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in Candidacy for the Degree of
MASTER OF FINE ARTS

Evaluating Information Design
An online study guide designed for a new distance learning course

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Dedication

I dedicate this thesis to my new niece, Tori Leigh Durow,
and her mother, my sister Lisa, for their reminding me
of how wonderful learning and exploring can be.

Special Thanks

To Roger, Deborah and John, my thesis committee;
they have guided me along a difficult and worthwhile path.

To my parents, who are my family, my support, and my friends.

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Thesis

This thesis focuses on the creation of an online module for a new course offered by the Rochester Institute of Technology (RIT), titled *Twentieth Century Information Design*. As an information design product, the module's intent is to enhance a student's perspective on the evaluation of information design through the presentation of a range of theories and their relationship to the processes of graphic design.

This course, for which the online module was designed, has been developed jointly by the Department of Graphic Design and the Office of Distance Learning (ODL), and is sponsored by the Center for Digital Media.

The creation of such a complex product necessitates a strong awareness of process. There are eight distinct phases of process that this thesis report will discuss: thesis project definition, research and analysis, synthesis, ideation, evaluation, implementation, dissemination, and retrospective evaluation.

Interactivity

The interaction of the student and the course content in the context of a distance learning course environment was a primary concern throughout development. The following definition was created, and proved to be a guiding force. This definition is further discussed in the *Synthesis* section of this thesis report.

Asynchronous
online teaching and learning
is less about technical interactivity,
but more about
the facilitation of human discourse
via digital means.

Information Design

Information design has become an integral aspect of contemporary society. In this time of ever-increasing technological sophistication, it is crucial to remain focused on the communication of content. New possibilities of dynamic and interactive displays have the potential to distract designers from this essential core of information design - a focus on content-based design.

The realities of what constitutes effective and informative design are now in a state of flux; the new theories, practices and processes that must be forged to stabilize the field of graphic design should be rooted in the related fields of communication, design, education, and technology.

Information design is meant to inform. The following are a series of quotes concerning the definition and importance of information design:

> *Information design is an emerging professional design activity in response to the needs of the information age. It is an area of design that is concerned with understanding reader and user response to written and visually presented information. The kinds of problems germane to information design include legal documents, business forms, diagrams, guidebooks, transportation maps, charts, tables, instructional materials, wayfinding systems, and digital information systems.*
>
> Bruce Meader, Rochester Institute of Technology

> *Information design is a synthesis of function, flow, and form. Function is defined as utilitarian need with a definite purpose: to make information easy to find, read, comprehend, and recall. Flow refers to the logical sequence of information. Form means dynamic information patterns and clear rational organization.*
>
> Ladislav Sutnar

Thesis

There were three intended outcomes for this thesis:

1 Creation of an *Evaluating Information Design* module to support the course, *20th Century Information Design.*

2 Performance as Assistant Project Director for the development of this course; responsibilities including the maintaining of a whole systems perspective during course development.

3 Dissemination through authorship of observations and conclusions reflecting the development of the module and course.

Thesis Planning

Comparable to the concept that structure is helpful in creating visual designs or written compositions, order and planning is a pragmatic necessity to structure the wide breadth of activities involved in developing a thesis. After initial research into possible thesis topics, a topic was chosen and a *Thesis Planning Report* was developed. The planning report describes not only the project to be completed, the course module, but also the context and necessity for the project. (Please refer to Appendix A.)

A directed mission statement was written, and the goals, objectives, and strategies for completing that mission are outlined and described in detail. A projected timeline was developed, highlighting the different phases of research and analysis, synthesis, dissemination, and evaluation.
(Please refer to Appendix A.)

These planning decisions are symbolized in the methodology diagram developed as part of the planning report. This diagram uses the metaphor of a prism; the information from the areas within the circles on the left is collected within the prism and then joined into a single band of "light," becoming the thesis application module on the right. At the time, the module was titled *Information Design Theory Module.*
(Please refer to Appendix A.)

One reason the prism metaphor is effective is its ability to be read from both directions. From the left, it represents the consolidation of a multitude of theories and pragmatics joined to become the module within the depicted course. Alternately, the diagram can be viewed from the right, representing a breakdown of the supporting structures of content within the module.

Labeling the prism as "interactivity" implies that the joining of these potentially vastly different areas will be guided through a consideration of interactivity. This description is further defined and refined by the goals within the planning report. The combination of such visual tools as the methodology diagram and written tools such as the goals and objectives, was used to help plan the development of the thesis.
(Please refer to Appendix A.)

Information design's strong focus on content necessitates in-depth research and planning both on a macro and micro level. Initial research focused upon the concept of distance learning and on the selection and use of individual theories to be included in the *Evaluating Information Design* module.

Distance Learning

Although there has been a great deal of attention given to distance learning in the past few years, it has a longer history which spans over twenty years. A wealth of documents were available describing distance learning's origins and development.

Material was gathered as a case study from Rockland Community College (RCC), a two year college of the State University of New York (SUNY), in Suffern, New York. RCC is an excellent choice as a case study to learn the rationales and needs for the development of a program of distance learning. At the time, the college was mid-sized, with approximately 7000 students; it was, and is, characterized by a strong commitment to its community. Documents collected included printed course guides, orientation presentations on video, and evaluation reports, both informal and professional.

These evaluation reports described the distance learning student body as diverse, including working professionals and parents, the incarcerated, full and part-time students, and people wishing to slowly immerse themselves as students into the academic world. Flexibility in time requirements and an independent, yet guided, working environment are the characteristics which initially brought distance learning success. This success is epitomized by a student response,
Telecourses allow the time and flexibility to accomplish my goals.

[From an in-house report, *Student Perceptions of Telecourses at RCC*, Fall 1991, reported by Charles Secolosky, Office of Instructional Research, September 1992]

These reports also made recommendations for the potential increase of student-teacher discourse. The consistent element within these recommendations was that they all focused on increasing student-teacher accessibility and interaction. Fifteen years ago, email was hardly known of outside the secluded scientific and academic communities. However, the introduction of email is one example of such a recommendation for increasing discourse, one that has taken well over a decade to become a practical reality. Early versions of what we would now call "voice mail" were also recommended.

Communication via Technology

This research of distance learning prompted further research into communication via technology. The value and depth of the modes of communication possible via technology have followed a progressive path over the past decades. Now design and communication principles are beginning to become integrated into the actual digital messages.

Early electronic communication of a few decades ago consisted only of text, unformatted by any typographic standards. Even before email reached a small techno-savvy population, there existed online environments called MUDS - multi-user dungeons, deriving its name from the popular fantasy role-playing game, Dungeons and Dragons. These MUDS allowed users to connect to a remote system and exchange text messages in a group environment.

In the early 1980's commercial online services, such as Compuserve and Prodigy, began to become popular. It was not until the middle 1990's that the "internet explosion" happened, where a mass population began to be aware of the Internet and email possibilities. However, all this communication still existed as unformatted text. It is still only in prototype and experimental advanced systems that this mass communication is influenced by the particular typographic and visual standards of information design.

The technology has only recently arrived to enable graphic designers to influence the communication of the mass public online. The typographic variables of weight, size, font, and position are only beginning to become integrated into the email functions of the more popular web browser and email client softwares.

Experimental projects are also testing the boundaries of what type of variables can be utilized to aid communication online. In addition to typographic experimentation, there has been experimentation with virtual three-dimensional environments in which people can communicate through the use of avatars. An avatar is a visual image that serves to represent a person online; it may be polygon-generated computer graphics, photographic, or even abstract imagery. These image-based, experiential worlds are one of the main ways technology is attempting to increase interactivity.

At this time, however, it appears that much of this experimentation is being directed by technology experts and not information design experts. There exists a great need for trained designers to influence these new directions through their knowledge of information structures and visual variables.

Theory

Another essential portion of research for this thesis study focused upon defining global relationships between and connections among theories from different disciplines. The approach was multidisciplinary, building on the premise that creators of information design can draw from the theories of varied disciplines in order to create a variety of perspectives and content-organizing approaches. To achieve this end, disciplines were researched to discover pertinent theories. Initial disciplines covered were design, art, communication, pedagogy, psychology, and information technology.

Interdisciplinary Experience

In Hope Irvine's book, *A Thinking Approach to Interdisciplinary Experience,* Irvine presents operational definitions and operational models to explore the processes by which people can produce creative thought.

The book explores the reclassification and reorganization of traditional perspectives on learning. Knowledge itself is extended into ten sub-divided categories exploring the multitude of ways that we can perceive and relate knowledge. Reflecting Irvine's background and teaching experience in art education, there is a strong focus on discovering different ways creative thought can be generated. For example, Irvine discusses how context can influence the interactions of different types of knowledge:

> *...These [diagrams] are more complex, presenting a combination of other categories of knowledge. Figure 6 represents systematic knowledge as a combination of general and specific knowledge in the context of a method, a way of working. Competent knowledge, presented in Figure 7, also combines general and specific in the context of a situation, a place of working. (Irvine,10)*

(Please refer to Appendix I.)

Irvine's book is an important resource for developing or broadening perspectives on learning and critical thinking skills. This perspective of acknowledging different sources and forms of knowledge is similar to Howard Gardner's theories of multiple intelligences. Both have influenced the development of the module, especially in the creation of the assignments to coincide with presented content.

The assignments to be created for the module would have to be designed to accommodate potential variances in learning styles. Unlike traditional classroom teaching, visual clues of when a student does not understand are not available; a classroom teacher has the immediate opportunity to adapt the course content and presentation, while a distance learning course must be designed beforehand building in as many of these variances as is appropriate and feasible. (Please refer to Appendix F.)

Semiotics

The semiotic model for deconstructing an image is an extremely powerful tool of evaluation. There are variants on the form and terminology, but the underlying primary characteristics are grouped into three categories: semantic, syntactic, and pragmatic.

The following definitions are paraphrased from an AIGA symbol system documentation:
Semantics refer to the relationship of *a visual image to a meaning.*
Syntactic refers to the relationship of *one visual image to another.*
Pragmatic refers to the relationship of *a visual image to a user.*

Although more intricate models of semiotic analysis exist, this basic explanation of these important criteria is an essential component in any student designer's education.

Organizing Content

The conceptual and visual structure on which the entire module is based is called the Theory Map. This map began as a list of collected theories. Through further definition of interrelationships, a matrix was developed denoting both the theory's discipline and its relation to a scale of applicability; that is, how general or specific is the theory. (Please refer to Appendix C.)

A circular shape creating a map of spatial relationships was chosen as the final form of the Theory Map. The use of a circle to encompass all the theories visually conveyed more of a whole systems perspective, a sense of a body of theories from different disciplines that have interrelationships pertinent to the evaluation of information design. The evolution of the earlier Theory Matrix to the spatial Theory Map is detailed in the *Ideation* section of this thesis report.

Theories close to the center of the Theory Map are of a specific nature, while the exterior theories have a more general nature. A general theory discusses ideas that are applicable to a broad scope of contexts, while a specific theory discusses very context-specific information and its relation to other contexts is not as apparent. For example, Platonic theories of communication are more general discussions of the nature of human interaction - a group of theories more easily applicable to a variety of contexts than those associated with object-oriented computer programming theories.

Specific theories are often rooted in practical applications, and are closely connected to a particular group of actions or information. The more general theories often make observations applicable to a wider range of information categories.

Another relationship connoted in a theory's location on the Theory Map reflects the theory's connection to the two adjacent discipline categories. A theory within the Pedagogy category that lies closer to the Psychology category than the Design category indicates that its content relates more to that discipline.

For instance, Semiotics is the study of symbols and their meaning, and has its origins in the field of communication. It is placed near to the Design category, indicating a connection to the variables from the discipline of design. Its placement on the outer edge of the map also indicates a general scope of applicability. (Please refer to Appendix C.)

In the process of exploring different possibilities for the visual presentation of the collected theories, new relationships were discovered and created that influenced new organizations of the content. This evolution is an example of how the processes of synthesis and ideation overlap.

Interactivity

Electronic media adds a new dimension to the relationship of a viewer to information. This characteristic of interactivity extends the print-design based concept of a "viewer" to that of a "user."

In the past few decades, however, technology has advanced with such haste that the concepts associated with and the definition of interactivity have been vague and frequently changing. The general public seems to associate the concept and term with whatever technology advertisers promote, or more appropriately, "hype," as the latest epitome of interactivity. As a result the term has been poorly defined. The field of information design, however, focuses more upon the content than this technical interaction.

Content/Technical Interactivity

As part of the development of this thesis, a theory was developed outlining the differences between technical interactivity and content interactivity. The characteristics of technical interactivity refer to the actions taken by the computer and user, and the pragmatics of displaying information. On a higher level, content interactivity refers more to the organization of the information and how it is presented in response to user decisions or choices.

An example of technical interactivity would be the ability to modify the order of presenting information based upon observations of a user's behavior. This example of content interactivity has yet to be fully realized. In the context of online education, content interactivity can be achieved through the facilitation of discourse among students. It is the creation of an interaction of a user and the content through active participation by the user.

From this perspective, the following definition was developed: Asynchronous online teaching and learning is less about technical interactivity, but more about the facilitation of human discourse via digital means.

Theory Connections

One of the greatest benefits of developing a whole systems diagram of a broad spectrum of information is the opportunity to create and/or discover new connections between the elements. The following is a detailed description of one such connection.

There are similarities in the following theories in their approaches to structuring information: hypertext, network structure, designer as information architect, syllabus development and lesson planning. Each of these theories deal with creating structures for bodies of information that are appropriate to the meaning(s) within the content.

The activity of developing a lesson plan involves primarily defining a set of goals for a group of students to achieve, and creating a detailed plan of activities to facilitate those goals. This particular activity of defining goals is also an important beginning in the creation of effective information design. A designer must be acutely aware of what is to be communicated, and have a clear plan of how to accomplish the task.

Developing a syllabus extends the awareness of the intended goals of a single lesson plan to include larger, more encompassing goals, most often for a larger body of students. Development also involves a more comprehensive awareness of the grouping of similar information. This is similar to the concepts associated with whole systems theory, and the types of unified systems design associated with information design products.

Designers can also draw from concepts associated with network structures. Developing a plan for a computer network involves a systematic analysis of the needs of network users, the efficient disbursement of network resources, a comprehensive strategy for communication and collaboration through the network, as well as a practical strategy for potential growth and change of the needs of the users, and the network itself.

There is a direct relationship between the critical thinking skills involved with designing a network and those associated with whole systems theory. There are aspects of thinking involved with the creation of a lesson plan that are similar to developing a content outline before writing a paper. One very successful method of developing an effective paper is to develop a thesis statement (similar to writing a goal for a lesson plan) and devise an orderly presentation of information for support.

These are all processes of critical thinking skills that can be emulated to effectively develop information design.

These strategies for connecting information also relate to those involved with hypertext. The term hypertext refers to a linking of bodies of textual information via a computer network. This connection of (most often) related information has been extended to a concept of hypermedia, where the limitation of linked text expands to include other electronic media forms, such as digital video, sound, and image.

Popular culture has grouped these terms under the singular term of hypertext. Hyper-links can exist without a rational or purposeful relationship *between* the meanings of the connected information, but the true potential power of this ability is in the structure of the relationships *within* the information. It is this design of these relationships that raises an electronic capability, linking text bodies, to a conceptual theory that can challenge an information designer.

The concept of a designer as an information architect is well presented by Richard Saul Wurman in his book, *Information Architects*. Historically, graphic design has placed a large emphasis on visual attributes. Wurman presents a different perspective of a designer of the twentieth century. He promotes that design in this century has become increasingly concerned with the logical structures of information and the appropriate format for this communication. This is Wurman's rationale for describing designers as information architects; the concept of designers as not only necessary, but extremely influential players in our progress as a society.

Theory Map

After theories were selected and organized into the Theory Matrix, alternate visual forms were tested in order to find the most effective visual organization and presentation format. At first, variations on a matrix format were tried, but yielded information correlations that were invalid. Since the form of a matrix did not seem to convey the information properly it was necessary to explore other formats. (Please refer to Appendix B.)

A variation on a semiotic tool of deconstruction was partially developed. (Please refer to Appendix B.) This tool was based upon the semiotic triad, with simpler terminology and an attempt to add positions extended from the base triangle for names of theories used in evaluating that corner of the triad. This evaluation model could also have served as a worksheet for students to complete as an evaluation tool within an assignment. However, the model proved to be complicated at this stage and other possibilities were explored.

The final form chosen was a circle, and the concept of a layered map was chosen rather than a matrix. The circle was effective in presenting the information in implied spatial relationships, as opposed to the rigidity of a cross-referenced matrix. The description of the circle as a map refers to the visual presentation of the information in positions that convey relationships based upon location and proximity.

The impetus for describing the map in movable layers came from two sources: the visual attributes of clear acetate often used with an overhead projector, and the concept of presenting information in a manner conducive to a content interactive environment - to present the map in layers would allow a user great control over the depth of the information presented.

Once the map form was chosen, more specific details of information design criteria needed to be explored, including typographic relationships, color systems, and spatial relationships. The final result depended heavily upon typographic hierarchies of weight, size and position.
(Please refer to Appendix C.)

Potential Map Sequencing

After these specifics were established it was necessary to explore the order of presentation and number of layers for the map. Possibilities included building the map from empty to complete or the reverse; or building upon a simple structure to more complex relationships.
(Please refer to Appendix C.)

The finalized sequence begins with outer and inner circles and line notations that begin to provide an environment and context. Presented next is a description of the functionality of the map in regards to a theory's placement, and then the division of the map into distinct discipline areas. The next layer includes the theories primarily focused upon in the course, followed by a layer of additional theories covered in less depth.
This sequence provided the desired amount of clarity and simplicity.

Evaluation Layers

Regular evaluation meetings were an important aspect of the development of this thesis.

Thesis Committee

In addition to three periodic full-committee meetings with all three committee members present, weekly meetings were also held individually with R. Roger Remington, Chief Thesis Advisor, and Deborah Beardslee, Associate Thesis Advisor. These regular meetings allowed for a consistent evaluation of thesis progress.

In addition to being Chief Thesis Advisor, Professor Remington was also the Project Director for the *20th Century Information Design* course development. This allowed for a high level of integration between the development of the module and the course. Associate Professor Beardslee's keen attention to even the smallest of details allowed for the quality and effectiveness of the module's design to rise each week.

Periodic meetings were also held with Dr. John Ciampa, Associate Thesis Advisor. Dr. Ciampa's comprehensive knowledge of the world of theory was consistently a valuable resource.

Office of Distance Learning

Weekly meetings were also held with representatives from the ODL. Sonny Stowe, Manager of Instructional Technology, and Dr. Richard Fasse, Instructional Technology Specialist, shared their knowledge and expertise of distance learning each week as the course developed. Topics of discussion at these meetings ranged from the overall organization of the presentation of the content appropriate to a distance learning format, to the conceptual and practical means by which the course could facilitate student and teacher discourse.

Students

As an in-progress evaluation, the module was presented to a class of junior level graphic design students at RIT. These students represented the type of audience for which the course is intended.

From both written evaluations and informal conversations with these students, a great deal was learned. The depth of information available from the world of theory can be potentially daunting to a young student. While the students expressed great interest in the content, they also expressed a need for simplicity. The awareness of the needs of this audience guided the completion of the module. (Please refer to Appendix G.)

Evaluation Summary

Throughout the development of this thesis, the goal of simplicity from information design was a primary focus. The decisions of how much content to include and the level of depth of that content were difficult ones. The answers lied within the goals of the course. The course intended to introduce the students to these theories, not to create new information design experts. It was decided to focus the presentation of these theories by applying them directly to the evaluation of specific examples of information design.

This pragmatic approach seemed to be the best manner to develop broad and comprehensive views of the relationships of and between the theories. This coincided well with the intent of the Theory Map. This structure of the content allowed for a situation where both simple and complex information could be available in the module. The simplified information could be focused upon and students wishing to delve deeper would have that opportunity. One manner in which this is accomplished is having an indexed and extensive bibliography.

Technical Evaluation

The ability of users to modify display preferences in their World Wide Web browser software potentially allows for documents to be displayed differently than originally designed. Browser software of different companies also do not use the same default guidelines for displaying a page, such as the specific margins within the window on the screen and the formulas used to determine line breaks within tabular information. To minimize any potentially distracting differences, all pages of the module were test viewed in the two most used browsers, *Netscape Navigator* and *Microsoft Internet Explorer*. The presentation of text as image files was an effective solution to reducing these differences.

Module Development

After the essential organization of the content was established, the surrounding application for the Theory Map needed to be designed. At first, a media-rich multimedia application including complex sound, animation, and digital movies was planned to be developed in *Macromedia Director.* However, after further defining the audience for the module with Dr. Richard Fasse from the Office of Distance Learning, it was decided to use the World Wide Web as the media form for presentation. This media form is more unified with the concept of an online course, allowing for the updating or changing of information within the module to be done with ease. Also, the technical requirements of the students by the ODL did not include the equipment necessary to view such a media-rich application. Participating students are not required to have CD-ROM drives or multimedia sound capability. Thus, designing the application for such media would have greatly restricted the intended audience.

The development of the module, and the surrounding course, consistently reflected this type of teamwork. The course development team included content specialists from a wide variety of fields, including film and video, library systems, and distance learning. (Please refer to Appendix F.)

This process represents a cyclical feedback loop between implementation and evaluation, and is another example of the phases of this thesis overlapping.

The decisions of determining the appropriate media form for the intended audience is represented by the concept of audience appropriateness. A few theories within the Theory Map discuss this concept: pedagogical lesson planning, human factors, and information theory. It is an essential pragmatic consideration for any design project.

Designing for the Screen

One of the most critical components of designing a product that has multiple pages is to develop an organizational grid. Since the foundation of the module is the Theory Map, the grid was similarly constructed from a circle. (Please refer to Appendix C.)

A quarter-inch unit was used as the base component for the overlapping multiple columns of text. This decision was based upon the unit's facility to display both 12 point text on 14 point leading for body copy, and 14 point text on 16 point leading for headings. These sizes were determined as the most efficient combination for displaying type on the screen based upon their ease of legibility. Type sizes smaller than 12 point are generally considered to be very difficult to read because of the low resolution display capabilities of computer monitors. A rectangular column to be used solely for navigational information was reserved on the left side of the grid.

Designing screens to include potentially large amounts of text while maintaining specific control over its layout raises many technical issues. The current nature of the World Wide Web allows for many typographic variables to be controlled by the user, not the designer-author. In response, it was decided that the text would be downloaded to a user's browser software in an image file format to retain the precise layout of the page. However, this raises an essential consideration of web design - balancing speed of delivery with the amount of author control.

Images have larger file sizes than text directly formatted by World Wide Web browser software, thus taking longer to download to the user. Therefore, the technical knowledge of image compression is essential for efficient screen design in this manner. Such specific technical knowledge is just one example of how the activities and capabilities of a designer have been radically added to within the past few years.

Not surprisingly, the major theme of simplicity within traditional information design also relates here - clear and simple web designs often translate into small file sizes and efficient downloading. Technically, the image files were designed in *Adobe Illustrator,* saved as Encapsulated Postscript (EPS) files, imported into and rasterized by *Adobe Photoshop,* exported as indexed GIF (Graphics Interchange Format) files, and loaded into World Wide Web browser software as an HTML (Hypertext Markup Language) document written in *Bare Bones BBEdit.* A helpful resource for learning about image file compression schemes is David Siegel's book for web designers, *Creating Killer Web Sites.*

Content Presentation

There was an overall goal for designing the course as completely digital, involving no print material. Aside from one printed student guide, this goal was achieved.

Of the modules designed for the course, this course module was the only one designed solely for the medium of the World Wide Web. The other modules were designed as combinations of media including videotaped lectures, a printed student guide, and supporting documents available in digital form.

Since the course module was independent, not relying on other supporting media, the initial screens which introduce the module's content were extremely important in developing the right tone and context for student users. These initial screens focused upon a series of quotes collected from both historical and contemporary information designers that highlight the importance and role of information design within the graphic design profession and society at large. These quotes serve to present a pragmatic, human perspective to begin the module.

After necessary screens to provide structure were developed, such as the introduction and main menu, the sections presenting the Theory Map sequence and the individual theory explanations were developed.

The number, or depth, of screens available to each theory was an important decision. This choice would guide the perceptions of simplicity and depth that the in-progress student evaluations highlighted as so important. A decision was made to include approximately three screens per theory: one to introduce the theory, the next to present a pragmatic application of the theory, and the last to provide details of this pragmatic application.

The images chosen to illustrate the theories were mostly of historical focus, including a symbol system designed by the American Institute of Graphic Arts (AIGA) and the railway map for the London Underground.

Thesis Show

A public display of thesis work is part of the requirements for the MFA degree at RIT. It was decided to present a whole systems view of the design process rather than a presentation focusing on the final product only.

Four information panels were produced which represented and described the stages of Research and Analysis, Synthesis, Implementation, Evaluation and Dissemination. (Please refer to Appendix H.)

Module

The *Evaluating Information Design* Module will be disseminated via the World Wide Web. The module will be completely online, utilizing no print media. This is extended to the assignments which shall be administered digitally via email functions. To compensate for the lack of typographic control within standard email, the *First Class Client Software* environment will be utilized; it has the ability to control some basic typographic variables such as weight, size, and color.

Course

The surrounding course, *20th Century Information Design,* will be primarily hosted through the *First Class Client Software* environment. This environment utilizes a desktop metaphor like that of an Apple Macintosh to handle file management and the chat areas.

This replaces the text-only VAX system that the ODL had been using. This graphical interface will hopefully ease the transition for new students, as well as promote the ease of email exchanges and participation in chat areas. RIT is among a small group of universities willing to experiment like this, and such educated risk-taking often leads to great things.

Article

In response to a perceived lack of practical resources for new teachers and creators of distance learning courses, an article addressing this need was written. The article focused upon three clear suggestions:

1. Structure the online course as a series of modular units, not as a linear sequence.
2. Keep primary focus on the content, not the technology.
3. Explicitly require students to be involved and respond.

(Please refer to Appendix J.)

This article was written for the potential inclusion in magazines such as *THE: Technical Horizons in Education* or *Syllabus.*

Considering any potential improvements for the development of the module, the first evaluation form that was developed, but not used, could have been improved. An informal written evaluation method was used instead of this form due to its over-complexity. However, certain aspects of the form such as the evaluation questions and their respective categories might have proven to provide much useful information.

The development of the *Evaluating Information Design* module and the *20th Century Information Design* course is a wonderful example of effective teamwork. One of the greatest strengths of this course, aside from the pertinence of the content, is its utilization of a variety of media, including an online client software environment, the World Wide Web, and previously created online RIT resources such as the *Design Archive Online.* This would not have been possible without the diversity of content specialists on the course development team.

In the Fall quarter of 1997, the course will be offered for the first time, by the Center For Digital Media. As with any new course, the unpredicted will sponsor changes and improvements. The areas most likely to develop will be those concerning student-teacher discourse. The First Class Client Software that hosts the email and chat capabilities is new to RIT, and represents a great potential for advancement as our knowledge grows of discourse via digital means.

The perception of the importance of information design is growing. To participate in the development of a new RIT course on this topic was to be part of an important event. The course development reflected the practical realities of creating design in our contemporary world - to work as part of a talented team of diverse content specialists.

The diversity of the content researched for this thesis supports the basic notion of the module created - a variety of perspectives informed by an understanding of a range of disciplines can aid a designer in the creation and evaluation of meaningful design. The variety of content that an information designer must translate into visual form necessitates an equally diverse understanding of the world.

The following two quotes in combination serve well to conclude this thesis report:

> *You must keep your finger on the pulse of the times.*
> Alexey Brodovitch
>
> *Theories are the eternal verities.*
> Dr. John Ciampa

chat	*a software environment where people connected via an internet can exchange text messages, often in real-time*
client telecommunications software	*software designed to perform functions when connected to an internet; examples are* Netscape Navigator, Microsoft Internet Explorer, First Class
cyberspace	*vernacular, a term for the Internet; the intangible conceptual space and connection that is created through people's use and activity online*
distance education	*the application of a variety of technologies for the education of students, regardless of proximity or location*
email	*electronic mail; digital documents able to be sent via an internet*
gopher	*a software protocol for exchanging text files via an internet; designed at Wisconsin University, where the gopher is their school mascot*
html	*hypertext mark-up language; the computer code/language used to describe the format and layout of documents on the WWW; originally designed for cross-platform capability of documents by restricting codes to the "lowest-common-denominator" of different platform abilities*
http	*hypertext transfer protocol; the software protocol for machines to send and receive html documents*
hypertext	*an electronic characteristic by which text activated or selected, often by means of a mouse-click, will redirect a computer to a new location, either within the original document or elsewhere on an internet*
information design	*a synthesis of function, flow and form. function is defined as utilitarian need with a definite purpose: to make information easy to find, read, comprehend and recall. flow refers to the logical sequence of information. form means dynamic information patterns and clear rational organization. (Ladislav Sutnar)*
intelligence agents	*software programs written to perform tasks through a variety of logical functions intended to imitate human logic*
interactivity	*a working definition: of or involving a mode of operation in which there is a reciprocal activity of exchange between user and computer*
internet	*a system of connected computers; with a capital I, refers to the large global internet*

module	*in this context, refers to a section of the course,* Design History in Cyberspace, *focusing on a particular theme such as theory; constructed through a collection of content material of a variety of form and media*
multidisciplinary	*the interaction of different fields of study; example: science and philosophy*
multiple intelligences	*the theory of multiple intelligences suggests that there are a number of distinct forms of intelligence that each individual possesses in varying degrees. Gardner proposes seven primary forms: linguistic, musical, logical-mathematical, spatial, body-kinesthetic, intrapersonal and interpersonal. (from TIP:Theories)*
newsgroup	*a software structure where people via an internet can read and post messages sorted by topic*
pedagogy	*the study, art and science of teaching and learning*
whole systems theory	*a group of theories that consider the interaction and relationships of parts to a sense of the whole; related to the concepts of gestalt*
world wide web (WWW)	*a protocol within the global internet to display html documents, perform file transfers, and recently, to facilitate java programming*

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multiple authors *Filemaker Talk Digest.* Online. Internet Newsgroup. available: fmpro@blueworld.com

Appendix A, Thesis Planning Report

Situation Analysis

In this Information Age, graphic designers have become more involved with the design of information intended to be part of an educational activity. The new capabilities of electronic information delivery have created new expectations and needs of users that now affect our daily life experiences. People spend more time interacting with information, yet the realities of what constitutes effective and informative design in this new media-rich environment are in a state of flux.

The new theories, practices and processes that must be forged to stabilize and strengthen the field of graphic design must be rooted in the related fields of communication, education, psychology and technology.

Problem Statement

There are three intended outcomes of my research in this relatively new field of interactivity:

1 Creation of an Information Design Theory module to support the course, Design History in Cyberspace: 20th Century Information Design, currently in development by Professor R Roger Remington in conjunction with RIT's Center for Digital Media and the Office of Distance Learning.

2 Performance as Assistant Project Director for the development of this course, my duty to maintain a whole systems perspective constructed of a matrix of pedagogical, communication, and technological theories.

3 Dissemination through authorship of the findings of my research and the effectiveness of the practical application.

Mission Statement

My graphic design thesis is a study of interactivity through an analysis of theories from a variety of perspectives: graphic design, specifically information design, and communication, pedagogy and psychology; this analysis of the potential benefits of interactivity will inform the creation of an electronic application intended to enhance a designers' perspective on the relativity of such theories to the processes of graphic design.

research and analysis

goals	objectives	processes and strategies
to explore and gather information regarding interactivity	to analyze the current state of online educational material	*gather, examine and categorize current and past examples of educational material connected with electronic delivery systems (telecourses, distance learning programs)*
		gather, examine and categorize the current state of internet technologies, with a specific focus on RIT's Office of Distance Learning
	to explore the relationship of information design principles to other fields of study	*gather relevant principles and theories from the fields of design and aesthetics, communication, pedagogy, psychology, human factors, technology and linguistics*

research and analysis continued

goals	objectives	processes and strategies
to define the term interactivity and its characteristics	to outline the technological and interpersonal factors of human/computer interaction that affect the online experience	*draw from educational models of student/learner behavior* *draw from the field of human factors to assist defining physical characteristics of human/computer interaction*
	to gauge the public perception of interactivity	*utilize direct observation and questionnaires to survey the general public and design audience*
	to define interactivity	*collect definitions from different sources (dictionaries, distance learning programs, and surveys)* *create an appropriate composite definition*
to define the potential benefits of interactivity to the field of graphic design	to correlate the technological and interpersonal factors of human/computer interaction to related theories	*correlate visual design theories and principles to theories regarding effective communication strategies* *correlate the importance of teamwork in design with communication theories* *correlate theories of educational planning to the processes of graphic design* *correlate theories of educational evaluation techniques to design evaluation techniques* *correlate whole systems theories to the creation of systematic designs* *correlate the theories of semiotics to message making in graphic design*

goals	objectives	*processes and strategies*	**A4**
to create a practical application of online education to communicate the benefits of interdisciplinary study to graphic designers	to create a practical application of online education that applies the benefits of interactivity	*utilize www page authoring tools, Macromedia Director multimedia authoring tool, and traditional print delivery systems*	
	to present a whole systems view of chosen fields of theory in relation to graphic design	*present both macro and micro views of each field of study and associated theories*	
		utilize prism metaphor from methodology diagram as a construct to present how related theories combined can amplify the potential effectiveness of information design: the transformation and amplification of varied perspectives into a single band of clear white light	
		utilize methodology diagram as a navigational aid for application	
	to maintain a presentation of how each field of study and theory relate to practical design issues	*utilize correlations of design and theory as defined by research*	
		utilize examples of graphic design from RIT's Graphic Design Archive, and from contemporary designers	
		construct a whole systems view of media involved (media map)	

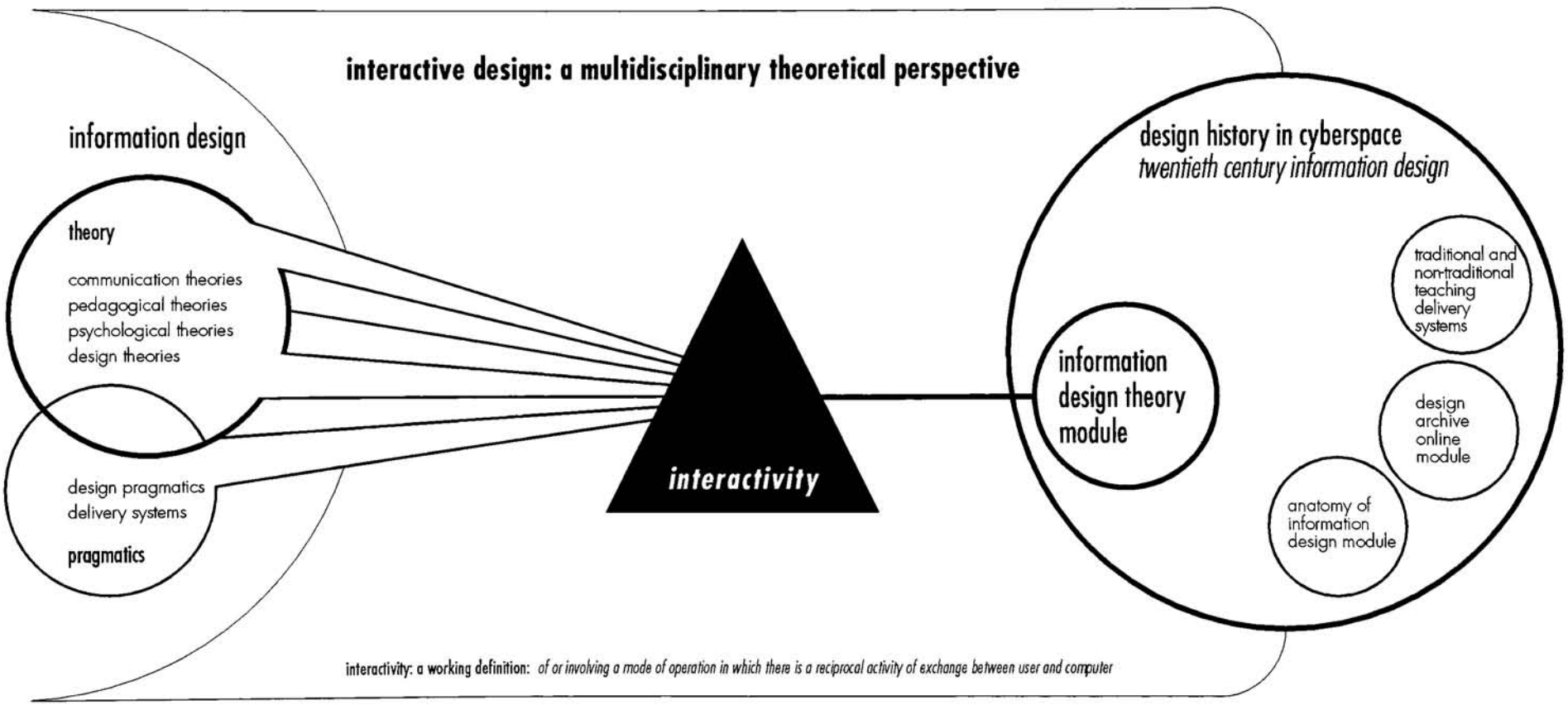
goals	objectives	processes and strategies
to integrate the application with the course, Design History In Cyberspace: Twentieth Century Information Design	to integrate relevant technological capabilities with thesis design objectives and course objectives	*effectively utilize current technologies: such as First Class Client Telecommunications Software, JavaScript, HTML and Perl programming languages for the www, cgi server-based scripts if available*

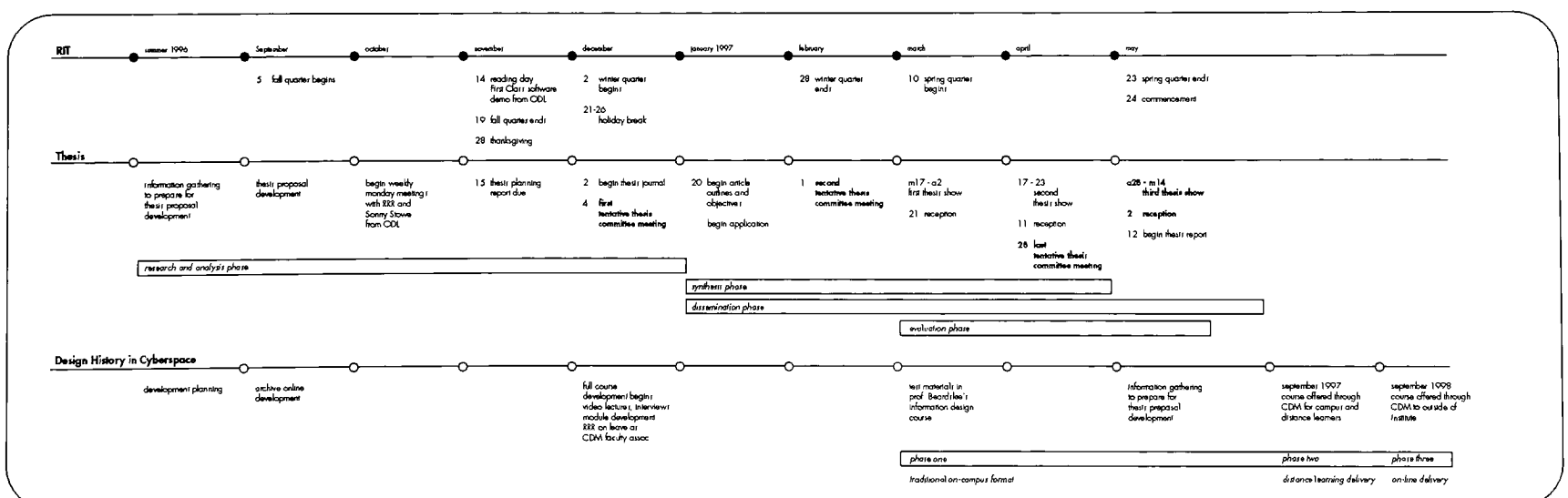
evaluation

to evaluate the effectiveness of the application of this research, and the impact it will have on the design community.	to evaluate the effectiveness and appropriateness of the module created	*utilize external evaluation professional (contingent on inclusion within yet approved productivity grant)* *create a questionnaire for potential users of the module* *test the module with audiences of different familiarities with the content matter* *present module to a RIT graphic design junior class; utilize an evaluation method such as discussion or a questionnaire*
	to evaluate the effectiveness of the module within the context of the supporting course	*create a questionnaire for the users of the module*

dissemination

to communicate through authorship the findings of my research on interactivity to the professional and educational societies of designers.	to write articles for design and technology oriented publications that communicate the benefits outlined through my research	*write a series of articles focusing on individual fields of theory and their relationship and benefits to the field of graphic design* *create a series of articles that address different audiences, through presentations of different depths of content and different writing styles*


interactive design: a multidisciplinary theoretical perspective
information design
theory
communication theories
pedagogical theories
psychological theories
design theories
design pragmatics
delivery systems
pragmatics
interactivity
design history in cyberspace
twentieth century information design
information design theory module
traditional and non-traditional teaching delivery systems
design archive online module
anatomy of information design module
interactivity: a working definition: of or involving a mode of operation in which there is a reciprocal activity of exchange between user and computer


RIT
summer 1996
September
October
November
December
January 1997
February
March
April
May
5 fall quarter begins
14 reading day
first Class software demo from ODL
19 fall quarters endr
28 thanksgiving
2 winter quarter beginr
21-26 holiday break
28 winter quarter endr
10 spring quarter beginr
23 spring quarters endr
24 commencement
Thesis
information gathering to prepare for thesis proposal development
thesis proposal development
begin weekly monday meetingr with RRR and Sonny Stowe from ODL
15 thesis planning report due
2 begin thesis journal
4 first tentative thesis committee meeting
20 begin article outlines and objectivesr
begin application
1 second tentative thesis committee meeting
m17 - a2 first thesis show
21 reception
17 - 23 second thesis show
11 reception
28 last tentative thesis committee meeting
a28 - m14 third thesis show
2 reception
12 begin thesis report
research and analysis phase
synthesis phase
dissemination phase
evaluation phase
Design History in Cyberspace
development planning
archive online development
full course development begins
video lecturer, interviewr
module development
RRR on leave as CDM faculty assoc
text materials in prof. Beard-lee's information design course
information gathering to prepare for thesis proposal development
september 1997 course offered through CDM for campus and distance learners
september 1998 course offered through CDM to outside of institute
phase one
traditional on-campus format
phase two
distance learning delivery
phase three
on-line delivery

Appendix B, Thesis Development

universal

design/art	*communication*	*pedagogy*	*computer sciences*	*psychology*
	platonic theory			
aesthetics theory (klee, albers) (rudolph, arnheim)	**semiotics/sign theory** (zakia)	**interdisciplinary experience** (irvine)		
	whole systems theory (plummer)	multiple intelligences (gardner)	interactivity theories	**archetypes**
designer as information architect	media/immedia theory (ciampa)	multiculturalism	**human factors/ ergonomics**	contrarian theory (postman)
modernism structuralism deconstructivism post-modernism	**linguistics**	methods of evaluation theories	artificial intelligence theories	
	information theory (tufte, wurman)	syllabus development lesson planning	fuzzy logic	social role playing
information anxiety (wurman)	interpersonal / person to group communication theories	organization theories related to library systems	**technical interactivity/ content interactivity**	
hierarchy of information (tschichold/moyer/ bauhaus)	management theory (peters)	distance learning theories	internet / network structure theories	
	hypertext? (landau)	audience appropriateness	intelligence agents	
			object oriented programming	

specific

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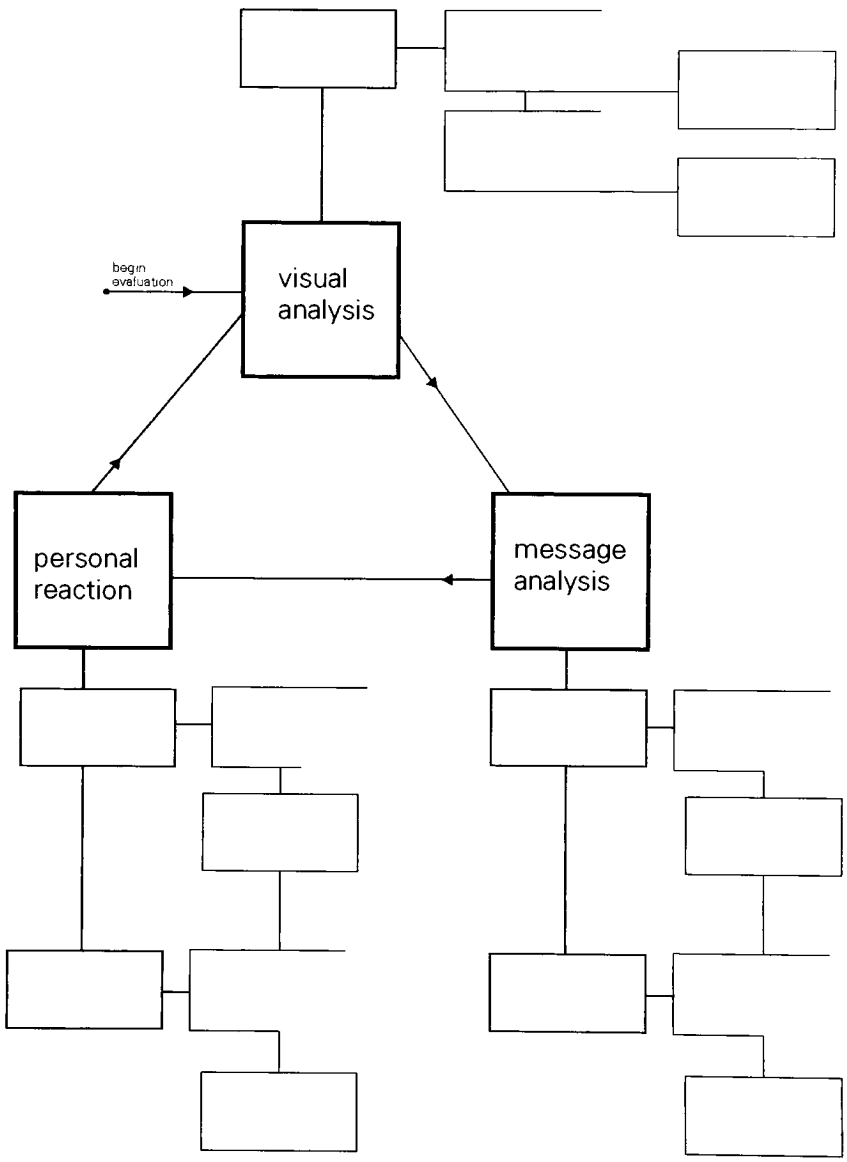
draft
1.9.97



Clifford M Commanday
Evaluation Model
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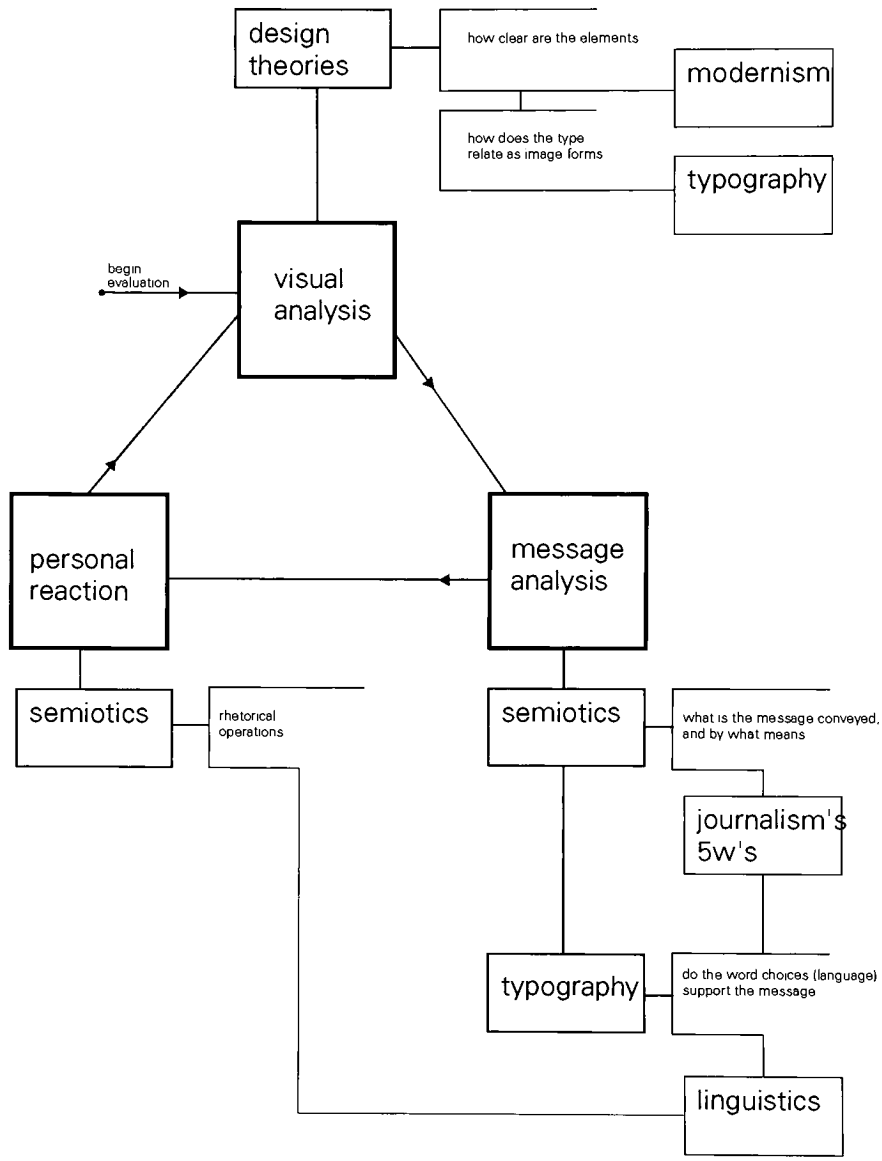
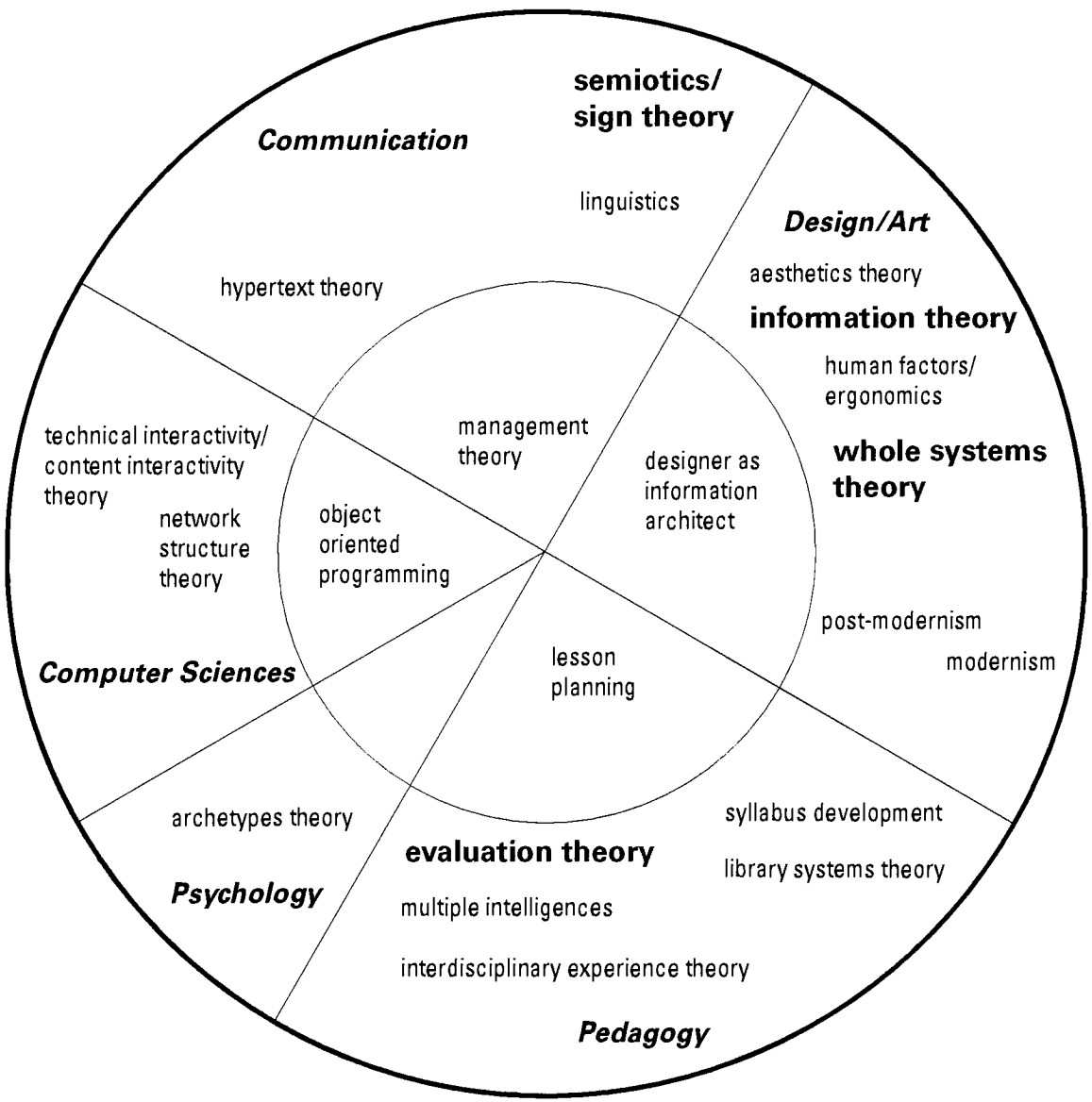
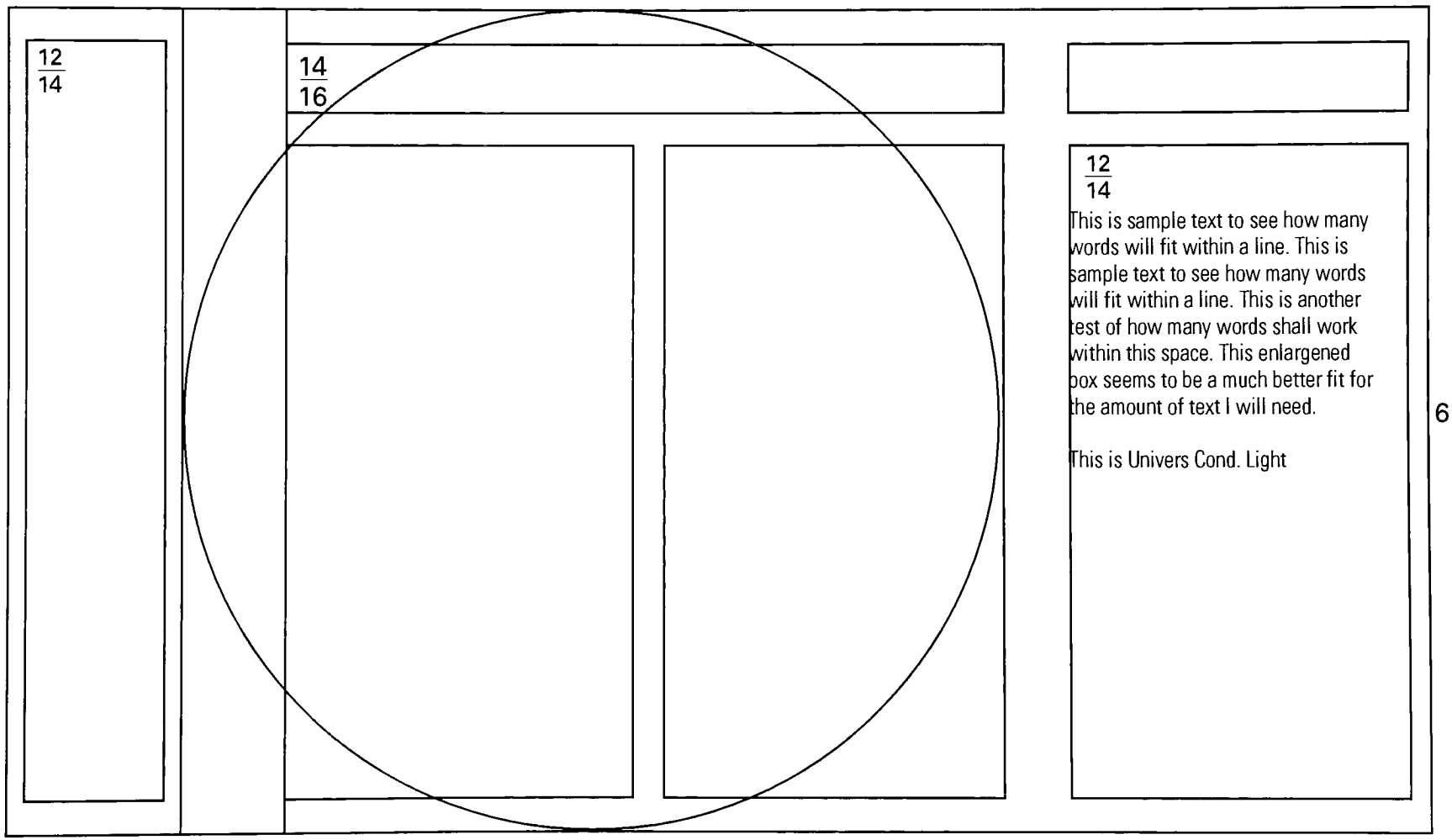


Appendix C, Theory Map


semiotics/
sign theory
Communication
linguistics
Design/Art
aesthetics theory
hypertext theory
information theory
human factors/
ergonomics
management
theory
technical interactivity/
content interactivity
theory
designer as
information
architect
whole systems
theory
network
structure
theory
object
oriented
programming
post-modernism
modernism
lesson
planning
Computer Sciences
archetypes theory
syllabus development
evaluation theory
library systems theory
Psychology
multiple intelligences
interdisciplinary experience theory
Pedagogy

Appendix D, Implementation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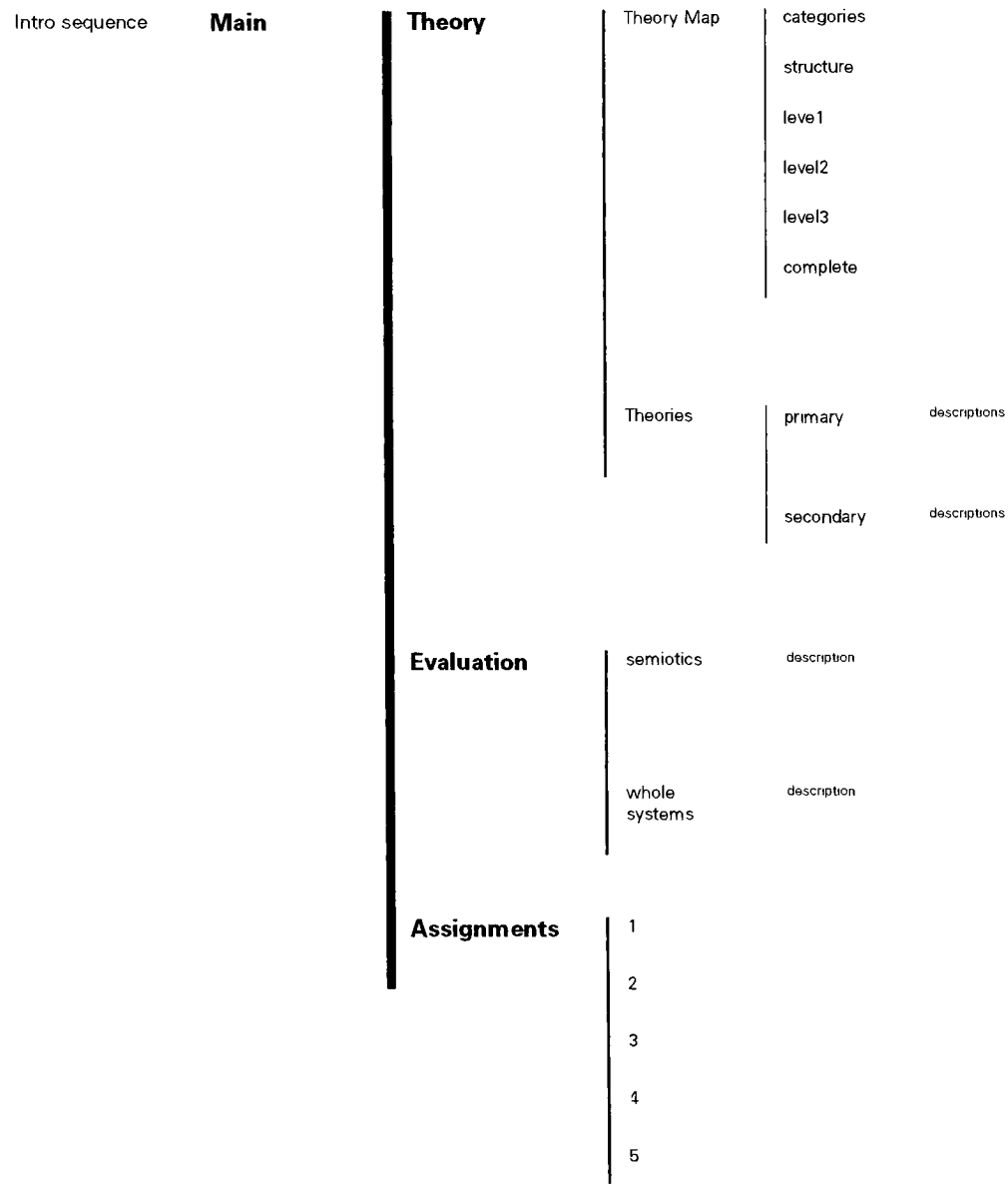
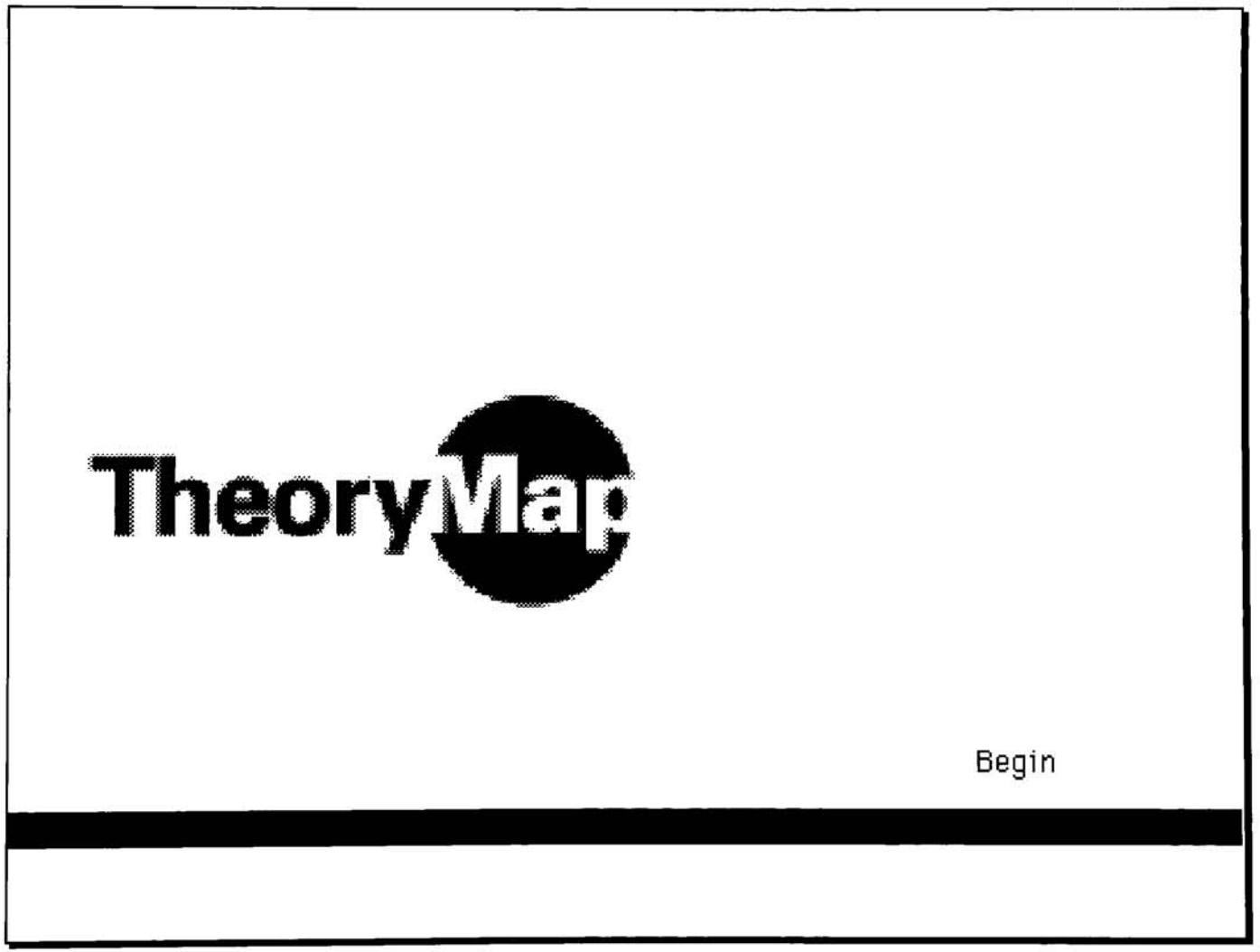
Twentieth Century Information Design
Course Development

Module Four: Evaluation

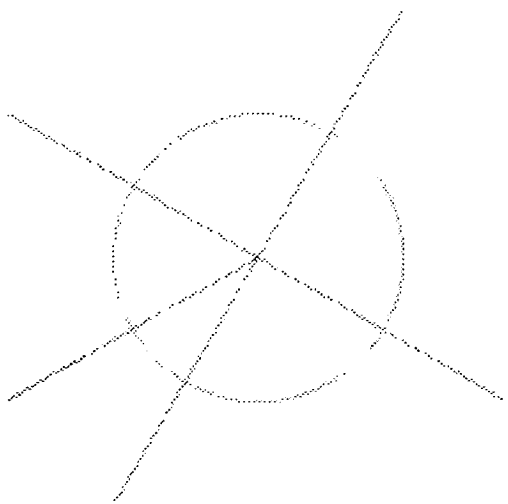
Application Flow



Appendix E, Implementation


TheoryMap
Begin

TheoryMap



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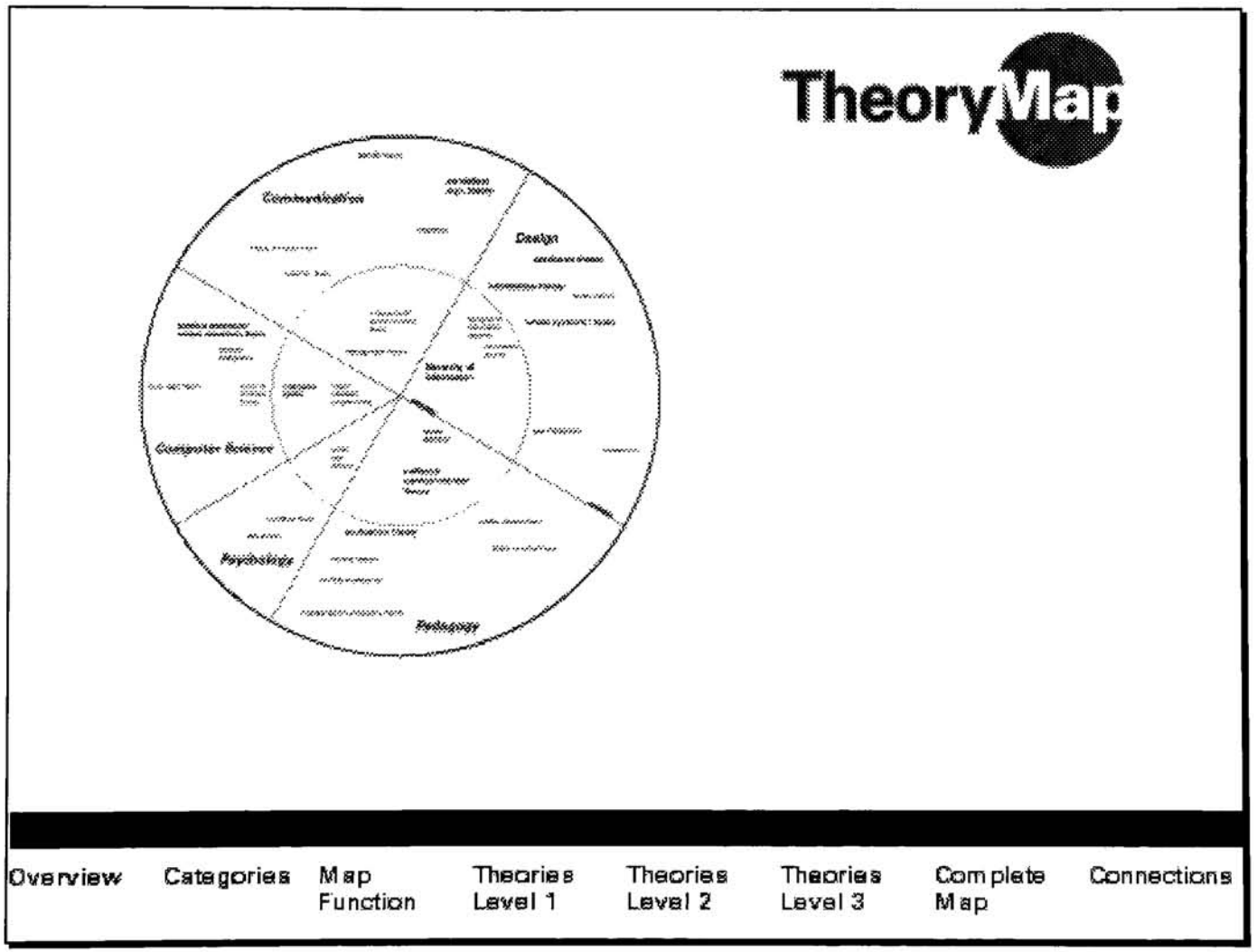
Overview | Categories | Map Function | Theories Level 1 | Theories Level 2 | Theories Level 3 | Complete Map | Connections


TheoryMap
Overview
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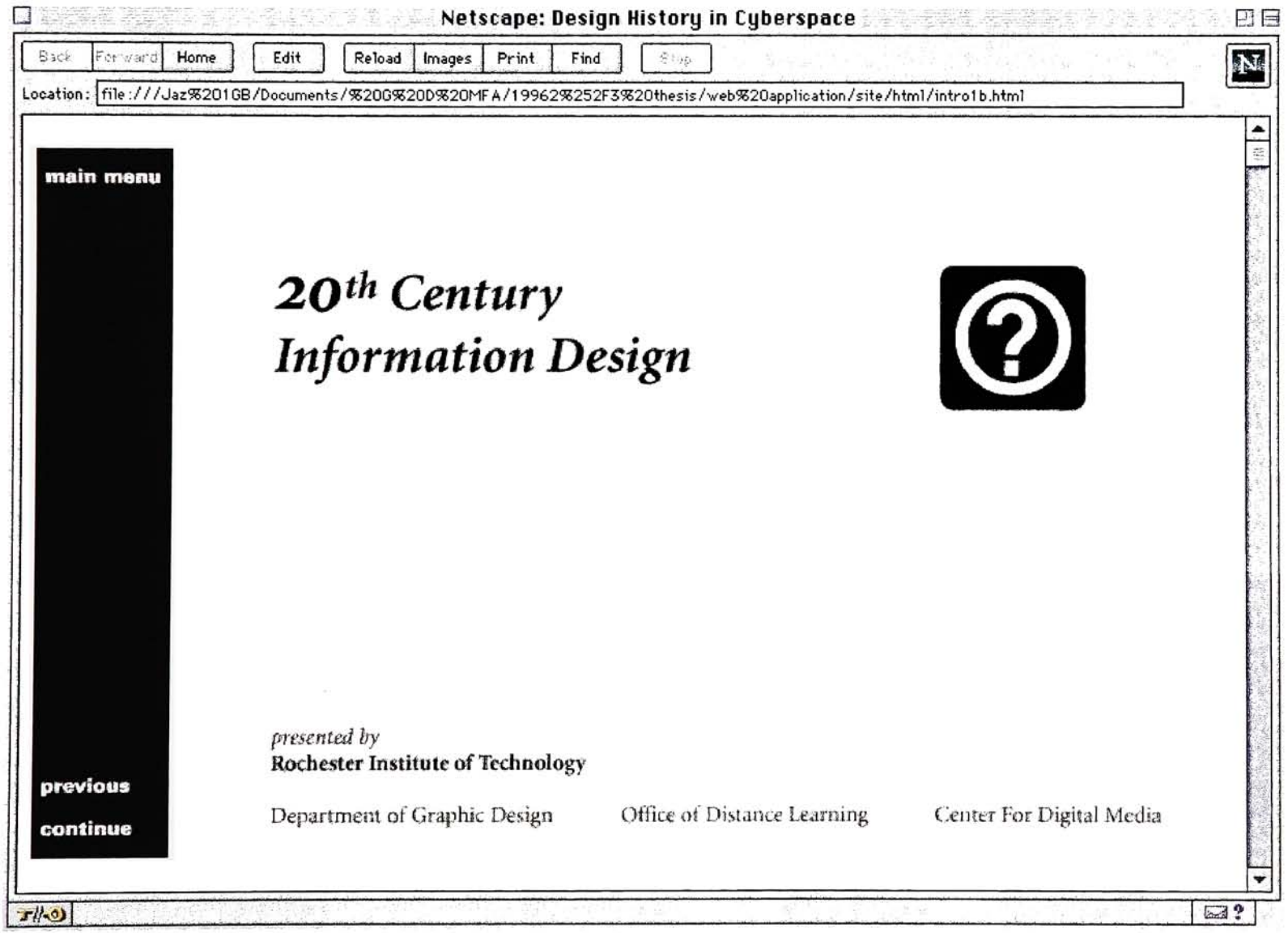
Map Function
Theories Level 1
Theories Level 2
Theories Level 3
Complete Map
Connections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20th Century
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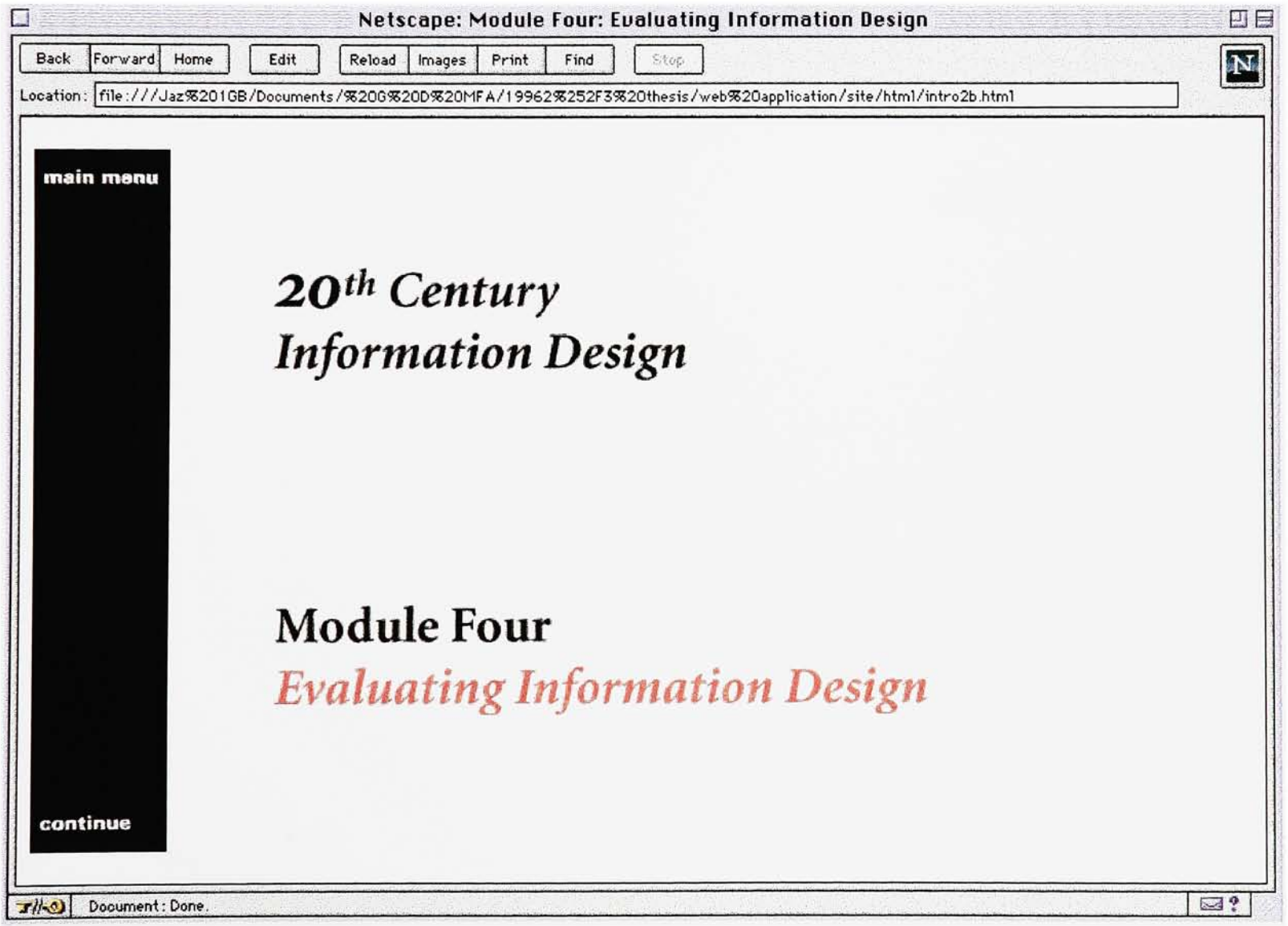
Rochester Institute of Technology
Department of Graphic Design
Office of Distance Learning
Center For Digital Media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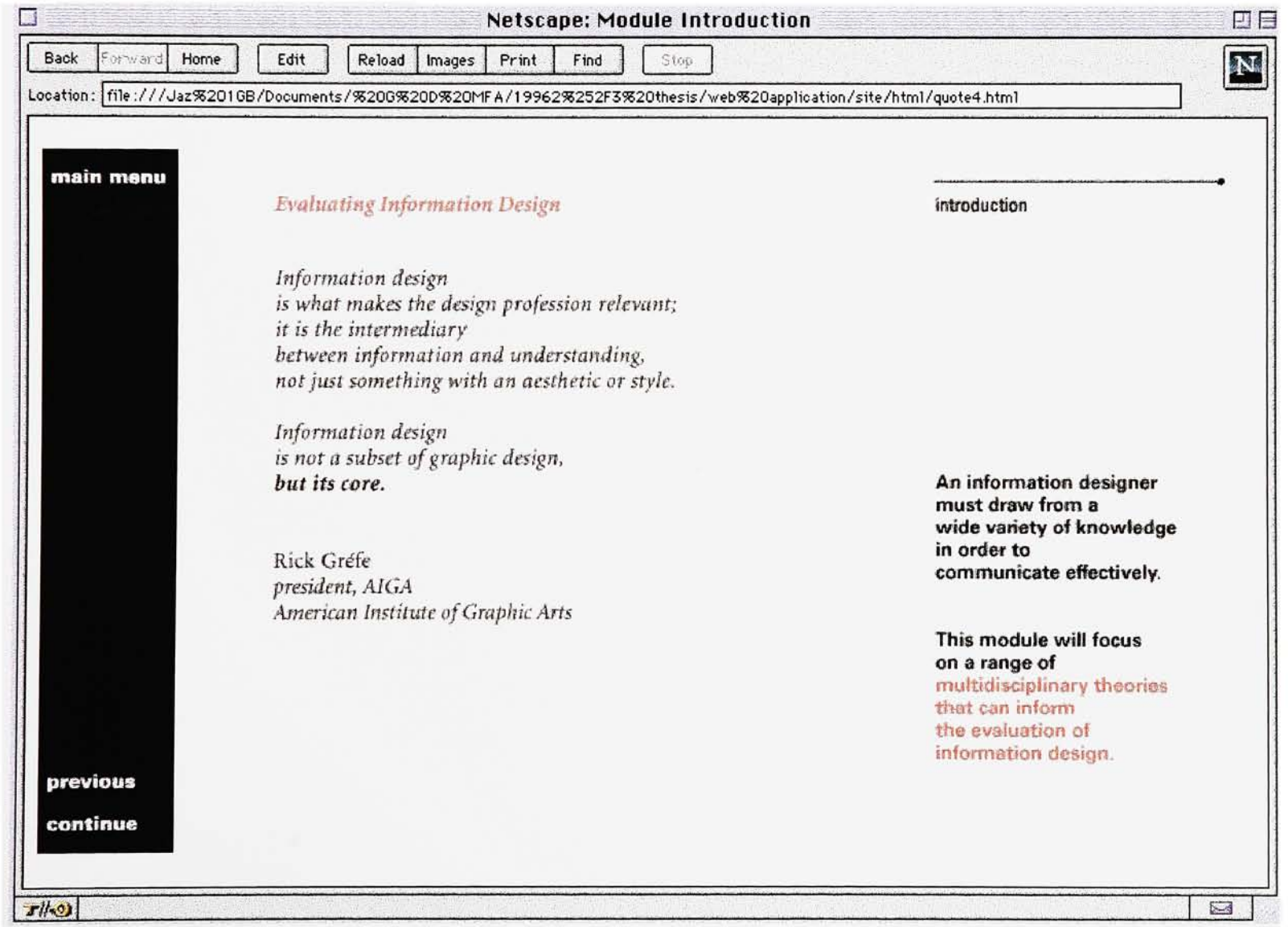
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main menu
Evaluating Information Design
Information design
is what makes the design profession relevant;
it is the intermediary
between information and understanding,
not just something with an aesthetic or style.
Information design
is not a subset of graphic design,
but its core.
Rick Grefe
president, AIGA
American Institute of Graphic Arts
introduction
An information designer must draw from a wide variety of knowledge in order to communicate effectively.
This module will focus on a range of multidisciplinary theories that can inform the evaluation of information design.
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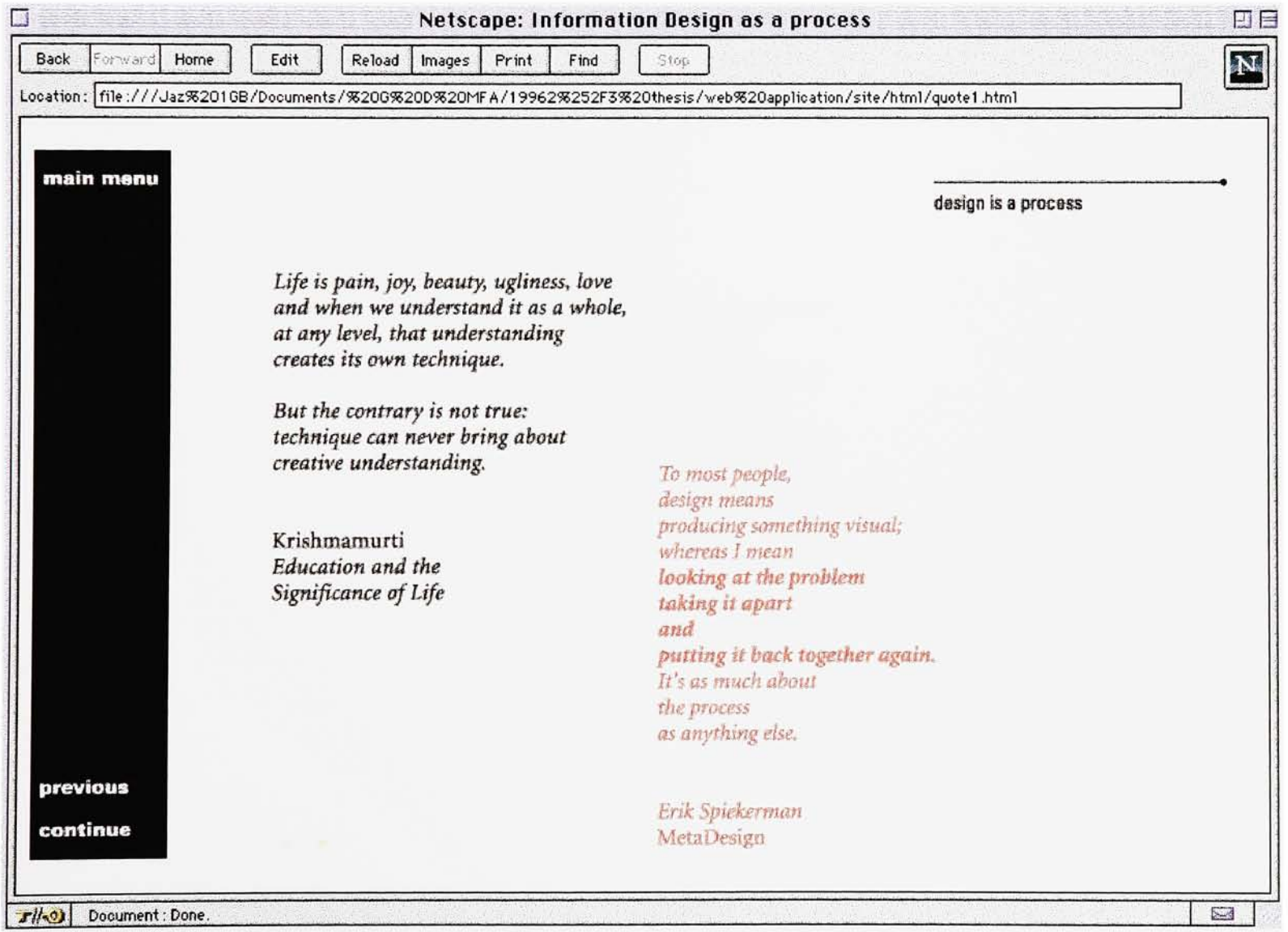
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main menu
design is a process
Life is pain, joy, beauty, ugliness, love
and when we understand it as a whole,
at any level, that understanding
creates its own technique.
But the contrary is not true:
technique can never bring about
creative understanding.
Krishmamurti
Education and the
Significance of Life
To most people,
design means
producing something visual;
whereas I mean
looking at the problem
taking it apart
and
putting it back together again.
It's as much about
the process
as anything else.
Erik Spiekerman
MetaDesign
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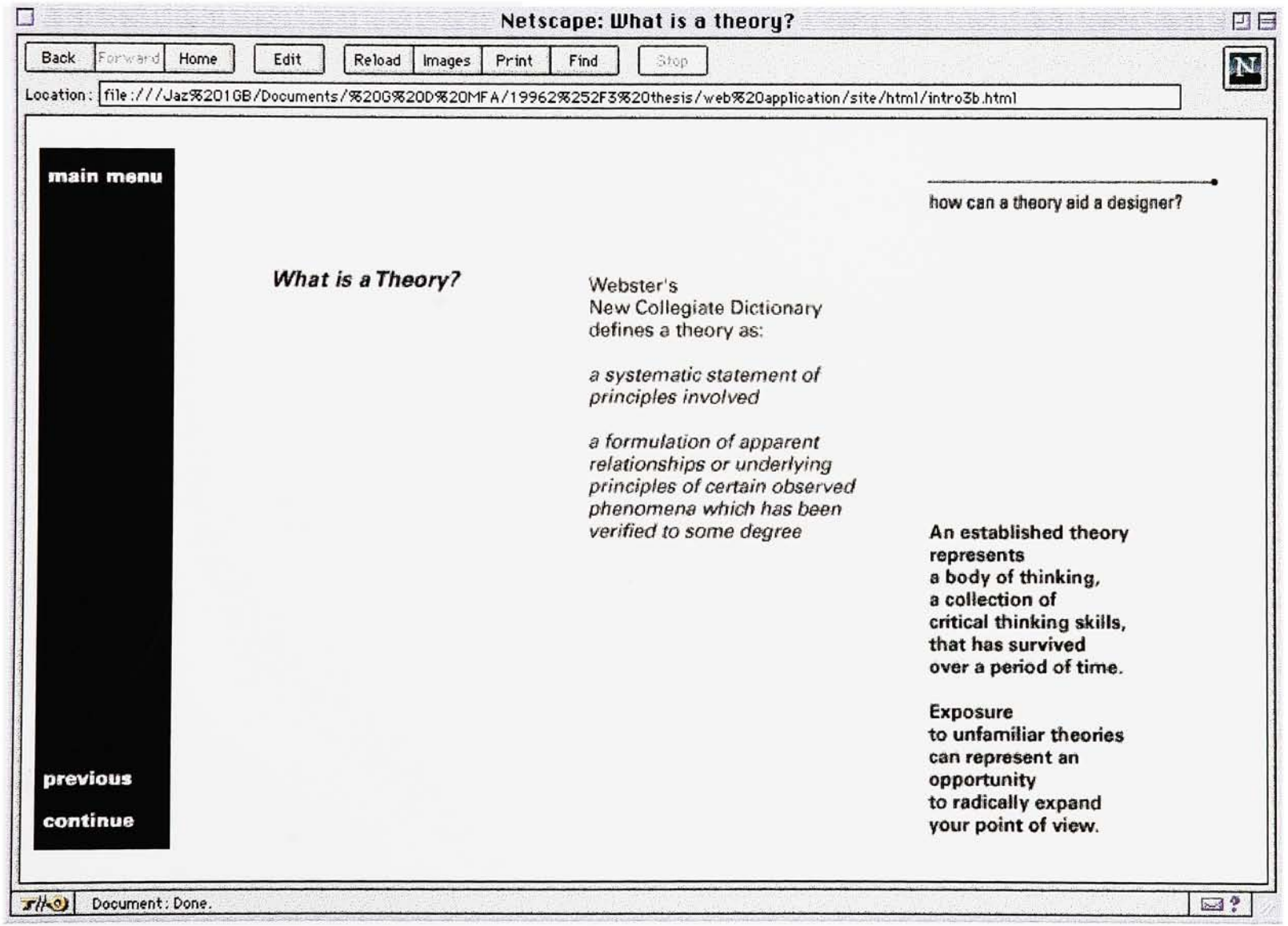
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how can a theory aid a designer?
What is a Theory?
Webster's
New Collegiate Dictionary
defines a theory as:
a systematic statement of principles involved
a formulation of apparent relationships or underlying principles of certain observed phenomena which has been verified to some degree
An established theory represents a body of thinking, a collection of critical thinking skills, that has survived over a period of time.
Exposure to unfamiliar theories can represent an opportunity to radically expand your point of view.
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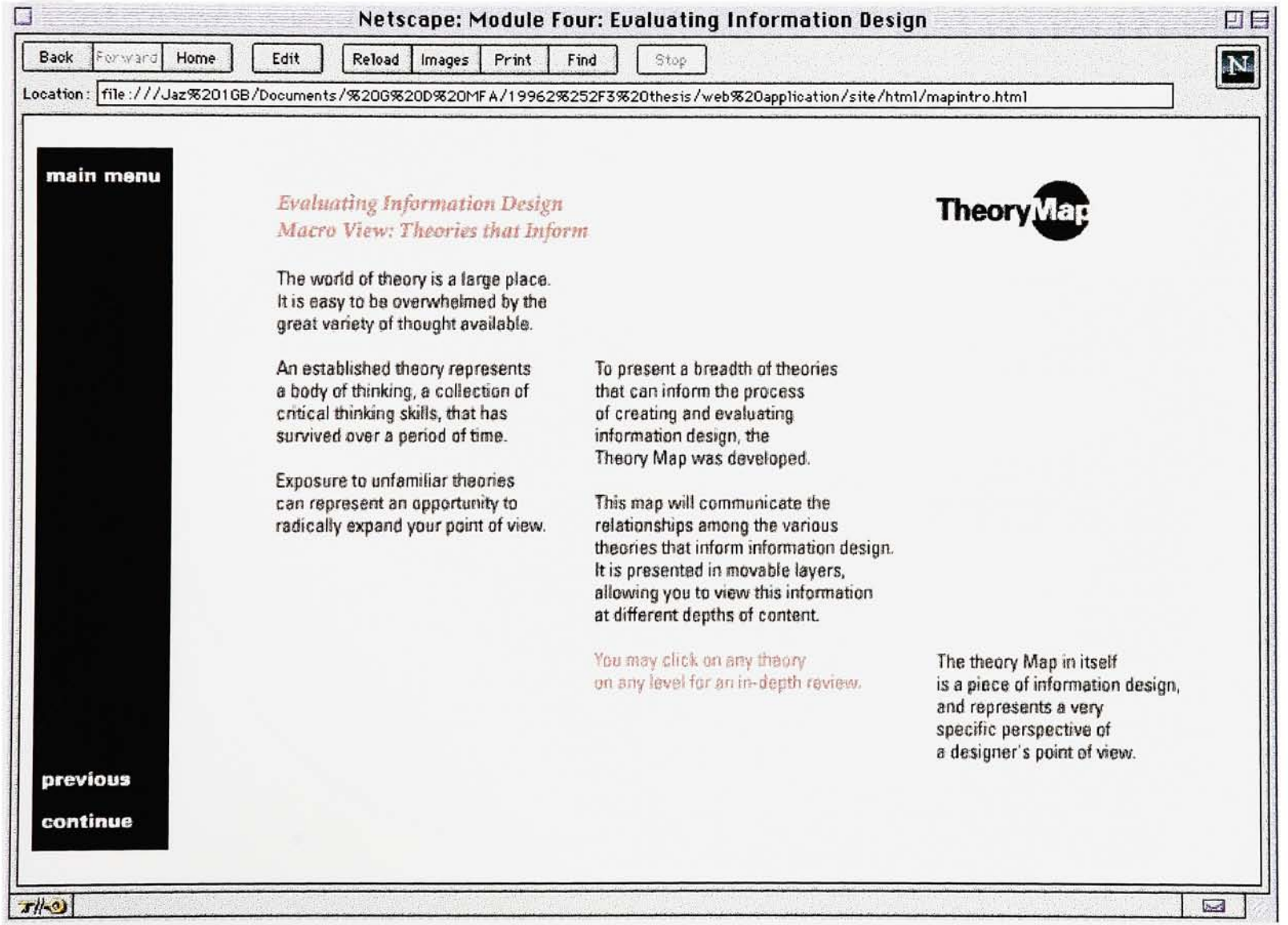
Netscape: Module Four: Evaluating Information Design
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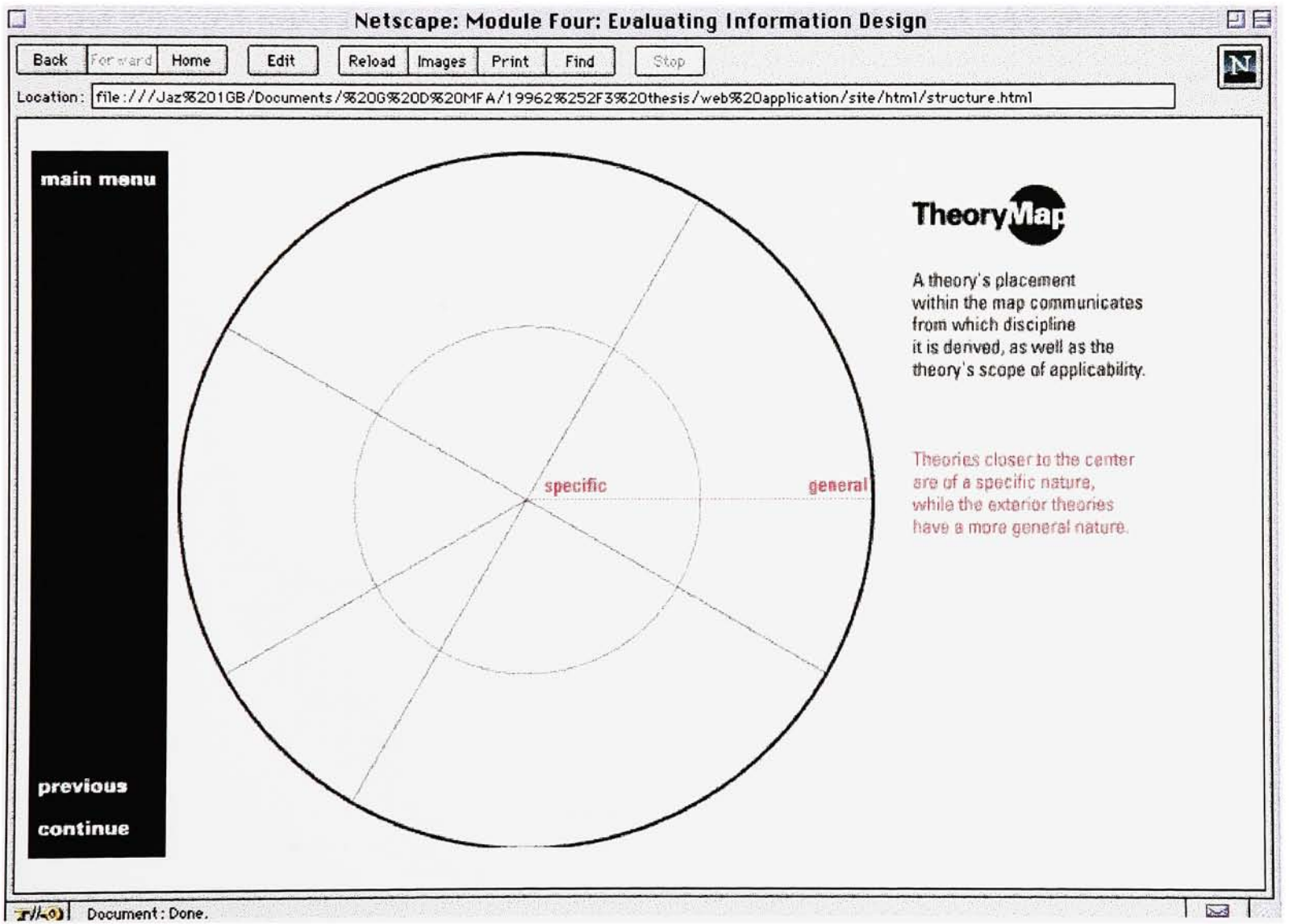
Evaluating Information Design
Macro View: Theories that Inform
TheoryMap
The world of theory is a large place. It is easy to be overwhelmed by the great variety of thought available.
An established theory represents a body of thinking, a collection of critical thinking skills, that has survived over a period of time.
Exposure to unfamiliar theories can represent an opportunity to radically expand your point of view.
To present a breadth of theories that can inform the process of creating and evaluating information design, the Theory Map was developed.
This map will communicate the relationships among the various theories that inform information design. It is presented in movable layers, allowing you to view this information at different depths of content.
You may click on any theory on any level for an in-depth review.
The theory Map in itself is a piece of information design, and represents a very specific perspective of a designer's point of view.


Netscape: Module Four: Evaluating Information Design
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Location: file:///Jaz%201GB/Documents/%20G%20D%20MFA/19962%252F3%20thesis/web%20application/site/html/structure.html
main menu
previous
continue
specific
general
TheoryMap
A theory's placement within the map communicates from which discipline it is derived, as well as the theory's scope of applicability.
Theories closer to the center are of a specific nature, while the exterior theories have a more general nature.
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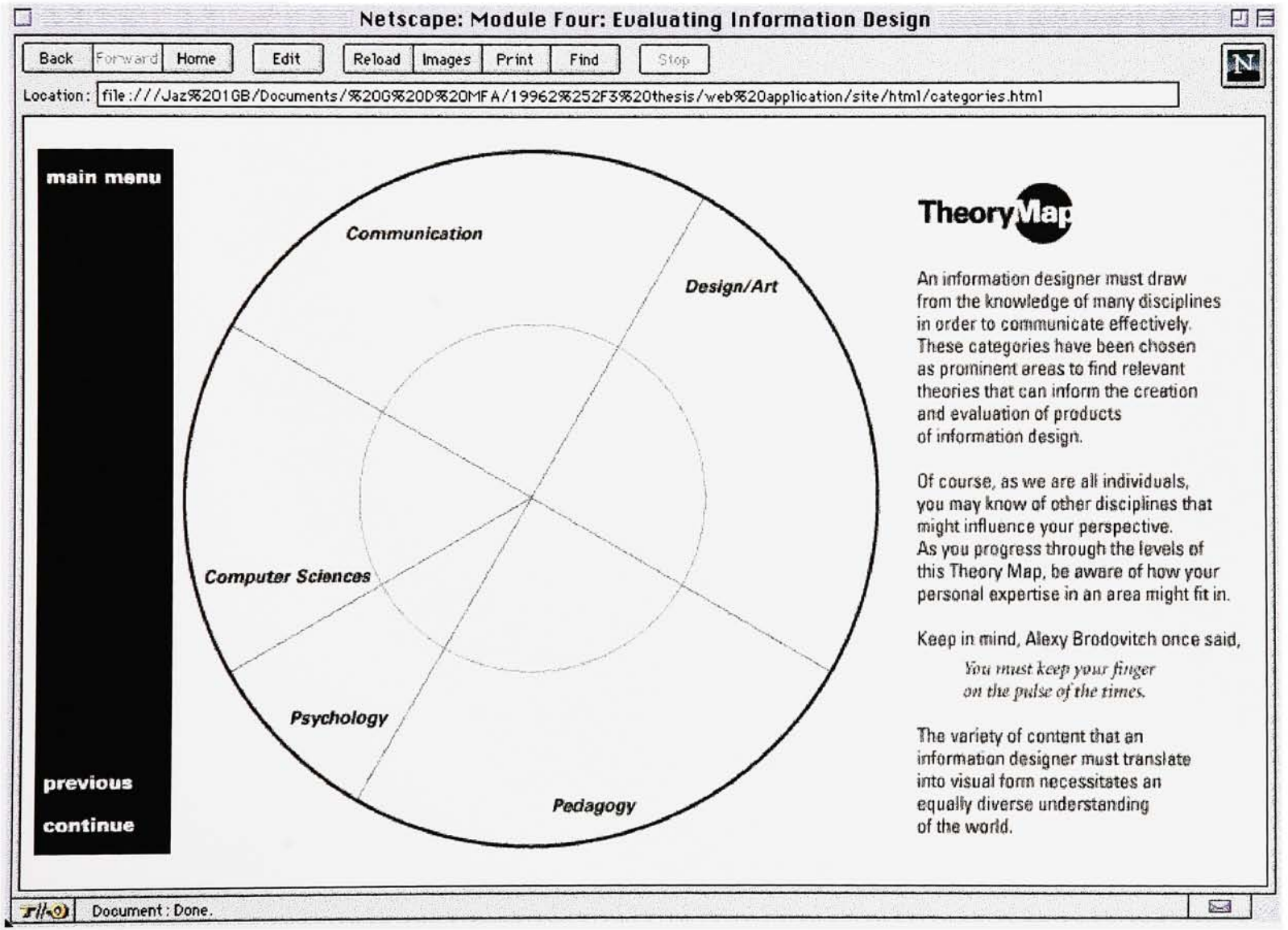
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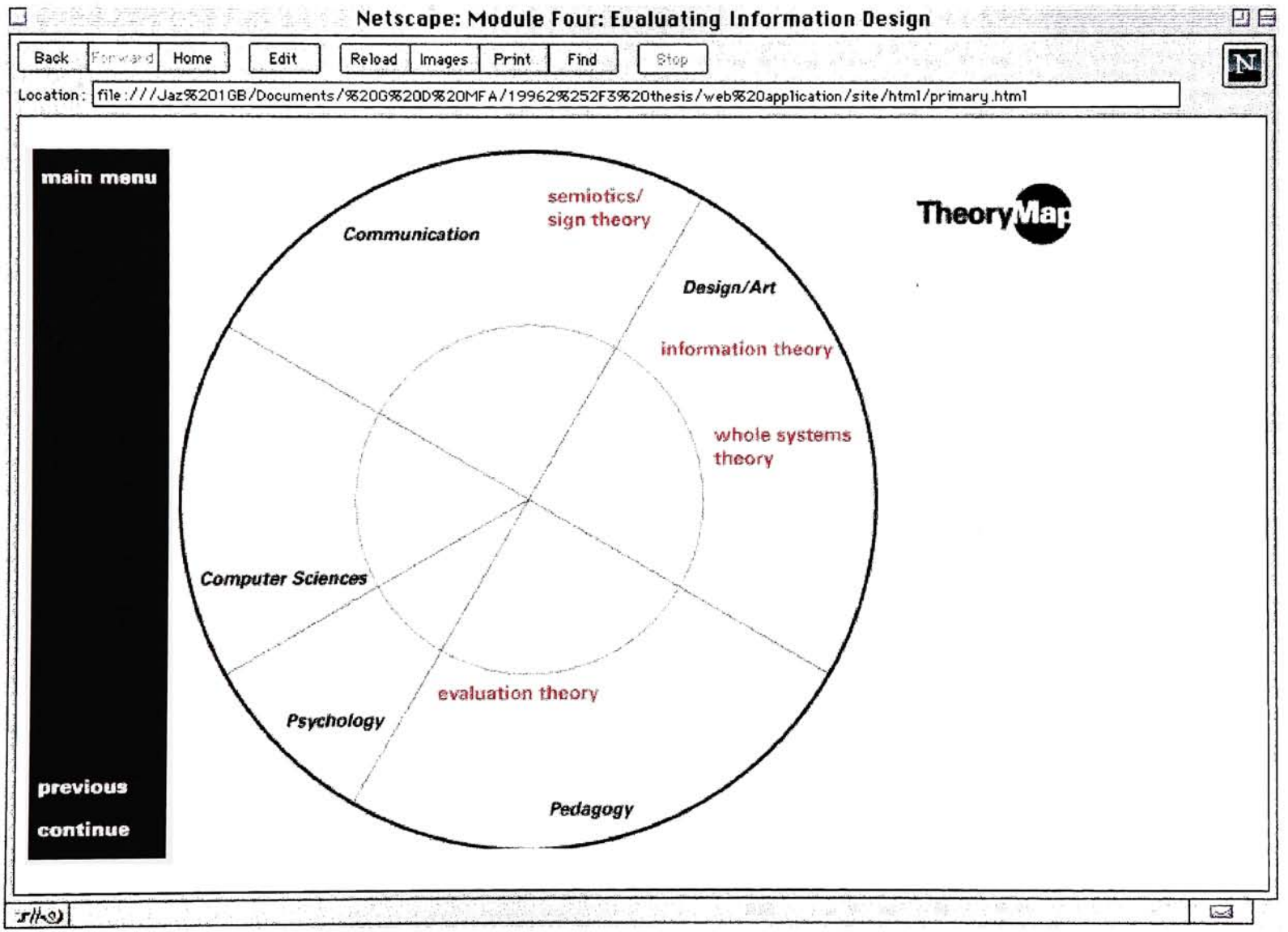
main menu
previous
continue
Communication
Design/Art
Computer Sciences
Psychology
Pedagogy
TheoryMap
An information designer must draw from the knowledge of many disciplines in order to communicate effectively. These categories have been chosen as prominent areas to find relevant theories that can inform the creation and evaluation of products of information design.
Of course, as we are all individuals, you may know of other disciplines that might influence your perspective. As you progress through the levels of this Theory Map, be aware of how your personal expertise in an area might fit in.
Keep in mind, Alexy Brodovitch once said,
You must keep your finger on the pulse of the times.
The variety of content that an information designer must translate into visual form necessitates an equally diverse understanding of the world.
Document : Done.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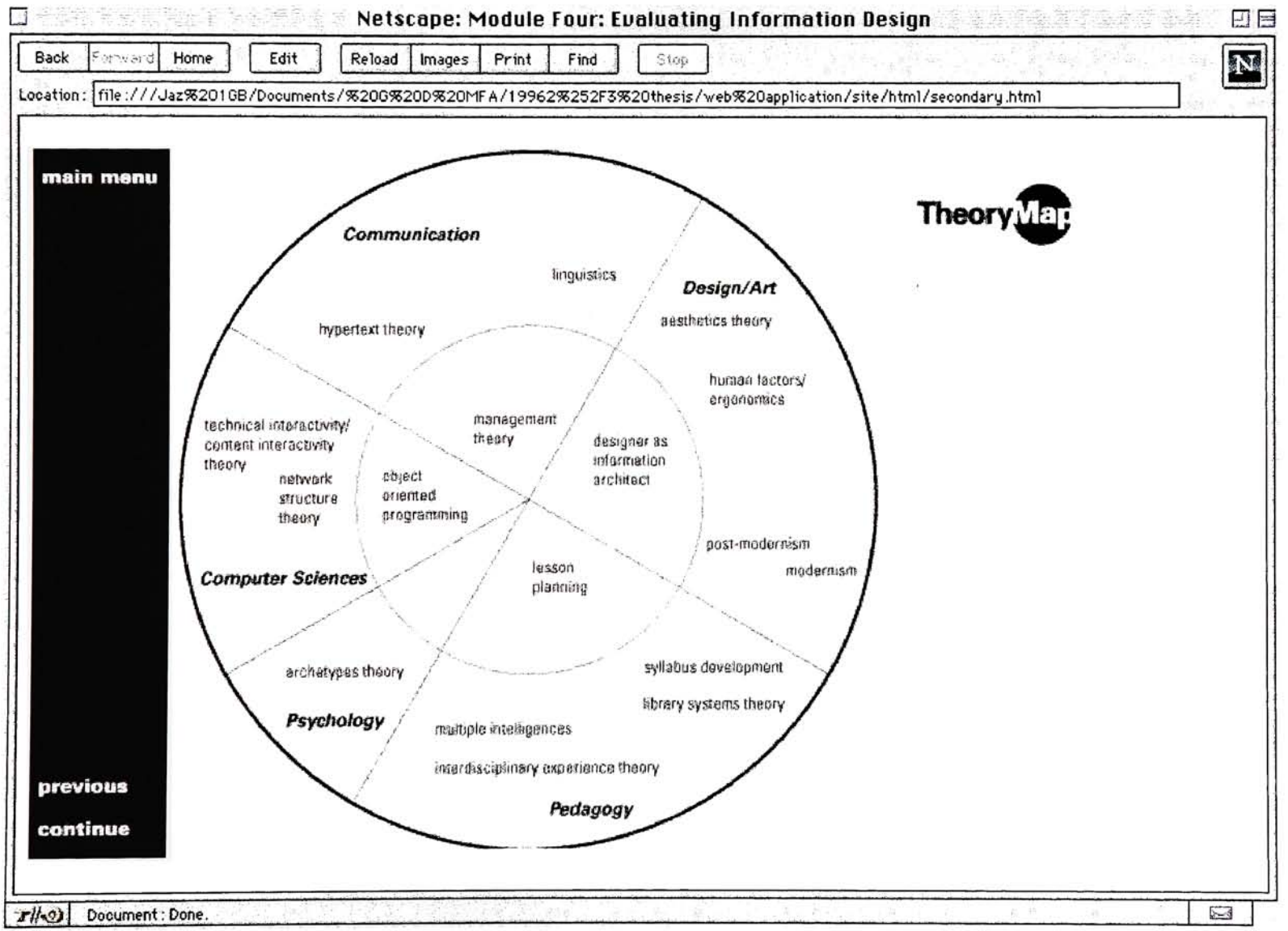
main menu
previous
continue
TheoryMap
semiotics/
sign theory
Communication
Design/Art
information theory
whole systems
theory
Computer Sciences
evaluation theory
Psychology
Pedagogy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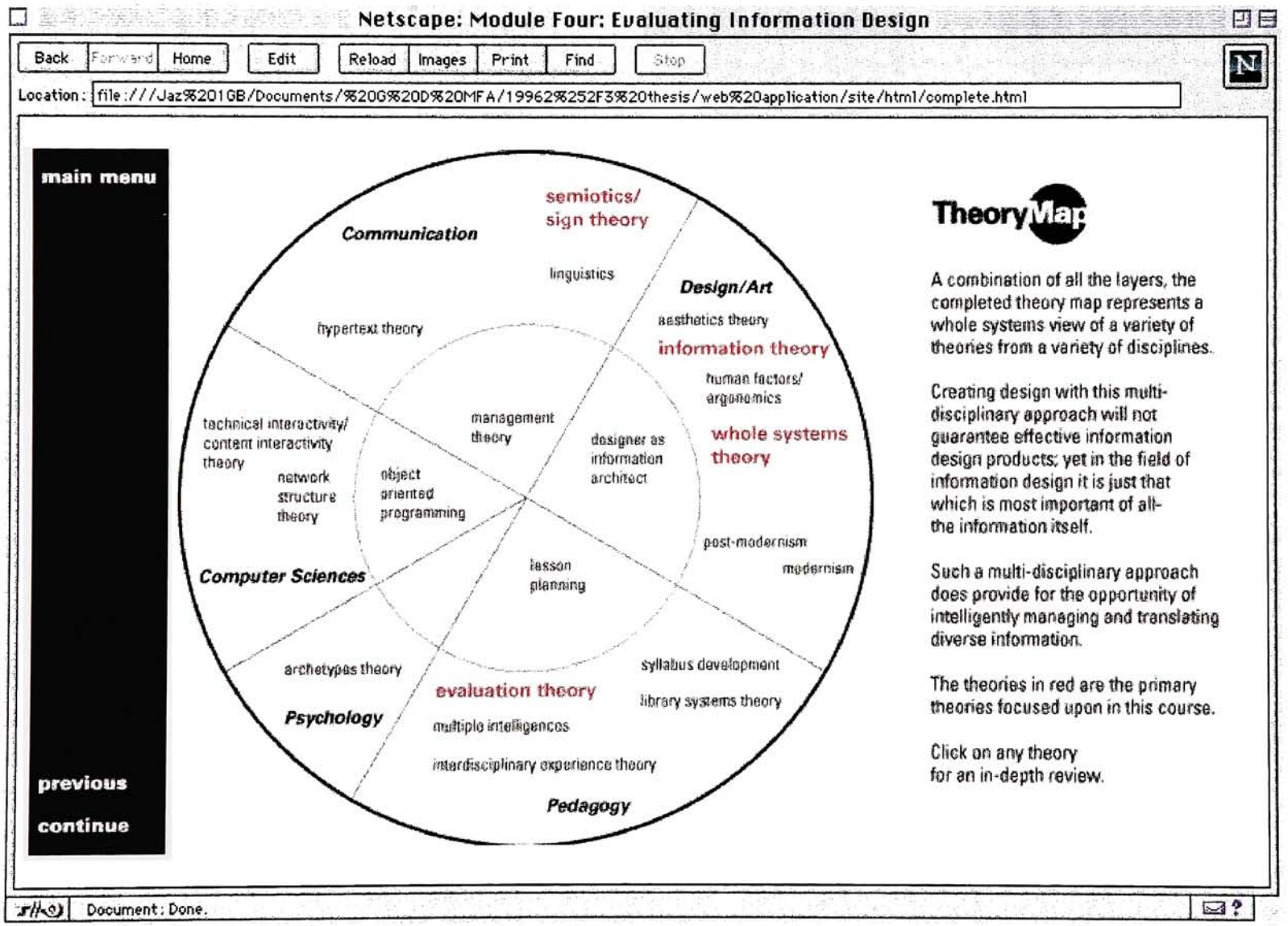
main menu
previous
continue
TheoryMap
Communication
linguistics
hypertext theory
Design/Art
aesthetics theory
human factors/ ergonomics
designer as information architect
post-modernism
modernism
lesson planning
Pedagogy
syllabus development
library systems theory
multiple intelligences
interdisciplinary experience theory
Psychology
archetypes theory
Computer Sciences
technical interactivity/ content interactivity theory
network structure theory
object oriented programming
management theory
Document: Done.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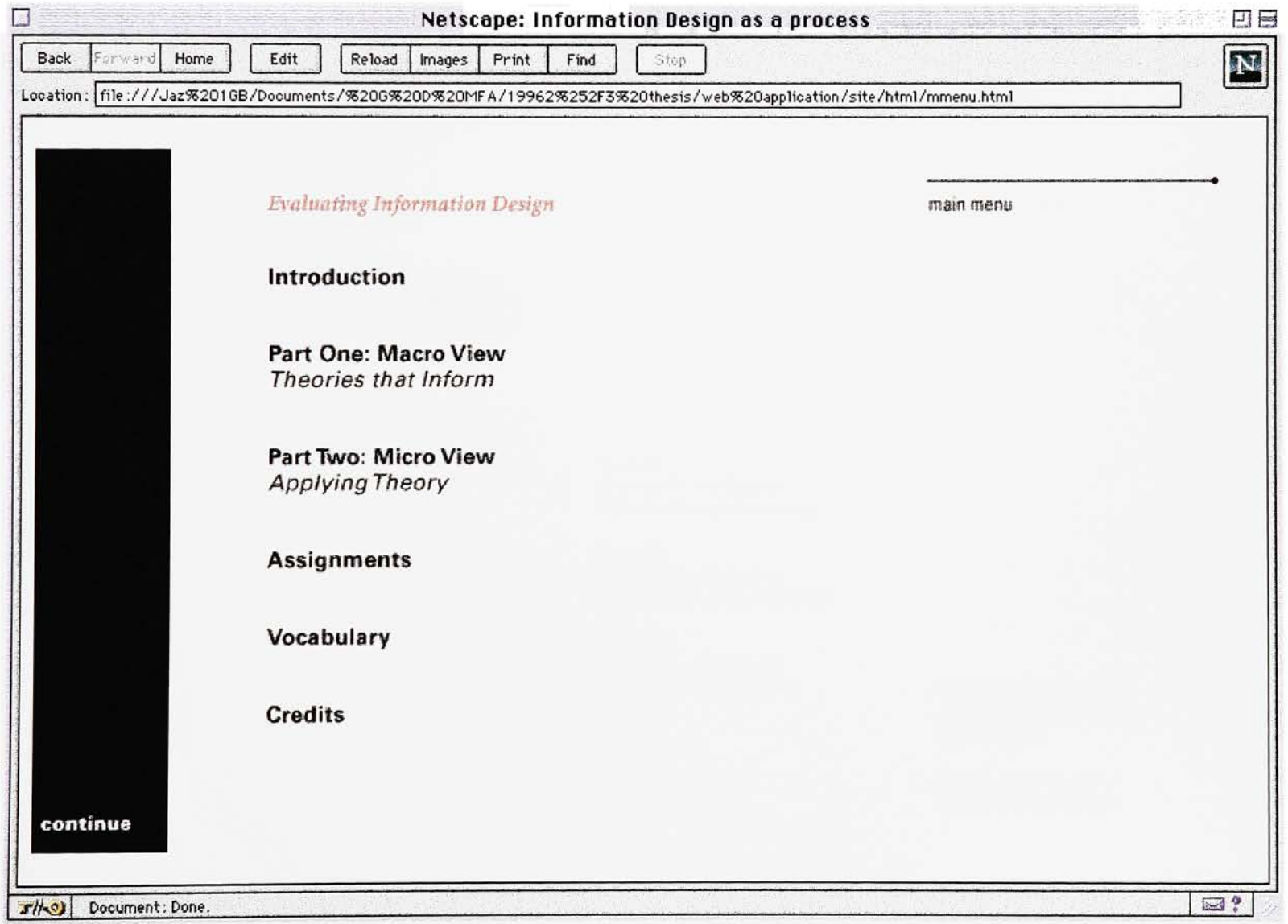
main menu
previous
continue
Communication
semiotics/
sign theory
linguistics
hypertext theory
Design/Art
aesthetics theory
information theory
human factors/
ergonomics
whole systems
theory
post-modernism
modernism
Pedagogy
lesson
planning
syllabus development
library systems theory
interdisciplinary experience theory
multiple intelligences
evaluation theory
Psychology
archetypes theory
Computer Sciences
object
oriented
programming
network
structure
theory
technical interactivity/
content interactivity
theory
management
theory
designer as
information
architect
TheoryMap
A combination of all the layers, the completed theory map represents a whole systems view of a variety of theories from a variety of disciplines.
Creating design with this multi-disciplinary approach will not guarantee effective information design products; yet in the field of information design it is just that which is most important of all- the information itself.
Such a multi-disciplinary approach does provide for the opportunity of intelligently managing and translating diverse information.
The theories in red are the primary theories focused upon in this course.
Click on any theory
for an in-depth review.
Document: Done.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Back
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Home
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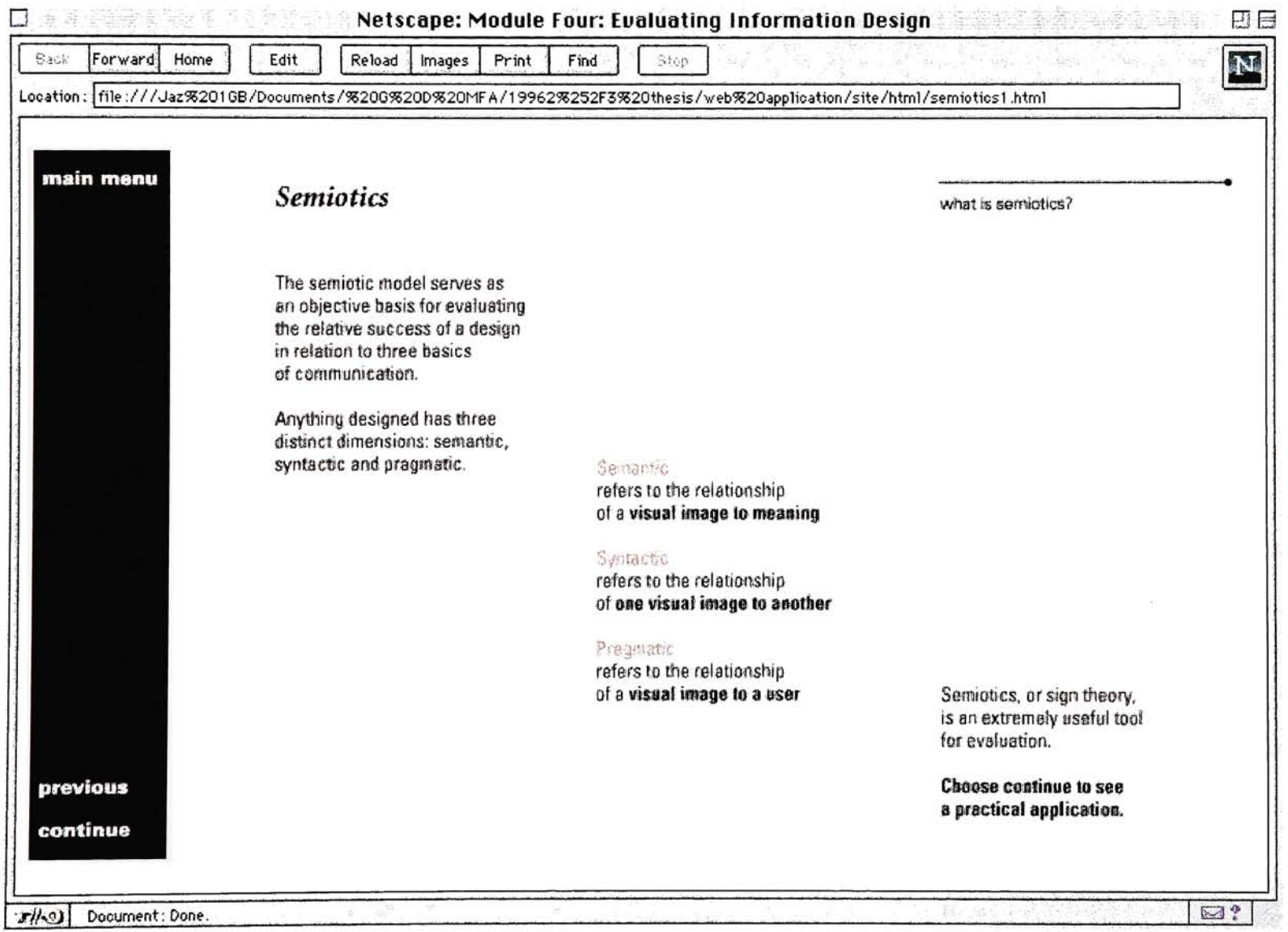
Evaluating Information Design
main menu
Introduction
Part One: Macro View
Theories that Inform
Part Two: Micro View
Applying Theory
Assignments
Vocabulary
Credits
continue
Document: Done.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main menu
Semiotics
what is semiotics?
The semiotic model serves as an objective basis for evaluating the relative success of a design in relation to three basics of communication.
Anything designed has three distinct dimensions: semantic, syntactic and pragmatic.
Semantic
refers to the relationship of a visual image to meaning
Syntactic
refers to the relationship of one visual image to another
Pragmatic
refers to the relationship of a visual image to a user
Semiotics, or sign theory, is an extremely useful tool for evaluation.
Choose continue to see a practical application.
previous
continue
Document: Done.

Netscape: Module Four: Evaluating Information Design

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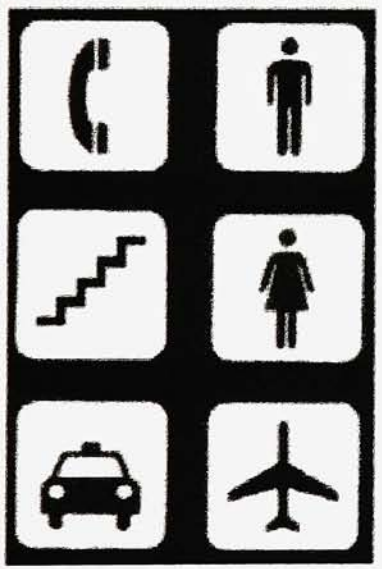
main menu

previous

continue

Semiotics



This is a sample of images from a system of passenger/pedestrian oriented symbols prepared by the American Institute of Graphic Arts.

Semantic
How well does the design represent the message?

Would people from various cultures understand the message?

Syntactic
How well do the parts of the design relate to one another?

Is the construction of the design consistent in its use of figure/ground, solid, outline, overlapping, transparency, orientation, format, scale, color and texture?

Pragmatic
Can a person use the design for its intended use?

Is the design legible in typical viewing distances and lighting?

practical application

Use the questions on the left in their respective categories to evaluate these designs.

Choose continue for a detailed analysis of the first symbol.

Document : Done.

Netscape: Module Four: Evaluating Information Design

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main menu

previous

continue

Semiotics

practical application

Semantic
This symbol is clearly an indication of a telephone.

People from a variety of cultures would be able to recognize this image.

Syntactic
The image is composed of simple shapes that are clear and distinct.

The curves of the shapes within the image relate well to each other, as well as to the other symbols within the system.

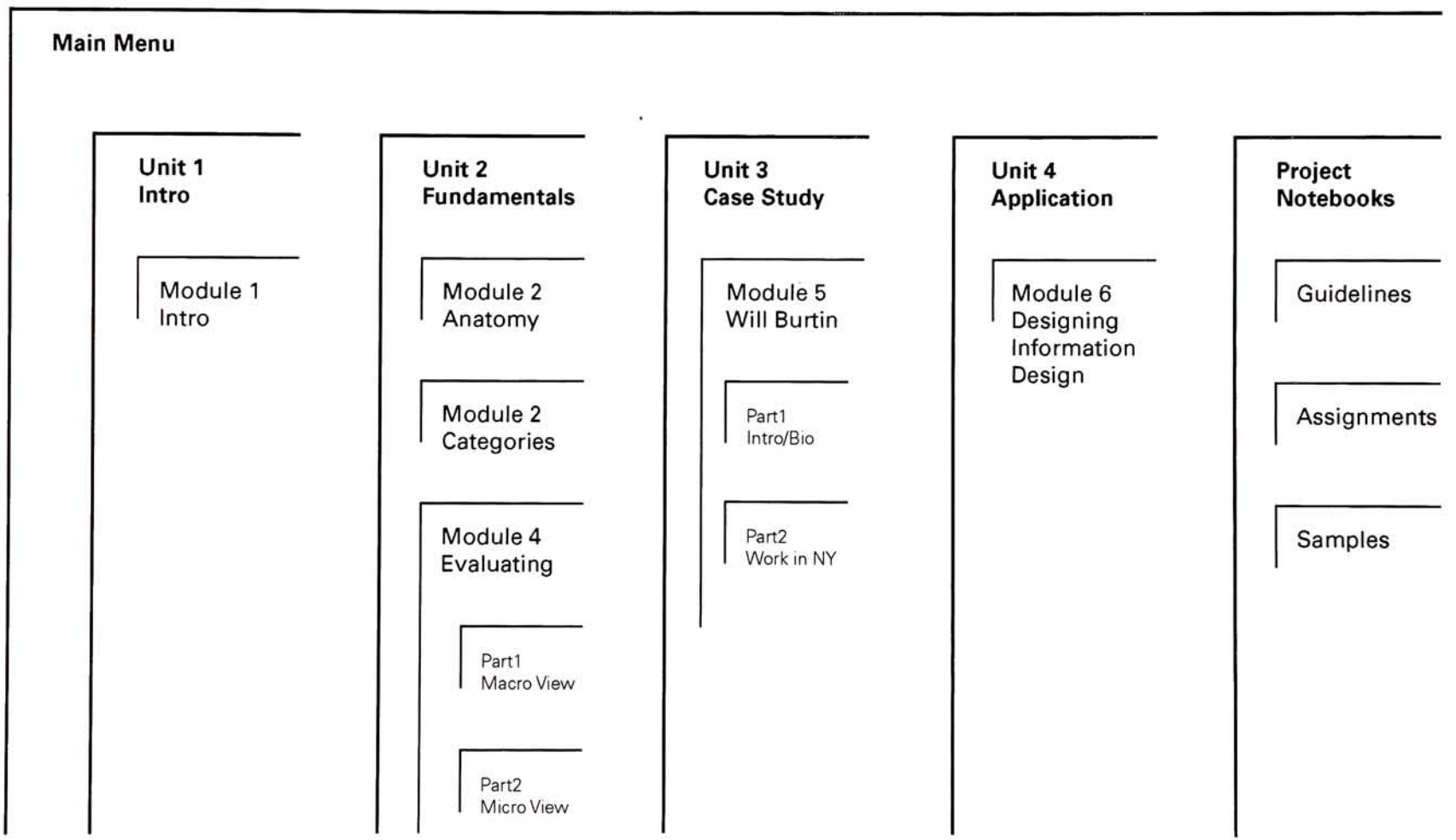
Pragmatic
This symbol serves well to indicate the availability of a telephone.

The clear and distinct shapes make for both easy viewing at long distances and reproductions at a variety of sizes.

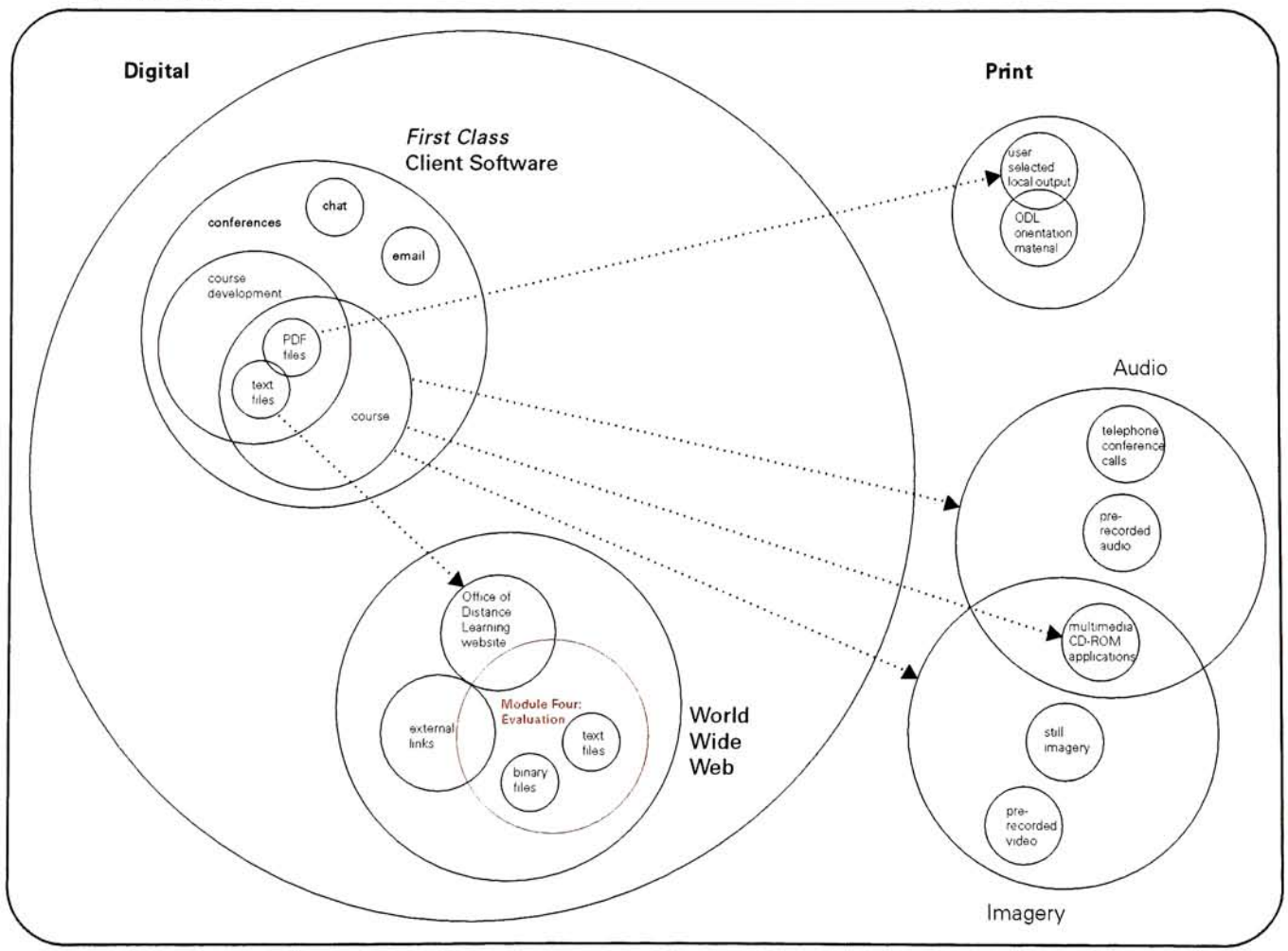
Choose continue to return to the Theory Map.

Document: Done.

Appendix F, Course Development


Main Menu
Unit 1
Intro
Module 1
Intro
Unit 2
Fundamentals
Module 2
Anatomy
Module 2
Categories
Module 4
Evaluating
Part1
Macro View
Part2
Micro View
Unit 3
Case Study
Module 5
Will Burtin
Part1
Intro/Bio
Part2
Work in NY
Unit 4
Application
Module 6
Designing
Information
Design
Project
Notebooks
Guidelines
Assignments
Samples

New Course Development
20th Century Information Design
Media Map

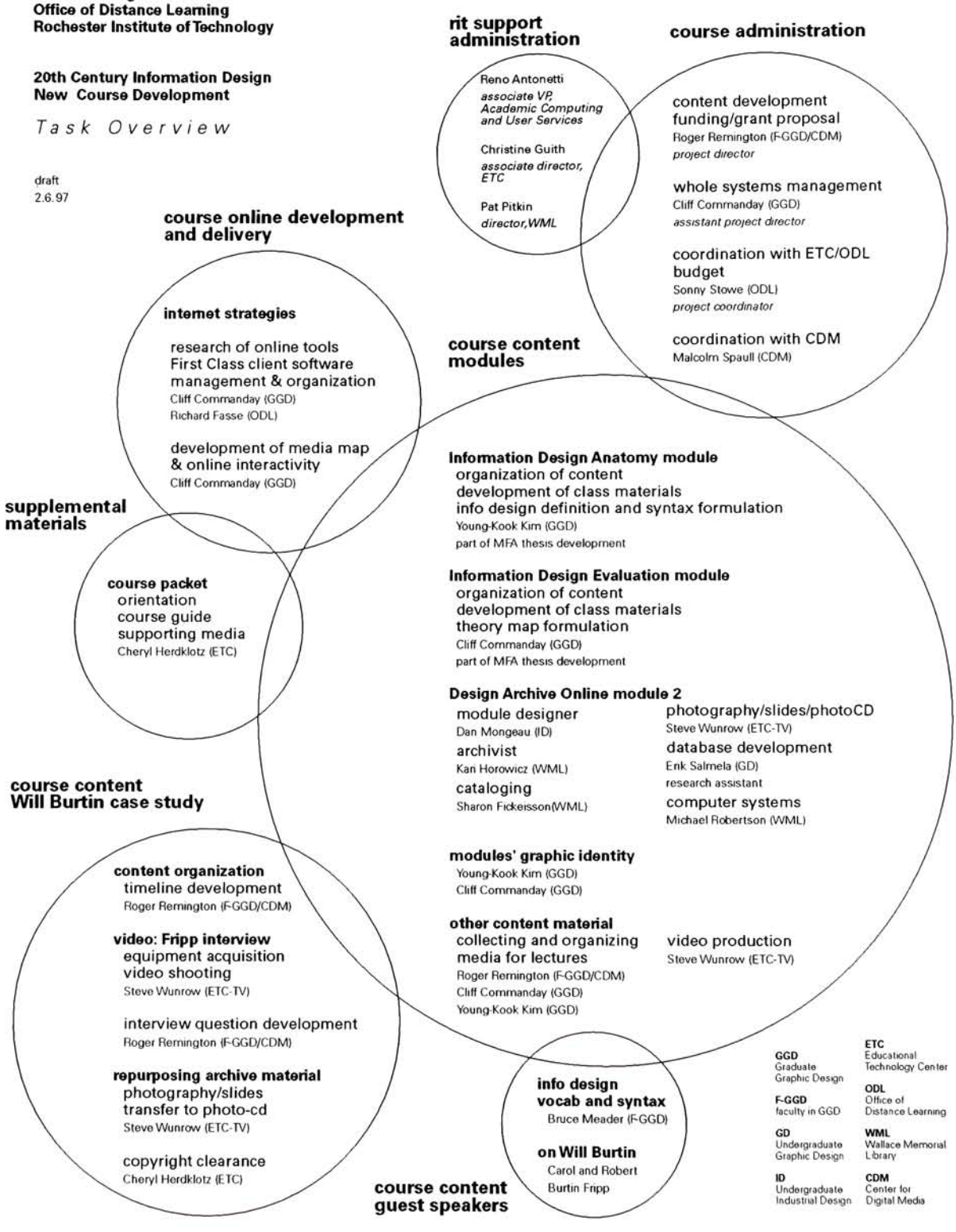


Center for Digital Media
Office of Distance Learning
Rochester Institute of Technology

20th Century Information Design
New Course Development

Task Overview

draft
2.6.97



Course Development Timeline

draft 4.9.97

APRIL		first class workshop
		weekly meetings begin re:first class (CC+RF)
		RRR+CC design format for potential video presentation of module 4 **video production/editing - burtin(2), RRR lectures(?)** RRR available: may 26-30, june 2-6,23-30, july 1-15
		assess RRR computer needs to facilitate course (cpu/system upgrade, memory, hd, mobile modem connectivity)
MAY		
	24	graduation **thesis modules completed (CC+YK)**
	25	group discussion of discourse within course assignments
	≐25	DAOL prototype review
	25-	potential development of surrounding web site
JUNE	1-30	SF cataloging DAOL
	9-20	RRR teaches summer class
JULY	1	**course runthrough, modifications**
	25	course material confirmation - print, digital, video
AUG	**1**	**final production** orientation mailing one ounce mailing
	15	course material in bookstore
	18	**course materials finalized**
SEPT	4	fall quarter starts

Course Plan

20th Century Information Design

Unit 1 — *Introduction*

Module One — **Overview of Information Design**

Content: Course Overview and basis

Questions:
- Why is it useful to study design history?
- From what pt-of-view is this course designed?
- What is Information?
- What is Design?
- What is Information Design?
- What is the role of human factors?
- What are important Information Design historical references prior to 20th century?

Format:: Video intr
Video lecture and visuals (RR-BM)
Assignment:: None
Explain course project notebook
Discussion Points:
Conferences:

Unit 2 — *Fundamentals*

Module Two — **Anatomy of Information Design**

Content: Components that are used in creating messages

Questions:
- What are components?
- How are they combined?
- What are examples of pioneering Information Design which show anatomy?
- Who are Information Design pioneers?

Format:: Video lecture and visuals (RR)
Assignment:: Use course guide book by Y. Kook-Kim
Discussion points:
Conferences:

Module Three — **Categories of Information Design**

Content: The vocabulary of Information Design:
- Alphanumeric
- Pictographic
- Product Interface
- Diagrammatic
- Spatial/Cartographic
- Hybrids: Informatve/Explanatory

Questions:
- What are definitions of each type above?
- What are seminal examples of Information Design that illustrate these categories?
- Which pioneering designers created them?
- When? Where?

Format:: Video lecture with visuals
Assignment::
Discussion points:
Conferences:

Module Four — **Evaluating information design**
Part One: **Macro view:**
Theories that inform Information Design:

Content: Identify and present major theories that inform and influence Information Design:
- Information theory(Tufte, Wurman)
- Aesthetic theory
- Sign theory
- Whole Systems theory
- Learning theory
- Human Factors/Ergonomics

Questions:
- What are major relevant theories?
- What is a theory?
- Which theories provide structure for evaluating Information Design?
- Which seminal examples best illustrate theories?
- Which pioneering designers created these designs?

Format:: Video lecture and visuals (RR-CC)
Assignment:: Use support media created by CC+
Discussion points:
Conferences:

The most common definition of Information is: the action of informing; formation or molding of the mind or character, training, instruction, teaching, the communication of instructive knowledge.

Information Design can be made to inform. It must be imbued with form and applied to become meaningful information, leading to understanding.
Young Kook-Kim

Part Two: **Evaluating Information Design**
Micro view:
Applying theory

Content: Methods and criteria for evaluating effective Information Design

Questions:
- What is effective Information Design?
- What criteria can be used?
- What are effective examples?
- Which pioneers created these examples?
- Which theories provide structure for evaluation?

Format:: Video lecture and visuals
Assignment:: Use support media created by CC
Discussion points:
Conferences:

Unit 3 — *Case Study*

Module Five — **Will Burtin case study**

Part One

Content: Introduction of Burtin
Burtin in Germany

Questions:
- Who is Will Burtin?
- Where did he live and what did he do?
- Why is it important to learn about him?
- How does he and his work fit into the context of this course?

Format:: Video lecture and visuals
Video interview with Carol and Robert Fripp in Toronto
Assignment:: Use DesignArchiveOnline
Discussion points:
Conferences:

Will Burtin case study

Part Two

Content: Burtin work in New York
Burtin's mature process

Questions:
Format:: Video lecture and visuals
Video interview with Carol and Robert Fripp
Assignment:: Use DesignArchiveOnline
Discussion points:
Conferences:

Will Burtin case study

Part Three

Content: Case Study of Upjohn projects
Questions:
Format:: Video lecture and visuals
Video interview with Carol and Robert Fripp at RIT
Assignment:: Use DesignArchiveOnline
Discussion Points:
Conferences:

Unit 4 — *Application*

Module Six — **The design of Information Design**

Content: Information design practice for non-designers
Course Wrap-up

Questions:
Format:: Video lecture and visuals
Interview with Bruce Meader
Assignment:: Course project notebook due
Discussion points:
Conferences:

Course Development
Twentieth Century Information Design

5.7.97

Assignment #1
Part I, Macro View

Part One:
How do ***you*** evaluate information design?
Write a two-page well written essay from your point of view detailing the processes you use to evaluate the effectiveness of a piece of information design.

Include the processes and theories presented in this module when appropriate. Comment on the relevance of these theories.

Post your essay to the Module Four Conference in the First Class Software Environment by the date outlined in the course syllabus.

Part Two:
In addition to the essay, you are also required to respond to other's essays in the hopes of developing an interesting discourse amongst yourself and other students. There are no right or wrong answers here, only well presented responses or not well presented. This will be done in the First Class Software Environment conferences for Module four.

Assignment #2
Part II, Micro View

Part One
Find examples of both effective and ineffective information design on the web. Write a two-page critical essay detailing your evaluations. Include the URL's for the web sites.

Post your essay to the Module Four Conference in the First Class Software Environment by the date outlined in the course syllabus.

Suggested/Possible Themes:

a. Use one of the theories from the Theory Map as a structure to evaluate a number of examples.
b. Use a multitude of different theories from the Theory Map to evaluate both an effective and an ineffective example.

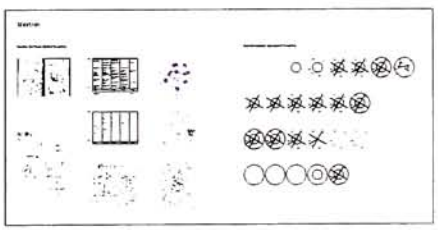
Remember the different categories presented in module three: alphanumeric, pictogrammatic, product interface, diagrammatic, spatial/cartographic, and hybrids.

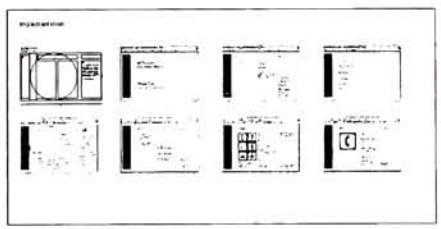
Part Two:
In addition to the essay, you are also required to respond to other's essays in the hopes of developing an interesting discourse amongst yourself and other students. There are no right or wrong answers here, only well presented responses or not well presented. This will be done in the First Class Software Environment conferences for Module four.

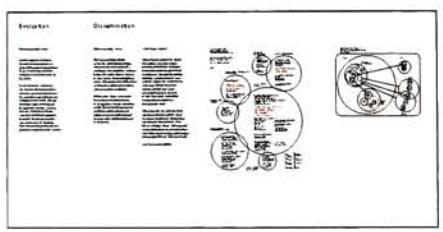
Appendix H, Thesis Show

Gallery Plan for Information Panels

H1







Evaluating Information Design

An online study guide designed for a new distance learning course

Clifford M Commanday

Project Description

Thesis Introduction

This thesis focuses on the creation of an online module for a new course offered by Rochester Institute of Technology, titled *20th Century Information Design*.

This course has been developed jointly by the Department of Graphic Design and the Office of Distance Learning, and sponsored by the Center for Digital Media.

As a product of information design, the module's intent is to enhance a student designer's perspective on the relativity of a breadth of theories to the processes of graphic design.

Situation Analysis

Information design has become an integral aspect of contemporary society. In this time of ever-increasing technological sophistication, it is crucial to remain focused on the communication of the content.

New possibilities of dynamic and interactive displays have the potential to distract designers from this essential core of information design - a focus on content-based design.

Graphic designers have become more involved with the design of information intended to be part of an educational activity. The new capabilities of electronic information delivery have created new expectations and needs of users that now affect our daily life experiences.

The realities of what constitutes effective and informative design are now in a state of flux; the new theories, practices and processes that must be forged to stabilize the field of graphic design must be rooted in the related fields of communication, design, education and technology.

Research and Analysis

Research Directions

Information design's strong focus on content necessitates in-depth research of the content involved, both on a macro and micro level.

Initial research focused upon the concepts of distance learning, communication via technology, and the global relationships among the theories involved in the module.

Distance Learning

Although there has been a great deal of attention given to distance learning in the past few years, it has a longer history spanning over twenty years. From this history was available a wealth of documents reciting distance learning's origins and developments.

Included were reports that described the distance learning student body as diverse, including working professionals and parents, the incarcerated, full and part-time students, and people wishing to slowly immerse themselves as students into the academic world.

Time requirement flexibility and an independent yet guided working environment are the characteristics which initially brought distance learning success.

The evaluation reports can be summarized by this student response,

"Telecourses allow the time and flexibility to accomplish my goals."

Communication via Technology

Early electronic communication consisted of text unformatted by any typographic standards. The value and depth of the communication possible via technology has followed a progressive path over the past decades, to a time now that design and communication principles are beginning to become integrated into the actual digital messages.

The technology has only recently arrived so that graphic designers may influence the communication of the mass public online. The typographic variables of weight, size, typeface, and position are beginning to become integrated into email.

At this time, however, it appears that much of this experimentation is being directed by experts in technology, and not by information design experts.

There exists a great need for trained designers to influence these new directions.

Global Theory Connections

Another essential portion of research focused upon defining global relationships and connections among theories from different disciplines. The approach was multidisciplinary, building on the premise that designers of information design can draw from the theories of varied disciplines in order to create a variety of perspectives and content-organizing approaches.

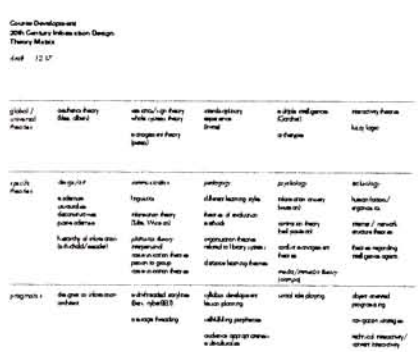
The disciplines covered were design and art, communication, psychology, and technology.

Synthesis

Interactivity Definition

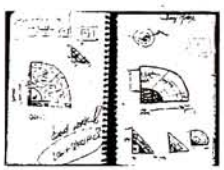
Asynchronous online teaching and learning is less about technical interactivity, but more about the facilitation of human discourse via digital means.

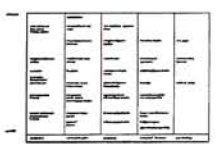
Theory Matrix

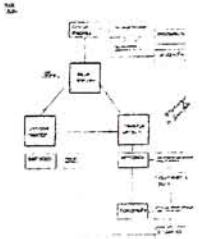


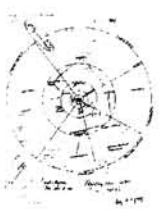
Ideation

Transition from Theory Matrix to Theory Map

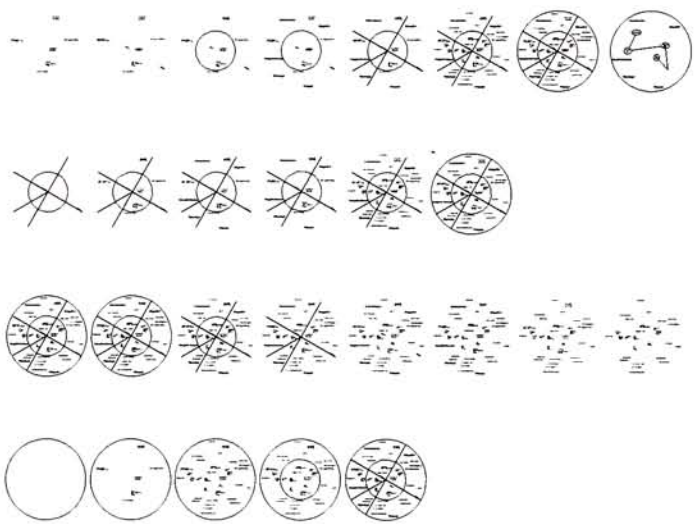




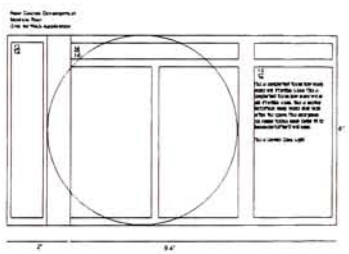


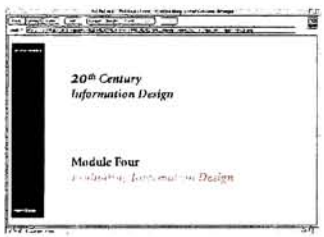


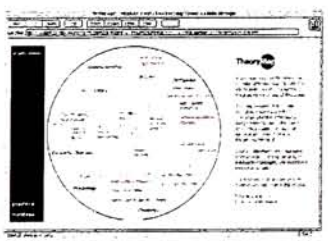
Potential Storyboard Sequences for Theory Map

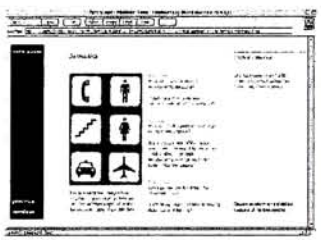


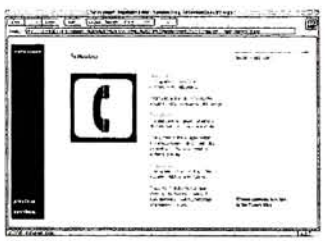
Implementation











Evaluation

Distance Learning Course

As an in-progress evaluation, the module was presented to a class of RIT graphic design juniors. These students represented an audience true to that intended by the course.

From both written evaluations and informal discussions with the students, a great deal was learned. The extensive depth of information available from the world of theory informing design evaluation can be potentially daunting to young students. While the evaluation responses consistently expressed interest in the content, they also expressed a need for simplicity. This understanding of the audience guided the completion of the module.

Dissemination

Distance Learning Course

The Center for Digital Media, as the unit of RIT which is offering the course, is a natural place for reaching an interdisciplinary audience, both at RIT and for distance learners in other venues. The interdisciplinary nature of the perspective of the course emulates the collaborative model so evident now in the workplace.

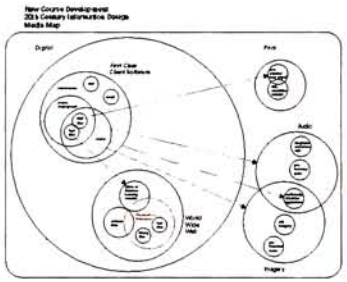
RIT has other unique resources in its creative and technical faculty, in its capacity to develop and deliver quality distance learning programs, and in its archival collections of original source materials designed by many of the individuals featured in the course.

Course Target Learners

This course is necessary for anyone who aspires to process, design, present and implement messages. Students in creative programs such as design, art, photography, printing, film/video as well as those in more technical majors such as information technology will find the course content useful for their needs and complimentary to the work in their major. Most users will be undergraduates, sophomore through senior years.

This course will not require previous experience, however optimal use of the content is enhanced with previous experience in history, history of art, history of design, history of photography and professional studio courses in visual communication, including graphic design, photography, film and video, and media.

otad from course syllabus



Appendix I

A Thinking Approach to Interdisciplinary Experience, Hope Irvine, p10

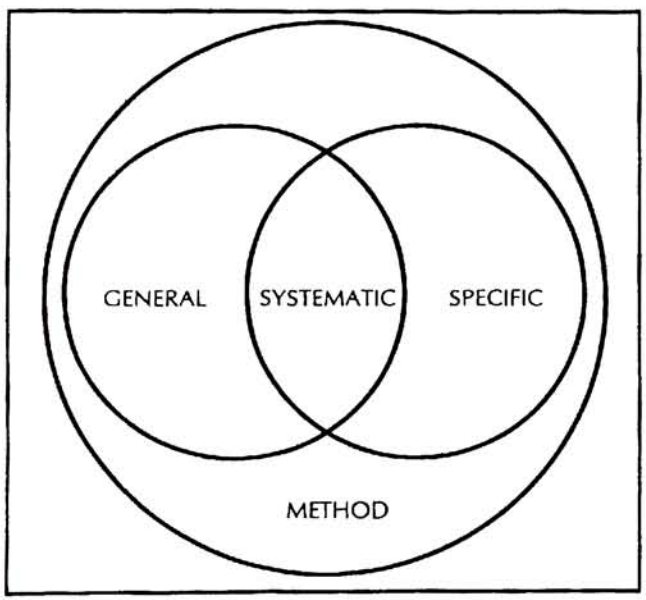


Figure 6: Systematic Knowledge

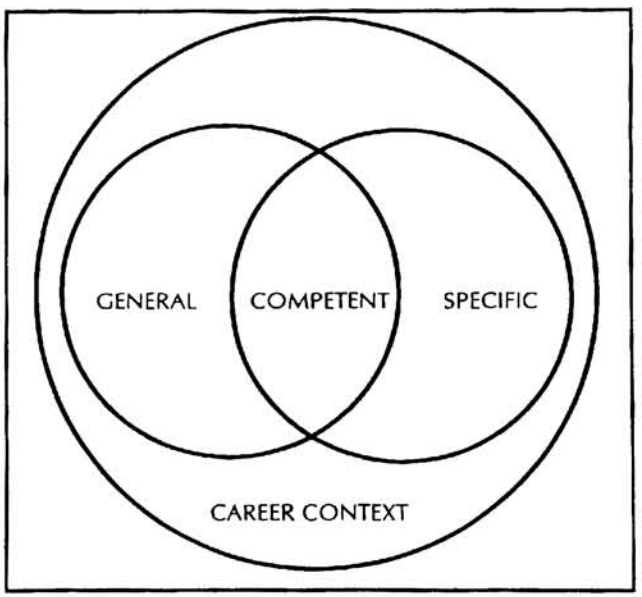


Figure 7: Competent Knowledge

Appendix J, Dissemination

Designing for Online Education

Clifford M Commanday

Online eduction can offer opportunities for new learning situations. The transition for a teacher new to online education can be difficult.

What can aid the transition of an experienced classroom teacher to this new environment?

The following are a few recommendations to consider:

1. **Structure your new course as modular units, not as a linear sequence.**
2. **Focus on the content.**
3. **Explicitly require students to be involved**

Design Modularly
One of the effects of not teaching in a classroom is the loss of a teacher's direct control over time. We have been trained to plan a lesson as a sequence of related topics guided by the length of time available.

With asynchronous learning the interaction of teacher-student, and student-student, is not bound by the traditional concepts of a fixed-time period. Rather than designing a course to be a strict sequence of events, it can be beneficial to structure the content as individual units, or modules. This allows the student to maintain an awareness of their position within the content that the normal structures of time usually provide.

The necessary progression of skills appropriate for the content can be designed into the sequence of the modules. In some ways this is no different than planning a traditional course, however, the distinction of modular units aids both the student and teacher in maintaining a sense of order.

Focus on the content
Modern technology presents many visual excitements that can distract a teacher from the core of the course - the content. Popular media wants us to believe that whatever latest technology is out there will benefit a learning experience. Designers call this "Bells and Whistles" referring to the visual "eye candy" and visually exciting media that can be created. However, this flash of excitement is no replacement for a focus upon the content of the course. Fancy visuals will never truly replace the attraction of a student interested in the content of a course. The traditional teaching concepts of appropriateness has never been more appropriate. Unless your teaching a course about real bells and whistles, such visual candy will only be a distraction.

Require the students to be involved
After years of schooling, students have learned that class participation and interaction with other students is a normal requirement. Teachers must require the same participation in an online course - only the manner in which it is received is different. Clear communication of this requirement, and clear ramifications for failure to participate are necessary in an online course just as they are for traditional classroom teaching.

Email exchanges, newsgroup conferences, and live chat areas provide the opportunity for students and teachers to interact. Plan and require this interaction within the assignments you design. For example, students could be assigned a critical essay, and part of the assignment would be to comment on other student's posted work. This encourages students the students to discuss the content among themselves, and encourages a bnpersonal responsibility.

These initial guidelines are starting points for designing for online education.

Erik Salmela

To: Cliff Commanday

Re: Feedback on Presentation

Overall, I was really impressed with the precision of the information, and its presentation. Some screens seemed a little crowded but other than a little confusion stemming from that, I would say that it is designed very nicely. As a potential user, and one who is consistently overwhelmed by the vast amount of theory that I'm exposed to lately, I find myself always asking myself one simple question. How can I use this information to learn. I think developing a good understanding of theory is all-important, but at the same time, feel it is necessary to be exposed to examples of how the theory can be applied. Therefore, I believe that the total informative potential will be greatly enhanced if you include some examples similar to the poster that our class briefly evaluated. A simple way to do this is to create a link between the section where you illustrate the theories and concepts used to evaluate graphic applications, to a screen that actually uses your theories. If you can remember how I broke down the supporting visual images pertaining to Jan Tschichold's paper that I did in History of Design, I think this will give you a good idea what I'm talking about. Although I'm not sure as to how you can apply this idea within your project, I feel that it will more likely be understood by people who, just like myself, are sometimes overwhelmed by theory. All the theory in the world does not mean that people understand what you are trying to display. Other than this idea, I think your work is a great piece of information for any designer to consider.

Remember that I am more than happy to assume the lab rat position for your testing needs. I would definitely like to see this again. Oh by the way... Roger told me that he forwarded my suggestion pertaining to Burtin's essay on "Design Responsibility" to you for review. If you have any questions or concerns regarding this please feel free to get in touch with me.

Thanks.

Erik Salmela

evs5126
424-8122

Jeremy A. Perkins
Information Graphics

Comments on Cliff's presentation

Your research on theories of information design was very insightful. I really enjoy the idea of putting your materials on-line — make it accessible to the students. Your circular diagram of the different types of information design is helpful, however, it could be a little more organized — the words seem to be a bit scattered within the circle. It can get confusing. Thorough research. Great presentation.

Cliff -

You put on a good presentation. I was very unfamiliar with the depth of the topic that you were discussing. That made it so overwhelming. You were presenting so much new information to me that I became discouraged for not quite understanding all of the info, but on the other hand if I would be exposed to it more I know that I would be more invested in it. You sparked my interest.

-Mark Miller

Alison Payne
comments on
presentation:
Cliff Commarde

I thought the presentation was very informative. It's, the subject matter, was a lot to grasp, but it was very understandable. It kind of opened my eyes to all of the involvements in design (ie) Sociology etc...

The only criticism is ~~from~~ from my point of view, ~~this~~ I guess unless you're really into theory and design theory etc... you can get a bit lost in the contents. BUT, the presentation went well and he seemed quite prepared and all in all the information was helpful.

Jessica Rodriguez

Presentation: Theory Map

- Clean image overall.
- The layout of the page is interesting → left margin shape, the sub-headings (which show in which topic we are in) is very organized inside cylindrical shapes.
- Theory Map - boring. Categories (primary, secondary theories) are supposedly typographically interesting, but are not organized (maybe list them or use bullets). Map looks like a pie chart with randomly placed words inside. Maybe use all-caps for primary theories or headings, or even different fonts. Hierarchy!?
- Overwhelming, confusing information.
- Not visually interesting. Not much difference between pages. Aesthetically boring. Should stimulate people to want to study it.
- typo: on the overhead pyramid, the word "manifestation" under Representatem.
- Text paragraph on the right side of the map is nicely worked and placed on page.

Twentieth Century Information Design

Betty White.

Presentation was very clear and concise.

Would be better understood with more time. Presentation ~~was~~ contained a lot of information and complicated ideas. Good topic for a course, time to get into it and understand. Presentation just got feet wet.

Rachel Roberts
Information Graphics
Cliff's Presentation

I thought that Cliff's presentation was very informative, but the amount of information presented in such a small time period was a little difficult to grasp. Also I think that if Cliff had the items he referred to, that he could not find it would have been a little helpful. In all, Cliff's presentation was very good.

Erin Fahringer

-Evaluation:

- The theory map you handed out to the class presents a comprehensive coverage of all areas of information design. So far, it appears that you have a solid foundation for what will be a very interesting distance learning course! The sequential pages are easy to follow.

Yori Bloom
Info. Graphics
4/3/97

I feel that the information design lecture was informative and useful, and the web site made it especially clear to follow. The Theory map is kind of hard to understand, and I think it could be explained more concisely. However, the spectrum of design has been nicely broken down into 5 categories with different theories and concepts which help to narrow down this aspect of design.

evaluation for Cliff:

I thought there was A LOT of really good and useful information presented. The theory section was especially interesting. The inter relationship of one theory to another was defenately thought provoking. The theory map is useful. but because of so much information, I'd think it would be helpful if a few key theories had their ideas stated in sentence structure for a more immediate understanding. (ie. whole systems theory, evaluation theory, etc. (bold face theories) [just a brief one would help] The theory map works well in circle format, shows how information design flows in a cycle composed of many aspects.

The Semiotic design model is also a useful tool in evaluating some main aspects of design and how it is applied. As communication of message is a goal of design, the model provides a basic guide of creating effective communication.

I thought presentation was interesting, I just wish the examples you couldn't find would have been seen, I think they would have helped. The examples used in the presentation were good, esp. the poster and ex. of breaking it down into icon... etc. However, there was so much information that it was hard to absorb all of it, especially since I think it was very useful info.

I would have appreciated more handouts such as the triad and the breaking down sheet (poster example). to keep as references. If this is still possible to get it would be great.

-Cristina Sasso

I thought the lecture last week was good and the handouts were very helpfull. There was one thing I thought you could put on your chart is philosophy and how it relates to design. I find it helps me look at my work in a difient way, and also helps you learn to cite your work and voice your opinion (right or song) about things.

Jennifer Bowers

I felt Cliff's presentation was well planned and well executed. He was well spoken and informative, although the concept and pupose of information graphics and the history of information graphics is hard to grasp. The presentation would have benifited from an application of it's purpose, making the theory, reality which would stand out in our minds.

Kara Matthews

Cindy Sciano
4/3/97

Last week Cliff's presentation on Theory was very helpful. I Really liked the way in which he was setting up his computer Program. Each new page was clear and easy to understand. The theory Map was also clear, and the funtion of Theory was understandable Cliff's Pesentation was informational, and interesting to me, I hope to learn more about theory and its use in design.

commentary for diff

anne payne

I enjoyed the presentation and it began to help clarify the theory behind of information design. I think it is important to keep things in layman's terms and maybe simplify your module and move into more complicated terms later. I particularly enjoyed the layout and organization on the computer.

4/3/97

Cliff,

I am very intrigued by your Information Design Module. Some of these terms I am not familiar with. But I'm sure it's nothing a little explaining couldn't solve. I assume in a class situation all of these terms would be better defined. The information is here, but I think it would help me if I saw better examples of the communication being conveyed here. The Bruce Meader Semiotic Model is much more clear to me. But I am also aware that your Module is much more complex and holds much more information. In trying to sum it up, I believe your module conveys in great depth, the information of design, but an interactive class situation would better me in understanding it in full.

Good Luck,

Josh Comer

Derek Shoales

I felt that the Theory map is chock full of information. The fact that each heading is identified by the point size and either boldface or plain text. I am a bit confused by the subheads and the eight point titles. Is there some inherent order to each section of the theory map? Or are each title placed at random within the section?

Part of me wants to say that there is too much information contained within the map, that it is all compressed into each section. But, I am looking at this as a theory map for just Graphic Designers, instead of a general theory map. Whether it's the printer or not, I feel that there is a slight indistinguishability between the boldfaced ten point subheads and the eight point subheads.

Other than those few points, I feel that there was an immense amount of research that was placed into the theory map.

I do wonder if an explaination of the theory map, the reasons for it's existence and the purpose that it's existence will fulfill, would help to make the theory map just a bit more helpful. Just to add an understanding for the neophytes to the design field.

CLIFF

I THINK YOU DID A GREAT JOB WITH YOUR PRESENTATION ON THEORY IN DESIGN. I FEEL THAT IT IS VERY IMPORTANT TO KNOW ABOUT THINGS SUCH AS THEORY FOR GRAPHIC DESIGNERS THE ONLY THING I NOTICED AS A FLAW IN THE PRESENTATION WAS THE MISPLACEMENT OF TRANSPARENCIES. I THINK YOU DID A NICE JOB RECOVERING AND EXPLAINING WITHOUT THEM. I AM LOOKING FORWARD TO SEEING THE FINALIZED WEB SITE. THANKS FOR COMING IN AND SHARING YOUR KNOWLEDGE.

KEN OLSCHEWSKE

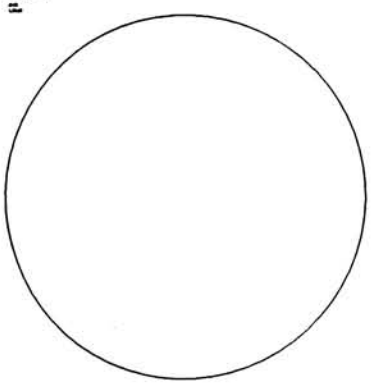
Design History in Cyberspace: Twentieth Century Information Design Course Development

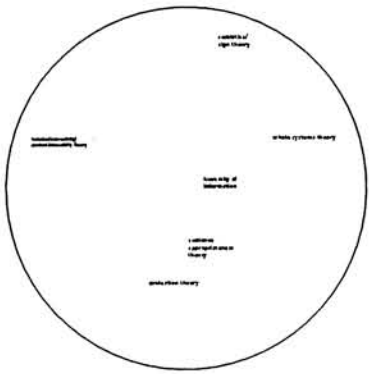
Clifford M Commanday

Thinking About Information Design Module
Part One: Information Design Theory

Theory Map Storyboard 3

draft
1.30.97





Design History in Cyberspace: Twentieth Century Information Design Course Development

Clifford M Commanday

Thinking About Information Design Module
Part One: Information Design Theory

Theory Map Storyboard 4

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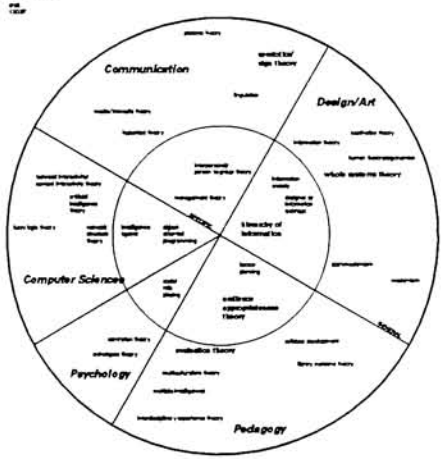

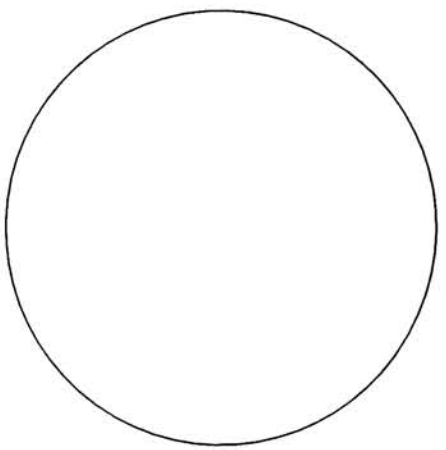

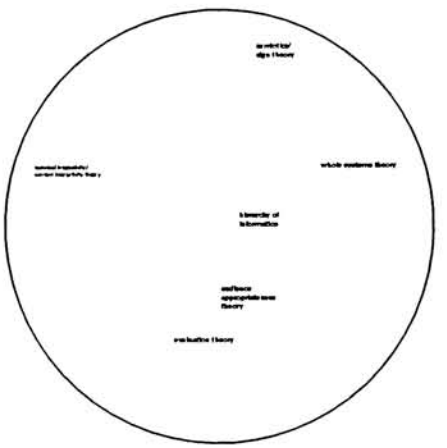

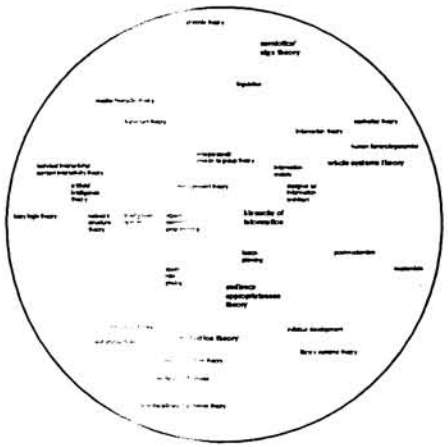

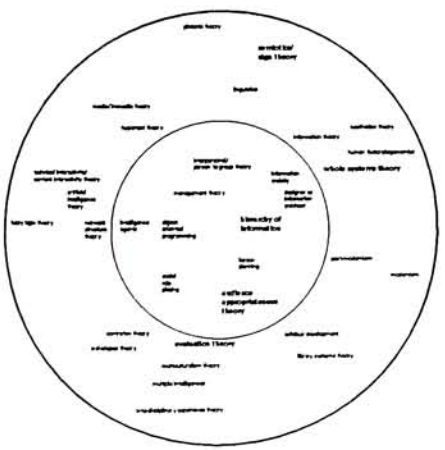

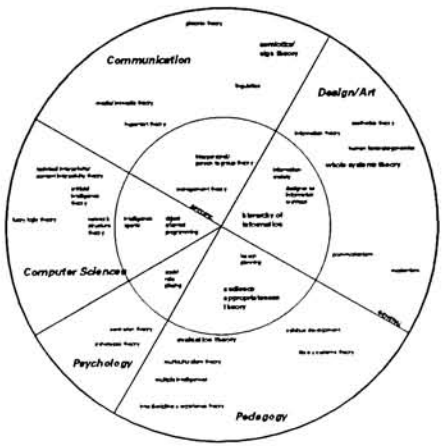

Design History in Cyberspace: Twentieth Century Information Design Course Development

Clifford M Commanday

Thinking About Information Design Module
Part One: Information Design Theory

Theory Map Storyboard *5*

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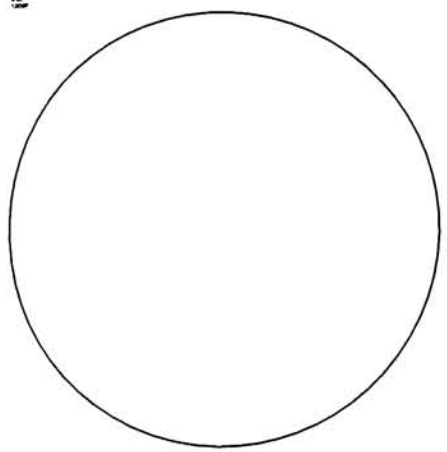

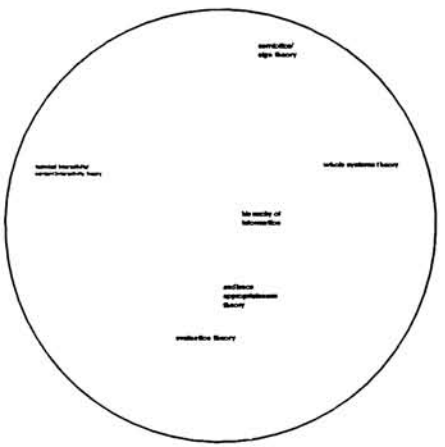

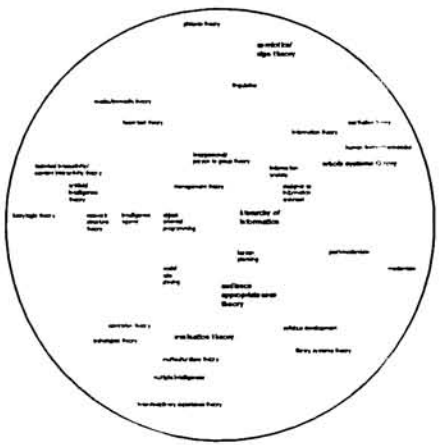

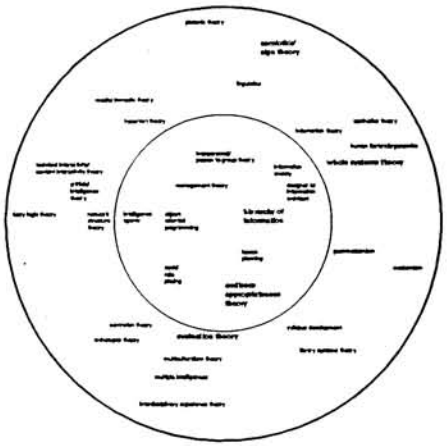

Thinking About Information Design Module
Part One: Information Design Theory

Theory Map Storyboard 7

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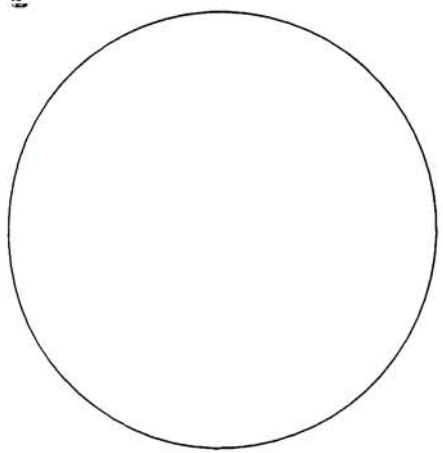
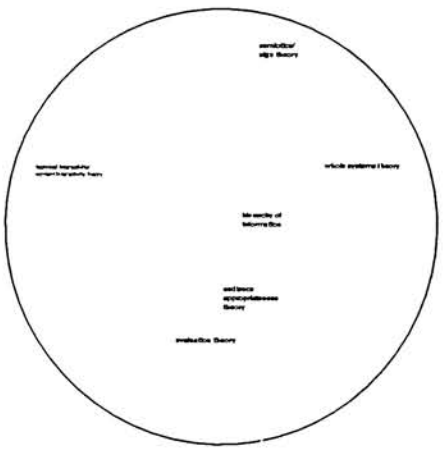
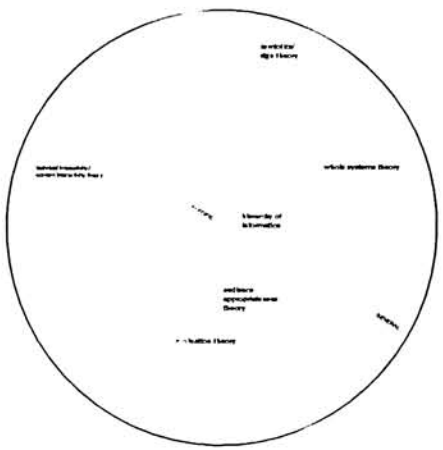
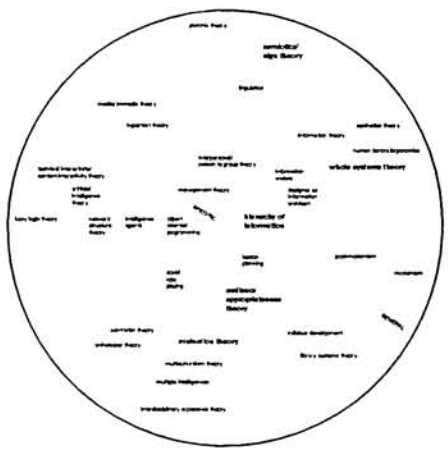
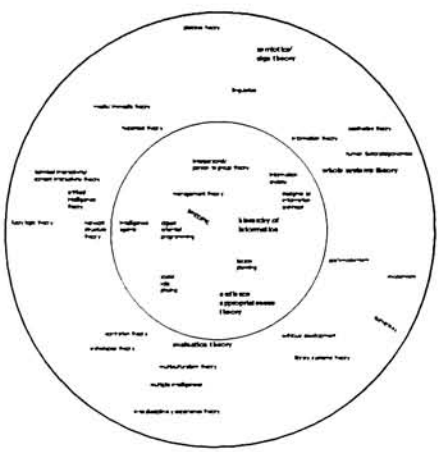
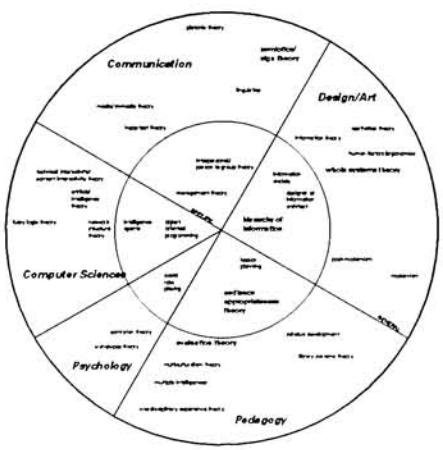












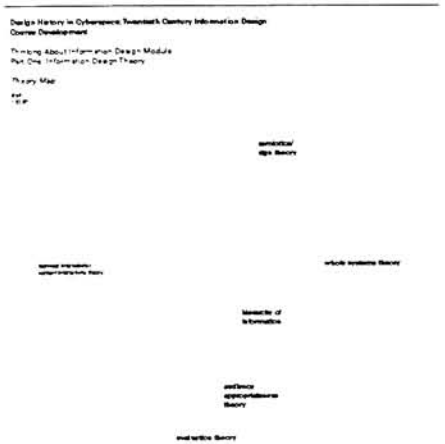
Design History in Cyberspace: Twentieth Century Information Design Course Development

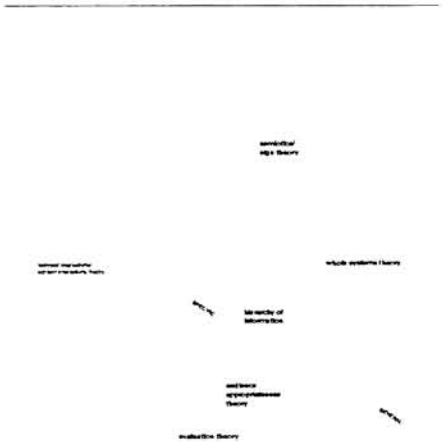
Clifford M Commanday

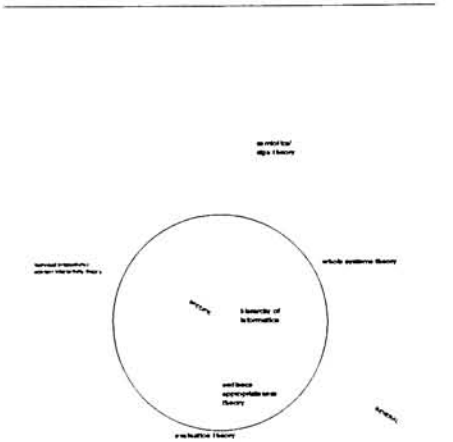
Thinking About Information Design Module
Part One: Information Design Theory

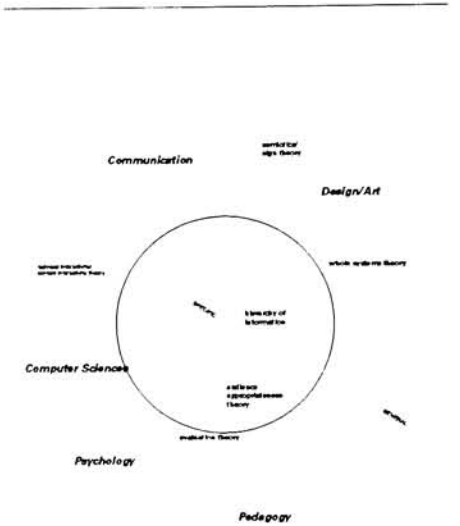
Theory Map Storyboard *8*

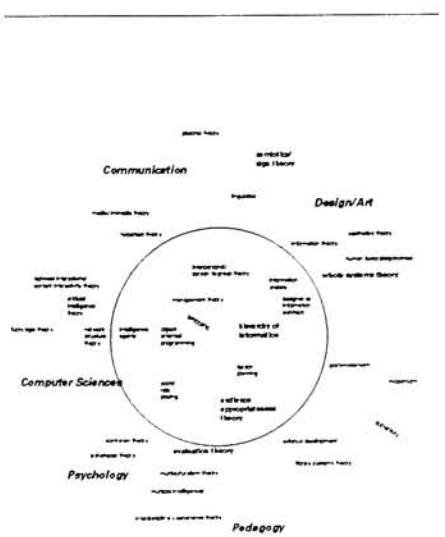
draft
1.30.97

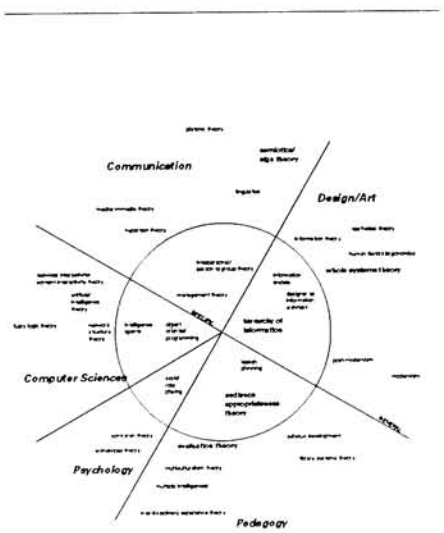


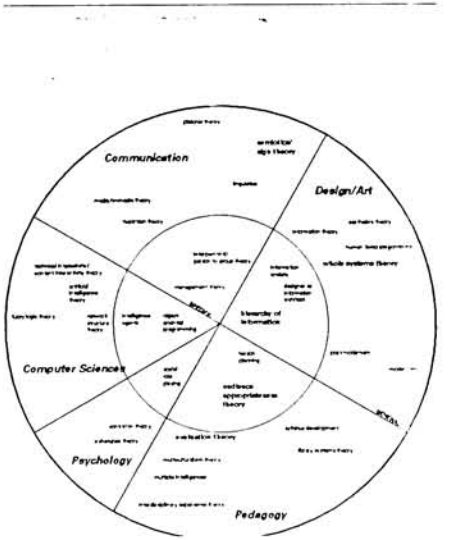












Design History in Cyberspace: Twentieth Century Information Design Course Development

Clifford M Commanday

Thinking About Information Design Module
Part One: Information Design Theory

Theory Map Storyboard *9*

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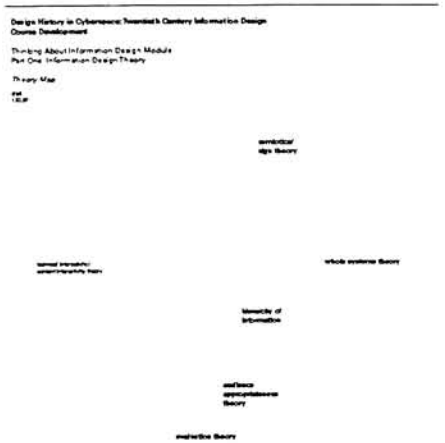
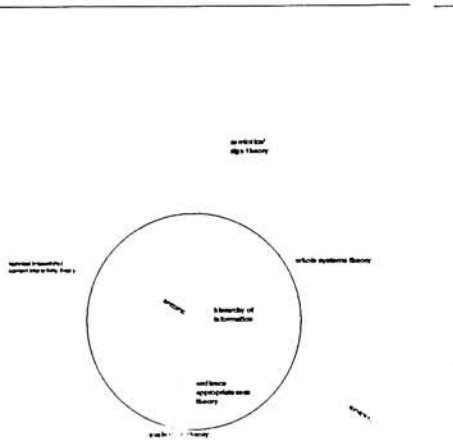
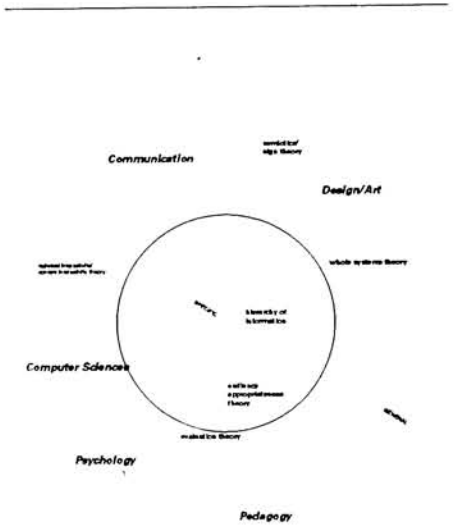
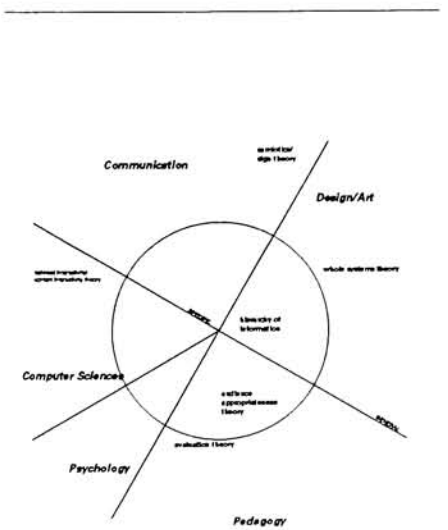
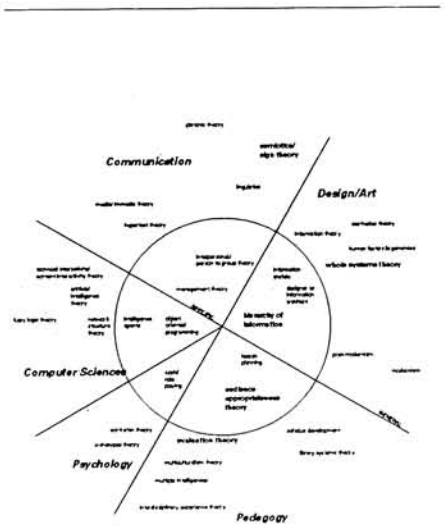
1.30.97

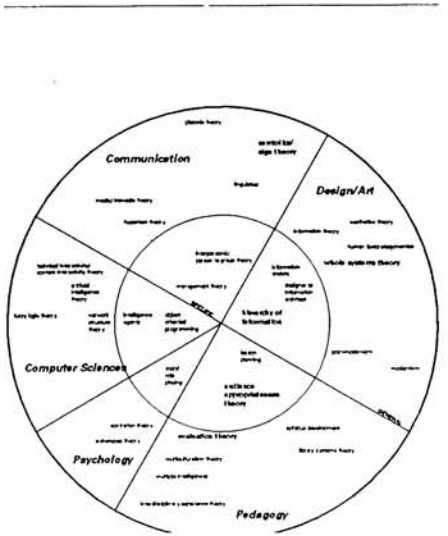












Design History in Cyberspace: Twentieth Century Information Design Course Development

Clifford M Commanday

Thinking About Information Design Module
Part One: Information Design Theory

Theory Map Storyboard *11*

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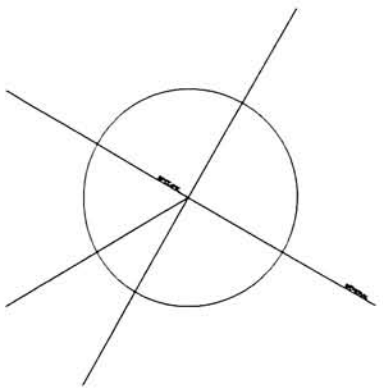

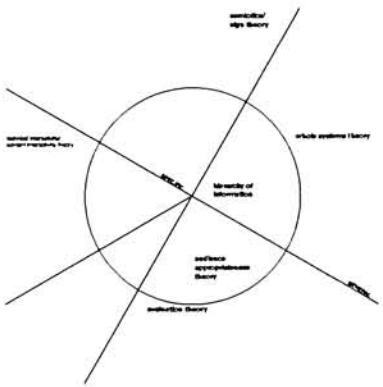

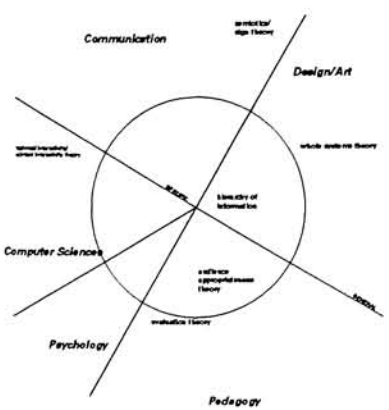

Designing for Online Education

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Online eduction can offer opportunities for new learning situations. The transition for a teacher new to online education can be a difficult one.

What can aid the transition of an experienced classroom teacher to this new environment?

The following are a few recommendations for the new online teacher to consider:

1. **Structure the online course as a series of modular units, not as a linear sequence.**

2. **Keep primary focus on the content, not the technology.**

3. **Explicitly require students to be involved and respond.**

Design modularly
One of the effects of not teaching in a classroom setting is that a teacher loses direct control over time. We have been trained to plan a lesson as a sequence of related topics guided by the length of time available.

With asynchronous learning the interaction of teacher-student and student-student is not bound by the traditional concepts of a fixed-time period. Rather than designing a course to be a strict sequence of events, it can be beneficial to structure the content as individual units, or modules.

The teaching of the progression of skills the student needs to master the specific content of the new course can be designed into the sequence of the modules. In some ways this is no different than planning a traditional course; however, breaking down the skills and content into distinct modular units aids both the student and teacher to maintain a sense of order in an asynchronous and digital environment.

Focus on the content
Modern technology presents many visual excitements that can distract a teacher from the core of the course - the content. Popular media wants us to believe that whatever latest technology is out there will benefit a learning experience. Designers call this "Bells and Whistles" referring to the visual "eye candy" and visually exciting media effects that can be created. This flash of excitement is no replacement for a focus upon the content of the course. Complex visuals are useful only if they are effective in interesting the student in the central issues of the course and in achieving course content objectives. Unless the course *is* about the bells and whistles, such visual candy will only be a distraction.

Require the students to be involved
After years of schooling, students have learned that class participation and interaction with other students is a normal requirement. Teachers must require the same participation in an online course - only the manner in which it is achieved is different. Clear communication of this requirement and the consequences for failure to participate is as necessary in an online course as in a traditional classroom course.

Email exchanges, newsgroup conferences, and synchronous chat areas provide opportunities for students and teachers to interact. Plan and require this interaction within the assignments you design. If the first part of an assignment is to write a critical essay, the second part can be to criticize and comment on other students' posted work. This encourages students to discuss the content among themselves and to develop responsibility for demonstrating their mastery of it.

These initial guidelines are starting points for designing an online course. The most successful courseware will focus on the course objectives and use appropriate technology as a means to reach established goals.