their questions on specific topics.

Appendix C contains a full list of the goals for both the orientation program and the online guide that came out of the needs analysis activities.

Audience Analysis. During my discussions with the six new faculty members mentioned above, I questioned them about the present orientation program and their experience and comfort level regarding the use of computers and the Internet. I also obtained technical information about their home and on-campus computers, including the browser type and version that they used at that time. During this phase I learned a great deal about the audience for the project. I did so by interviewing new faculty members. See Appendix D (audience survey question notes) and Appendix E (user profile) for information. The following provides a “snapshot” of the audience members’ personal characteristics and their likely work-related use of the Internet:
- **Age range:** Mid-twenties to mid-fifties
- **Accessibility issues:** One member of the sample group had a visual impairment, although she said it did not affect her ability to access online information. (Nevertheless, accessibility should be an important consideration for every Web developer. In my case, working for an institution that receives government funds, making my Web site accessible was a requirement, not an option. Initially, I planned to create a text-only companion version of the site that would make it accessible to people with visual impairments. However, as I note in chapter three, my efforts to make my original site accessible to such users were successful, so it became unnecessary to create and maintain a separate site.)
- **Education:** Master’s degree and higher.
- **Academic discipline:** Users came from any discipline or academic division.

I found that most users are comfortable or very comfortable using a computer to access the Internet. They were likely to access online campus information from home or on-campus and were likely to access and use the Miami University online resources noted in the table below:

<table>
<thead>
<tr>
<th>Miami University Online Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-mail (Mailman and MyMiami)</td>
</tr>
<tr>
<td>BlackBoard (e.g., to access class lists, check class sizes and print schedules)</td>
</tr>
<tr>
<td>BannerWeb</td>
</tr>
<tr>
<td>Internet research sources related to discipline.</td>
</tr>
</tbody>
</table>

Table 2.1. Table shows online resources that Miami Hamilton faculty members typically use on and off-campus.

**Context Analysis.** Non-technical information about the context in which my audience would use the online guide came from the new faculty members mentioned earlier. For information about technical constraints that might affect my project, I interviewed Miami Hamilton’s Webmaster at the time, Kirsten Ruggiero, my supervisor, Jim Lipnickey; and Joyce Buttery of LIS in Oxford.

At the end of this period, the information I had gathered became the basis for my information plan and my design document. In these documents, I articulated informational and training goals, and addressed potential technical issues and standards. As the following information from this document shows, I also considered interface navigation and organizational structure. For full details, please see Appendixes F and G.

- **Navigation:** Structure user interface in a way that would be logical to a learner from a Western culture, (i.e. left-right, top-bottom). Other navigation issues include the following:
• **Web buttons that use solely pictorial icons.** Button design should include meaningful text labels. For example, buttons that users click to return to the previous page should have the word “Back” somewhere in its design, rather than simply an arrow.

• **Link to home page on every screen.** No matter how “deep” in the Web site users are, they should be able to easily return to the main menu (home page). The exception is the electronic topics section, which deliberately has a clean, uncluttered interface. However, access to the main menu can be achieved in no more than two steps by exiting the topic and returning to the Electronic Topics’ index page, which has a link to the home page.

• **Access Photo Gallery from every screen.** Links to all people who provide support services for faculty should also be available as part of the global navigation of the Web site rather than solely context-sensitive, that is, in the body text of a section that deals with one particular aspect of faculty life.

• **Organizational Structure:** Because online documents are even more difficult to read than print ones—people are even more likely to “scan” more than “read”—the following devices should be used to organize information:
  - **Headings and subheadings.** Use bullets to mark important points.
  - **White space.** Create generous space between headings and subheadings and generous space between paragraphs.

**Design and Development Phase**

The development phase of my internship project was not a discrete element that neatly began once the design phase ceased and then ended immediately prior to the testing phase. Rather, Web development activities overlapped both the design and testing phases. As a result, I have chosen to refer to the next two phases of my project as “Design and Development” and “Testing and Development.”

**Weeks four and five:** For the first nine days of the Design and Development phase, I performed storyboarding and training activities, and created, acquired, and produced screen elements. **Storyboarding.** I used mind mapping software called MindManager®, a very useful program recommended by my mentor, Pam, to both storyboard the navigation structure of the online guide, and my design process. (Please see chapter four in this report for more details about MindManager and its contribution to the process of this entire project. To download a free, trial version of MindManager for Windows® or Macintosh®, go to [www.mindjet.com](http://www.mindjet.com).)

Note: At 100 percent, mind maps typically fill an entire, letter size page. To view more legible, full sized versions of the mind map images, please see Appendix I.
Figure 2.1 The mind map above shows the revised version of the online guide’s navigation structure.

The center rectangle in the mind map represents the main navigation menu. Each major branch is a hyperlink to the index page of a section, for example, Getting Started. Subsequent minor branches link to subsections within each given section. I found the mind mapping software a useful tool in organizing the hierarchy of the site.

**Training.** During this phase I spent several hours (approximately two full working days) working my way through the tutorials included with the Macromedia® Dreamweaver® 4 and Fireworks® 4 software to give myself a much needed refresher course in these programs.

**Developing Screen Elements.** My initial interface design used rollover navigation buttons and a header “panel.” Part of the development time was spent creating these screen elements.

**Weeks six and seven:** As I approached the halfway mark for my internship, I developed the interface for my Web site and built several pages of a “pilot” site. When Joyce and Pam reviewed the site, I learned that it is one thing to “know” what is usable and rhetorically sound in terms of interface design but something else to actually design it.

When I wrote my design document (see Appendix G), I culled information from a list of what I called “best practices” for instructional design. (I began to compile this list during the independent study in my MTSC program that I mentioned earlier. Even after the course was completed, I kept an informal “running list” of good practices as I encountered them in my reading and discussions with Pam.) However, when I actually designed the Web site, I neglected to keep checking my work against these, my own criteria for usable design. As a result, I spent precious time designing and building an interface that did not exactly meet my own criteria! It was a painful, humbling but, ultimately, useful experience to go through the process of designing the interface and then have Joyce explain where it was going wrong and suggest ways in which it
could be improved. Joyce also should get credit for applying a version of the Oxford subpage template to my content, thus making it much more usable.

Weeks eight to ten: This period in my internship was one of frustration with technology and wasted time as I tried to develop the electronic topics for Eudora®, Meetingmaker®, and BannerWeb using a software program that was not available at my own work place.

**Software Access Issues.** Joyce introduced me to a new program, RoboDemo®, which she had acquired to create Web-based software tutorials. Created by the eHelp corporation, RoboDemo was supposed to be the “quick way to easily build size efficient tutorials and demos in a Flash® format.” Using RoboDemo, tutorial developers may record and edit tasks performed in a given software program, add captions, images, and audio if necessary, and deliver the final tutorial in a relatively small-sized .swf (Flash) file. RoboDemo’s final product is very polished and effective, and it appeared to be an attractive way to teach users how to perform tasks in given software programs. Pam and I decided I would use RoboDemo to create my electronic topics.

My problems arose because the University owned only one license for RoboDemo, and the program was installed on Joyce’s work computer in Oxford. The expense of this software program ($400 per license) and lack of other uses for it on the Hamilton campus meant that I had no justification to request that Miami Hamilton’s Computing Services department purchase it. As a result, during weeks seven and eight, while still working on the development of the site as a whole, I made quite a few trips to LIS’ offices at Hoyt Hall to use Joyce’s copy of RoboDemo.

I encountered the following problems while trying to make this off-site access to the program work:

- I could only use the program while Joyce was no longer at work and using her computer, for example, after 4 p.m. on weekdays.
- I could only use the program logged in as Joyce, which became a problem when her computer crashed and I did not have access to her user id and password information to log in again.
- I could not use any portable storage media, for example, zip disks, to transport my finished work to my own computer because of Joyce’s (quite justifiable) fear of infecting her computer with a virus. It was also impossible for me to e-mail my finished files to myself while I was logged in as Joyce. Logged in as myself, I had no access to the .swf files that I created. (In an effort to control software piracy, eHelp has made use of RoboDemo super-secure.) As a result of all this security, I could only access the files I created if Joyce emailed the files to me on the day after I had worked on them.

Joyce and I did everything possible to make sharing RoboDemo work, but we finally decided to revert to a process that produced less sophisticated-looking results but one that could be created on the PC and Mac I used at Miami Hamilton. To create my electronic topics, I used screen capture software, Macromedia Fireworks, and Dreamweaver.

In retrospect, it seems clear that trying to use the RoboDemo software under the circumstances described above was one of the “wrong choices” I mentioned in my introduction to this chapter; however, I have to say that I learned a great deal about how NOT to do things during this period, so I don’t really consider the experience a waste of my time and energy.
Development and Testing Phases

Weeks 11-16: During the final six weeks of the internship, I continued to develop the Web site and also conducted the first usability test. The second wave of testing occurred in the week after the internship ended. Unfortunately, problems with technology continued to dog my project. I describe these later in this chapter.

**Web Development Activities.** These activities included the following:

- Writing new content included creating a separate section for the electronic topics. My original plan was to include the electronic topics in the newly created Technology Support section; but the page grew to be long and unwieldy, and I felt the tutorials were buried and hard for users to find.
- Revising and updating the original text of the print document that made up over half of the information in the online one.
- Taking digital photos of staff and faculty members whose contact information is included in the Photo Gallery.
- Creating and processing images of people and places in Fireworks for the Tour the Campus section.

**Usability Testing.** During the first test, I surveyed seven faculty members who had participated either formally or informally in my initial audience analysis research.

Figure 2.2 shows a mind map I used to plan my testing procedures.

To initiate the test, I e-mailed each of the seven potential testers and asked for their help testing the pilot Web site that grew out of their earlier comments. I also informed them that I had placed a hard copy of the survey form in their mailboxes and asked them to return the completed survey to me within one week. The test was informal inasmuch as the testers were not observed as they performed the tasks necessary to answer the questions.

After ascertaining Internet connection speed, computer platform, and browser make and version used during each usability test, I asked the testers to browse the site before they performed any tasks. It was important to me that the testers felt completely comfortable with the site navigation and content before starting in order to provide informed answers. For example, step one required the testers to “click the link that says ‘Info Guide Home’ (left navigation bar) and then answer the question, “Did it take you where you expected to go?”’ If the testers were unfamiliar with the site, how could they fairly respond to this question? Other questions included noting download time for a specific Web page (it represented a typical file size) and grading for ease of navigation; usefulness of headings, subheadings, and bullets in organizing information; and size and choice of font for reading comfort. Please see Appendix H for a copy of the test questions for the first test and detailed breakdown of my testers’ responses.
As a result of the usability test, I made a few minor changes to the Photo Gallery and Tour Campus sections. Otherwise, the generally very positive reaction that the Web site resulted in few changes as I continued to develop the Web site.

The second usability test occurred immediately after the internship period ended. Six faculty members who joined the Miami University Hamilton campus in August 2002—one year later than my initial group of respondents—were solicited to take part in my test. (Although my testing procedures used relatively few testers (four for the first test and two for the second), according to usability guru, Jakob Nielsen, in his Internet article *Why You Only Need to Test with Five Users*, “Elaborate usability tests are a waste of resources. The best results come from testing no more than five users and running as many small tests as you can afford.”) This comment by an expert in the field validates my own testing experience; but more importantly, it provides an argument for technical communicators everywhere when supervisors or employers propose to eliminate usability testing of documents on the basis of cost or lack of resources.

For the second test I asked the same questions as before, only omitting a question about scrolling and paging preferences because every respondent in my first group preferred scrolling to paging—an opinion backed up by informal questioning of my coworkers.

Throughout the testing process, technical problems continued to dog the project. For example, the Web site’s left navigation bar is a virtual file that is included in the main pages but is not actually part of any of them. (The term for this kind of file is “SSI,” which stands for “Server Side Include.”) According to a tutorial on the Web site of Apache, a leading server manufacturer, SSIs are “directives that are placed in HTML pages and evaluated on the server while the pages are being served. They let you add dynamically generated content to an existing HTML page, without having to serve the entire page via a CGI program, or other dynamic technology.”

Unfortunately, when I used the SSI with pages created from templates, the server denied access to the navigation bar file and displayed an error message instead. One way to solve the problem was to give each Web page file its own absolute address, but as I knew the site was going to be moved to at least two more server locations before finding a permanent home on the Miami Hamilton production server, I was afraid of creating a broken link nightmare. In the end, after consulting Joyce Buttery of LIS, Kirsten Ruggiero, the Miami Hamilton Webmaster, and Bill Sylvester, the Network Coordinator at Miami University Hamilton, I worked around the problem by creating an alternative Web page design for the Photo Gallery and Tour Campus sections that did not use the Server Side Include technology.

Although my internship officially ended on November 29, 2002, the deadline for completion of the Web site was January 2003, and I continued to fine-tune the project right up until the last day of the deadline.

In the following chapter, I describe in more detail the process of creating the online training tutorials that I began to develop during weeks eight to ten.
CHAPTER THREE

In this chapter I describe the process of designing and developing the online guide’s electronic topics—essentially, Web-based software tutorials—in more detail than chapter two’s overview format allows. The electronic topics represent the majority of original material that I contributed to the project.

I created the tutorials because my research showed that many new faculty members would find them useful. In particular, the need was greatest for BannerWeb, which, at the time, had very little in the way of available Web-based support or training. (Information about BannerWeb could be obtained from the Miami University Knowledge Base, but in 2002, that resource was not the rich, user-friendly store of information that it is today. In addition, I found that few Miami Hamilton faculty members were even aware of the knowledge base’s existence, as their first response to technology challenges was to call the campus Help Desk.) My research also indicated that many new faculty members were unfamiliar with the email client, Eudora, and calendaring system, Meetingmaker when they joined the campus.

On a personal level, creating the tutorials was an attractive proposition to me and I admit I was glad that faculty members saw value in having the electronic topics as part of the Web site. (Of course, if my research had shown the opposite, the online tutorials would not have been included in the project.) My years of teaching experience and my interest in technical communication had already come together when, as a MTSC student, I worked with Dr. Jean Lutz to research instructional design as part of an independent study. Including the creation of Web-based training as part of my internship, offered a chance to further explore the intersection of education and technical communication. In addition, my mentor, Pam, was a manager in Learning Information Studies and trained as an instructional designer, which presented me with a serendipitous opportunity to grow professionally in this direction during my internship.

As a result of all the reasons stated above, Pam and I decided that my project would include an online training element whose purpose was to help new faculty members quickly learn some of the basic and most useful functions associated with BannerWeb, Eudora, and Meetingmaker.

As I noted in the previous chapter, I faced a number of challenges when I attempted to develop the electronic topics; but these were primarily posed by my bad experience with RoboDemo’s excessive defenses against software piracy. Although my final electronic topics did not have the sophisticated-looking interactions that those created with RoboDemo might have had, I believe they met the requirements of my users.

During the internship period, I created the following tutorials:

- BannerWeb. Logging Into BannerWeb, Checking Your Class List and Checking Your Schedule.
- Eudora. Checking Mail & Receiving Messages (Windows), Setting a Standard Signature (Mac and Windows) Note: Special versions of the topic for Mac are included only where the Mac version of the software is different from the Windows version.

Planning, Designing, and Developing the Electronic Topics

In the following two sections I describe designing, planning, and developing my electronic topics and provide an example of one created during my internship.
My electronic topics were loosely based on online Macromedia Dreamweaver 4 Tutorials that Joyce Buttery had created for LIS. She had created them using Macromedia Dreamweaver and Fireworks in the days before RoboDemo came onto the market.

Each electronic topic was dedicated solely to one task, although it might teach users more than one way to complete that task. Briefly, each topic was made up of a series of Web pages that the user could interact with to “perform” a task. (The Web pages were separate from the software program under study, so the user didn’t actually complete the task but was guided through the steps necessary to do so.) I also included a “How To” page so that users could grasp the conventions used in the tutorials before using them.

I used the following process to plan, design and develop the topics:

- **Choose the topic.** I chose each topic/task based on information yielded during the analysis phase. (In this and the next section, I have selected a topic titled “Checking Your Schedule on BannerWeb.” Note: This topic assumes that users already know how to log in to BannerWeb or have completed the electronic topic on that subject.)

- **Briefly outline the objectives of the tutorial.** For example, the following shows the objectives for the topic above:
  1. By the end of this tutorial a user will be able to:
  2. Locate his or her current schedule on BannerWeb.
  3. Locate his or her past schedule(s) on BannerWeb, if available.
  4. View detailed information about each class he or she teaches, including maximum and actual numbers, cross-list details, if applicable, and the days, times, and locations of each class.

1) **Perform the task and take notes.** If available, I referred to software companies’ instructions to speed up my learning process before writing my own; however, I created the BannerWeb directions from scratch.

2) **Write initial draft of tutorial’s text component.** As I learned in the MTSC program, I broke the content into discrete chunks/steps.

3) **Sketch out interface layout.** Much as I have embraced technology for writing and planning, nothing beats pencil and paper when it comes to creating a visual representation of an idea. (See sketch below. Appendix J contains full size version of sketch that is easier to read online.)
4) Refer to best practices to ensure that the interface is usable and puts no obstacles in the way of the people who will use it. This time, unlike my earlier, disastrous attempt at interface design, I kept checking my design against the best practices I had established earlier.

5) List necessary components/elements (also known as assets) of each Web page. These include interactions, buttons, screenshots, and text, which I entered into a pre-formatted table in Word, in order to provide an at-a-glance view of all components required to build the page. (To see a full-size version of this image, please go to Appendix J.)

<table>
<thead>
<tr>
<th>Frame</th>
<th>Title</th>
<th>Screen Shot</th>
<th>Next</th>
<th>Prev</th>
<th>Exit</th>
<th>Print</th>
<th>Yellow text test text</th>
<th>Interaction/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Main Menu page</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>Once you are logged in to Banner Web, click Faculty &amp; Advising on the left menu. You will see a list of services available to Faculty</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Faculty/Store Menu with Faculty Detail Schedule</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>To check your schedule, you may choose Faculty Detail Schedule on Faculty Schedule by Day and Time. In this example, click Faculty Detail Schedule</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Select Term page</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>The default term will appear in the parent or subheading term or menu. To see another term, click the Select Term drop-down list to reveal a list of terms in which you may choose to view your schedule</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Selected Term (Select Term drop-down list)</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>Next, click First Semester 2011-12 to view the selected first term drop-down list to view all scheduled interactions</td>
<td></td>
</tr>
</tbody>
</table>

Figure 3.2. Adding the information table above helped organize content and components for each electronic topic Web page.

6) Build graphic elements in Fireworks and acquire screenshots of software program. For me, building the graphics is often the most enjoyable part of any Web design project;
however, I don’t exactly trust my creative instincts so it’s often very time-consuming as I try out different ideas. For example, the design of my Flash navigation buttons and text boxes changed a few times until I settled on my final choice, button number three. (See examples below.)

![Figure 3.3. Examples of different navigation elements considered during the development phase of the electronic topics.](image)

While my initial choice, button number one, was simple and uncluttered, its white background made it disappear into the page, even with the drop shadow. Next, I chose button number two because I thought the turquoise background was in keeping with the blue-green color of the rest of the Web site’s template; however, when the buttons were moused-over, the turquoise was gaudy and attracted more attention than the navigation controls merited. I finally settled on button number three, a silver version of the previous button. In my final choice, the mouseover color is an unassuming shade of cream, so I felt it would not detract from the purpose of the tutorials.

7) **Develop the tutorial, page by page.** Using all the components and tools that I had created or amassed, I developed the electronic topics one HTML page at a time, adding hyperlinks to create interaction and continuity. Each user had two options: 1) moving through the tutorial in a linear fashion by clicking the Next button until he or she reached the end of the tutorial; or 2) interacting with the graphics and going through the motions of performing the task. Choosing the latter option sometimes provided an opportunity to learn an alternative or additional means of performing the task.

8) **Create printable, text-only version of tutorial.** I provided a link to a printable, text-only version of the tutorial from the electronic topics main page.

In the following section, I present an example of one of my electronic topics, *Checking Your Schedule on BannerWeb*. I show, screen-by-screen, what users would see if they chose to interact with the graphics and went through the motions of performing the task. See Appendix J to view the list of assets I used to create these few pages.

Note: BannerWeb has undergone updates since I developed the electronic topics and the example below may not accurately represent current practices.
Example Electronic Topic: **Checking Your Schedule on BannerWeb**

As I mentioned above, I provided a link on the main electronic topics page to a “how to” page that explains the conventions associated with the electronic topics.

---

**Using the Electronic Topics**

Each electronic topic is designed to give you just enough information to complete one specific task. Printable text instructions are available at the end of each topic.

You may access the information in the following ways:

- **Learning by Doing**
  Simply follow the instructions in the yellow text boxes as you go through the new task, step-by-step. When you see an area in an image with a red outline (see Figure 1 below), follow the instruction to click that area to move forward to the next step.

  ![Figure 1. Areas with a red outline are clickable.](image)

- **Paging through the topics**
  If you simply want an overview of the steps involved, click the Next button on each page to page forward through the topic.

- **Printing the topics**
  At the end of each short topic, click the Print Instructions button to go to a text-only version of the topic.

---

Figure 3.4. The “How To” page above, *Using the Electronic Topics*, explains the conventions used in the online software tutorials.

The faculty members from whom I gathered my audience information were mostly comfortable using computers and the Internet; however, one instructor who was highly competent in her own field, admitted to being somewhat intimidated by unfamiliar computer software programs. The inclusion of the “how to” page is intended to be especially useful for people like her.

Note: A separate electronic topic deals with logging in to BannerWeb, so all subsequent ones assume the user is logged into the BannerWeb system and can begin from the Main Menu.
The page above consists of a screenshot of the real Web page, a text box that provides commentary about the process and gives users instructions, navigation buttons, and an area highlighted with a red outline. (The “how to” page explains that clicking areas outlined in red will take them to the next step.) The text box has a contrasting background and appears to “float” over the BannerWeb page in the background, indicating that it is not part of the Web page.

Figure 3.5. The BannerWeb Main Menu page.

Figure 3.6. The Faculty Services Menu. Note that a “Previous” button has now been added to the navigation area, top right.
There now follows a display of horror and embarrassment on my part as I see an error in this, the final draft of the electronic topic. In the text box I mistakenly wrote “you may choose Faculty Detail Schedule or Faculty Schedule by Day and Time,” when the alternative option is only “Faculty Schedule.” The lesson here? Always ask a sharp-eyed colleague to download, print, and closely proofread Web materials before publishing them. It’s so easy to make mistakes and not see them in one’s own work, especially if one is reading—or, rather, scanning—online.

![Checking Your Schedule on BannerWeb](image)

Figure 3.7. To select the appropriate term, the user must choose from a drop down list.

Developing the electronic topics in simple HTML, that is, using Dreamweaver instead of RoboDemo, meant that it was difficult to truly represent user interaction with the real BannerWeb application. In the example action above, a more dynamic RoboDemo version of the topic would have shown a closed drop down menu that opened in real time when the user placed his or her mouse on that area. This is certainly an example where RoboDemo’s Flash-based end products would have done a better job and enriched the user’s learning experience.
Taking a closer look at how BannerWeb works made me realize how often there are two steps to every action, that is, select the action then submit the action. As many widely-used, commercial Web applications combine the selection and submission process, it can be annoying (to this user, anyway) when nothing seems to happen after selecting an action. My text attempts to reinforce user awareness of this two-step process in BannerWeb.

Figure 3.9 (below) shows the Faculty Detail Schedule that appears as a result of the tutorial’s steps so far. Reading online is difficult at the best of times; in addition, the 2002 version of BannerWeb had a low-contrast interface that did not reproduce well in the screenshots. As a result, I used the text box to stress the most useful information found on the Faculty Detail Schedule screen.

In all of the final pages of the electronic topics, the navigation buttons change to offer the user two new options: Repeat Clip, which returns the user to the first page of the tutorial, and Print Instr. (Print Instructions), which links to an all-text version of the tutorial’s instructions (see figure 3.10, below.)
Figure 3.9. The Faculty Detail Schedule. The text-box reinforces content that may be difficult to read in BannerWeb 5.2’s low-contrast interface.

The electronic topics’ index page includes a direct link to the all-text instructions (see figure 3.10, below), offering users the option of circumventing the step-by-step tutorial if they wish. The all-text instructions page is also more accessible for people who are visually impaired and use assistive technology, such as screen readers, to read Web pages.

On the topic of Web accessibility, I provided ALT attributes (alternative text) for all images used in the Web site, including the electronic topics. I also asked Dr. John Krafft, a member of Miami University’s English faculty who has a visual-impairment and uses JAWS, proprietary screen reading software, to informally test my pages for accessibility. They passed his close inspection, and I am grateful to him for his help in both testing my pages and finding the occasional typo in my ALT text.
Four years later, after all my hard work and effort, the electronic topics are no longer part of the online guide for new faculty at Miami Hamilton—and that’s a good thing. It means that the need no longer exists because other resources, for example, within the Miami University Knowledge Base and other IT Services’ online training resources, have made them redundant.

In the final chapter of this report, I discuss three elements that came together during the construction of my project: my MTSC training, Anderson’s Problem-Solving Model for Technical Communication, and useful software tools. I also discuss technical communication in the context of a quote from British Victorian art and social critic, John Ruskin.
CHAPTER FOUR

“We require from buildings two kinds of goodness: first, the doing their practical duty well; then that they be graceful and pleasing in doing it.” John Ruskin, 1819-1900.

As I planned this final chapter and analyzed my process for completing this project, I found I kept using word such as “building,” “framework,” “foundation,” and “tools.” Maybe it’s because I watch too much Home & Garden Television (HGTV) programming or because I was an English major, but I can’t resist the temptation to write this chapter using the language of construction. So, put on that hard hat and let’s check out…The Process for the Web Site that Liz Built.

Foundation, Framework, and Tools

Three basic elements came together during the construction of my internship project: foundation, framework, and tools. In the paragraphs that follow, I explain in more detail what I mean by these terms.

It is clear to me that the MTSC program provided me with a solid foundation of knowledge about communicating information to different audiences and that certainly helped me to meet with senior administrators and faculty members with confidence and articulately explain my goals for my internship project. In particular, the ENG 692 class, Introduction to Technical Communication, and its emphases on advocating for one’s audience and working on real projects with real clients, was invaluable. The class readings and response papers provided me with a theoretical and research-based vocabulary that helped me feel I was communicating with faculty members as a peer. In addition, the usability testing component of my class’s final project prepared me well to conduct my own tests during my internship.

Another course in the MTSC program that stood me in good stead during my internship was ENG 696, Project Management. One of the course textbooks was Managing Your Documentation Projects by Joann T. Hackos. Hackos’ five-phase model of the publications-development life cycle (see figure 4.1, below) provided an alternative to Anderson’s problem-solving model (although there were many similarities); however, the aspect I found most useful about Hackos’ model was that it gave me a starting point for planning the amount of time I should allocate to each phase.

![Figure 4.1. Joanne T. Hackos' five-phase model of the publications-development life cycle suggests the amount of time that, typically, should be devoted to each phase.](image-url)

24
Elsewhere in *Managing Your Documentation Projects*, Hackos offers templates for planning, organizing, and evaluating documents. I found the Audience-Analysis Checklist (577) particularly useful and used it as a starting point for my own audience-analysis survey.

Finally, ENG 696 introduced me to Microsoft® Project 2000®, and I used this scheduling tool to create a very detailed timeline for my project that stretched over six letter-size pages. (See Appendix B.) As I encountered obstacles and setbacks during the 16 week internship period, I did not always adhere exactly to my proposed plan; nevertheless, it was useful to have a concrete (if lengthy) representation of it pinned to my office corkboard, and it helped me to get back on track again quickly, once the obstacles were surmounted or worked around.

My interest in Joann T. Hackos’ model aside, the main framing mechanism of my project was undoubtedly Anderson’s Problem-Solving Model for Technical Communication: I. Define Problem, II. Design Solution, III. Test Solution, IV. Implement Solution, and V. Evaluate Solution. Although the model was originally designed for print documentation projects, its universality makes it equally applicable to online or electronic media projects. Using each of the above section titles as a guide, I began the planning process by brainstorming the likely tasks necessary for each section. Next, I organized the tasks in order I thought they should be performed. I consulted Hackos’ publications-development life-cycle summary (30-32) and added to my list tasks that I had so far overlooked. After placing the list of tasks in approximate order, I transferred them into the project management software I talk about below.

I learned in one of my undergraduate computing courses that data does not become information (i.e., something one can use to make decisions) until they are analyzed and organized into some sort of meaningful pattern. To analyze and organize during my internship, I relied on two software tools that I’ve mentioned before in this report: Microsoft Project 2000 and Mindjet MindManager. As I noted earlier, my Project 2000 schedule was lengthy and detailed, illustrating the progress of my project step-by-step. In contrast, I used MindManager to view my project at the macro- rather than the micro-level, which will be more evident later in this chapter. The figure below (figure 4.2) shows the analysis phase of my project. (See Appendix B for my entire schedule.)
Figure 4.2 shows the timeline for the Define Problem phase of my project in Microsoft Project 2000. When printed, the entire schedule covers nine pages.

My favorite planning tool was (and still is) MindManager. As I mentioned earlier, Pam Neves introduced me to this software early in my internship (although not early enough to use when planning my analysis phase activities.) Although I was unfamiliar with the software program, I was already well aware of the concept of mind mapping, which has been around for centuries, but was popularized in the United Kingdom in the 1970s by British author and psychologist, Tony Buzan. One of the simplest descriptions of a mind map comes from Wikipedia.org: “A mind map is a diagram used to represent words, ideas, tasks or other items linked to and arranged radially around a central key word or idea.” As this description suggests, it is unnecessary to have special software to create mind maps. In the example below (see Figure 4.3), I created the mind map by hand to represent the table of contents in the print version of the guide for new faculty.
The figure above is no work of art and is probably incomprehensible to anyone else but me, but I found it a really liberating exercise to take extremely linear content and transform it into something resembling a hyperlink environment. (Incidentally, the colors and the cartoon-like drawings are apparently part of the creative process. According to Tony Buzan, mind mapping “harnesses the full range of cortical skills—word, image, color, and spatial awareness—in a single, uniquely powerful manner.” I don’t know about that. I do know it was fun and made me feel as though I was engaging with the content at a deeper, more emotional level than simply creating a list.)

Using mind mapping software is much more flexible and user-friendly than creating mind maps by hand, as it uses a drag-and-drop method that makes it easy to add and move content around the diagram space, thus adding to the usefulness of the tool. It is also possible to add color, icons and even link maps to one another. Another feature that causes me to recommend the MindManager tool is its ability to export the mind maps as image files (including .tiff, .gif, and .jpg files) and even as an HTML Web page. This portability makes it possible to share the mind maps with coworkers who do not have MindManager but could benefit from its way of organizing information.

The sample mind map below shows my plan for implementing my project.
Figure 4.4. The mind map above was created during the early planning stages of my project.

Although I had previously tested my site in at least two versions each of Internet Explorer and Netscape while it was still on the development server, I have a healthy mistrust of technology. This meant that I still wanted to perform final checks on the posted Web site using other computers and browsers before going public with the URL, as the “final check before marketing” branch indicates. The “Revise solution in light of test results” refers to the iterative nature of evaluation in the Anderson model. Evaluation occurs at every stage of the process. More mind maps are available in Appendix I.

One thing I’ve learned from the experience about the software tools I have mentioned in this chapter: they are only tools, not the “foundation” or “frame” of a technical communication. As a MTSC student, I felt a tremendous degree of anxiety about my self-perceived lack of proficiency when it came to the number and variety of different software programs technical communicators might use in the workplace. It was an anxiety shared by others in my group as we tried to figure out just how many different tools—and which brand of those tools—we really had to know to be “marketable” in a shrinking hi-tech job market. I’ve learned that being familiar with the way that one type of program works (for example, word processing, image editing, or Web editing software) makes it fairly easy to figure out how another in the same genre works. That has been, and continues to be, a relief.

“Doing Practical Duty Well”

In the context of the imagery I have used at the beginning of this chapter to describe my internship project process, I choose to substitute “technical communications” for the word, “building” and I think the same sentiment could be said to apply. Technical communications have an intrinsic “duty” to be “practical.” Why else should they exist? Their purpose is to communicate information in a usable form for the benefit of the people who use them.

And what of my own project? How does it do its own practical duty well? First, I believe the online guide has taken a useful print tool and added to its utility by making information available to new faculty members any time they have access to the Internet, regardless of whether they are in their offices or off-campus. Next, the audience analysis phase identified an information gap and led to the inclusion of the Technology Support section in the Web site and, later, the print
Although the electronic topics are no longer part of the current New Faculty Web site, they met a need for the nine or so months they existed.

"Being Graceful and Pleasing Doing It"

Technical communications can also be "graceful and pleasing." By that, I do not refer to the superficial attractiveness of a document but rather to the good use of rhetorical devices that research has proven to increase readability, retention of knowledge, and ease of use. These include but are not limited to layout and design features such as the use of headings, alignment, choice of typeface, that is, elements that are not merely cosmetic but add to the usefulness of a communication. Another component that makes a technical communication document "graceful and pleasing" to me as a user is when I perceive that the writer has a good sense of the needs of the audience (or audiences) to whom the document is addressed. It follows, then, that I see some elements in my project that are "graceful and pleasing," including the consistent use of a hyperlinked list of topics at the top of each page. When a user clicks the link he or she is taken directly to the place in the page where that topic resides. (As I mentioned earlier, my audience research indicated that my users preferred to scroll a fewer number of long pages rather than multiple short pages, which runs counter to all the other research I read. Thus, my pages are longer than I originally planned, although the use of anchored hyperlinks described above, still makes it easy to go directly to the information required.)

Another "graceful and pleasing" element of my project was the analysis and testing phases, on which I spent several weeks. It was time well spent. Close collaboration with members of my audience made the online guide a much more useful document than it would have been otherwise, and the information I gathered saved time in the development phase. It gave me confidence to know that I could refer to the information I gathered to guide me when I had to make choices, for example, about whether to create longer or shorter Web pages, as I note above.

Conclusion

Looking back on my internship project four years later, I appreciate the opportunity Miami Hamilton gave me to work on a project that allowed me to learn and grow as a Web developer. Now that I had almost forgotten how painful parts of my internship were, I can sincerely say that the problems I encountered in writing between September and November, 2002, with the re-read progress reports and the technical communication, have prepared me to be a smarter Web developer. Nowadays, I would never have persevered with RoboDemo to the extent that I did then, but would have adopted the workaround solution sooner.

In the four years since my internship I have developed the online guide today, I would use cascading style sheets (CSS) for layout instead of tables, thus improving Web accessibility and download time. (A style sheet is made up of rules that tell a browser how to present or display a Web page.) At the time of my internship, not all the most widely-used browsers handled CSS reliably (or, sometimes, at all), and the problems I encountered made me a smarter Web developer. Now that I have old Web technology has moved far beyond the problems I encountered in writing between September and November, 2002, with the re-read progress reports and the technical communication, I have prepared me to be a smarter Web developer. Nowadays, I would never have persevered with RoboDemo to the extent that I did then, but would have adopted the workaround solution sooner.

In the four years since my internship I have developed the online guide today, I would use cascading style sheets (CSS) for layout instead of tables, thus improving Web accessibility and download time. (A style sheet is made up of rules that tell a browser how to present or display a Web page.) At the time of my internship, not all the most widely-used browsers handled CSS reliably (or, sometimes, at all), and the problems I encountered made me a smarter Web developer. Now that I have old Web technology has moved far beyond the problems I encountered in writing between September and November, 2002, with the re-read progress reports and the technical communication, I have prepared me to be a smarter Web developer. Nowadays, I would never have persevered with RoboDemo to the extent that I did then, but would have adopted the workaround solution sooner.

Four years later, I would also be asking my audience members if they thought that podcasts, that is, digital audio files that may be downloaded to a computer or mp3 player, would...
be a useful addition to the site. The electronic topics would no longer be part of the online guide, as other resources have met that need. The photo gallery section would be replaced by a link to the faculty and staff directory, which includes contact information for all Miami Hamilton full-time personnel, rather than only the people whose names are linked from the online guide. (I developed this directory in 2003, in response to information I gathered from my audience members during my internship.)

Finally, there is one thing I would not change: my use of Anderson’s and Hackos’ models when planning the tasks involved in developing my Web site. Although both these models were originally designed for print documents, they were sufficiently flexible to provide a framework that is equally useful for electronic ones.
References


Appendix B: Overview of Project Schedule, in Terms of Anderson Problem-Solving Model for Technical Communication
### Appendix C: Goals for Orientation Program

<table>
<thead>
<tr>
<th><strong>Informational Goals for New Faculty Orientation Program</strong></th>
<th><strong>Print Document</strong></th>
<th><strong>Orientation Session</strong></th>
<th><strong>WBT</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>To provide the following:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. A ready reference regarding Miami University Hamilton’s key policies, personnel, and resources for new faculty.</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>2. An easy way for faculty members to quickly and directly communicate with the admin person who is responsible for dealing with their questions on specific topics.</td>
<td></td>
<td>X¹</td>
<td>X</td>
</tr>
<tr>
<td>3. Year-round accuracy of information.</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>4. An information source that’s easy to update regularly, throughout the year as changes occur.</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>5. An information source that’s inexpensive to update regularly, throughout the year as changes occur.</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>6. Easy access to the information 24/7, from home and at work.</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>7. A way for visually impaired faculty to easily access the information.</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>8. A way for hearing-impaired faculty to easily access the information.</td>
<td>X</td>
<td>X²</td>
<td></td>
</tr>
<tr>
<td>9. An easy way for new faculty to visually identify key personnel.</td>
<td>X¹</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>10. Opportunities for faculty to access the information when it suits their schedule and location.</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>11. An opportunity for every new faculty member to have access to the same information.</td>
<td>X³</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

¹ Not all admin people will necessarily attend orientation session.
² If ASL interpreter is available at orientation session.
This may not be true for faculty that join the campus in January and changes have occurred since August.

<table>
<thead>
<tr>
<th>Informational Goals for New Faculty Orientation Program</th>
<th>Print Document</th>
<th>Orientation Session</th>
<th>WBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>To provide the following: Opportunities for new faculty members to become proficient in a number of basic, useful and most frequently-used functions in Eudora, Meetingmaker and Banner.</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Appendix C: Notes for Audience Analysis Interview Questions

Personal Characteristics
- Gender? M or F
- Age range (optional)
- Education level (Already known.)
- Accessibility issues for online course? (Color-blindness? Visual or hearing-impaired?)

Print Guide
- How do you use your print guide? E.g., read it cover-to-cover once and then never use it again?
- Do you use it as a ready-reference?
- Is it always where you need it when you want it?
- How useful was it to you in terms of giving you the information? E.g., very useful, useful, no opinion, not useful, useless
- What is the print guide’s main strength? Weakness?
- How would you change it to make it better?

Orientation Seminar at Hamilton
- Did you attend? Y/N
- If YES, how useful was it to you? E.g., very useful, useful, no opinion, not useful, useless
- What is the orientation seminar’s main strength? Weakness?
- How would you change it to make it better?

Online Guide
- What is your comfort level using computers and the Internet? E.g., very comfortable, comfortable, no opinion, uncomfortable, very uncomfortable.

Off Campus Computing
- Do you use a computer to access campus information from home? Y/N
- If YES to Q. 3, what kind of campus information do you access? (E.g., Banner, e-mail, etc.)
- Describe your home computer system

<table>
<thead>
<tr>
<th>OS</th>
<th>Browser &amp; version</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows</td>
<td>Netscape</td>
<td>Dial-up</td>
</tr>
<tr>
<td>Mac</td>
<td>Internet Explorer</td>
<td>Broadband</td>
</tr>
<tr>
<td>Other OS (Please give name.)</td>
<td>MSN</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AOL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other browser (Please give name.)</td>
<td></td>
</tr>
</tbody>
</table>

**On Campus Computing**

- Do you use a computer to access campus information on-campus? Y/N
- Describe your on campus computer system

<table>
<thead>
<tr>
<th>OS</th>
<th>Browser &amp; Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows</td>
<td>Netscape</td>
</tr>
<tr>
<td>Mac</td>
<td>Internet Explorer</td>
</tr>
<tr>
<td>Other OS (Please give name.)</td>
<td>Other browser (Please give name.)</td>
</tr>
</tbody>
</table>

- Do you have Flash Viewer or Real Audio plug-ins installed on any computer that you might use to access campus information?
- If YES to Q.3 what is your comfort level regarding the download and installation of these software products?
- How would you characterize your attitude toward using an online resource for orientation information and technology training? (E.g., positive, negative, enthusiastic, uncomfortable, etc.)
Would you use an online version of the guide if it were available? Y/N
If YES, from where would you access it? Home, campus, both
What was your experience level with the following software programs before and after you joined the Miami University Hamilton campus?

<table>
<thead>
<tr>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eudora</td>
<td>Eudora</td>
</tr>
<tr>
<td>Meeting Maker</td>
<td>Meeting Maker</td>
</tr>
<tr>
<td>Banner</td>
<td>Banner</td>
</tr>
<tr>
<td>Blackboard</td>
<td>Blackboard</td>
</tr>
</tbody>
</table>

If there was a quick online way of learning specific and most frequently used software functions for the software programs noted above (e.g., setting up an address book in Eudora, proposing a meeting or creating an activity in Meetingmaker), would you use it? (Show example.) Y/N

Any other comments?
Appendix E: User/Learner Profile

User/Learner Profile
This profile is developed from analysis of six interviews with instructors that joined the Miami Hamilton faculty in August 2001.

Personal Characteristics
- Learners have the following personal characteristics:
  - Age range: Mid-twenties to mid-fifties
  - Accessibility issues: One member of sample group had a visual impairment, but it did not affect her ability to access online information. Nevertheless, accessibility standards proposed by W3C will be implemented in the development of this project.
  - Education: Master’s degree and higher.
  - Academic discipline: Learner may come from any discipline or academic division.

Print Guide
- Most users will use the print guide as a ready-reference, rather than reading it from cover-to-cover. They will not always have their print guide available when they need it, e.g., it may be at another campus office location or at home. In addition, learners are likely to find the print guide “useful” or “very useful.”
- Learners are likely to believe the following:
  - The print guide is easy and efficient to use.
  - The print guide has limited scope, e.g., it does not tell learners about professional opportunities or give enough information about technology issues that affect new faculty.
  - The guide would be improved if the following additions were made to the booklet: a campus phone directory, information about the chain-of-command beyond the departmental level, and the inclusion of “how to” materials about commonly used software programs that might be new to faculty.

Orientation Seminar
- After attending the orientation seminar, research indicates that learners will have the following perceptions:
  - The seminar is “useful” or “very useful.”
  - The seminar gives some learners a sense of being welcome and valued. As a result, their comfort level in their new job will be increased.
  - The seminar gives learners the opportunity to meet with other faculty.
  - The seminar gives learners the opportunity to put faces to some of the names mentioned at the seminar and in the print guide.
Other probable outcomes from attending the seminar include the following:

- Some learners will find the information about useful or important locations on campus, e.g., bookstore, parking, and the library most useful at the orientation seminar.
- Some learners will feel that they didn’t know enough to take full advantage of the question and answer session.
- Some learners would like a more full explanation of the relationship between Miami Oxford and Miami Hamilton and a description how services are divided between the two campuses.
- Some learners would like an opportunity to hear about professional opportunities and expectations.
- Some learners would like an opportunity for a departmental orientation meeting (and follow-up meetings once per semester) to increase communication between Oxford departments and the faculty on the regional campus. (This may not be within the scope of the regular orientation process.)

**Online Guide**

- Most learners will be comfortable of very comfortable using a computer to access the Internet. They are likely to access online campus information from home or on-campus and are likely to access and use the following Miami Hamilton online resources:
  - E-mail (Mailman and MyMiami)
  - Blackboard
  - BannerWeb (e.g., to access class lists, check class sizes and print schedules)
  - Class Web sites
  - Departmental folders on the network that the students may access
  - Q and M drives
  - Internet research sources related to discipline.

**Technical Issues**

The following technical issues apply to learners:

- Operating systems. On and off-campus, most learners will use Windows and Mac operating systems. (Approximately 2:1 in favor of Windows.) Anecdotal evidence indicates that least one new faculty member (not part of the audience analysis survey) presently uses Linux.
- Internet access. In terms of Internet access at home, most learners have dial-up access.
Plug-ins: Most learners would download a plug-in if it were necessary to access work-related information but consider having to do so a serious obstacle to accessing information.

Some learners would rather not access the information if they were required to download a plug-in first.

**Attitude toward using online orientation information**

Most learners’ attitudes are positive and enthusiastic toward accessing orientation information online. Most learners would use an online form of just-in-time training for new software programs if they knew it was offered as a resource.

**Cross-Cultural Issues To Consider**

It is likely that future faculty will sometimes include people from other countries and cultures. While the online guide will always be written in English, care should be taken to avoid ambiguities that might arise through the use of imprecise vocabulary, slang, and awkward sentence structures. As a result, while the tone of the online guide should always be friendly and welcoming, care must also be taken to ensure that the information is equally accessible for new faculty from other countries and cultures.
Appendix F: Information Plan

Online Version of Miami Hamilton Information Guide for New Faculty: Information Plan

Project start date: August 12, 2002
Latest project finish date: December 20, 2002
Internship finish date: November 29, 2002

Purpose of the Online Guide Project

The purpose of the online guide project is to orient new faculty members to the Miami Hamilton campus and inform them in an interactive, accessible way about key policies, personnel, and resources related to their employment. By doing so, the project’s overall goals are to provide faculty with the tools to improve their performance in their new job and to make them feel comfortable and prepared at Miami University Hamilton.

The online version of the information will enhance present orientation efforts in terms of year-round accuracy, availability, richer learning experience, and increased scope.

- **Accuracy.** The online guide will be updated year round so that information for faculty is accurate and reflects current policies and resources.

- **Availability.** The online guide will offer round-the-clock access to information. Any faculty member who has access to the Internet may retrieve information at any time of the day or night.

- **Richer learning experience and increased scope.** The dynamic quality of the hyperlink environment will allow Miami University Hamilton to increase the scope of orientation information available to faculty.

  - It will also enhance the learning experience for our new faculty in the following ways:
  - Learners may easily and quickly access related or more detailed information on the Miami Hamilton or Miami Oxford Web sites.
  - Learners may communicate directly with the people who can answer questions related to policies or resources via e-mail links in the online guide.
  - Color and the use of graphics enhance the (sighted) learner’s learning experience.
  - A text-only version will assist learners who have a visual impairment.

The online will increase the scope of the orientation program by including interactive training materials. These materials will consist of tutorials that help new faculty quickly learn the most basic, useful functions of the following three software programs:

- E-mail client (Eudora or Web mail)
- MeetingMaker
- Banner.
These three software programs are commonly used at Miami Hamilton but are likely to be unknown to new faculty before coming to work here. The online guide format allows the delivery of information via dynamic, interactive simulations that show the learner how to perform specific tasks in each software program.

Other ways in which the online version adds to the learner’s learning experience includes a “photo gallery” that provides newcomers with photographs of the people that can answer their queries, along with a single, comprehensive description of their job responsibilities and contact details, and an immediate way of contacting them.

**Usability Goals for the Online Guide Project**

- I have the following usability goals for the online guide:
- To create an interface is easy to use because it uses conventions with which the learner is already familiar, and which apply current best practices.
- To create a navigational structure is logical and easy to use and uses conventions with which the learner is already familiar.
- To ensure that learners can find the information that they need quickly and efficiently, with the minimum number of keystrokes.
- To provide content that is useful to the learner.

**Audience Profile**

See learner profile document.

**Design Implications**

Based on audience analysis and the goals set for the orientation program as a whole and the online guide in particular, the following design implications should be taken into account:

- **Interface.** The page will display in the Miami Hamilton generic “template” (essentially, an identifying border across the top of the screen. In addition, the content must be centered.) This means that space for information “above the fold” will be slightly minimized.

- **Browser.** The audience analysis makes it clear that minimum browser version should be Internet Explorer (version 4.0 or higher) and Netscape Navigator (version 4.7 and higher). Both browsers support cascading style sheets and layers, so these will be used in the development of the site.

- **Accessibility.** Accessibility issues for people who are visually impaired will be addressed by the creation of a text-only companion Web site, if necessary, as well as compliance with W3C accessibility guidelines. A transparent gif named “click here for text-only site” will be inserted in the top, left corner of each non-text-only page to direct visually impaired learners to its text-only equivalent.
Strategies and Concerns

Usability research strategy. There will be two test phases and both will be informal. Testers will be members of our target audience (new faculty August 2001 and August 2002). Test 1 will occur in the middle of the development phase. Testers will test a pilot version of the Web site that takes one topic that represents all major instructional and training elements. Revisions will be made based on testers’ responses. No more than five individuals will test the pilot site. (See Nielsen’s argument about minimum useful numbers for testing.)

Test 2 will take place at the end of the development period. Once again, revisions will be made based on testers’ responses.

University-wide training effort. The training tutorials created for this project will be available for other users via the MCIS training Web site.

Constraints

I anticipate the following problems or limiting factors:

- Limited proficiency with some software programs. I anticipate that my limited proficiency with some software programs will slow down the speed with which I can develop the pilot Web site and the training tutorials; however, this constraint should be eased by the time I revise the pilot pages and construct the rest of the site.
- Cascading style sheets. Some training in the use of CSS will be necessary.
- Other project commitments. Although this project is my primary work-in-progress, at times other projects will have to take temporary precedence.

Project Team

Resources for this project include Pam Neves, Britt Carr, Jim Lipnickey and Kirsten Ruggiero.

Review Team

Pam Neves, Jim Lipnickey, and John Williams.
Appendix G: Design Document

I. Overview

*Document title:* New, Part-Time and Overload Faculty Online Guide (working title)

*Purpose of document:* The purpose of the online guide is to orient new faculty to the Miami Hamilton campus and inform them in an interactive, accessible way about key policies, personnel, and resources related to their employment. By doing so, the project’s overall goals are to provide faculty with the tools to improve their performance in their new job and to make them feel comfortable prepared at Miami University Hamilton. Specifically, the online guide should meet the following informational and training goals:

**Informational Goals**

- A ready reference regarding Miami University Hamilton’s key policies, personnel, and resources for new faculty.
- An easy way for faculty members to quickly and directly communicate with the admin person who is responsible for dealing with their questions on specific topics.
- Year-round accuracy of information.
- An information source that’s easy to update regularly, throughout the year as changes occur.
- An information source that’s inexpensive to update regularly, throughout the year as changes occur.
- Easy access to the information 24/7, from home and at work.
- A way for visually impaired faculty to easily access the information.
- An easy way for new faculty to visually identify key personnel.
- Opportunities for faculty to access the information when it suits their schedule and location.
- An opportunity for every new faculty member to have access to the same information.
Training Goal

Opportunities for new faculty members to become proficient in a number of basic, useful and most frequently-used functions in Eudora, Meetingmaker and Banner.

Content:

The online guide is made up of the following topic headings:

- Getting started at Miami Hamilton
- Teaching at Miami Hamilton
- Syllabus Considerations
- Other Professional Responsibilities & Opportunities
- Direct Course Support
- Technology Support
- Support for your Students
- Other Benefits & Services for faculty

Audience:

The primary audience is new faculty on Miami Hamilton campus. Faculty members who have worked at Miami Hamilton for one or more years may also find the information in the online guide useful and are considered a secondary audience for this project. Faculty may be part-time or full-time.

- Learners have the following personal characteristics:
- Age range: Mid-twenties to mid-fifties
- Accessibility issues: One member of sample group had a visual impairment, but it did not affect her ability to access online information. Nevertheless, accessibility standards proposed by W3C will be implemented in the development of this project.
- Education: Master’s degree and higher.
- Academic discipline: Learner may come from any discipline or academic division.
- Most learners will be comfortable using a computer to access the Internet. They are likely to access online campus information from home or on-campus and are likely to access and use the following Miami Hamilton online resources:
  - E-mail (Mailman and MyMiami)
  - Blackboard
  - BannerWeb (for example, to access class lists, check class
sizes and print schedules)

- Class Web sites
- Departmental folders on the network that the students may access
- Q and M drives
- Internet research sources related to discipline.

**Technical Issues**

The following technical issues apply to learners:

- Operating systems. On and off-campus, most learners will use Windows and Mac operating systems. (Approximately 2:1 in favor of Windows.) Anecdotal evidence indicates that at least one new faculty member (not part of the audience analysis survey) presently uses Linux.
- Internet access. In terms of Internet access at home, most learners have dial-up access.
- Plug-ins: Most learners would download a plug-in if it were necessary to access work-related information but consider having to do so a serious obstacle to accessing information.
- Some learners would rather not access the information if they were required to download a plug-in first.

**Attitude Toward Using Online Orientation Information**

Most learners’ attitudes are positive and enthusiastic toward accessing orientation information online. Most learners would use an online form of just-in-time training if it were available.

**Audience environment:**

Learners will access online guide from home and their office on campus

**Method of Delivery:**

Web-delivered. Learners should be able to access the learning material from any Internet-enabled computer.

**II. Standards: Technical**

*Operating System:*

Because the information is Web-delivered, learners may access material from any Windows 95/98 PC or Mac that is Internet-enabled.
III. Standards: Interface

“Look and Feel”:

Professional, welcoming, uncluttered, and contemporary.

Use of color:

- Use soft and non-intrusive colors—perhaps pastels or grays with one strong color as an accent. Don’t use highly saturated colors—they fatigue learners’ eyes.
- Check for any potential cultural color conflicts.
- Stay within same color palette when creating graphics, for example, flow charts.
- Use color to do the following:
- To distinguish between different types of screen
information, for example, suggested practices vs. mandatory ones.

- To establish a link between related pieces of information.
- To highlight an important or critical message.
- To aid in the comprehension of complex displays.

**Navigation:**

- Structure user interface in a way that would be logical to a learner from a Western culture, (i.e. left-right, top-bottom).
- Other navigation issues include the following:
  - Give buttons meaningful text labels (i.e., buttons should not be solely pictorial. For example, use “go” or “search” next to search box.)
  - Don’t provide a book marking option. Learners will use Web site as a ready reference.
  - Enable learner to access main menu (home page) from any screen (except actual Home page).
  - Enable learner to access Photo Gallery from every screen.

**Organizational Structure:**

- Use the following guidelines to organize information:
  - Use headings and subheadings.
  - Use bullets to mark important points.
  - Create generous space between headings and subheadings.
  - Create generous space between paragraphs.

**Text:**

Use the following guidelines in connection with text:

- Create screen text that is no fewer than four lines per page and no more than 24 lines, at 40-80 characters per line.
- Don’t make learners scroll—make them page instead. (All info “above the fold” if possible. Absolutely necessary for home page.)
- Make the minimum unit for screen delivery one paragraph (minimum two sentences, maximum four sentences.)
- Use simple syntax to facilitate learner reading speed and recall.
- Ensure high-contrast between text and background.

**Font:**

Use the following guidelines in connection with text:

- Use CSS to format and place text and graphics.
- Use 12 point Arial equivalent for body text.
- Use 16 point and 14-point equivalent bold for headings and subheadings.
- Limit use of italic and bold text.
- No underlining and no all uppercase. (Underlining will only be used to indicate hyperlinks.)
- Limit number of typefaces to one. Create contract with size and formatting.

**Graphics:**

- With few exceptions, there should be one small graphic on each screen. Graphics should conform to the following constraints:
  - Each graphic no larger than 25k (preferably, a lot smaller).
  - Graphics should be realistic photographs in style, or icons—no cartoon-style clip art.
  - Graphics should be in JPG or GIF format.
  - Each graphic should have alt text that describes graphic as it loads.

**Accessibility:**

See W3C at [http://www.wc3.org](http://www.wc3.org)

Where appropriate, observe the following accessibility best practices:

- Create text-only version if necessary. (Use invisible .gif in upper left corner to direct browser reading tool to text-only site.)
- Images & animations. Use the alt attribute to describe the function of each visual.
- Image maps. Use the client-side map and text for hotspots.
- Multimedia. Provide captioning and transcripts of audio, and descriptions of video. (Make audio and video optional.)
- Hypertext links. Use text that makes sense when read out of context. For example, avoid "click here."
- Page organization. Use headings, lists, and consistent structure. Use CSS for layout and style where possible.
- Scripts, applets, & plug-ins. If using, provide alternative content in case active features are inaccessible or unsupported.
- Make line-by-line reading sensible. Summarize.
- Validate using tools, checklist and guidelines at
Models:

All screens have the same “wrapper” but different content. With a view to making the materials “reusable,” for example, for a similar project for staff, the following models/templates may be used for screens that require the learner to interact with the material:

- Bullet List 1: Learners click each underlined (hyper linked) item on list to learn more about each topic; learners click the item to go to new screen.

- Bullet List 2: Learners place cursor over each underlined (hyper linked) item to learn more; new information appears in a text box next to underlined item (disjointed rollover). Text box disappears when cursor is moved from item.

- Hotspot List 1: Learners click on graphic to learn more about each topic; learners click the item to go to new screen.

- Hotspot List 2: Learners place cursor over each graphic to learn more; new information appears in a text box next to graphic (disjointed rollover). Text box disappears when cursor is moved from graphic.

[http://www.w3.org/TR/WCAG](http://www.w3.org/TR/WCAG)
Appendix H: Test 1

Online Information Guide for New Miami University Hamilton Faculty: Results of Usability Test 1, 10/18-10/25/02

Number of surveys sent out: 7
Number of surveys returned: 4
Gender: 3 F, 1 M

Pre-Test information
Information about the computer and Internet connection used to access the Web site.

Internet Connection

<table>
<thead>
<tr>
<th>On campus</th>
<th>Off campus dial-up</th>
<th>Off campus broadband</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Type of Computer

<table>
<thead>
<tr>
<th>PC</th>
<th>Mac</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Browser and Version

<table>
<thead>
<tr>
<th>Internet Explorer</th>
<th>Netscape Navigator</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

No versions given.

Test Questions
1. Go to [http://www.users.muohio.edu/millerea/index.shtml](http://www.users.muohio.edu/millerea/index.shtml) and browse the site. When you’re ready to complete the survey, click the link that says “Info Guide Home” (left navigation bar). Did it take you where you expected to go?
* No comment about where tester expected to go but comment illustrated that she didn’t expect to go to the index page.

2. Click the link that says “Direct Course Support” (left navigation bar). Approximately, how many seconds did it take to load the Direct Support Page?

<table>
<thead>
<tr>
<th>Time Range</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3 seconds</td>
<td>4</td>
</tr>
<tr>
<td>4-6 seconds</td>
<td>0</td>
</tr>
<tr>
<td>7-9 seconds</td>
<td>0</td>
</tr>
<tr>
<td>10 seconds +</td>
<td>0</td>
</tr>
</tbody>
</table>

3. On a scale of 1 to 5 (1 = excellent and 5 = poor), please grade this site according to the following criteria:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Score &amp; # of testers who applied that score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Ease of navigation</td>
<td>3</td>
</tr>
<tr>
<td>Headings, subheadings and bullets (usefulness in organizing information)</td>
<td>4</td>
</tr>
<tr>
<td>Enough white space to aid text comprehension</td>
<td>4</td>
</tr>
<tr>
<td>Colors work (backgrounds, text and navigation links)</td>
<td>3</td>
</tr>
<tr>
<td>Speed of page download</td>
<td>4</td>
</tr>
<tr>
<td>Effective contrast between text and background</td>
<td>4</td>
</tr>
<tr>
<td>Choice of font for reading comfort</td>
<td>3</td>
</tr>
<tr>
<td>Size of font for reading comfort</td>
<td>2</td>
</tr>
</tbody>
</table>
4. Click the link that says “MUH Home” (top right corner). Did it take you where you expected to go?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>No opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

5. Click your browser’s Back button to return to the Direct Course Support page. Browse the Web site again if you need to before answering the following question.

On a scale of 1 to 5 (1 = excellent and 5 = poor), please grade the graphics on this site according to the following criteria:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Score &amp; # of testers who applied that score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Size suits the page</td>
<td>2 2 0 0 0</td>
</tr>
<tr>
<td>Good position on the page</td>
<td>2 2 0 0 0</td>
</tr>
<tr>
<td>Appropriateness to content of page</td>
<td>2 2 0 0 0</td>
</tr>
<tr>
<td>Appropriate number of graphics per page.</td>
<td>2 1 1 0 0</td>
</tr>
</tbody>
</table>

6. When you’re browsing a Web page that has a lot of content do you prefer to “page” or “scroll”? All the pages on the information guide Web site are examples of pages that are “scrolled.” To see an example of the Direct Course Support page in “paged” format, go to http://www.users.muohio.edu/millerea/PagedDCS1.shtml.

<table>
<thead>
<tr>
<th>I prefer to page</th>
<th>I prefer to scroll</th>
<th>No opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>
Comments about the Web site or the testing process:

- I like the topics with the brief description of the content.
- The only issue I had was when I viewed a picture of a person I couldn’t click the “back” button to get back to the list of people. This isn’t a major issue, it just bugs me when I can’t go “BACK.
- I really like the looks. Easy to understand.
Appendix H: Test 2

Online Information Guide for New Miami University Hamilton Faculty: Results of Usability Test 2, 11/26-12/6/02

Number of surveys sent out: 6
Number of surveys returned: 2
Gender: 2 F

Pre-Test information
Information about the computer and Internet connection used to access the Web site.

Internet Connection

<table>
<thead>
<tr>
<th>On campus</th>
<th>Off campus dial-up</th>
<th>Off campus broadband</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Type of Computer

<table>
<thead>
<tr>
<th>PC</th>
<th>Mac</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Browser and Version

<table>
<thead>
<tr>
<th>Internet Explorer</th>
<th>Netscape Navigator</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

No versions given.
Test Questions

1. Go to http://www.users.muohio.edu/millerea/index.shtml and browse the site. When you’re ready to complete the survey, click the link that says “Info Guide Home” (left navigation bar). Did it take you where you expected to go?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>No opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

2. Click the link that says “Direct Course Support” (left navigation bar). Approximately, how many seconds did it take to load the Direct Support Page?

<table>
<thead>
<tr>
<th>1-3 seconds</th>
<th>4-6 seconds</th>
<th>7-9 seconds</th>
<th>10 seconds +</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

3. On a scale of 1 to 5 (1 = excellent and 5 = poor), please grade this site according to the following criteria:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Score &amp; # of testers who applied that score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Ease of navigation</td>
<td>2</td>
</tr>
<tr>
<td>Headings, subheadings and bullets (usefulness in organizing information)</td>
<td>1</td>
</tr>
<tr>
<td>Enough white space to aid text comprehension</td>
<td>2</td>
</tr>
<tr>
<td>Colors work (backgrounds, text and navigation links)</td>
<td>2</td>
</tr>
<tr>
<td>Speed of page download</td>
<td>2</td>
</tr>
<tr>
<td>Effective contrast between text and background</td>
<td>2</td>
</tr>
<tr>
<td>Choice of font for reading comfort</td>
<td>2</td>
</tr>
<tr>
<td>Size of font for reading comfort</td>
<td>1</td>
</tr>
</tbody>
</table>
4. Click the link that says “MUH Home” (top right corner). Did it take you where you expected to go?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>No opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

5. Click your browser’s Back button to return to the information guide Web site. Browse the Web site again if you need to before answering the following question.

On a scale of 1 to 5 (1 = excellent and 5 = poor), please grade the graphics on this site according to the following criteria:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Score &amp; # of testers who applied that score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Size suits the page</td>
<td>2</td>
</tr>
<tr>
<td>Good position on the page</td>
<td>2</td>
</tr>
<tr>
<td>Appropriateness to content of page</td>
<td>2</td>
</tr>
<tr>
<td>Appropriate number of graphics per page.</td>
<td>2</td>
</tr>
</tbody>
</table>

Comments about the Web site or the testing process:
- Thank you for putting this info. On line!
- Great website—contains loads of info & is nicely organized.
Appendix H: Test 2, Survey Form

Usability Test of Online Information Guide for New MUH Faculty

Thank you for taking a few minutes to complete this survey. The purpose of this exercise is to test the usability of the Information Guide for New MUH Faculty Web site.

There are a few things that you should know before you begin:

- Your participation in this usability test is entirely voluntary.
- The purpose of this survey is to test the Web site and the Web site design—not your ability to use computers or the Internet.
- The Web site is only 95 percent finished at this time. In particular, the search function is not installed, not all entries in the Photo Gallery or the Campus Tour have photographs, and the Electronic Topics section is incomplete at this time. All links should work but if you come across ones that don't, please note it on the survey form.

Please return the completed survey to MOS 201 by Friday, December 6, 2002. If you have any comments or questions about the Web site or the testing process, please e-mail me at millerea@muohio.edu. Thanks again for your help with this project.

Liz Miller

Getting Started

Please give me information about the computer and Internet connection that you used when you accessed the Web site. Please check all that apply.

<table>
<thead>
<tr>
<th>Internet Connection</th>
<th>Operating System</th>
<th>Browser and Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>On campus</td>
<td>Windows</td>
<td>Internet Explorer, version</td>
</tr>
<tr>
<td>Off campus (dial up connection, e.g., Earthlink, AOL)</td>
<td>Mac</td>
<td></td>
</tr>
<tr>
<td>Off campus (Broadband connection, e.g., DSL or a cable modem service like Road Runner)</td>
<td>Other (please name)</td>
<td>Netscape Navigator, version</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other (please name)</td>
</tr>
</tbody>
</table>
1. Go to http://w3.ham.muohio.edu/~millerea/Index.shtml and browse the site. When you’re ready to complete the survey, click the link that says “Info Guide Home” (left navigation bar). Did it take you where you expected to go? Please check one answer.
   - Yes
   - No, I expected to go to ________________________________.
   - No opinion.

2. Click the link that says “Technology Support” (left navigation bar). Approximately, how many seconds did it take to load the Technology Support Page? Please check one answer.
   - 1-3 seconds
   - 4-6 seconds
   - 7-9 seconds
   - 10 seconds or longer

3. On a scale of 1 to 5 (1 = excellent and 5 = poor), please grade this site according to the following criteria:

   ___ Ease of navigation
   ___ Speed of page download
   ___ Headings, subheadings and bullets (usefulness in organizing information)
   ___ Effective contrast between text and background
   ___ Enough white space to aid text comprehension
   ___ Choice of font for reading comfort
   ___ Colors work (backgrounds, text and navigation links)
   ___ Size of font for reading comfort

4. Click the link that says “MUH Home” (top right corner). Did it take you where you expected to go?
   - Yes
   - No, I expected to go to ________________________________.
   - No opinion.

5. Click your browser’s Back button to return to the information guide Web site. Browse the Web site again if you need to before answering the following question.

On a scale of 1 to 5 (1 = excellent and 5 = poor), please grade the graphics on this site according to the following criteria:
Finally…

Please feel free to add any comments about the Web site or this testing process.
Appendix I: Mind Maps

The following pages show a variety of mind maps that I created during my internship. I found the mind mapping process to be a very useful planning tool.
Appendix I: Online Guide Main Menu Mind Map
Appendix I: Revised Online Guide Navigation Structure Mind Map
Appendix I: Implement Solution Mind Map

IV. Implement solution
8/26/02 - v8

- Transfer files to Kirsten
  - Kirsten will upload files
- Produce WBT
- Deliver WBT
- Final check before marketing
- Market WBT
- Revise solution in light of test results

Notify all faculty via email and by postcard in mailbox
Add link to MUH Web site
Mail URL to new faculty (January) along with other job-related materials
Post flyer in faculty lounge
Info to Carole for inclusion in faculty/staff newsletter
Appendix J: Hand-Drawn Interface Design Sketch
<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Frame</th>
<th>Title</th>
<th>Screen Shot</th>
<th>Next</th>
<th>Prev</th>
<th>Exit</th>
<th>Home</th>
<th>Menu</th>
<th>Close</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device Class</td>
<td>Examples include: Make, Model, Screen Size, Resolution, etc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Device Status</td>
<td>Information about the device's current status (e.g., connected, offline)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Device Settings</td>
<td>Customizable options for the device, such as display brightness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Device Profile</td>
<td>Personalized profile for the device, including preferences and interests</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Device Usage</td>
<td>Usage statistics and analytics, showing how the device is being used</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Device Security</td>
<td>Details about the device's security features and settings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Appendix J: Sample Asset Chart Used to Build Electronic Topic
Appendix K: Examples of Online Guide Web Pages

The following example pages from the online guide feature the home page, Technology Support, Contact information page (part of Photo Gallery).
Miami University Hamilton
Information Guide for New Faculty > Technology Support

Technology Support

- Help with computing at MUI
- Extended help with support for computing from ITS
- Miami TechTalk newsletter
- Innovative Teaching and Technology day (T2)
- Faculty development services

Help with Computing at MUI

As noted in the Direct Course Support section, we have excellent computing facilities on campus and a dedicated group—the Computing Services Department—that keeps our computer classrooms and desktop computers running smoothly. The Computing Services Department provides and supports all the computer hardware and software that is available on the Hamilton campus.

We also have a tremendous resource in Paul Cardarow, the Coordinator of Faculty Computing. Paul is available to work by appointment with all faculty and graduate faculty and staff in the use of computing facilities at MUI. Paul provides assistance with network facilities and with the use of technology in the classroom. Contact Paul by email to discuss your individual needs and to schedule an appointment.

To get help with your computer on the MUI campus, call the HelpDesk at 524-789 or send an e-mail to hamphy@miamioh.edu. If you would like to discuss the possibility of computer use for your courses and/or the use of computer classrooms, contact MUI's Director of Computing Services, ITS, at 524-7891.

University-Wide Support for Computing

Miami's Information Technology Services (ITS) is based on the Oxford campus. Go to the ITS home page to get a comprehensive overview of the many services offered to all Miami University faculty, students and staff.

The following ITS links may be of particular interest to faculty:

- Knowledge Base: The Miami University Knowledge Base is a service that helps university faculty, staff and students answer computing-related questions and resolve problems using the World Wide Web.
Name: Jim Lencicky

Job title(s): Director, Computing Services
Office address: Moore Hall, 218
Phone: 33299
E-mail address: lennic@nushu.edu

Note: When calling from off-campus, add 513-785 prefix to first four digits of phone number.