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Articulating Webspace: an articulation theory approach to analyzing Web development

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**Articulating Webspace: An articulation theory approach
to analyzing Web development**

by

Steve Wen Chu

A thesis submitted to the graduate faculty
in partial fulfillment of the requirement for the degree of

MASTER OF ARTS

Major: English (Business and Technical Communication)

Major Professor: Rebecca E. Burnett, Ph.D.

Iowa State University

Ames, Iowa

1998

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Graduate College
Iowa State University

This is to certify that the Master's thesis of

Steve Wen Chu

has met the thesis requirements of Iowa State University

Signatures have been redacted for privacy

To my father and mother, Hsien-Ta and May

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ABSTRACT

In this thesis, I argue that scholars and practitioners in professional communication can better understand Web development by analyzing how development practices are articulated to the narratives of the organization in which a Web project takes place. My thesis seeks to answer these two questions:

- How is the Web development process informed or improved by viewing the Web as a dynamic social space and linking that process to its specific set of circumstances, or conjunctures?
- How is the concept of Webspace instantiated in a Web development project?

To answer these questions, I analyzed the development process of a Web project that took place in the Department of Economics of a major university. I used articulation theory as the overarching framework to examine the specific linkage between Web development and its conjunctures. I developed a set of interview questions based on Ernest Bormann's symbolic convergence theory. Using these questions, I interviewed three representative members in the Department of Economics to gain a better understanding of members' vision of the Web site and their perception of the circumstances surrounding the Web project. I also met weekly with the Web project leader and taped our discussions.

I used the interview and meeting data to help guide the Web development process because answers to my interview questions helped define the vision of the department and the social and professional function of the Web site; thus, the interview and meeting data shaped Webspace, a dynamic social space.

I conclude that the concept of Webspace informs the Web development process by connecting the development process to social purpose and function of the Web site. I also argue that Webspace is instantiated in this Web project through participants' control of the development process. Although the project leader is not a tenured faculty, he was able to manipulate the development project to make the Web site a marketing tool.

CHAPTER 1 ARTICULATING WEB DEVELOPMENT

In the last few years, the popularity of the World Wide Web has spurred interest among organizations to build their own Web sites. With the proliferation of Web sites, scholars, researchers, and practitioners have already written extensively about designing, writing, programming, collaborating, and doing business on the Web.

Despite the wealth of information available today, I see a gap in current discussion about Web development in industry and in academia. Works published in industry tend to focus on the technological aspect of building Web sites and have not sufficiently addressed the complex rhetorical issues in Web development (see Darnell et al.). Academic research, on the other hand, has focused more or less on hypertext theories and cyberculture (see Lanham; Landow; Kroker). Articles in journals such as *Technical Communication Quarterly*, *Journal of Business and Technical Communication*, and *Journal of Business Communication* reveal that we have paid little attention to Web site development.

Existing articles on Web development generally adopt a simplified rhetorical model; these articles urge technical communicators to consider their audience and context and adapt the Web to meet the audience's needs (December; Hunt). By suggesting technical communicators to adapt their Web pages to target an audience, the underlying assumption of these articles is that there is a high degree of predictability in communication. These articles take a product-based approach to Web development. They are interested in how technical communicators can shape the product (the Web site) for a specific purpose to target a specific audience.

My thesis takes a process-based approach. This thesis is about analyzing the different conceptual approaches of participants and their impact on the development process. I examine communication of a Web project and the development processes to understand how a Web site is designed and what improvements may be made. By looking at the interplay of power and social relationships in a Web project, I am interested in the way a Web development process is informed or improved by viewing the Web as a dynamic social space in which meaning is fluid and audience and context are not fixed.

In this thesis, I argue that Web development is better informed by reconceptualizing the Web as a complex system of social practices rather than a cultural artifact. I use two terms, a *Webbed message* and *Webspace* to label the Web as a document and as a complex process. A *Webbed message* views the Web as a cultural artifact that encodes a message for transmission and consumption. A *Webspace*, on the other hand, is a dynamic, social space that provides a platform for

social formation. I use the theoretical construct of *Webspace* to argue that Web development can be better understood by recognizing the complicity of participants and the mediating role of Webspace itself. The concept of Webspace recognizes the fluidity of meaning on the Web and the specific, nonnecessary historical and social conjunctures that inform Web development.

In the rest of this chapter, I discuss in greater depth industry's emphasis on Web development technology and academia's focus on the rhetoric of the Web medium. I then return to a more thorough discussion of my research claims.

State of Web Development Research and My Claims

The Web enables or facilitates human interaction and communication and, at the same time, restricts them. A simple example: the Web site of a retailer may expedite a business transaction by taking an order and payment information on the Web; however, the Web restricts our communication by eliminating face-to-face interaction. The literature available in the industry on Web development has not adequately addressed the potential and the limitations of the Web medium. More important, the literature has not explained why organizations are flocking to the Web in the first place. The industry's emphasis on technology seems to suggest that we are developing Web sites simply because the technology is available to us. Existing literature has not sufficiently examined the value in creating and having Web sites nor how we can *utilize* that technology (as opposed to simply *implement* that technology) to attain that value.

In this section, I discuss the existing research and literature about Web development. I show that common titles about Web development tend to focus on technological challenges and solutions of constructing Web sites. The limited research in industry and in academia generally adopts a conventional approach to Web development that is based on oversimplified interpretation of classic, rhetorical theories and cognitive research. I argue that while the conventional approach provides useful heuristics for inventing a development framework, it does not always force us to consider the social and political condition in which any discussion of Web development should be situated. I use articulation theory as my framework and argue that the process of Web development should be analyzed in the specific conditions of the development environment.

Popular titles on Web development focus on technology

In the Web development industry (which loosely combines technical communication, design, and information technology), discussion about Web development has emphasized technological aspects. This tendency becomes obvious when one browses through popular book titles in bookstores. A number of how-to books are aimed at teaching users step-by-step instructions for making Web

pages or writing programming codes. These task-oriented and skill-specific books neglect the fact that the Web is a communication technology and focus instead on the technological challenges and solutions of creating Web sites.

Discussions of technological solutions may be technically complex but are relatively straightforward to examine in comparison to discussions of human communication. Similarly, while a book about setting up a Web server is technically challenging, it is not as complex as a book about how collaborative teams should or might use the Web for communication. Johnson-Eilola suggests that while Web development draws from several disciplines, the complexity of Web development lies in the communication aspects:

Consider the general occupation of developing and maintaining sites on the World Wide Web. Although this role is currently filled by workers in diverse areas of expertise—from computer science and technical communication through advertising, graphic design, and individuals working in their spare time—the work (at least when it is done well) is clearly technical communication. . . . (Johnson-Eilola 256)

We can compare literature that focuses on technological aspects of Web development to a manual that teaches one how to use a word processor to write a resume. In his hypothetical example of using a word processor to write a resume, Johnson-Eilola argues that a manual that teaches one how to use features of a word processor to write a resume is missing the point because the primary task of writing a resume is to find a job. Job search is a complex social practice. It involves not only writing a good cover letter and resume, but also having good interview skills and, most important, effectively packaging one's skills to create a fit between the needs of the employer and the skills of the job applicant.

In his example, Johnson-Eilola describes manuals that might instruct users to use a word processor to write a resume: open a new document; use boldface or italics for emphasis; use bullets to list items for clarity, etc. Manuals that provide such skill-specific instructions, then, emphasize the technology rather than the social practice of job search. (This is not to say that such manuals are not needed.) Some word processors even have templates or wizards that automate the process of writing resumes and enable users to create a resume by simply filling in blanks. Emphasis on the simplicity of creating resumes on a word processor thus ignores the complex social practice of job search.

Johnson-Eilola's example applies well to Web development. Existing literature in the industry is generally concerned with how to make Web pages attractive or how to make Web sites operational. The primary task of Web sites is, of course, multifold. For some organizations, it is a marketing tool or a publishing medium. For others, it is a point-of-sales tool. Still for others, it is a collaboration tool for working in a distributed environment. Existing industry literature, however, has focused almost

exclusively on how to use the technology to develop Web sites and has neglected the primary tasks that Web sites are intended to conduct.

Whereas job applicants would find automated wizards and ready-to-use templates for writing resumes with a word processor, Web developers would also find shrink-wrap software that automates Web development. For example, the description of WebBusiness Builder—an inexpensive commercial Web development software package—explains the simplicity of using templates to create Web sites effortlessly:

It's never been easier to create a money-making Web site—you'll be selling on-line in just a couple of hours! In fact, you can put your business on the Web in just 5 easy steps! . . . [Y]ou pick a style. Define the look of your site by selecting your choice of 30 included templates. . . Make any changes instantly. And finally—Publish your site (or update it) with one click!
(TigerDirect Computer Catalogue)

This product description implies that finding the key to success for conducting business on the Web is the same as finding an easy way to create Web sites. Without a doubt, such software tools make the life of Web developers easier because they make generating visually appealing Web pages an effortless task. Having a user-friendly and visually attractive Web site is important. But the function of the Web site can only be successfully fulfilled if Web developers consider the social purpose of the Web site and account for the dynamics of the development environment. Web developers in companies who want to draw customers to their Web site and close a sale as well as Web developers in universities who want to draw prospective students and get them to apply or enroll must also consider the social purposes and contexts as well as the technological dimension of Web site construction.

In the next section, I discuss the lack of research about Web development in both industry and academia.

Industry and academic journals pay limited attention to Web development

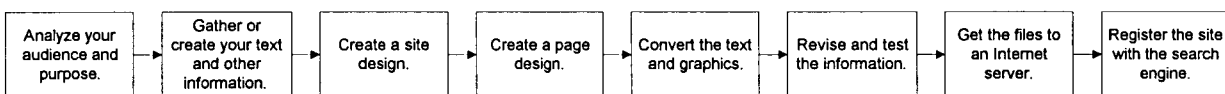
Industry journals, by far, have done more than their academic counterparts in wrestling with the Web development process. As John December writes in *Technical Communication*, "The philosophy behind my approach [information methodology] is that developing information for the Web should rely not only on HTML implementation skills, but should also encompass a set of processes" (370).

Whereas industry journals have touched on the practical application of research on Web development process, academic journals of technical communication have focused on the rhetoric of hypertext or of an electronic medium. The early theorists and rhetoricians working in this area theorized about electronic orality and the rhetoric of the medium (e.g., Lanham; Landow; Bolter; Nelson; Schwartz; McCorduck; Johnson). Cultural studies scholars have been taking a deeper look at

the electronic culture (e.g., Aronowitz; Kroker). A few researchers have considered the use of the Web in the classroom and its pedagogical implications (e.g., Wickliff and Tovey; Leonard) or collaborative work (e.g., Duin and Archee; Tumminello and Carlshamre; Selber, McGavin, Klein, and Johnson-Eilola). Others have examined power issues as they relate to gender or race in cyberspace (e.g., Lay; Selfe and Selfe). While these articles have had an impact on the Web as it relates to technical communication, they have not generally paid attention to Web development.

Consider another area for potential exploration on the Web: the Web provides ample opportunities for visual communication. A recently published textbook in visual communication presents an elaborate visual rhetoric, tools for visual analysis, and strategies for technical communicators in visual communication (see Kostelnick and Roberts); the book, however, does not include any discussion of Web design. General purpose textbooks in technical communication have devoted limited discussion of using and creating Web pages (see e.g., Allen; Houp et al.; Markel). One textbook introduces basic HTML tags and 13-point guidelines for creating a Web page (see Houp et al.). Another text book discusses research on the Web and offers a brief summary of how the Web works (see Allen).

In one technical communication textbook, the first step of instructions for creating a Web site reads, "As with any technical communication task, your first goal is to understand your audience—the people who will be viewing the site—and their purposes for visiting" (Markel 90). Figure 1 is taken out of this book and summarizes the steps. Although Markel acknowledges "that building and maintaining a site is not a linear process" (88), this model does not fully consider the complexity of the Web development environment. This model is clearly intended for a student in technical communication who needs to create a Web page. In workplace Web projects that involve technical communicators, computer programmers, and managers, this model does not account for the interplay of political, social, and professional relationships that impact the Web development process.



SOURCE: *Technical Communication* (Markel 88)

Figure 1 Process for creating a Web Site in existing literature does not account for complexity of development environment

Because this model is found in a textbook designed for classroom instruction, his model does not discuss ideological factors such as power relationships; instead, his model illustrates an overview of procedural steps (boxes 1, 2, and 6 in the model) and an overview of technological savvy Web developers must possess (boxes 3, 4, 5, 7, and 8).

The Web is an emerging technology and is evolving rapidly. Given the relatively brief history of the Web, it is not surprising that there is little researched or written about Web development. In the absence of methodologies developed specifically for constructing Web sites, current Web development literature borrows heavily from existing theories and research on paper documentation. Indeed, computer magazines and industry journals are still applying development principles for print-based documentation to Web sites. In the next section, I discuss the conventional approach to Web development that is adopted wholesale from print documentation approaches.

Conventional approach to Web development

The few instances that discuss creating Web pages or the larger task of developing Web sites tend to adopt an oversimplified version of a classic, Aristotelian rhetorical approach to Web development. Existing Web development methodologies predominantly use rhetorical analyses of audience, context, and purpose as heuristics for shaping the Web site. Kevin Hunt's article in *Technical Communication*, for example, provides a framework "grounded in the classic rhetorical concept of *ethos*" (377). Other industry journal and popular computer magazine articles about Web design often provide generic, practical advice such as "Consider your audience and purpose." As December writes in *Technical Communication*, "The purpose statement and audience information together go a long way towards articulating what the Web is about and are the key pieces of information to develop early in the web's life cycle" (373). While it is useful to consider the needs of the audience and the purpose of the Web site, the conventional approach often does not explain *how* technical communicators can or should analyze a Web site's audience and purpose. Further, the conventional approach may simplify the rhetorical situation and may not account for the full dynamics of a development environment. The conventional approach does not adequately address the complexity of organizational culture, organizational power structure, communication behavior and pattern, and the social and political status of participating members.

The result is an approach that simplifies Web development by often characterizing it as linear and static. In this conventional approach, the Web is often seen as a medium or a conduit for communication. (In this thesis, I use "conventional" to refer to this particular approach to Web development.) Meaning is embedded in the instrument of communication (e.g., a Web page) and is

fixed. The embedded message is transmitted from the sender to the receiver as a whole package (Slack et al.). Rather than seeing the audience as a diverse, unstable, and dynamic system in which successful delivery of the message from the sender to the receiver is not guaranteed, viewing the Web as a conduit assumes that audience is a homogeneous, stable, fixed entity and context also as a stable container that the communicator can pour information into. Thus, by effectively targeting that audience and fitting the product into that context, the communicator can supposedly predict, with reasonable accuracy, that communication between the sender and the receiver would be successful.

The conventional Web development approach pins the Web as an artifact in that the sender encodes the message in or with the Web and delivers it through the Web based on assumptions about the receiver and the context in which he or she operates. The receiver then decodes the message to restore the original message. Early Web developers saw the Web as an extension of print documents. One technical communication textbook reads, "To a large extent, however, the principles of good Web page design are very similar to the principles of good page design for printed documents" (Markel 93). (Markel does acknowledge design principles that are unique to the Web.) Another book makes a similar point. In the first edition of his book, *Designing and Writing Online Documentation*, Horton said, "A book is a book, whether on paper or online" (qtd. in Horton 2nd ed., vi). In the second edition, he has revised that view to acknowledge that online documentation (which includes Web development) merits a set of different strategies from print-based documentation because of their different rhetorical contexts. The different strategies that Horton developed for online documentation are founded upon users access information on computer monitors. These strategies take into consideration the interaction between humans and computers—that is, how humans access and use online documentation. Applying these principles of online documentation to the Web, the focus on the Web's physical and accessibility characteristics signals an approach that views the Web as simply a new document display system. These online documentation strategies, then, approach the Web as presenting a different rhetorical context from print documents only because it is a system of interconnected documents accessed on a computer screen.

In the next section, I argue that the articulation approach can better inform an approach for analyzing the Web development process.

Articulation approach to Web development

The articulation approach provides a way to connect Web sites in development to their specific processes and environments and to social, political, and material conditions that sustain those processes and environments. The articulation approach forces us to move beyond a stabilized

communication environment in which communication attains a high degree of predictability. Instead, the articulation approach enables us to reconceive the Web as a dynamic system of social processes and communicative events and understand Web development as the process of creating a dynamic, social environment for communication.

My articulation approach to analyzing the Web development process is informed by Stuart Hall's theory of articulation:

An articulation is thus the form of the connection that *can* make a unity of two different elements, under certain conditions. It is a linkage which is not necessary, determined, absolute and essential for all time. You have to ask, under what circumstances *can* a connection be forged or made? . . . A theory of articulation is both a way of understanding how ideological elements come, under certain conditions, to cohere together within a discourse, and a way of asking how they do or do not become articulated, at specific conjunctures, to certain political subjects. (53)

Hall's articulation theory, I argue, provides a useful way to consider Web development. Web developers should not only think of a Web site as one that comprises interlinked hypertext documents but also as a complex, dynamic system of social practices. By understanding how social agents enact these social practices in a Web project, we can gain insights into the ways in which the Web site is impacted by the circumstances of the Web project or vice versa.

Because the Web, by nature, is a networked environment, Web developers and technical communicators should consider metaphors of "interlocking, dynamic systems or networks" (Russell 509) for thinking about Web development, not only in terms of the technological structure of interconnected Web documents but also of the social network and power structure that impact Web development.

Articulation theory allows us to reconstitute the Web development process in the specific conjunctures and to rearticulate the Web to the power structure, for which the conventional approach has not adequately accounted. I depart from the conventional approach of simply considering audience and purpose in Web site development. My goal is not to provide a methodology for Web development that treats the Web as a stabilized system. Instead, I argue that Web developers can use a "stabilized-for-now" or "stabilized enough" (Schryer 32) framework for considering each Web project's specific, particular, and non-necessary connections.

The networked system metaphor enables us to consider Web development beyond the linear conduit model in which *Webbed messages* (Web pages perceived as artifacts that embed messages and meaning) are transmitted. Further, the metaphor allows us to go beyond a narrow conception of context and audience, which merely acknowledges that audiences may interpret the Webbed messages differently from the way Web developers intend them. The network metaphor allows us to

rearticulate new connections about Web development previously delimited and, thus, limited by our conception of a Web site's context and its audience.

This point can be illustrated if we examine a retailer on the Web. We can think about the relationship between the retailer and the Web site in two ways. First, we can view the site as *belonging* to the retailer (that is, it is the retailer's Web site). The retailer's Web site contains an online catalogue of merchandise. It also contains documents detailing order information, return policies, and product warranties. Second, we can view the business as a *Web retailer* (that is, the organization of the retail business is constituted on the Web). In this case, the Web retailer is more than just a system of interlinked documents. It is a (virtual) store. The Web retailer has a traditional organization's defined social context and purpose except that it is the Web. As such, the virtual space it occupies is a social space, which I call *Webspace*. I use Webspace as a core concept and a basic unit for articulating and rearticulating Web development processes. Webspace implies a webbed, networked space that is connected with power structure and social conditions that inform or constitute that space. In the articulation approach, the concept of Webspace allows one to consider Web development and its specific, non-intrinsic connections to the circumstances that surround or constitute the development process.

In addition to admitting senders and receivers as participants of communication, Webspace enables us to consider the Web medium and the social space it inhabits as active participants that make authorial contribution. In other words, Webspace actively participates in a communicative event. Moreover, Webspace allows us to examine Web development in terms of a Web site whose meaning is constantly articulated and rearticulated in practice. In setting up this theoretical framework, I am interested in the following two research questions:

- How is the Web development process informed or improved by viewing the Web as a dynamic social space and linking that process to its specific conjunctures?
- How is the concept of Webspace instantiated in a Web development project?

To begin answering these questions, I examine a Web development project in the Department of Economics at a large land grant university in the Midwest. The Department of Economics decided to revamp the entire site because the department wanted to make its Web site a greater part of the way the department presents itself. Throughout this project, a number of people influenced the development process, design, and implementation of the Web site. They engaged in face-to-face discussions and, to a lesser extent, e-mail exchanges as they articulated their ideas, visions, and sometimes stories they wished to tell. By examining these discussions and exchanges, I consider this Web site as a locus of social formation.

In Chapter 2, I set up the articulation framework and discuss other uses of theoretical tools such as Bormann's symbolic convergence theory, from which I derive a set of interview questions.

In Chapter 3, I provide a historical overview of this Web project and discuss my methods in collecting and analyzing research data.

In Chapter 4, I analyze how the Web development process is informed by the concept of Webspaces. I present my findings and discuss how the Web development process is better understood by linking it to its specific circumstances.

In Chapter 5, I examine how the concept of Webspaces is instantiated in a Web development project. Specifically, I show how the development process is articulated onto the power structure of the Department of Economics.

CHAPTER 2 CONSTRUCTING THE ARTICULATION FRAMEWORK

This thesis examines how participants' preconceived notions and conceptions about the Web influence the process of developing a Web site for the Department of Economics of a major university. This thesis also analyzes how the political and social relationships of participants inform the negotiation of those conceptions and how they impact the articulation of those conceptions throughout the development process. (I use power structure and social reality to refer to the complex political and social relationships specific to that department.)

I use the concept of articulation as a theoretical tool to understand the ways power structure and the social reality inform the development process. This chapter sets up the articulation framework within which I pursue my analysis and identify my theoretical assumptions and positions that inform my analysis.

To gain insights into participants' conceptions about the Web, the development process, and the social and political situations surrounding the Web development process, I developed a set of interview questions based on Ernest Bormann's symbolic convergence theory. These interview questions are designed to elicit organizational narratives and participants' visions of the Web site and their perception of the Web development process. I discuss Bormann's theory later in this chapter and identify the interview questions as well as my method of using those questions in Chapter 3.

Articulating Webspace

Articulation is a concept that has been developed into an identifiable theoretical position by Stuart Hall (Slack et al.). I use articulation theory as the overarching framework for considering the Web development process because this theory allows me to connect the Web site to its *specific* and *unique* circumstances. Identities are constructed and are constituted by a unique combination of elements. The Department of Economics Web site does not have an *intrinsic* identity that makes it the Department of Economics Web site. The Web site is constituted by elements whose connection to the Web site is both nonnecessary and specific; that is, there is no absolute necessity for this connection nor is such a connection guaranteed to exist. For example, the identity of the Web site may be understood as a connection of elements that works to formulate or constitute an identity. These elements may include the power structure of the Department of Economics as well as the material condition of the development environment. Such elements are themselves identities and are therefore nonnecessary.

Because connections are nonnecessary, connections that can be made in one Web development project may not hold up in another Web development project in which the political, social, and material circumstances are different. As Slack writes,

Any identity might be compared to a train, which is constituted of many different types of train cars in a particular arrangement (or articulation). Each car is connected (or articulated) to another in a specific way that, taken as a whole (as a series of articulations), constitutes the identity *train*. Any specific train is thus a specific, particular set of articulations—an identifiable object with relatively clear-cut boundaries. (27)

The train analogy can be applied to Web site development. Behind-the-scene development events and visual and content features of the Web site are like the train cars—events such as the allocation of budget, the assignment or appointment of Web developers, management decisions, results of usability testing, trends in Web development, and interaction of team members. The interplay of these events and the combination of a specific Web site's features forge a unique and nonnecessary relationship that constitutes the identity of that Web site. If the sequence of these events were altered or different events took place, a different relationship and thus a new Web site emerges.

Figure 2 is a reductionist visual representation of how I use articulation theory as a framework for considering Web development and for using various types of data.

I analyze three types of data in order to answer my first research question of how the Web development process is informed by viewing the Web as a social space, or Webspace. The three boxes in represent the three types of data I collected: interviews, e-mail correspondence, and weekly meeting notes and transcripts. Using questions (discussed in greater depth in Chapter 3) based on Bormann's symbolic convergence theory, I interviewed three participants of the Web development project.

The e-mail correspondence and the weekly meetings reveal the issues raised during the development process, the progress and direction of the project. Together, the interview data, e-mail correspondence, and meeting notes and transcripts enabled me to get at the Department of Economics' self-perception and its vision, which helped me understand how the Web site is or can be used as an instrument of influencing or expressing that vision. The data helped me understand the conjunctures, or the specific combination of circumstances of the Department of Economics.

The oval shape represents the conjunctures that inform or shape the Web development process. The oval shape is merely an abstraction of the environment that represents an infinite combination of unpredictable possibilities. The large rectangular box on the outside represents the boundary of the development process. Because this visual representation is grossly oversimplified, the dotted line of this box reminds us that no project environment has such neat, visible, and well-defined boundaries. In fact, such an environment is dynamic and does not have fixed nor easily definable boundaries.

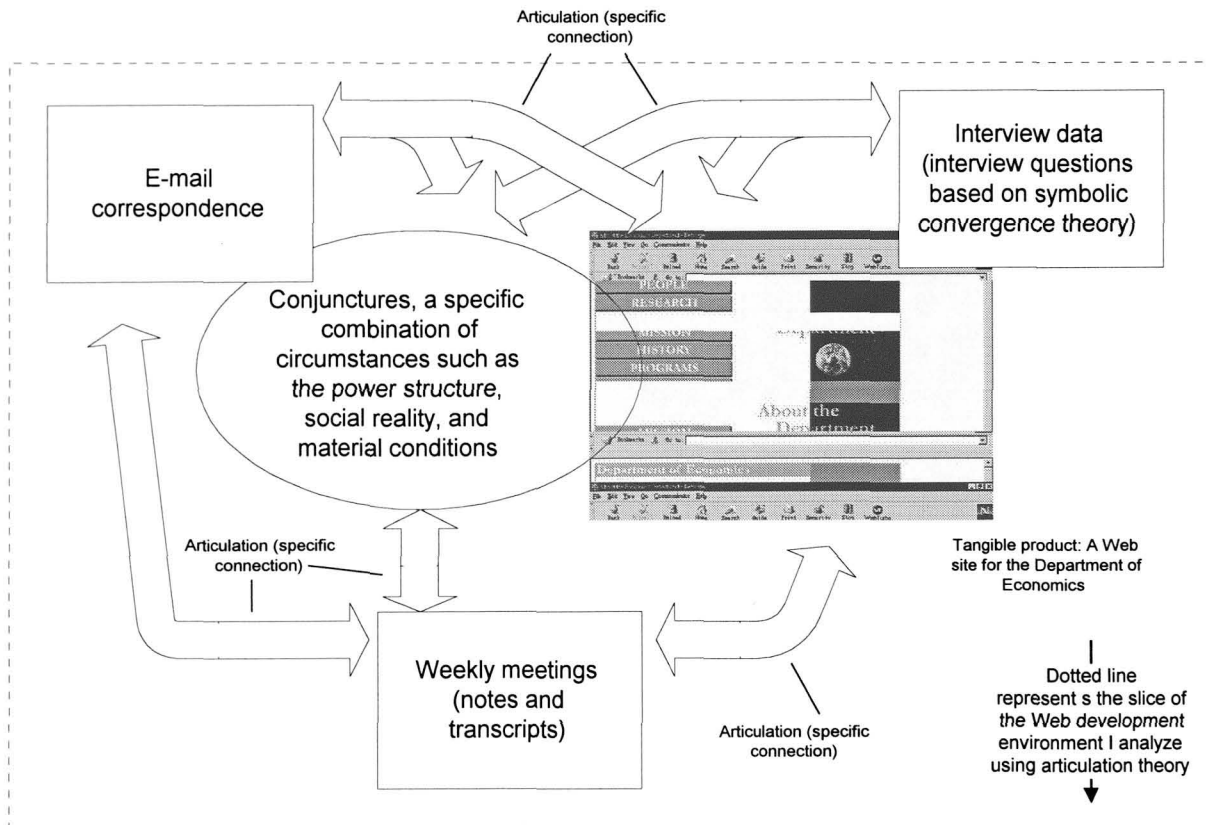


Figure 2 Articulation theory explains the connections between the Web site and the development process

Analyzing the connections between screenshots of the Web site and the data I collected helped answer my second research question: How is the concept of Webspace instantiated in a Web development project? The Web site is a tangible product that is a set of articulations with identifiable boundaries. The development of this Web site is informed and influenced by the specific circumstances of the Department of Economics. For example, the source or amount of funding may dictate the direction and duration of the project. Material conditions such as the availability of software tools or technology may impact the development process and thus change the look of the Web site. Power relations may expedite or hinder decision-making processes. Race and gender of participants may play a role in the development process. An infinite number of such elements can be connected to the Web site.

Articulation theory asserts that these connections must be understood in the specific circumstances or conjunctures. In Figure 2, these articulations (connections) between the Web development process and the Web site are represented by arrows. Although Figure 2 is one-dimensional and oversimplified, it roughly outlines how the concept of articulation connects the Web

development process and its specific circumstances. In the next section, I discuss briefly Bormann's symbolic convergence theory on which I based the development of my interview questions.

Symbolic Convergence Theory: Terms and Concepts

In this section, I briefly discuss the symbolic convergence theory from which I derived a set of interview questions. I go over the major terms and concepts of Bormann's symbolic convergence theory because my interview questions are largely based on it. Symbolic convergence theory is concerned with how members of an organization come to share stories, how themes emerge from these stories, how members arrive at a broader vision of themselves based on these stories, and how members then interpret or make sense of their reality based on the shared themes and stories. I based the interview questions on symbolic convergence theory because these questions encourage interviewees to discuss the organization and the development process through narratives. Narratives are a powerful tool because they describe a sequence of events in which human agents perform particular actions. Narratives also *internalize* reality in that they organize agent, agency, events, and setting. Recounting a narrative to reconstruct reality, to unleash characters acting in a setting is a process of dramatization. This dramatization enables a reenactment; thus, through a narrative, members who participate in the narrative reconstitute a reality. Narratives are a powerful tool with which members use to put order on chaos, to make sense of the world, and to create and share meaning.

Through his observations of workplace communications, Bormann argues that narratives are an important tool of communication in organizations. Organizational members tell stories that capture dramatizing messages within the organization. These stories are called fantasy themes. As fantasy themes circulate in an organization, a pattern, or a fantasy type, begins to emerge. Like a controlling metaphor in a fictive work, fantasy types shape the content of the stories that are told and the fashion in which they are told. The characters in the stories may change; the situation may shift. But the stories follow a pattern. Through these shared fantasies, members of the same community then form a rhetorical vision—an integrated vision of themselves in relation to one another and to the external community. Organizational members who participate in the rhetorical vision constitute the rhetorical community. An organizational saga is a detailed narrative of the organization's history, achievements, and vision; it includes the rhetorical vision and the shared fantasies of organizational members. Figure 3 represents the symbolic convergence taxonomy and illustrates the general relationship between the terms.

Table 1 summarizes key definitions of these terms. The figure and the table are not intended as a substitute for discussion of Bormann's symbolic convergence theory; they merely help sort through his theory and my argument.

Based on symbolic convergence theory, I developed a set of interview questions (discussed in the next chapter). Symbolic convergence theory allows me to examine how organizational members communicate to make sense of their social realities. The interview questions based on this theory are intended to elicit members' perception of the organizational saga, vision, and the vision's participating community. Participants' answers to these questions about the Department of Economics Web site

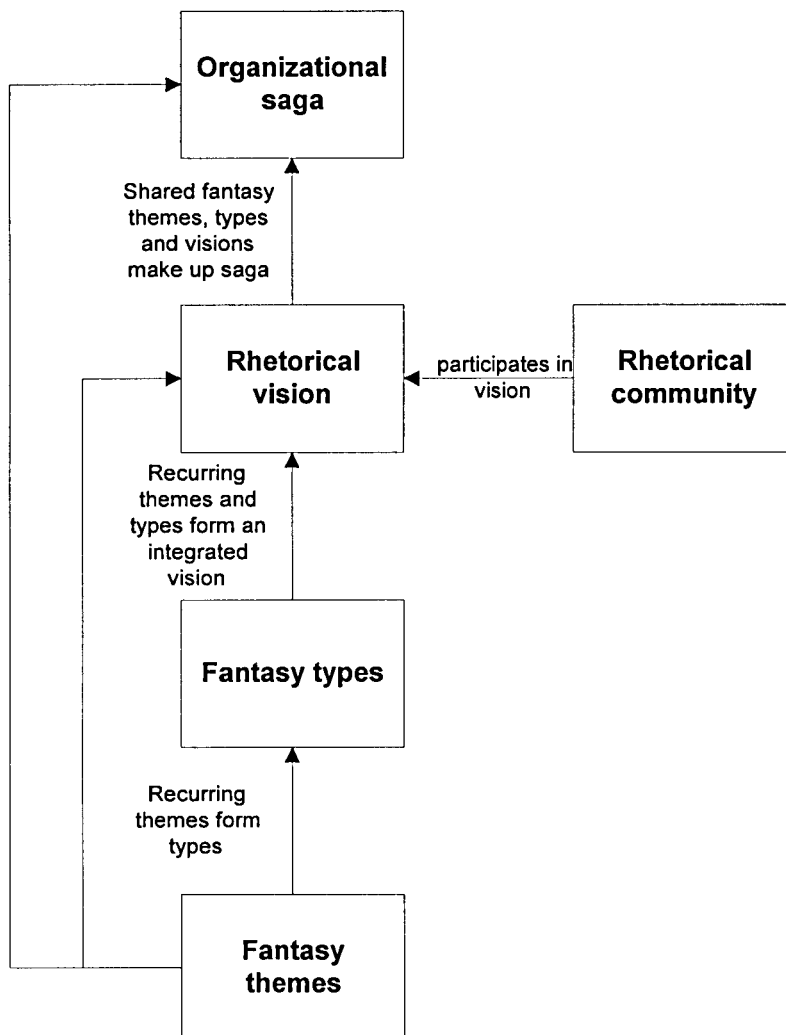


Figure 3 Visual representation of symbolic convergence taxonomy

Table 1 Taxonomy of Symbolic Convergence

Taxonomy of Symbolic Convergence	Definitions in Bormann's words
organizational saga	"A saga is a detailed narrative of the achievement and events in the life of a person, a group, or community. I use the concept of organizational saga to include the shared fantasies, the rhetorical visions, and the narratives of achievements, events, goals, and the ideal state of the entire organizations" (115)
rhetorical vision	"A rhetorical vision is a unified putting together of the various shared fantasies that give a participant a broader view of the organization and its relationship to the external environment, of the various subdivisions and units of the organization, and of their place in the scheme of things" (114).
rhetorical community	". . . people who participate in a rhetorical vision" (115).
fantasy types	"A fantasy type is a recurring script in the culture of a group. Often groups tell a variety of stories but many of them will be similar in theme and action. They will be essentially the same narrative frame but with different characters and slightly different incidents" (110).
fantasy themes	"A fantasy theme consists of a dramatizing message in which characters enact an incident or a series of incidents in a setting somewhere other than the here-and-now of the people involved in the communication episode. Fantasy themes are often narratives about living people or historic personages or about an envisioned future" (107).

helped me delineate the specific circumstances of the Web project. In the next chapter, I turn to a discussion of my data collection method, the types of data I collected, and my analysis of the data. I discuss in details how the interview questions were developed. I analyze the data that the interview questions helped generate and use the concept of articulation to examine how the Web development process is informed by articulating to the specific conjunctures of Webspace.

CHAPTER 3 SITUATION AND METHOD

In this chapter, I describe my research site's situation and the background of my investigation. I describe participants of both my research project and the Web development project. Then I outline my data collection and analysis methods and explain my rationale for collecting specific types of data.

The Site's Background, Situation, and Participants

My research is based on data I collected in a Web development project at the Department of Economics of a large midwestern university. I present the situation help situate the readers in the spatial and temporal realities of the project. I introduce two people: Mick Wiesel and Brian Pierce, who were responsible for constructing the old Department of Economics Web site. I also discuss two other faculty members—John Smith and Peter Herman—whom I interviewed as part of my research.

The Department of Economics is located in a modernist, 6-story concrete building constructed in the 1970s. The main entrance, located on the west side of the building, opens to a small lobby not much larger than a typical classroom. To the north and south sides of the lobby are sets of wooden doors, which lead to the north and south wings of the building, respectively. Classrooms are mostly on the ground level or in the basement. Offices are dispersed throughout both wings of the building and can be found on every floor.

On almost every Thursday for four months, I would walk into the small lobby and open the set of wooden doors leading to the north wing. I would walk down the long hallway, before finally stopping in front of Wiesel's office.

Wiesel is the Rural Data Development Project Leader in the Department of Economics—part of the professional staff and not a faculty member. Wiesel works on and sometimes manages several research projects and occasionally assists in writing grant proposals. Wiesel also supervises the department Web site.

Pierce, the in-house computer specialist, manages the department's Microsoft NT networks. Pierce also doubles as the trouble-shooting specialist, essentially fulfilling the role of the management information system (MIS) in corporations. He has the onerous task of supporting more than 160 employees' computing needs.

About 12 months prior to when my research took place, the department asked Pierce to set up a Web site. The Web development project was literally *dumped* on him. Pierce's training is in computer science, and so, he was not equipped to handle the content development end of the project. Further,

given his day-to-day tasks of maintaining the network and individual work stations, Pierce was able to devote little time to the Web site.

With limited resources, Pierce put up a site as quickly as he could. The site was *operational* in that all the links worked and all pages were filled with content. However, it was not necessarily *functional* because information was not chunked in a logical, useful order. Further, the project was plagued by not having an efficient and formal process for updating information and creating Web pages in place. For example, one professor asked Pierce to create a hyperlink from the homepage to a set of Web-based class materials she had developed. Another requested a hyperlink on the department homepage to a page listing his current research. Pierce carried out these requests. However, not having a formal process in place to manage development and to maintain the site on an on-going basis resulted in a cluttered homepage, an unsound file structure, and overall inaccessibility of the site. The Web site had not been updated in more than one year and was in a decrepit state.

Understanding that the site needed improvement, Wiesel applied for and received a grant from the Agriculture Extension at the university to revamp the Web site. Yolanda, another Web developer, and I bid for this new site development project and were awarded the contract.

Yolanda and I did not work on site because the department did not provide office and computing facilities for outside contractors. We used our own computing facilities and set our own hours. Using file transfer protocol (FTP), we uploaded the Web pages we developed to the Web server located in the Department of Economics. (FTP is basically a way for two computers to "talk" to each other.)

Yolanda and I divided responsibilities during the initial assessment phase. She was to develop the site's front end—that is, the general look and feel of all the pages. I was to devise the back end structure, which would include mapping the current site and developing the overall conceptual plan, a new file structure, and naming conventions.

During my initial assessment of the site, I realized that Wiesel saw this project as a redesign for marketing and self-publishing purposes. He wanted to use the Web site as an instrument to publish professors' work. Wiesel believed that the future of academic publishing lies with the Web. Wiesel believed that academic departments might one day look to the Web for self-publication rather than rely on expensive journals. Wiesel argued that the value of the academic journal system would be lessened, if not collapse altogether, if departments started self-publishing and if university libraries stopped subscribing to academic journals. Wiesel envisioned the Web taking the journals' place and existing journals become indexers of research on the Web. Wiesel wanted to use the Web to induce a cultural change—to get cooperation from professors to publish their research on the Web.

Wiesel also wanted the site to be a marketing tool. He was particularly interested in a Web site that he could show off to site's financiers. Moreover, he wanted a high-profile, marketing product that could help him secure more grants in the future. However, I felt that what little we knew about the targeted audience was completely speculative on our part. We had no real sense of what external users wanted and what other internal clients (professors, professional and administrative staff in the department) felt about the Web site. At this point, I proposed to Wiesel that it was necessary to interview users and clients as part of the initial assessment phase. The idea of the interview led me to consider doing research with this Web project. Four weeks into the project, I proposed to Wiesel to use the Web site and the department as a research site for my work.

Methodology of My Research

In this section, I discuss how I collected and analyzed the data to answer these two research questions:

- How is the Web development process informed or improved by viewing the Web as a dynamic social space and linking that process to its specific conjunctures?
- How is the concept of Webspace instantiated in a Web development project?

I identify four categories of data and explain how each category contributes to the pursuit of these questions.

Data collection methods

I collected four types of data. First, I have actual screenshots of the Web site before the redesign and during the development phases as well as marked up screenshot printouts with Wiesel's and our comments written on them. Second, I use relevant correspondence during the project. Most of the correspondence took place via e-mail and dealt with issues and questions that arose from Wiesel, from Yolanda, and from me. Third, I recorded the weekly meeting between Wiesel, Yolanda, and me and transcribed useful portions. Fourth, I developed interview questions and used them to gather participants' vision of the Web project. The third and fourth categories of data are the most promising arenas of the four for exploration. I discuss each of these categories and explain how I use the data to answer my research questions.

The screenshots were taken at various stages of the development process. Sometimes they were taken before and after a major change in the visual and conceptual design. Wiesel also printed out these screenshots and wrote his comments or his directions about how he would like to see the Web pages changed. During our meetings with Wiesel, we discussed possible changes to the Web site based on these marked up screenshots.

The second category of data, correspondence between Wiesel and me and between Wiesel and Yolanda, provides some record of participants' ideas and observations. The communication about the progress and state of the project sometimes contained useful information about the perception of the Web site and the approach taken in the development process.

The third category of data is anecdotes and transcribed dialogues of our weekly meetings with Wiesel, which generally lasted 45 minutes to one hour. During this time, we typically discussed how the project was to take shape in the immediate future and provided feedback for recent work we had done on the project. I took notes during these meetings and audio-recorded them. I relied on my recollection for anecdotal evidence. I transcribed sections of the audio tapes when detailed dialogues were critical to capture the dynamic of the conversation.

The fourth category is the most complex and thus warrants more detailed explanations than the previous three. I developed interview questions during the initial assessment phase of the project, which were designed specifically to draw out participants' vision of the Web project.

The interviews were a useful tool in the initial project assessment because they gave me a starting point and a tool to gather data in a distributed setting—that is, one in which professors and staff have varying schedules and do not often operate in a centralized location. In contrast, the majority of workplace employees operate in a centralized office location (with the exception of teleworkers, frequent business travelers, and employees in a different branch). Whereas academic administrative and professional staff may hold a 9AM-5PM schedule similar to workplace employees, professors and instructors teach in various locations and often do not work in their own office; thus, getting a focus group together is very difficult.

The following questions, based on Bormann's symbolic convergence theory, were used during the interview:

1. What is the organizational saga?
 - What kind of an organization are we?
 - What kind of people are members of our organization?
 - What do we do?
 - What is our purpose?
 - What exploits of the past are we proud of?
 - Why are we admirable?
 - What great things do we plan to do in the future?

2. What is the rhetorical vision of this Web site? What fantasies do members (faculty, students) share as a group? Of faculty's self-perception? Of students? Of the department? (Rhetorical vision—a unified vision of various shared stories that give participants a broader view of the organization and its relationship to the external environment)

Another way of phrasing this: How is vision of self as a faculty member part of the department's vision? How is the vision of the department part of Moo University's vision? And how is Moo University's vision part of the larger community's vision? Is this rhetorical vision indexed by a logo, label, or slogan? Do you know of any images or metaphors that represent the department and could be used on its Web site? (e.g., the "world" represents the wide scope of the department)

3. What is the rhetorical community? That is, who is participating in the rhetorical vision?
4. Do you think the Web site has a story have to tell about the department? If not, should it? What do you see as the most important function of the department's Web site? Is the Web site a student resource? Is it a tool for outreach or marketing? Is it a tool for research? If you were searching through the department's site, what would you like to find? (Content and/or appearance?)
5. How should this Web site convey or exemplify this story/saga about the department?
6. Do you have any favorite Web sites that could be used as models for the department's new site?

Using these interview questions, I interviewed individually Wiesel, the project leader, and two faculty members.¹ Because Wiesel is the project leader, he was an obvious candidate for my interview. I asked Wiesel to identify two faculty members who were interested in the direction of the Web project. Because the Department of Economics straddles across both the College of Liberal Arts and Sciences and the College of Agriculture and receives additional funding from Agricultural Extension, the two interviewees were a liberal arts economist and an agricultural economist. The selection of these professors was based on Wiesel's recommendation. I took notes during these interviews and audio-recorded them. I used anecdotal evidence from the interviews based on my recollection. When detailed dialogues were necessary in order to capture the dynamic of the conversation, I transcribed the audio tapes. In this case, I used my notes to help me locate the right place on the audio tapes and transcribed only those sections that I needed.

The interviews served two purposes. First, the interviews were intended as invention heuristics for the Web site. By asking representative members in the department these interview questions, I wanted to get interviewees to tell me stories about the department and about the Web site because "[o]rganizational members tell stories to other members or outsiders to show their organization is

¹ I had planned to interview two administrative staff, two students, and two people outside the department whom the project leader identified as users of the Web site. As I explain later in the discussion of my data, Wiesel did not want to conduct project planning and user testing.

different from any other" (Mumby 120). I purposefully retained the complex vocabulary of Bormann's symbolic convergence theory because interviewees were unlikely to be familiar with these terms and I wanted to see what responses Bormann's terms would provoke. During the interviews, I had to define and explain these terms. The caveat of retaining Bormann's complex vocabulary is that interviewees might become confused, or worse yet, frustrated by the obscure vocabulary. The questions were used to elicit the department's organizational saga to define Web site requirements and to identify the department's shared fantasies and its rhetorical vision. Further, the various answers to these questions illustrated how fantasy themes and types are negotiated and converge in a shared vision and how an organizational saga may emerge and come to be embodied in a Web site. In this sense, the Web site is a medium that contains a Webbed message produced for outside consumption.

Second, the interview was designed to influence perception of participants to view the Web as a networked social space, or Webspace, which enables social formation and is a platform on which organizations can be built. I designed this interview with the a priori assumption that viewing the the notion of Webspace influences the conceptual approach to Web development and may enhance the quality of the Web site. The interview sought to induce interviewees to view themselves as participants of Webspace. The interview was also aimed at educating them in seeing the department as an organizational narrative unfolding inside Webspace and seeing the Web site articulated in the narratives of the department.

Data analysis methods

I am interested in how the Web development process may be better understood and improved by connecting the development process to the specific social, material, and political circumstances of the Web project. I am also intrigued by how the concept of Webspace may be instantiated in a Web development project and thus inform the development process.

The interview questions were most valuable in helping me gain a better understanding the specific circumstances of the Web development project. The first interview question about Department of Economics's organizational sagas asked organizational members their perception of the department's past accomplishments and future direction. The second interview question about members' broader visions of the department and its relationship to the community at large. The third question asks who participates in the rhetorical vision. The answers to these three questions and the meeting data gave me a broad sense of the department's mission, history, pride, and future direction; answers to these first two questions and the meeting data help address the first research question: How does the concept of Webspace inform the Web development process? Specifically, I analyzed the data to see what role organizational member perceive the Web site to play in articulating the

organizational saga and rhetorical vision. I was looking for clues in the data that would help situate the Web site in the department's specific conjunctures or rhetorical situation.

The fourth and fifth questions ask interviewees whether the Web site has or should have a story to tell and how the Web site should tell that story. The sixth and last question asks interviewees to identify Web sites that can be used as a model for the Department of Economics's new Web site. These three questions are concerned with how the Web site may or may not be a story unfolding in a social space. The answers to these three questions help me understand how the concept of Webspace may be instantiated in a Web project.

The four categories of data—screenshots, correspondence, meeting notes and transcripts, and interview notes and transcripts—provide insights into the Web development project's specific circumstances. They provide rationale for making design decisions, insights into thought processes of the planning phase, and illustrations of substantive conflicts. In this section, I discuss how I analyze the data and how each category helps me answer my research questions.

The screenshots of the Web pages show the progression of the development process. These screenshots illustrate the connections I make between the Web site and the social and political factors of the Web development environment. By comparing screenshots at various stages, I can establish the relationship between the Department of Economics Web site and its specific conjunctures.

Because Yolanda and I did not work on site, we relied on e-mail and our weekly meetings with Wiesel to discuss the direction of the project, to report our progress, and to evaluate our work. These e-mail exchanges were sporadic. Nonetheless, they provided records of our ongoing dialogue, which helped articulate the Web development process onto Wiesel's vision of the project.

Our weekly meetings were important because these meetings were our only face-to-face contact with Wiesel during the course of the Web development project. Notes and transcripts of these dynamic exchanges were particularly useful in showing participants' perception of the Web site's function and the way that vision fits in with the social and political realities of the department.

Notes and transcripts of the interviews provided insights into how participants reacted to seeing the Web as a social space in which organizational sagas unfold. My interview questions were intended to provoke specific responses or reactions about the Web's narrativity—that is, how the Web may be a point of formation of organizational consciousness.

Together, these four categories of data were a rich source of the specific conjunctures of the Web development process that may be connected to the Web site. In the next chapter, I analyze my interview data and discuss my findings.

CHAPTER 4 NEGOTIATING ORGANIZATIONAL SAGAS IN WEBSITE

In this chapter, I discuss how the concept of Webspaces provides a conceptually different approach to developing the Department of Economics Web site. By analyzing a planning document that outlines the content of the Department of Economics Web site, I show how Wiesel and I approached development differently. This document was discussed during one of our regular weekly meetings. I then draw on the interview data and analyze participants' conception of organizational sagas. I relate the discussion of the organizational saga to the way it conceptually informs the development of the Web site.

The project to revamp the Department of Economics Web site, in simple terms, involves making use of existing content, developing new content, and putting a new, consistent face on both the new and recycled content. Wiesel and I approached this project from fundamentally different conceptual angles. Wiesel saw the project as a redesign in visual terms. Revamping the Web site meant fitting reorganized old content and newly developed content into a new structure and visual interface. I, on the other hand, saw the project as creating a Web site by conceiving the Web as a social space. Further, I believed that to develop an effective site, I had to go beyond asking questions about the audience and purpose; I needed to also consider and better understand the possible connections between the Web development process and other environmental conditions such as power relationships, shared visions and expectations of the community, and socioeconomic variables of people participating in the Web project. The concept of articulation enabled me to consider these connections and analyze them.

This thesis, then, is about analyzing the differences in our approaches and their impact on the development process. In this chapter, using articulation theory to analyze my data, I examine how the Web development process is informed by making specific connections between the Web site and the development environment. For example, if Wiesel disagrees with my approach or a certain aspect of the redesign, the source of his disagreement becomes an important factor that has a connection to the development process and to the Web site. The articulation approach seeks to account for and explain that connection.

Negotiating Webspaces—Spatial Realities and Structures

When Yolanda and I started working on this project to revamp the Web site, we quickly realized that there was not an implementation plan to carry out the Web site. Although the department

already had a Web site, the site was quickly thrown together, and there was also no repeatable methodology. Without much to build on, our effort to define the scope of this project had to be done from the ground up. Wiesel came up with a preliminary outline that was intended to guide us through the development of an overarching framework for the Web site. This outline does not reflect the specific requirements of the Department of Economics Web site and, in fact, is indicative of a rather limited conception of the Web as a document. Analyzing this outline provides insight into Wiesel's vision about how the Web site fits in with the social and political structures of the Department of Economics.

At the onset of consulting projects, clients typically gather background materials and deliver them to the consultant(s). These materials may be other products to give consultants a "feel" of what the clients are looking for. They may be examples of past failed attempts at attaining the product for which the consultants are hired to do. Or, they could be organizational specifications or requirements that regulate the production process or the shape of the final products. These documents go a long way in the organization of realities. They draw the picture that clients have in mind and are intended to guide consultants to construct the product according to that picture.

In the case of Web sites, the product is intended to attract people online, to *enter* a spatial configuration that the virtual language of HTML gives shape. As people enter the Department of Economics Web site, the people and the site constitute a Web organization. Documents that influence or control the design of the Web site contribute to the formation of social space and structure. The Department of Economics Web site is a hybrid Web organization (at least conceptually) in that it has a virtual department in Webspace and a traditional organizational counterpart—the department as most people know it. By definition of "hybrid," the Web organization and the traditional organization are one, inseparable entity. The Web site articulates the social reality of the organization. This is not to suggest that one can easily infer about the organizational reality from the artifact alone, but to identify possible links in which the Web site and the social reality it engenders (and is constituted in) cohere to bring social meaning to the Web organization.

Figure 4 is the old homepage of the Department of Economics Web site. The homepage is divided into three major sections: education, department, and university (on the bottom of the screen that is not shown). The way this information was chunked does not consider the division of internal or external audiences. For example, the education section contained both links to class homepages (for internal audience—existing students) as well as links to information about degree programs (for external audience—prospective students).

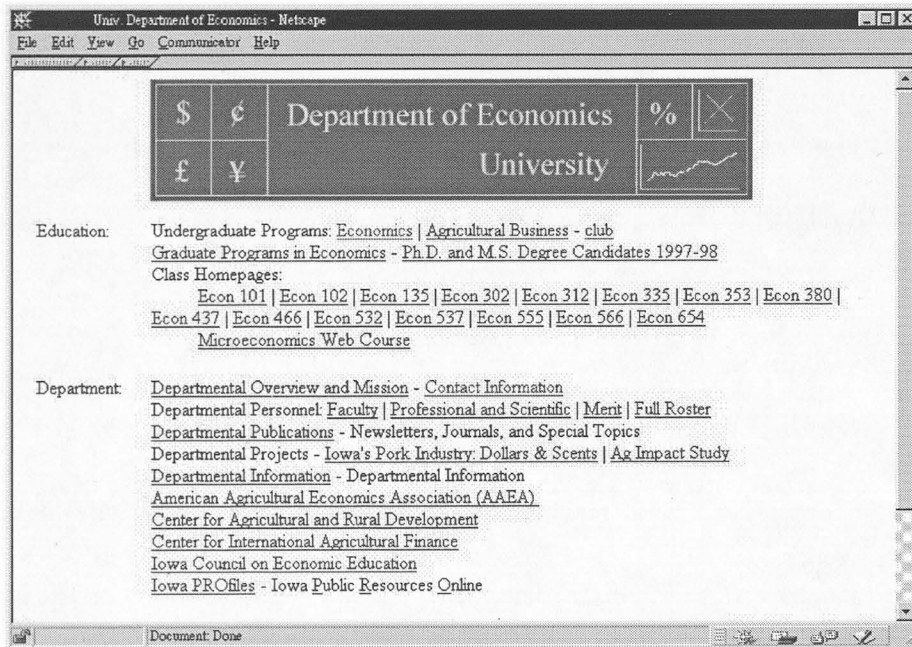


Figure 4 The old homepage of the Department of Economics Web site

On this homepage, the education section is in the most prominent position because it is first. What is peculiar about this is not that education is given a prominent position, but that such sections as research and outreach do not appear at all. Subordinate to the education heading are links to information about the undergraduate and graduate programs. Beneath those are links to class syllabi, assignment sheets, and other instructional materials.

Information about undergraduate and graduate programs is primarily intended for prospective students (external users). Of course, students already enrolled in the program (internal users) may be interested in accessing this information. For example, they may want to look up degree requirements. The class pages are intended for students taking those classes. Potential students may find these pages useful if they are researching contents of courses offered in the Department of Economics. The club is a hyperlink to student organizations, which may be of interest to both external and internal users. Although the information under the education section may serve both internal and external users, the overlap is minimal (see Figure 5).

Subordinate to the department heading, the Department Overview and Mission and Contact Information are where users might expect them to be—in the beginning. But the cognitive load upon users increases after that point. If we look hard enough under the department heading, we would notice an attempt, although not a very successful one, to organize the information (see Figure 6).

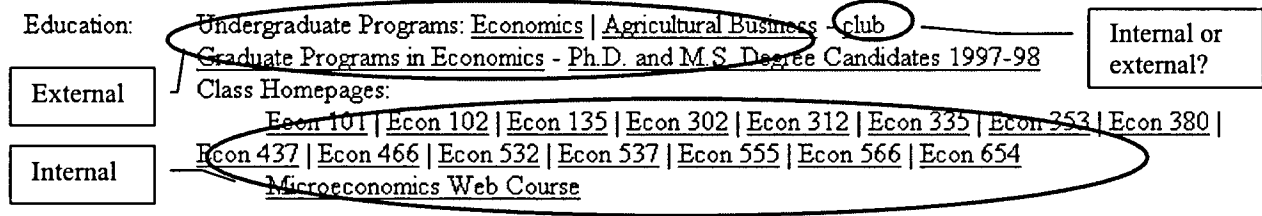


Figure 5 Internal and external audiences do not overlap in the education section

The way information in the department section is labeled is illogical and confusing. Contact Information and Departmental Information are buried and difficult to access. Departmental Personnel labels hyperlinks to faculty, professional and scientific staff, and merit staff. (A hyperlink, or a link, is indicated by the underline.) Departmental Projects labels hyperlinks to Iowa's Pork Industry and to the Ag Impact Study. These two parts share a label-hyperlink pattern. Departmental Publications is itself a hyperlink and is followed by a description. Iowa PROfiles is also a hyperlink followed by a description. These two parts share a hyperlink-description pattern. Curiously, Departmental Information is repeated. As a hyperlink, Departmental Information is self-explanatory and does not warrant a description.

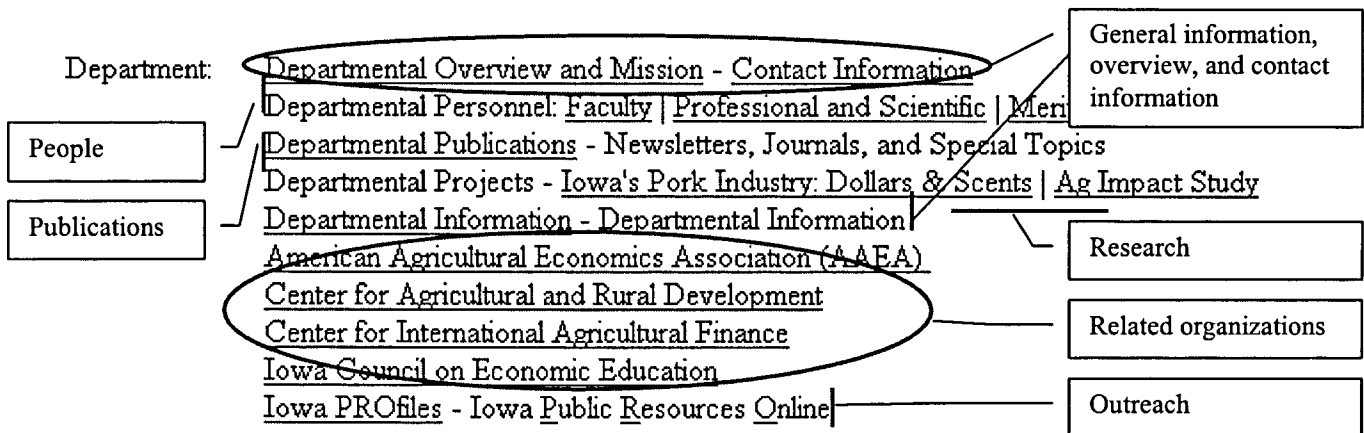


Figure 6 The department section is loosely organized

The confusion is further compounded by the lack of proper labeling. Departmental Projects are really professors' research. There is no way to distinguish independent organizations from affiliated institutions within the university. Although Iowa PROfiles is labeled as public resource, its ostensible outreach function is compromised because it is not specifically labeled as outreach.

Other instances of such information design problems similar to those found on old homepage abound throughout the Web site. Several factors account for these problems: time constraint, source

of content, and the Web designer's lack of information design experience, and lack of formal processes.

1. Time constraint

Pierce was not given a lot of time when he was charged with setting up the Web site. In addition to developing the site, he also had regular duties as a MIS support staff. Naturally, Pierce did not have the luxury of performing needs assessment nor taking the time to plan the site.

2. Source of content

Pierce scrambled to gather information from various sources within the department and slapped it onto the Web. This is not unusual because existing documents such as flyers, brochures, memos, manuals, and annual reports, just to name a few, are a common source of Web content. A typical task for Web content developers is not necessarily creating new content for the Web medium, but retrofitting existing materials.

3. Lack of information design experience

Pierce did not possess the knowledge or skills to retrofit existing materials for the new medium. Trained as a computer engineer, he lacked the necessary information design skills to develop the Web page even though he understood the Web technology and was able to set up the Web server.

4. Lack of formal processes

The department had no formal process for developing content or updating the information on the Web site. Although there are several Extension professors, Pierce did not know who was responsible for providing content if he needed content for the outreach section. No formal processes were in place as to who should provide content updates and who, other than Pierce, was responsible for updating the content. Professors who presented at conferences or conventions asked Pierce to put their slides on the Web. Others asked Pierce to add a hyperlink from the homepage to their current research. Without a process that determines where information was coming from and where it was going and who was responsible for that information once he or she got it, the Web site naturally displayed the chaotic homepage as shown in Figure 4.

This was the state of the Department of Economics Web site when Yolanda and I stepped in. Although Wiesel did not use these exact words, his vision of the entire Web development project could be summarized as follows:

(1) Map the existing site

- (2) Mine the existing site and savage reusable content
- (3) Rechart the new site—that is, develop a new structure for content
- (4) Develop a new outfit (a new visual presentation)
- (5) Fit the content into the new outfit

During the first meeting, I volunteered to comb through the site to map its existing structure and develop a new one. Yolanda was responsible for designing the site's new outfit. Wiesel handed Yolanda and me a copy of the outline he wrote, which delineated his initial vision of the site's overall content. He titled the document, "The World of Economics," and used the world metaphor to create a "wide world of economics" theme and obviously wanted to indicate the comprehensiveness of the information available on the Department of Economics Web site.

Figure 7 is Wiesel's original outline (hereafter "The World of Economics"). Wiesel intended this only as a starting point. He did not try to push us to adopt this outline as the basis for development. (The text has not been edited and the layout has been preserved. I added the boldface to highlight the major sections. I also added the roman numerals and the alphabet to help me refer to this outline in my text.)

The outline was not only a description of the content, but also a primitive, textual site map, as well. The major headings (in boldface) represented major links on the homepage. The subheadings represented links to be found on the second level of Web pages. The outline also provided navigation strategies. For example, under I-B, Wiesel indicated possible links to other sections of the Web site. Moreover, the outline took a preliminary shot at content development. For example, under III-F, Wiesel suggested using a blurb describing the department's and the university's computing facilities.

I found the outline difficult to use because it blended, if not confused, the functions of a content outline and a site map. A content outline identifies major categories of information and provides a structure for labeling and grouping that information *without* necessarily suggesting the conceptual design of the Web site. A site map, on the other hand, delineates the relationship between hypertext documents and provides a strategy for the overall organization of the Web site. Obviously, there can be and, in fact, will be some overlap between the two. But a content outline and a site map are not necessarily, and perhaps should not be, the same document. In fact, as a site map, its effectiveness was compromised because it was not a graphical representation. In its textual form, the outline did little to help me visualize the structure of the site although it gave me specific content categories that Wiesel envisioned.

During the course of the planning phase, I felt that the *generic* plan outlined in "The World of Economics" would not lead to a satisfactory redesign. The plan was generic because its content was

general and predictable as if the plan were designed by an outside consulting firm that had little knowledge of the department. "The World of Economics" also did not provide a level of details about or information specific and unique to this department. Perhaps, "The World of Economics" may possibly imitate the structure and organization of Department of Economics Web sites at other institutions.

In dividing the development responsibilities in the beginning, Wiesel said,

One of our first goals is to map out the entire Web site. There are some pages on our site right now that are just a dead end. You can get in there, but you can't get out. Some professors are updating and uploading their class pages. So we really don't know what's out there. I think one of you could be working on coming up with the general feel and look of the page. It's important that we have a consistent presentation throughout the site. We don't want users to come into our site and be confused by the many "feels" out there. Maybe one of you could start mapping the site and developing a structure. Once we know what's out there and we have the visual design, we can start moving things. (January 6, 1998)

The development plan that Wiesel had in mind basically involved moving pieces of information to a more logical location and making the presentation of the information more aesthetically appealing in the process. The current Web site was in shambles—like a wall dotted with numerous unframed paintings. Finding a specific painting would be difficult because the paintings were not placed in any particular order. Wiesel wanted to rearrange these paintings on the wall according to some themes. In the process of moving them, he wanted to frame and restore the paintings. Whereas Pierce once retrofitted print documents to create the content for the Web site, Wiesel now wanted to retrofit the existing Web site to fit a new redesign template. "The World of Economics" reflected this approach and suggested a vehicle for moving the art pieces around on the wall. The outline reflected Wiesel's view of sequential tasks that constitute the development process. However, "The World of Economics" could not help me establish specific connections between the department and the Web site Yolanda and I were to reinvent. In other words, the outline did not help articulate the department onto a conceptual plan of the Web. Instead, "The World of Economics" suggested generic and universal connections between the major sections of the Web site and the department's organizational reality. If one were to ask the simple question, "Who are the audiences of the Department of Economics Web site?" the answer would almost be as simplistic as the question: prospective students, professors and researchers at other institutions, agricultural businesses and farmers, as well as students and faculty within the department. "The World of Economics" is a generic plan that targets these audiences.

My point here is not that perception of these audiences is inaccurate; rather, "The World of Economics" suggested an essentialist connection between the Web and its presumed audiences. "The World of Economics" was unable to consider adequately broader conditions that define the Web

 The World of Economics

(I) About the Department**(A) Who we are**

Faculty
 Professional staff
 Support staff
 Students

(B) What we do

Education (link to Economic and the Student)
 Research (link to Economics and the Profession)
 Centers
 Publications
 Journal article abstracts
 Working papers
 Journals

(C) Outreach (link to Economics and You and to Economics and the News)**(II) Economics and You**

- (A) Faculty/staff subject index (links to faculty/staff pages and program materials)
- (B) Faculty/staff program listing (links to faculty/staff pages and program materials)
- (C) Extension program materials
- (D) Extension and Outreach publications
- (E) Outreach scenario builders
- (F) Iowa PROFiles—Public Resources Online

(III) Economics and the Student**(A) Program overviews**

Undergraduate
 Liberal Arts and Sciences
 Ag Business
 Graduate
 M.S.
 Ph.D.

(B) Course catalogs, offerings, and schedules**(C) Current course materials (linked to catalogs, offerings, schedules and faculty)****(D) Students****(E) Faculty by field (links to faculty pages)****(F) Facilities**

Computer labs and facilities
 Departmental labs and support
 University (descriptive blurb and link to computation center)

Library

Reading room
 Parks library (blurb and link to Parks Library)

(IV) Economics and the News**(V) Economics and the Profession**

Links to faculty by field
 Links to research

Figure 7 "The World of Economics" Outline

development project. To be sure, connections undoubtedly exist between an audience and a Webbed message. This connection, however, is rarely linear, one-dimensional, and unchanging. The articulation approach not only acknowledges that there are connections to be made but also questions *how* connections are made.

In summary, Wiesel saw this Web project as a straight-forward process of moving around Web documents and making them look different. My approach was different. I saw the Web as a museum with different galleries; I wanted to move these paintings from the wall and exhibit them in various galleries. Rather than using a generic blueprint for the museum, I wanted to interview museum staff and museum goers to access and assess their vision of the museum. This blueprint and the resulting museum could have specific connections to people's vision and to the unique environment in which the blueprint and the museum are conceived. In the next section, I discuss how the Web development process is articulated onto the organizational saga.

Conceiving Webspace—Articulating Web Site Development onto Organizational Sagas

Analyzing the organizational sagas of the three organizational members revealed three issues about the department, about the Web site, and about the development process. First, organizational members all saw that the department is unique in its intradepartmental rift. Second, organizational members have radically different visions of the social purpose of the Web site. Third, close access to the Web has a strong impact on negotiating power relationships in the development process. In the remainder of this section, I discuss how various organizational sagas helped shape different perspectives of the Web site and how these perspectives are negotiated in the power structure. Together, they help me comprehend the social reality and the power structure of the Department of Economics, which conceptually shapes the development process.

Organizational sagas, to the extent that they exemplify common fantasies within an organization, convey the larger picture of organizational reality. But organizational sagas are more than just the larger picture conveyed in the form of mission statements and vision. They involve "the necessary fantasy chaining" (Bormann 121) in that fantasies are produced, shared, reinforced, reproduced, and then reinvented.

As explained in Chapter 2, organizational sagas contain shared fantasies and stabilized-for-now visions. The organizational saga answers these questions:

What kind of an organization are we? What kind of people are members of our organization? What do we do? What is our purpose? What exploits of the past are we proud of? Why are we admirable? What great thing do we plan to do in the future? Answers to these questions provide an explanation of our better natures and our strengths. They often are the aspect of

our symbolic ground which we emphasize when we develop messages for outside consumption. For example, a good way to get some answers to questions such as the above about a community or liberal arts college or university is to look at the brochures and bulletins the institutions send to prospective students. (Bormann 116)

Similarly, an equally good way to get some answers to questions such as "What kind of an organization are we?" about an academic department is to look at its Web site. In their communication of vision and purpose, Web sites can be articulated onto organizational sagas and understood as an exemplar containing a formalized, dramatizing message that is endorsed by the powers that be in organizations. Organizational sagas can inform the Web development process by examining how visions about the Department of Economics and about its Web site are shared or how they are chained together.

My symbolic convergence interview was designed to elicit members' perception of an organizational saga. It was an attempt to get people to tell stories, which helped form the narrative space of the organization—that is, what events unfold and how they unfold at a specific time in a particular spatial setting. The organizational saga provides a map to both a metaphoric, virtual organization as well as to an actual, hybrid Web organization, which the Department of Economics is.

The one-of-a-kind saga—a divisive department and its uniqueness

The Department of Economics is divided among three camps that have varied research orientations. Because of professors' different research foci, they receive funding from an array of sources and have different agenda. First, theoretical economists receive their funding from the College of Liberal Arts and Sciences. Second, agricultural economists receive their funding from the College of Agriculture. Third, the Extension economists receive their funding from the Agricultural Extension. The three camps are aligned with different political and economic interests in the allocation of departmental resources.

Wiesel responded this way to the question about organizational sagas

First of all, there are three separate camps in the department. The saga is or should be between these three camps. Unlike most departments, the Department of Economics here is divided into three main camps. Each camp is funded by a different source. There are theoretical economists, agricultural economists, and Extension economists. (March 12, 1998)

Wiesel's response suggested a wide division within the department. Smith, an Agriculture Extension professor, also echoed that sentiment. Responding to the same question, Smith said:

I don't think you can get anyone in this department to agree on an organizational saga. I don't think this department has a shared vision. It's like a James Michlin novel. It starts out being one thing. But the story progresses and characters develop, and the story turns into something else. (March 3, 1998)

The notion of an organizational saga may erroneously lead one to believe that an organization has one unified saga that all members buy into. Because the department's Web site is supposedly an integrated presentation of the department as a whole, there might be an expectation that the Web site must somehow negotiate multiple sagas and that the Web developers must reconcile the differences in their development process. There is sometimes a desire to tell a story that is free of contradiction, a tendency to suppress differences. Such a conflict over which version of the story to tell is to be expected. Bormann says,

When there are substantial communities within an organization committed to different organizational sagas, you can anticipate battles over policy, mission, decisions relating to future commitments, budget allocations, hiring and firing of employees. . . . (116)

Of course, when the Department of Economics is divided as it is, there is likely to be dissent of the Web site's purpose and the way the Web site should be designed to meet that purpose. Although the department does not have a single, unified organizational saga, universality and uniformity are not a precondition for the existence of organizational sagas. Bormann says, "To function, the saga, much as a fantasy theme, must be shared.... The organizational saga may be shared by only a portion of the formal membership of the organization" (115).

The multiplicity of organizational sagas, then, is not unusual nor unique to the Department of Economics. In interviews with three members of the Web project and in casual conversations in front of the vending machines and elevators, I notice that department members share a belief that the division within the Department of Economics is unique on campus. Members share a fantasy that the Department of Economics is unique in having multiple shared visions, in being divided among many factions, and in having that division complicated by departmental politics. A fantasy type—a recurring fantasy theme—emerges: The Department of Economics is deeply partitioned. The politics in the department are worse than you'll see elsewhere. We're not like anyone else you will see around campus. Members' vision of the Web site echoes this sentiment. Both my interview data and casual conversations support this point. Members believe that subgroups within the organization would want the Web site to fulfill different purposes, that it is impossible to strike a consensus about how the Web site is to present the department as a whole, and that the department is unique on both of these counts.

Wiesel followed by adding that the saga should be about a "department that does very good basic research." Wiesel described how each of the three camps fits into the organizational saga:

The outreach portion is to give it [the basic research] 'home' and make it useful. It is about 'How do we teach people to do things better with what we know?' Then applied research deals with things such as policy analysis as it applies to real data. This is a lot of what the AgEcon is doing. (March 5, 1998)

Wiesel's version of the organizational saga is generally consistent with Smith's version. Although both claimed that the department has no single, unified saga and that it would be impossible to find two people who agreed on it, their versions reflect recognition of the department's division and distinct functions that describe each camp's work.

Smith elaborated on his idea of the department's organizational saga:

We have a rich history and foundation to tell. This is one of the earliest Ag Econ departments in the country. The concern and challenge here is that we have to convince people. We have theoretical economists as well as top people in [specific practical] areas down to the decision-making level on the farms. The top-notch theoreticians are getting paid to push the frontier of knowledge and research. That's an important job. So they may pick 20 or 30 people in other departments in this country and say that's who I'm going to write for. But people coming to our Web site are not going to care. They will ask, "What have you done for me lately?" They need relevant information in a usable format. We respond to some kind of crises they have. One of the challenges for this Web site is to convince that these two stories are intertwined. (March 3, 1998)

Smith's version unfolds the "achievements, events, goals, and ideal states" (Bormann 115) of the Department of Economics. Because Smith is an Agricultural Extension professor who is concerned with doing usable research and community outreach, his version of the saga naturally displayed a bias towards applied research. Although Smith reduced the three camps to the polar ends of "theoretical" and "practical," he maintained the division and saw the organizational saga as "intertwined."

Although Wiesel recognized the department's three camps in theory, he shut them down in practice during this project by not conducting needs assessment and user validation and testing. In fact, Wiesel was not interested in knowing or understanding the organizational saga and using it as an invention heuristic. His primary goal was to develop a site for marketing purposes.

In the following exchange, Wiesel again revealed his view that the Web site is and should be a marketing site.

- Steve: Do you think the Web site has a story have to tell about the department? If not, should it? If you were searching through the department's site, what would you like to find in terms of the content or appearance?
- Wiesel: Except for students who are interested in the department, most people don't surf the Econ site. They are coming to look for information they need and get out.
- Steve: What do you see as the most important function of the department's Web site? Is the Web site a student resource? Is it a tool for outreach or marketing? Is it a tool for research?
- Wiesel: The most important thing is not to provide a story or explanation, but a consistent presentation, political and media interest. In other words, understanding is not as important as name recognition.

Wiesel was resistant to my approach and did not respond to the symbolic convergence vocabulary. He was unwilling to recognize the potential that metaphors have for developing an interactive environment.

Given the numerous occasions that Wiesel had claimed that the Department of Economics Web site is a marketing site, it was not surprising to discover that Wiesel did not see the Web as a story space. To Wiesel, the Econ site is a repository of data and information. People needing specific information come to the site to find it and get out. Implicit in his view, the function of the Web site is to have a good indexing and searching capability so that information is well-organized and easily retrieved.

While Wiesel did not see the Web as a social space, he would at least acknowledge the metaphor of a container that holds information. Wiesel believed that the Web need not have a compelling narrative and that the Web's function is not to persuade. Nonetheless, he believed the Web should fulfill a psychological and rhetorical need because it should help Web users establish name recognition with the Department of Economics.

Web space's reality—the social purpose of the Department of Economics Web site

The three members I interviewed envisioned the Web as performing different social functions. For Wiesel, the Web site is a marketing tool. For Profession Smith, the Web site is an online outreach community. For Herman, the Web is an interactive learning experience for students. The Web becomes a social space when it has a complex social purpose and is intended to fulfill that social function. Analyzing participants' perception of the Web site's social purpose and function can reveal the specific connection between the Web site, the people who exert control on the development of the site, and the people who use the site.

In describing his vision of the Web site to Yolanda and to me during initial and subsequent meetings, Wiesel had repeatedly claimed that the primary purpose of the Web site was marketing. Funding for the Web site's redesign came from the Agricultural Extension, whose mission, in simple terms, is to make research, information, and data accessible to the public. Because of the funding source, the primary focus of the Web site, then, was to serve as a resource for decision-makers in the state. By decision-makers, Wiesel was indirectly referring to farmers or agricultural businesses in the region. According to Wiesel, however, the site really should address public servants who represent *everyday* decision-makers and exert influence or control over state funding sources.

Wiesel, then, wanted to turn the existing Web site into a marketing instrument that would help the Department of Economics secure more funding for improving the Web site in the future as well as for other research projects.

During one meeting, Wiesel identified one of his internal goals. He envisioned the department to self-publish. He wanted to get professors to cooperate and publish their research on the Web. With

that goal in mind, Wiesel wanted a redesign that he could show to the faculty to get them to cooperate.

While Wiesel would acknowledge that the Economics Web site is all of these things, he primarily viewed the site as an instrument of change. Throughout the project, Wiesel preferred to consider the Web as a marketing instrument. As a marketing instrument, the Web site is a Webbed message that seeks to mediate public perception of the organization.

Steve: What great things do we plan to do in the future?

Wiesel: What great things do we plan to do in the future?

Yolanda: (laughter)

Steve: (indecipherable)

Wiesel: In the future, aah, I think we definitely want to extend ourselves beyond the university and the classroom. I think we want a bigger presence outside the campus both for our research and outreach. I think that we want to do a larger amount of self-publishing. At the moment, the professional level won't allow that as it does in physics. One of the funny things about the network and computers is that it takes the social sciences and make research implode at the individual level because now you push all the data sets yourself. It has made all the social sciences more social. It has made all the physical sciences like physics and chemistry more social. They have used the Net to expand. It's funny. It's funny 'cause the social end of the science world has imploded and become more individualistic and the individualistic end of the science has opened up and become more social. What physicists have on the online journal is the way of the future. Instantaneous reviews. We're gonna have to get there. We're gonna have to get there if we want to compete.

Steve: That is...become more social...

Wiesel: Yeah, and we're gonna have to do more self-publishing. (March 5, 1998)

When I asked Smith, "Is the Web site a marketing tool for the department?" he perceived this question as one relating to recruitment. He said, "I don't mean to be offensive here. But I am less concerned about the students. They are a captive audience. We don't have to worry about making the Web site sexy [for them]. They already made a commitment as far as education is concerned." While the Web site is an inseparable combination of rhetorical vision and community, students are only on the periphery of, if not excluded from, the rhetorical community because they are not seen as actively producing information. Smith saw students as passive consumers of information, which disqualified them as participants in, contributors to, and negotiators of the rhetorical vision.

Smith's pinned the focus of the Web site on outreach, which, when done well, is an excellent form of marketing. Although Smith believed that the Department of Economics Web site should serve an outreach function, he was reluctant to see it as a pure marketing tool.

Steve: What do you see as the most important function of the department's Web site? Is it a student resource? Is it a tool for outreach? Is it a marketing tool for the department?

Smith: Everything I've said so far is outreach. But I'd like to think that marketing is not our primary issue because I think it takes away from our valuable attention away from valuable work. We need to spend our time proving that we are capable, rather than spend our time making proclamations. We want to lead by example. (March 3, 1998)

A consistent message in Smith's responses is the valuable research of professors who are making contributions to the community. The Web site needs to exemplify the work of people who are actively engaged in community service and outreach.

The next passage again shows Smith's emphasis on making people's presence the core component of the Web.

Steve: If this department has some kind of story that needs to be told, what do you think this story should be?

Smith: The story that needs to get told is that a lot of stuff that we do out there belongs to the department. As the old cliché says, "People have problems. University has departments." People need to know that this stuff comes from the Econ department. And for kind of selfish reasons, this goes back to what I was saying about the people. Faculty are doing valuable work that people need.

The second story is that the topics that people care about are what the Department of Economics is addressing. And again I use the term relevant. Relevant issues in usable format. One of the curses of academia is that we sometimes publish for our peers, but not for the people. You have to remember that 60% of our funding comes from the AgBusiness College and the other 40% comes from Liberal Arts and Science (LAS).

The Web site needs to be attractive. One that people will return to. We need to win them over to listen to our story. That's the *story* we need to get across. Our page is ugly as sin right now. (March 3, 1998)

Smith was very responsive to my symbolic convergence interview. He adopted key terms in his responses from the questions I asked him. He described his vision by indicating what the story of the Web site and of the organization should be.

Smith pointed out that one of the most important functions of the Department of Economics Web site was to address "relevant issues in usable format." More important, he wanted the Web to convey clearly to the Web users the source of that relevant information—in other words, to give credit to professors for their research work.

When I asked Wiesel who the rhetorical community is consisted of, he answered it very differently:

Steve: What is the rhetorical community? That is to say, who is participating in the rhetorical vision?

Wiesel: You mean in terms of population or, or how consistent the population is?

Steve: Well...well...the question before this is, What is our the rhetorical vision?

Wiesel: Well...I'm trying to think. Is the community you're talking about the audience?

[pause]

Steve: Yeah, yeah, the audience community.

Wiesel: . . . the publishing community? There are two sides to this, right?

Steve: It could be. It could be both. It could be both.... That's why I didn't say "audience."

Wiesel: Okay, the most defined community that's receiving things right now is prospective students. The second most respected community is other people in the profession sharing research. Unfortunately, probably the most nebulous community we have right now in terms of access, in terms of knowing what they want, is the outreach community. And that's what we're funded to do. That's where the money is, that's where the immediate, the immediate result has to be. (March 5, 1998)

While Wiesel found prospective students to be the most well-defined audience, he considered the outreach community to be the Web site's primary audience. On this point, Wiesel and Smith agreed, which is not surprising because Smith, after all, is an Agricultural Extension professor, and his job is concerned with making research accessible, usable, and practical. Wiesel arrived at the outreach community, however, from a very different angle. Wiesel saw the Web site as a piece of economic commodity *for* the outreach community and to be *exchanged for* the funding that the Agricultural Extension provided for revamping the Web site. Smith, on the other hand, was willing to allow the possibility that the Web is a community.

Wiesel was notably uncomfortable with the notion of a community on the Web. He much rather thought in terms of an audience. After he got the clarification he needed from me, he answered my question as if the question were, "Who is the audience?"

Herman provided yet another perspective. Housed in the College of Liberal Arts and Science, Herman placed a greater focus on education and recruiting than on outreach and research.

Yolanda: Who is the rhetorical community?

Herman: I think the students. It is essential for our Web site to be a tool for students within and outside the department. The Web is an important medium, and I guess, well, for our internal community because it is an easy, accessible platform for communication. We need to have the class pages up. That's how a lot of the students and faculty use our Web site. We also need it [the Web site] for external students. It's a recruiting tool, one that we really can't do without. At least, that's what I'm finding ourselves.

Yolanda: It is a student resource and an outreach tool.

Herman: Absolutely. Outreach for students. (February 25, 1998)

Power structure and the development process

Competing organizational sagas within the Department of Economics are articulated onto the power structure of the department. As Bormann pointed out, multiple sagas within an organization

could lead to disputes about policies, budget allocation and, of course, the direction of the Web site development. Power relations govern what connections can be made between organizational sagas and their expression on the Web site. Although tenured professors outrank professional staff such as Wiesel, it was Wiesel who had ownership of the development project. Through his intimate knowledge of the development project, Wiesel was able to negotiate the articulation of organizational sagas. While other members in the department might claim that the quality of the final product may be of the greatest importance, the driving force behind development of the Web site was the swift deployment of a Web site that would meet the marketing purpose that Wiesel had prescribed.

To diffuse the potential conflict that resulted from competing organizational sagas, Wiesel pursued the Web development project in a very controlled setting. The prototype in development was not publicly available to professors and other members in the department. Wiesel only showed the early prototype to the department chair to get his sign-off and to a few other professors. Wiesel did not want to show the site until it was publicly unveiled on an official "live date." Further, Wiesel told the faculty that he planned to go ahead and have the site set up without an in-depth planning phase and user testing. He said during one weekly meeting,

I told [the chair] that we are not going to go around and ask everyone for their input. Basically, anything we put up is an improvement over what we had before. If we start getting too many people involved in the planning phase, pretty soon we're not gonna get anything [the Web site] out of it. Tenured professors are also in the situation that they don't have to cooperate if they want to and can't get fired for it. [laughing] In fact, I'm the only one who can get fired. (March 5, 1998)

Wiesel's comment specifically relays the power structure in an academic institution. Wiesel, Yolanda, and I all find ourselves in a curious position in universities' power structure. As the project manager of this Web site, Wiesel was given full responsibilities and a lot of authority to carry out the project. However, when he needs the cooperation of tenured professors such as getting professors to publish their research on the Web site, he can only try to cajole or persuade them.

While there is clearly a power differential between tenured faculty and Wiesel, Wiesel was able to control the development process. For example, Wiesel did not want to present to the faculty more than one design because various members might favor different designs and be unable to come to a conclusion. Wiesel argued that because any new design was bound to be better than the existing Web site, he did not want to make the development task more complicated by presenting choices. By manipulating the development process, Wiesel was able to present only one design choice to the faculty. And in controlling the presentation of the redesign, Wiesel provided only limited access to the site and also limited participation in the development process.

As consultants on this project, Yolanda and I play dual roles that are differentiated according to our positions in the power structure. Wiesel and other members of the faculty with whom we had to work respect our professional opinion and input. As outside consultants, we possess the knowledge and skills needed to implement this Web project. Our training in rhetoric and professional communication and experience as Web developers establish our credibility and enable us to exercise control or influence over the Web project.

At the same time, both Yolanda and I are graduate students in the Rhetoric and Professional Communication program. Although we are in a different academic department, our status as graduate students is invariably filtered through the overarching power structure within the university. We are thus pressured into making decisions not necessarily based on what we felt was the most suitable for the Web site. Further, as outside consultants, we uphold the interests and needs of the client. On several occasions, I disagreed with Wiesel's concept and approach from a development perspective. But I deferred to Wiesel's understanding of the inner working of the department and to his role as the project leader.

In summary, the Department of Economics Web site could be articulated to its organizational sagas, that is, to the narratives of the department's vision and achievements. Because the Department of Economics actually straddles across two university colleges—College of Liberal Arts and Science and College of Agriculture—and receives additional funding from University Extension, multiple organizational sagas exist. There is no one uniform, universal saga for the entire department. Organizational sagas compete for expression on the Web and are negotiated among communities sharing those sagas. While no one individual can easily change organizational sagas, people such as Wiesel who control development of the Web site can manipulate their expression. Like controlling metaphors in a fictive work in which characters enact events in a fictive space, organizational sagas serve as an overarching framework in which participants enact dramatized messages in Webspace.

CHAPTER 5 ARTICULATING THE DEPARTMENT OF ECONOMICS WEB SITE IN WEBSITE

In this chapter, I discuss how the concept of Webspaces is instantiated in the Department of Economics Web site development project. I analyze how the development process is connected to the specific circumstances of the project. Specifically, I show how this process needs to be understood as a function of the power relations in the Web project. Scholars have argued that the construction of organizational reality should be examined in conjunction with the power differential that impacts the negotiation of that reality (Witten). Examining how the development process is articulated to this power structure, then, is necessary to understand the development process.

I first discuss the creation of the first prototype of the Department of Economics homepage and the metamorphosis this prototype underwent in the negotiation of power relations. Second, I examine how participants' visions of the Web site differently inform the conception of the Web's rhetorical space. Finally, I use a series of screenshots of the "about the department" section as an illustration of how the concept of Webspaces is instantiated.

Creating Webspaces—Designing the First Prototype

Based on the interview data and discussion Yolanda and I had with Wiesel, we came up with the first design of the homepage (Figure 8). The interviews and meetings gave me a sense of the Department of Economics's sagas and visions, history and stories, and the department's spatio-temporal relations to the external communities. The data informed the visual design and the development of the site structure because the data gave me a better understanding about how organizational members participate in their rhetorical visions and how they enact their dramatizing messages in space in time.

According to Wiesel, one of the main complaints that organizational members have had about the old Department of Economics Web site was that it lacked a "dynamic presence." Herman also agreed with this assessment: "Our site has not been updated in God knows how long. We need to somehow make our Web site less static and more of a lively environment that students will want to come in" (February 25, 1998). To attract Web visitors to return to the site, Wiesel knew that the site has to feature usable information that is frequently updated.

Frequently updated content was clearly lacking in the old site. Wiesel told us that he was looking for more funding elsewhere to bring in other outside consultants to develop content after the new site is in place. To help Web visitors quickly identify new and updated materials, we

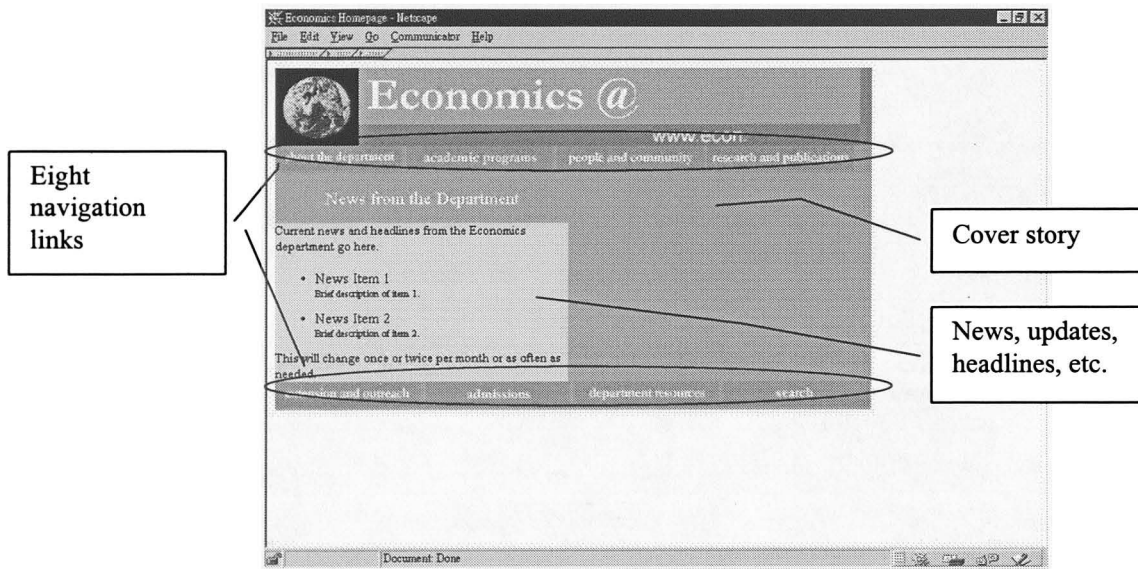


Figure 8 The first prototype of the new Department of Economics Site Homepage (March 12, 1998)

incorporated a "bulletin board" idea on the homepage. The gray area on the left is for posting headlines or updates.

The news section could highlight recent updates or new sections on the Web site to alert users to visit those new or updated sections. The open space on the right hand side is reserved for a lead story or cover story of the month. Eight navigation links (buttons) on the first prototype homepage (see Figure 8); four links were on the top and four were on the bottom. (The separation of the buttons on top and bottom is a stylistic choice.) These eight links and descriptions of their functions are summarized in Table 2.

From the interview data and our ongoing conversations with Wiesel, Yolanda and I decided on these eight sections based on our understanding of the Web site's function and purpose. These eight links represent a preliminary conceptual plan of how the space was partitioned and what social purpose each of these partitioned spaces was intended to serve. The "about the department" hyperlink leads to a quick tour that shows visitors highlights of the Department of Economics. The "academic programs" and "admissions" were designed to invite prospective students into a different social space in which prospective students evaluate the academic programs, quality of life, and the admissions process. The "extension and outreach" and "research and publications" links invite users (visitors or participants) to enter a forum for sharing research, but the reasons or motivations for entering those two spheres are very different. People in "extension and outreach" tend to be those looking for useful information, and people in "research and publications" are likely to be professors in other universities.

Table 2 Navigation links on the first prototype of the Department of Economics homepage

Navigation links (buttons)	Description
about the department	Hyperlink to a quick tour that shows visitors highlights of the Department of Economics
academic programs	Hyperlink to undergraduate and graduate programs in the Department of Economics.
people and community	Hyperlink to staff listing and information about community organizations
research and publication	Hyperlink academic research and published work
extension and outreach	Hyperlink to applied research data that helps farmers and agricultural businesses make day-to-day decisions
admission	Hyperlink to admissions information and application for admissions
department resources	Hyperlink to computer, research, and other relevant resources
search	Hyperlink to a search engine

Consistent with other academic sites, the Department of Economics Web site will also be equipped with a search engine.

Of course, people who enter one space may also enter a different space at a later time. For example, people in "extension and outreach" may also find what is in "department resources" interesting and useful. More important, because Webspace is not a physical space, people have the potential to occupy multiple spaces at the same time. Thus, people who enter "people and community" can be prospective graduate students who are interested in finding out who is involved in the academic communities as well as the department's social communities.

The redesign represented a substantial improvement over the old site. Wiesel liked the overall look. His comments about the Web site, however, tended to focus on micro-level issues. For example, Wiesel complained that the white text on the colored banner was too difficult to read. He was also critical of the red and blue color combination (not shown here). One of the things that Wiesel felt most strongly about was the number of links on the homepage. Drawing from cognitive psychology on short-term memory, Wiesel insisted that users only have the attention span to hold three to five objects in their mind.

Wiesel edited the button text and numbered the buttons he wanted to keep from 1 to 5. Wiesel reasoned the "people and community" button was unnecessary because users would be led to find faculty members if they went into the "research" section. Users would also find information about

student life and student activities if they clicked on the academic programs hyperlink and entered that section.

Wiesel edited the word *publications* out of "research and publications." "In our field," Wiesel said, "it's a convention that people's research is in the publication form. In fact, people don't value it if the research is not published in a refereed journal." Wiesel also did not want the "admissions" button because he said that the department does not directly handle admissions. Students seeking admissions would have to go through the undergraduate admissions or the graduate college. Finally, Wiesel did not want the "search" button because we did not have immediate plans to build a search engine in the near future. He did not want a non-operational button on the homepage until the search engine was built. During a later meeting, Wiesel wanted to get rid of the "department resources" button, as well, and wanted information under that hyperlink to be incorporated in "about the department."

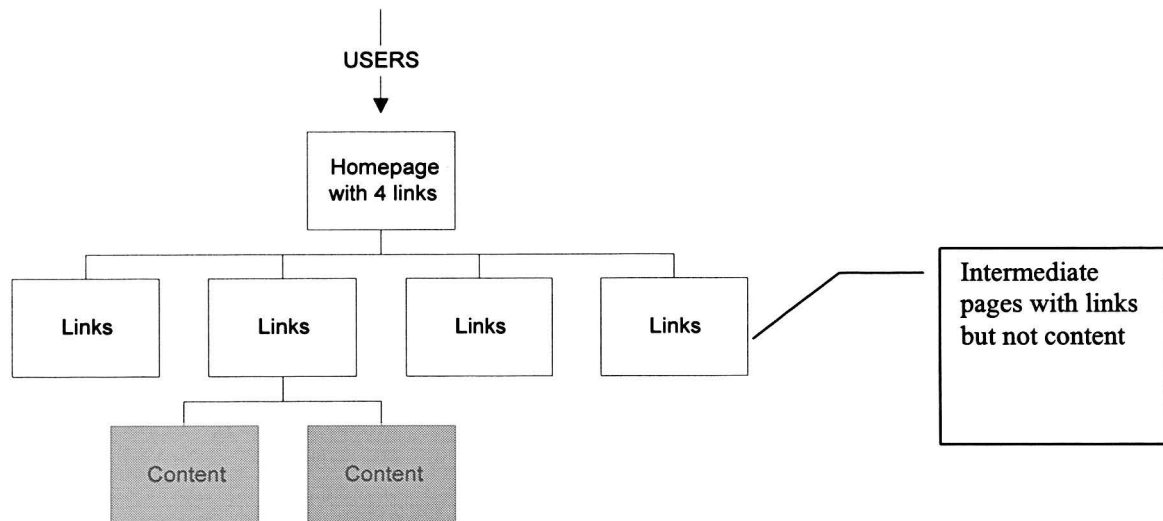
Wiesel wanted fewer buttons to reduce the cognitive load on users because he claimed that users had to work too much to choose from eight buttons. While Wiesel's concern is valid, reducing the number of links on the homepage might result in intermediate pages filled with more links before users can actually get to the content (see Figure 9a). Thus, having too few buttons risks could potentially increase the cognitive load on users.

I believed that the Department of Economics Web site was sufficiently complex that it merited having eight buttons on the homepage. Having enough buttons gives users multiple points of contact so that they can more easily find the information they need. By chunking information broadly based on how users might group relevant information, we risk doing too much work for users. Without user testing and validation, our rationale behind the number of links is totally speculative. I feared that we were trying too hard to be in users' shoes and predict how they would navigate around the Web site. Because the Department of Economics site contains enough materials, having a useful number of buttons on the homepage would shorten the distance users have to travel from the homepage to the content they need (see Figure 9b).

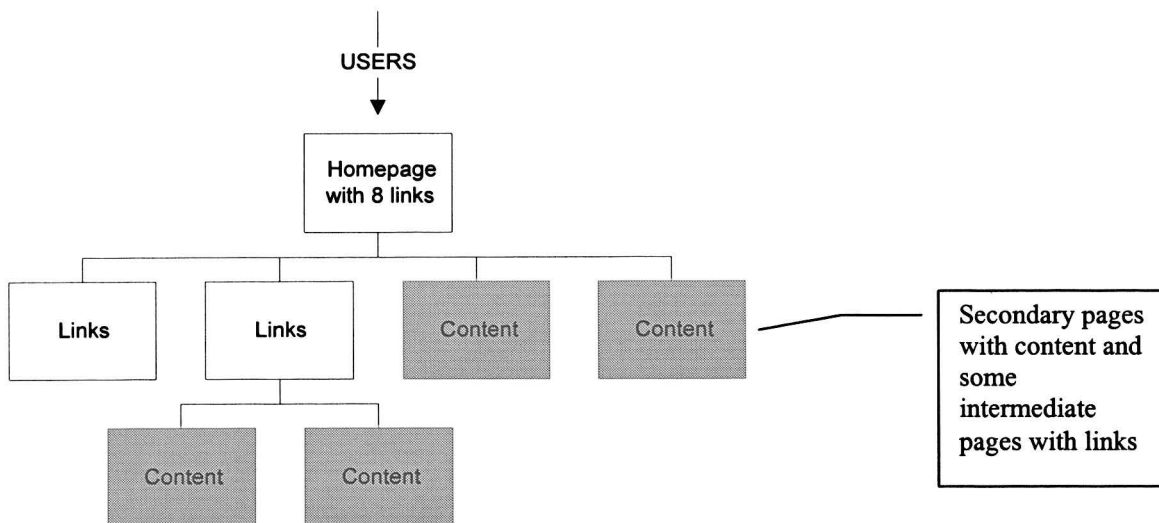
After lengthy discussions and after I strenuously made my case, Wiesel said,

We have to consider our audience. We have to weigh the tradeoffs. If users have to hold so many items in their head, they lose their orientation. Okay? Okay, it's possible that users' workload may increase by having only a few buttons. The majority of our users is the outreach audience coming here to find information. [By keeping all eight buttons], we would benefit only a small percentage of our overall audience at the expense of confusing 90% of our audience, which is outreach. (March 26, 1998)

Unable to persuade Wiesel, we revised the homepage (see Figure 10). Wiesel also suggested that we add the text links to other university sites on the bottom and the contact information on the homepage, which replaced the "news" section in the first prototype. The contact information makes



(a) Homepage with fewer links leads to intermediate pages with more links



(b) Homepage with more links allows users to get to content more quickly

Figure 9 Comparison of two Web site structures

the homepage appear to be a business card for the department. By having the phone number and a chief e-mail contact of the department on the homepage, the Web site is inviting users to pick up the telephone to call or to write an e-mail with inquiries rather than navigate the Web site to find the information on their own, which perhaps defeats the purpose of the Web site.

Instead of the contact information, a section alerting users what new or updated sections are available would perhaps be more valuable. The contact information may be more useful when it is

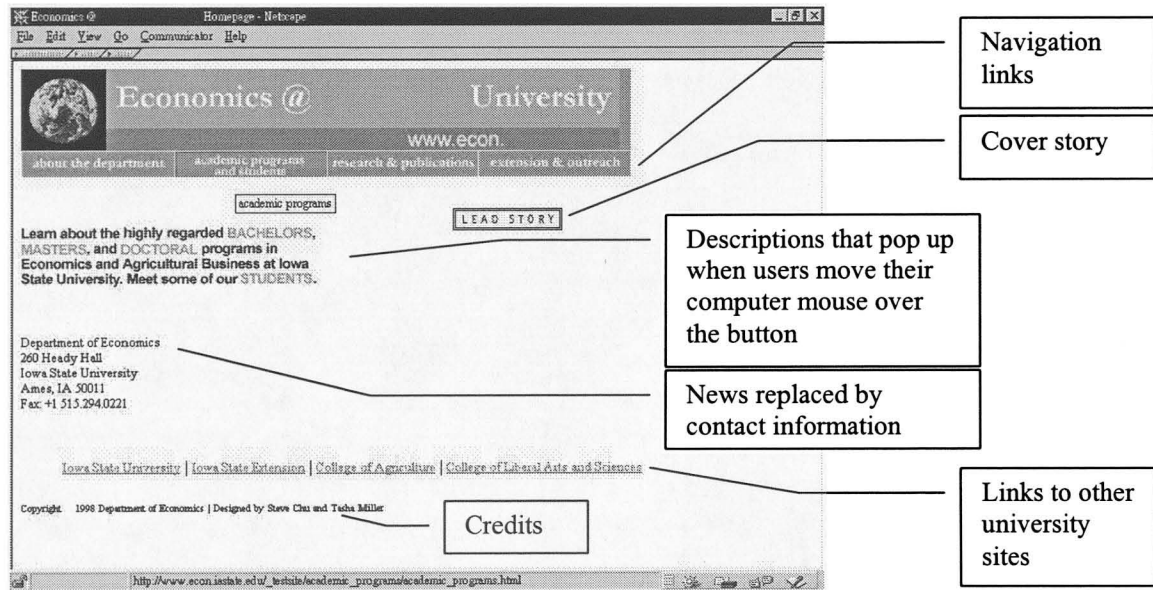


Figure 10 Revised prototype of the new Department of Economics Site Homepage (April 3, 1998)

displayed in an appropriate context. For example, the "admissions" section could post the contact information and office hours of the admissions office. Users are supposed to enter the site and navigate to find the information they need based on directories and pointers that are available on the Web site. In some sense, one of technical communicators' tasks is to be a cartographer, to map the information on the Web so that users can travel through on their own. (The task of Web developer as a cartographer to present information in an easy-to-find fashion is not rhetorically neutral.) If users need to call the department or send an e-mail, there would be a hyperlink leading users to that information. Ideally, if the Web site is doing what it is supposed to do and providing users with what they need when they visit the site, users should never have to pick up the phone at all (except for, of course, users who visit the Web site to look up telephone numbers).

As trivial a detail as the contact information on the homepage might be, it is telling of Wiesel's and my conception of the Web. Wiesel saw it simply as an online document and, in this particular case, a business card slapped on the computer monitor. I saw the Web as a space in which the navigation metaphor is powerful in assessing the site's social purpose and how information can be positioned in different spaces to fulfill that purpose.

The point here is not a question of how many buttons the homepage should have or whether the contact information is relevant but the process of negotiation and power issues. From early on in this project, power differential clearly played a role. The project leader (Wiesel), the consultants (Yolanda and me), and the clients (outside users, professors, and students) of this Web project are situated in academia's power structure. That Wiesel is a professional staff serving as the Web project leader

meant that he has control and direct influence over the Web site but must ultimately defer to the departmental authorities. He had preconceived notions of what a good Web site is although he had also admitted on numerous occasions that he knew next to nothing about the Web except as a lay user.

Articulating Vision in Webspace—Rhetorical Vision and Community

My interview data provided a tool other than Wiesel's "The World of Economics" outline (see Figure 7) that helped me put shape on Webspace. The three interviews conducted revealed three different focuses that the Web site could have. For Smith, the Web is an outreach tool for delivering useful information that members make everyday decisions in an agricultural setting. Smith's response suggested a visible human presence on the Web. For Smith, the Web is an integral component of the internal community and an important piece of the department's effort to recruit new students. For Wiesel, the purpose of the Web site is not to serve an outreach community, but to impress representatives of that community and market the site to them. For Herman, the site is a learning environment in which students engage in an interactive educational experience. These view points and visions provided me with a link to the rhetorical space Yolanda and I created on the Web.

As explained in Chapter 2, a rhetorical vision is members' integrated vision of themselves and of the organization in relationship to the external world. A rhetorical community, simply defined, is the people who participate in that integrated vision.

How Webspace articulates human presence is key to exploiting the dynamic potential that the Web brings to communication and interaction. Writing about commercial opportunities on the Web, two technology consultants wrote, "We believe that commercial success in the on-line arena will belong to those who organize virtual communities to meet multiple social and commercial needs" (Hagel and Armstrong 5). A Web site thus can engender a virtual community.

Participants of a Web project articulate their vision of the project and exert influence over the course of development. Their voice is channeled to action. This phase involves articulation, negotiation, and rearticulation of vision.

At the same time, participants' vision and voice are produced and reproduced by the Web and the development process. While participants may not always come to the development phase with a clear plan or vision, a plan or some general direction may not be independent of development and does not have to exist *prior* to entering the development phase. During the course of development, participants may frequently revisit the plan and change it. More important, their vision may constitute and be constituted by Webspace.

In response to the question about rhetorical vision, which also asks faculty's self-perception in relation to the department's vision, Smith said,

I want the users to click on something and know that the information came from me. Now, this is not for my ego, but it is for the confidence of knowing the information came from me. I know that people come to this site to look for my name, which I have established as someone who has done work in this area. People want to know that the information comes from a good source. To use a common expression, "People shop locally, and people buy locally." People don't just come to look for things topically. As far as the department's vision is concerned, I don't think a generic department Web page without people is what we're looking for. I am a strong believer that people are the crown jewel of this institution. The department should have a presence, inhabited by people. Faculty have a responsibility to the department who employs us, to serve and to educate. If we are doing the good work we are supposed to, then it would reflect upon the department. Moo University also has a responsibility to the state. (March 3, 1998)

The integrated vision that Smith imagines is that faculty members have established a solid reputation in the region as experts in agricultural business and economics. People know that and people come to the Web site to look for research and data because they know that the information comes from a reliable source that they could trust. Further, this vision also sees faculty as carrying a responsibility to the public to conduct usable research and that the public expects the faculty to do that.

Smith's vision of the external community and his perception of why that external community visits the Department of Economics Web site contrasts sharply with Wiesel's views. Wiesel said,

Our users don't come to the Econ site to look for a name. They don't know who we are. They only care about finding information useful to them. They want to be able to find what they want right away so that they can get out [of the site]. (March 26, 1998)

Wiesel has no knowledge of what Smith said because I never shared the interview results with anyone. What Wiesel said, then, is not a direct response to Smith.

Smith's notion of the Department of Economics Web site centers around people, community, and human interaction. To Smith, the focus on people is one of the criteria for a good Web site: "I don't think a generic Web page without people is what we're looking for." In fact, Smith even said, "The department should have a presence, inhabited by people." Human presence imbues and constitutes Webspace.

On the surface, Wiesel shared or at least recognized this pride in people and in the work that people do. The following exchange echoed Smith's pride:

Wiesel: We do have an intense pride and knowledge that we're better than everybody else in the world, but we don't say it that way. (Yolanda, Wiesel, and I started laughing.)
There is probably a more diplomatic way of putting it.

Steve [laughing]: And what diplomatic way is that? What was that, [writing the quotation down] 'an intense pride that we're better than everyone else in the world'

[laughter]

Wiesel [laughing]: It's on the tape. I mean, really, you can run through this department, everybody regardless what end of this department they are in is very proud of this department. (March 5, 1998)

Although Wiesel's version of rhetorical vision reflects the pride that Smith also took in the people and in their work, Wiesel and Smith differed drastically in their conception of the rhetorical community—that is, the participants of the rhetorical vision and the consumers of information.

Steve: You've spoken about the role of the faculty. Who else is participating in this rhetorical vision?"

Smith: Each of us has an opportunity and responsibility to fulfill our mission to the community.

Steve: Who is in this community?

Smith: Ultimately, the decision makers. But there are retailers of information (people like our Extension field staff) and there are also the wholesalers of information like the taxpayers.

The choice of economic terms here such as "retailers" and "wholesalers" is interesting. These terms imply the economic and material process of information production, distribution, and consumption. Smith's conception of community extends beyond a one-dimensional audience to mean participants who actively engage in the rhetorical vision, the process that is integrally tied to the material condition of how information is made and used.

Negotiating Vision and Space

In my first design of the "About the Department" section, I combined a "museum tour" navigation concept with an annual report-like visual design (Figure 11).

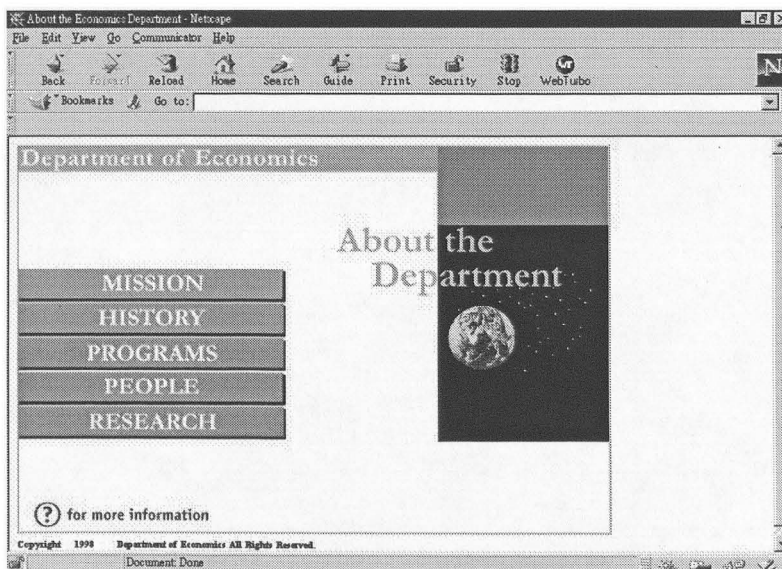


Figure 11 The first "About the Department" design

Each of the links would lead to an exhibit room. The idea behind the museum tour concept is to lead users through the five "rooms" and give them a quick overview of the department. The annual report-like visual design was also an attempt on my part to depart from the now typical navigation-bar-on-the-left corporate design. The tour metaphor was carried out through the inner pages. In each "room," the appropriate hyperlink is denoted by a triangle to indicate where users are on the tour. Figure 12 'a' through 'e' shows the tour in its entirety, which was intended to be brief and informative.

The layout of the "About the Department" section differs from that of other pages because I wanted to give this section a unique look. In my experience surfing the Web, various sections of a well-designed Web site always have a consistent feel but may have variant looks from section to section. The "About the Department section" maintained the same color scheme as all other pages. The upper right hand panel is red. The "Department of Economics" text is white against a light blue background. All the navigation buttons are green. Through the consistent use of colors, these pages have the same "feel" and achieve "supra-textual cohesion" (Kostelnick 80).

While Wiesel liked this design, he wanted this section to look *exactly* like other inner pages, for example, the "Research" section (see Figure 13). While we agreed that the site should have, in his words, a "consistent presentation," we disagreed on what that meant. To me, consistent presentation still allows room for variation as long as the *feel* remains the same. Wiesel maintained that the layout variation changes disorients users. He said, "When I go in here [About the Department] from the homepage, I jump to a different world." To Wiesel, then, a consistent presentation meant that all pages should have the identical look and feel.

I sent the following e-mail message to Wiesel about this issue:

```
Date:          Tue, 14 Apr 1998 23:20:05 -0500
To:           Wiesel@moo.edu
From:         stevechu@moo.edu
Subject:      More content
```

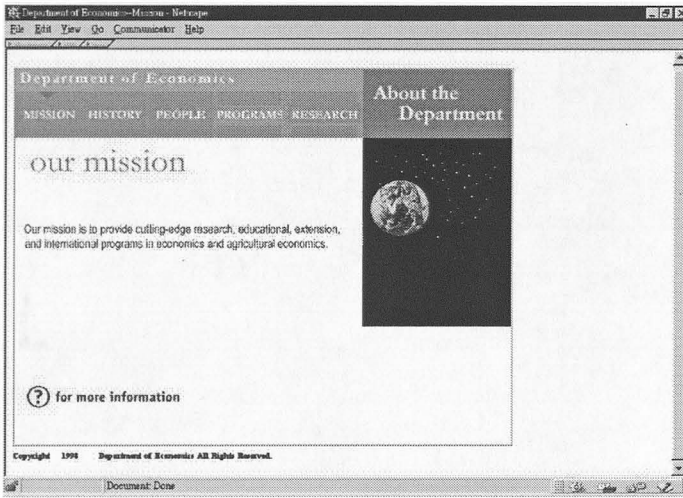
Hi Wiesel,

The two intermediary pages, "Research" and "Extension & Outreach" now have content.

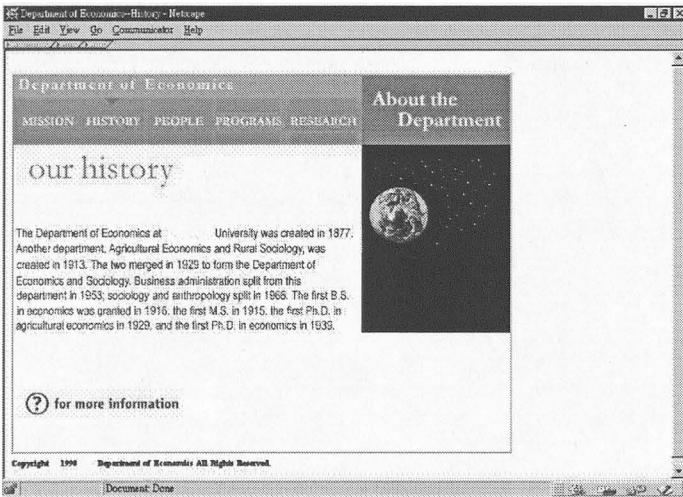
The "Academic Programs" section is changed to conform to the layout of the other sections. (It used to look like the "About the Department" page but shouldn't.

"About the Department" page will still maintain the brochure metaphor.

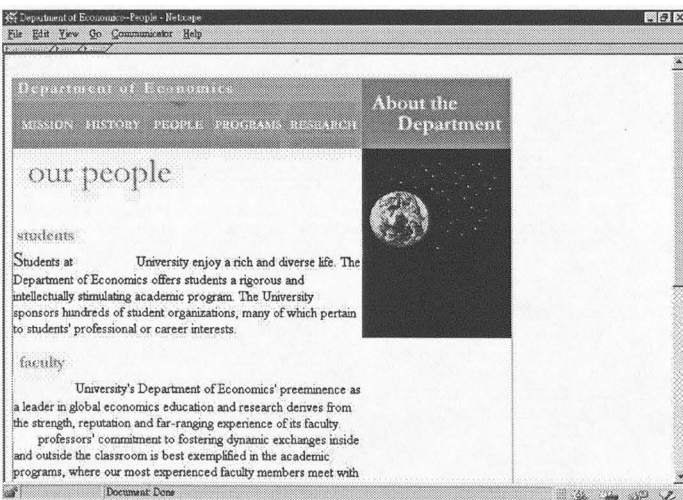
The message is shown in its entirety here to capture the full dynamic of the exchange. (The second paragraph refers to a different issue. Yolanda used the "About the Department" design [see Figure 11]



(a)

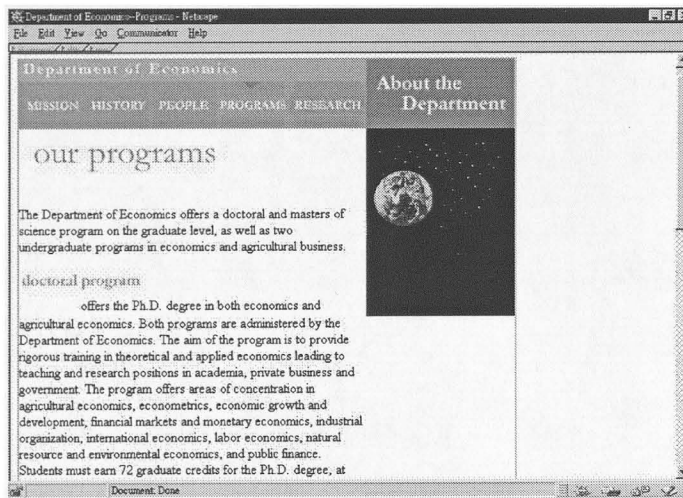


(b)

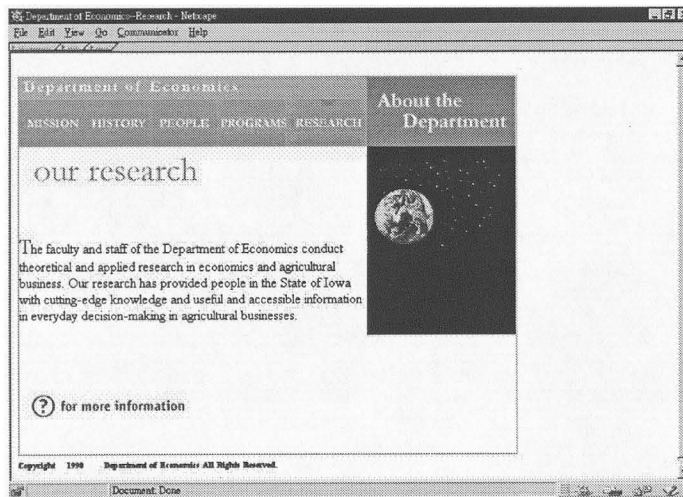


(c)

Figure 12 a-e Inner pages of the "About the Department" (the tour concept)



(d)



(e)

Figure 12 (continued)

as a template for the "Academic Programs" section. This, of course, disrupts the plan to bring a unique look to the "About the Department" section.) In this message, I told Wiesel that I changed the "Academic Programs" section to conform to other sections but maintained that the "About the Department" section should still have a unique look of its own. By "brochure" metaphor, I was referring to the annual report-like design concept.

In one meeting, Wiesel said that "Anything we give them [professors] is a significant improvement over the old site; we don't want to give them two choices so that they start picking or suggested new designs. We want to keep it simple and just give them one design to choose from" (April 5, 1998). In his e-mail reply to my message, Wiesel again made this point:

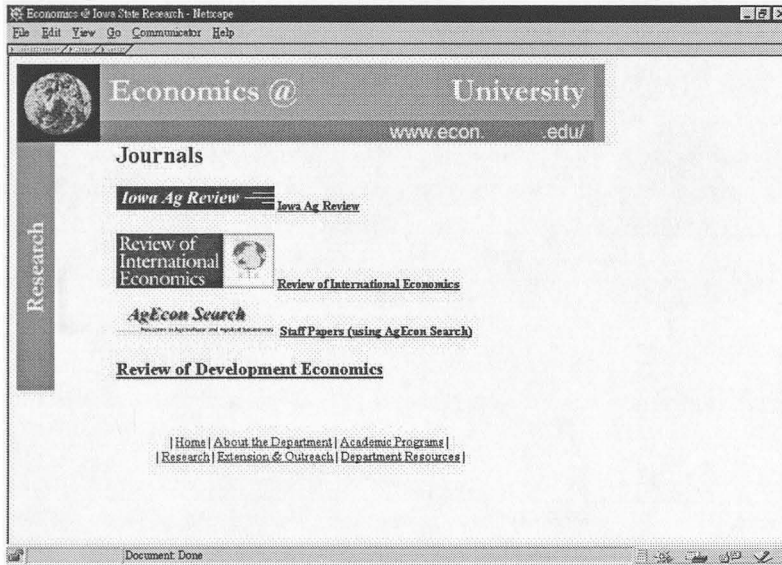


Figure 13 The "Research" section—an example of other sections

From: "Wiesel" <Wiesel@moo.edu>
 To: stevechu@moo.edu
 Date: Wed, 15 Apr 1998 11:00:35 +0000
 Subject: Re: More content
 Reply-to: Wiesel@moo.edu
 Priority: normal
 X-mailer: Pegasus Mail for Win32 (v2.52)

Steve,

The new pages look good for demonstrating what the site is becoming. For the banner, I want EconNavBarBig, the one that leads [sic], "Economics @ Moo Univerisity." [sic]

Also, while the the [sic] About the Department page looks good, I don't want to mix presentations on this; particularly not in the first go round. The problems of getting everyone on board are enough without providing a clear handle for the creation of two preference groups. We need to make the About the Department page consistent with the rest, for now.

Remember that it is not a question of the necessity for change. The current page makes that argument. As long as we do not muddy the waters, ourselves, we are almost assured that the outcome will be well received on all sides.

Thanks.

Wiesel ____, Project Leader
 Moo University Rural Data Project
 Iowa PROfiles, Public Resources Online

On the next day, Wiesel sent another message to Yolanda and me about our progress to make the "About the Department" section look exactly like every other sections. Such progress check-ups had

been highly unusual up until that point in the project. Because the three of us met weekly on Thursdays and because Yolanda and I were always able to meet deadlines, we generally did not hear from Wiesel during the week. A message sent on the morning of our weekly meeting to check on our progress appeared strange to Yolanda and me at the time.

```
From: "Wiesel" <Wiesel@moo.edu>
To: stevechu@moo.edu, yolanda@moo.edu
Date: Thu, 16 Apr 1998 09:07:25 +0000
Subject: econ page
Reply-to: Wiesel@moo.edu
Priority: normal
X-mailer: Pegasus Mail for Win32 (v2.52)
```

Steve and Yolanda

What is the time estimate for getting a consistent look on the "About the Department" and the "Academic Programs" pages so they match the others, getting the rewritten blurbs in, getting rid of the "Department Resources" menu, and adding a "Contact Us" link on the main page menu bar?

I don't want to show people a number of different looks. I want to show a front end that looks settled, so I can start content and database work.

Let me know. This is moving up my anxiety pile.

Thanks.
Wiesel _____, Project Leader
Moo University Rural Data Project
Iowa PROfiles, Public Resources Online

In the second paragraph, Wiesel again displayed his reluctance to show people a "number of different looks" of the Web site. Wiesel's concluding remark, "This is moving up my anxiety pile," is a testimony to this reluctance.

To some extent, I had to acknowledge some attachment on my part to the original design concept of "About the Department" section. But claiming that my position to keep the "About the Department" section different was fueled by this attachment is particularly inaccurate because Yolanda and I, after all, do have ownership of the design concept of the entire Web site. I was no more attached to this one particular section than I was to others. While I disagreed with Wiesel on this issue of "consistent presentation," I deferred to his knowledge of the inner working of the Department of Economics. With that in mind, I redesigned this section to make the layout scheme identical to the other sections (see Figure 14).

In summary, the first prototype of the "About the Department" section employed a museum metaphor. Like the spacious exhibit halls and their generally bright appearance, the "About the Department" section is also intended to be neat and lean. Because the purpose of this section is to

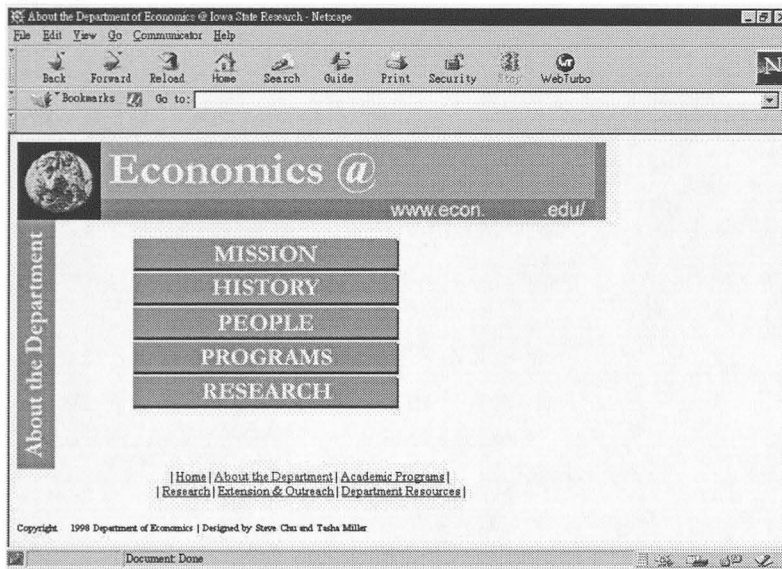


Figure 14 The second "About the Department" section design

showcase the department, I used a variant visual design in approaching this section. The showcase consideration, however, had to succumb to the need for a consistent visual presentation throughout the Web site.

Implications for Future Research on Web Development

This thesis focuses on the important relationship between the development process of a Web site and an organization's specific environment in which the Web project takes place. In addition to mastering the enabling Web technology, construction of Web sites entails the negotiation of power and social conditions within the organization. The particular power structure and social reality of a given organization not only impact the development process but also have a profoundly important relationship to Web development. Slack argues that we should

add to the education of technical communicators knowledge of how organizations operate—in the form of organizational communication or organizational behavior. It is remarkable how little most of us understand the relationship between power, knowledge, and organizations. It is time that we give up the faith that the goal of communication is always clarity and brevity. In practice, the politics of organizations and organizational politics often have their goals in limiting, obscuring, or hiding information. (33)

A greater understanding of how to make more effective Web sites will come not only by acquiring the technological know-how but also the knowledge of the development process. A greater understanding of this process, in turn, will come through the understanding of organizational structure and organizational communication.

The newness of the Web means that technical communicators are only beginning to grapple with the technological end of Web development. We have not had sufficient time to examine Web

development in its organizational habitat. Because Web development is a discipline shared across many departments that encompass graphics design, programming, marketing, information management, networking, and technical communication, we need to examine further the interplay between these disciplines and communication and interaction among specialists of these fields. As Web development becomes increasingly complex, the task of developing a Web site will involve collaborative teams in which power relations and social interaction undoubtedly play a critical role. For example, examining the relationship and interaction between the information technology specialists who set up the Web server (considered a highly technical task) and technical communicators who are responsible for HTML coding (considered a low-end task that is increasingly delegated to support staff) will help us understand how the development process is articulated onto the professional (and potentially power) relationships between the IT specialists and the technical communicators.

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BIOGRAPHICAL SKETCH

Steve Chu was born June 20, 1972 in Taipei, Taiwan and immigrated to the United States in 1984. He received the Master of Arts in Business and Technical Communication from Iowa State University in 1998 after getting the Bachelor of Arts in English from Columbia University in New York City in 1990. He was awarded the International Society for Technical Communication National Scholarship in 1997. He received the Scholar for the Dreams from the Conference on College Composition and Communication in 1998. He served as the President of the Iowa State University Chapter of the Society for Technical Communication between 1997 and 1998. For his service and accomplishments as the President, he received the Society for Technical Communication Regional Director Sponsor Award in 1998.