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CURRICULUM FOR WEBSITE DESIGN
IN SECONDARY SCHOOLS

A Project
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Education:
Instructional Technology

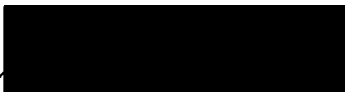
by
Robert Stewart Hicks
June 2002

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ABSTRACT

The purpose of this project is to develop a computer based curriculum to motivate, and aide students on the secondary level in website development. This is accomplished by developing a website and classroom curriculum that will expand the knowledge of students. By using the website students will have the advantages of learning website development through a constructivist's learning environment. This curriculum and interface design were developed over the period of two years with the input and evaluation of students and teachers in a class at a middle school and two classes each year at a high school.

This project characterizes design and development of a computer-based instructional program that can be used in conjunction with a website development lesson. After teaching students the theory of organization/categorization of ideas and brainstorming techniques, students are taught web concept and design with a comprehensive guide to creating effective websites. Brainstorming, organizing ideas and categorizing concepts are specific skills that are ascertained in this course.

ACKNOWLEDGMENTS

I would like to thank Dr. Amy Leh, Dr. James M. Monaghan, Dr. Joseph Jesunathadas, and Timothy Thelander for their patience and expertise on the production of this project. Their time, effort, dedication and sincerity have been a major factor in this achievement. My challenge has been achieved and the curriculum is now a reality.

DEDICATION

My wife Cindy and son Mark

You are the reason for my success throughout my education over the last 16 years. I Love you very much, thank you. Mom and Dad, thanks for not pushing and letting me do this in my own time. I know now how you feel about me. I love you very much too.

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CHAPTER ONE

BACKGROUND

Introduction

The content of Chapter One presents an overview of the project. First, the context of the problem followed by the purpose, context of the project, and assumptions. Next, the limitations that apply to the project are reviewed. Finally, definitions of terms are presented.

Students growing up today must be equipped with skills to operate and succeed in an electronic world. While not every adult is comfortable with technology, young people and students must learn to use various technologies. Information is the key to every students' future (Siegel, 1995).

It is not enough to have information resources and technology as an end to itself, though the future is based on information. Schools have to prepare students to live in a technology-rich environment (Siegel, 1995). Students must learn how to access, understand, process, and use information. Most of all, new jobs in the future will require some computer knowledge (Harmon, 1996). If these students graduate and are not literate in technology, what chance do they have?

The Internet has become progressively important as an instructional tool in schools. Technology is a key factor in assisting teachers to meet the academic needs of students who are growing increasingly dependent on technology. Students and teachers continue to use the Internet as a communication tool for sharing and developing ideas. This technology can be utilized to employ students in stimulating activities, in which teachers can present skills, concepts or problems to be solved (Hargrave, Simonson, & Thompson, 1996).

Statement of the Problem

There are numerous educational website that do little more than post advertisements. Many well-intentioned educational websites fail to harness the real power of technology as a tool to foster and improve critical thinking and problem solving. The website development curriculum of this project addressed this issue of critical thinking and problem solving. Furthermore, the Desert Sands Unified School District's technology plan required a web-design curriculum at the secondary school level. Such curriculum, however, did not exist at the school district. The website development curriculum of this project was intended to solve that problem.

Additionally, an all-inclusive website that teaches web design, Hyper Text Markup Language (HTML), and that includes tutorial for web design applications is absent.

The problems associated with (a) the lack of websites that focus on problem solving and critical thinking, (b) the absence of a school district website development curriculum for the secondary school level, and (c) the absence of an all inclusive curriculum for web design were the reason this project was undertaken. This project was intended for use by teachers in Desert Sands Unified School District for instruction in web design.

Project Overview

This project developed a computer-based curriculum (see Appendix for the curriculum) to motivate students in the secondary level to learn website development. This project involved students in a constructivists' learning environment that incorporated web-based lessons to teach organization, design, and implementation.

Students develop a practical understanding of how the Internet works, and why it is vital for satisfying a customers' needs, and ensuring awareness of cross-browser compatibility when working on a website. They learn how to research which browsers and which monitor settings their

targeted audience uses to view a website and what the designer can do to accommodate these variables. Students learn about the different options for hosting websites. They understand why Internet service providers' caches will effect what different people see in different geographical locations.

This project includes all the important concepts students need to be a web designer. Computer management and team coordination were included. Topics include creating web pages, paragraph and text styling, working with images and layers, tables and frames, creating forms, working with JavaScript and Cascading Style Sheets.

Students learn how to design a website with intuitive navigation to make browsing the websites they design and build more attractive to the end user so the end user will spend more time on the website. Students learn about information chunking and how to keep continuity throughout a website. Students learn to use relative links instead of absolute links. They learn critical elements of web design that include, when to use frames, how long a web page should be, and when to use pop-up windows or open links in a new window. The goal was to include all areas of designing a website that keep visitors coming back to the site.

The project curriculum includes how to register a ".com" and all other top level domains and where to register them for 80% less than what most people pay. Students learn which Registrars offer the best customer control levels and pitfalls to avoid. They learn the basic concepts of intellectual property rights concerning trademarks, the Internet Corporation for Assigned Names and Numbers (ICANN), and Domain Name Dispute Resolution Policy. Students learn how to register a provincial corporation, sole proprietorship, and comprehend the basic differences between them and how each can impact on a domain name.

The project includes the optimizing of a website for higher indexing in all search engines. This is the beginning point to constructing a website and not something a developer would do after the site is built. A site will be handicapped if it does not incorporate current Search Engine Technologies into its architecture from the beginning. Students learn how, when, and how often to submit sites to the search engines, and why they are equally important.

Significance of the Project

This project is significant because it responds to the problems of (a) the lack of websites that focus on problem solving and critical thinking, (b) the absence of a school district website development curriculum for the secondary school level, and (c) the absence of an all inclusive curriculum for web design were the reason this project was undertaken. This project includes curriculum for web design, Hyper Text Markup Language instruction, and tutorials for web design software applications. The project combines all of these elements into one site. It is accessed and followed more quickly than having two or more books or websites. This project puts that curriculum in place and allows other teachers to facilitate the development of skills at many grade levels.

Using computers in the classroom to achieve a goal is contingent upon the instructional roles of both educators and computers. In order to realize how computers can be effectively used in the classroom, one must examine the unproductive roles educators have given technology in the past. These roles often are that of a baby-sitter, entertainer, and drill sergeant. Teachers have such a hectic and stressful schedule that sending students to work on computers often frees up teacher time. Typical of

the entertainment mode is the classroom where a student who finishes his/her work on time is rewarded with extra computer time, playing games that are often of dubious educational value. When the computer is used as a master drill sergeant, students are forced to practice skills in isolation, pressing keys as they venture through an instructional obstacle course.

The teacher takes a back seat in all of these roles. When the computer is used as a baby-sitter, the teacher is absent. Using the computer as an entertainer suggests that the instructional material offered by the teacher is not interesting or motivating to students, thus it has to be "fancied up" by using a computer game. If instructional technology is used as a drill sergeant, students become passive learners, answering questions instead of asking them.

Computers are best suited for a constructive learning environment. More productive roles for teachers are those of an architect and a facilitator. The teacher becomes the architect and plans the activity, facilitating the experiences of students on the computer. This constructive approach enhances learning. The constructivist teacher views students as active learners capable of constructing meaning and solving problems. When students are active

learners and see the rewards of their own thinking, they are intrinsically motivated. A curriculum developed for website development, taught with the intent to focus on intrinsic motivation and a genuine desire to learn can bring teachers and students to a higher level of teaching and learning.

This project will seek to supply instructional materials which are needed that help teachers move from the world's focus on mass education to the information society of customized learning. This is a shift from the concept that one size fits all. Instructional materials that promote a shift from learning as "drill and practice" to one as an experience are needed. This project incorporates a curriculum delivery that is aligned more closely to the multimedia that students encounter in the outside world.

This project aides in the development of a solution for these needs. The project is a tool for any teacher, or administrator to use in or out of the regular school curriculum.

Goal of the Project

The goal of this Masters of Arts project is to produce an online computer elective course, for secondary

schools, that will serve as a curriculum for other teachers to use in the computer labs of Desert Sands Unified School District and will facilitate a shift in pedagogy from broadcast to techno-constructivism.

This Online course will strive to achieve the following objectives:

1. Embed motivating elements so all students become active learners and succeed.
2. Develop an appropriate method of delivery so students know which media, script language, and graphics to use for a website that is targeted for a specific audience.
3. Understand the workflow involved in the development and maintenance of a site.

Assumptions

The following assumptions were made regarding the project:

1. All students have Internet access.
2. All students have File Transfer Protocol (FTP) access.
3. All students have speakers or headphones attached to the computer they are using.
4. All students use Internet Explorer 4.0 or newer.

5. All students have basic keyboarding skills.
6. All students are authorized to download free web development tools.

Limitation

During the development of the project, a limitation was noted.

The evaluation of this project was limited to only the developer, a few instructors, and graduate students in an instructional technology program who had the time and opportunity to incorporate this project into their curriculum. Because the developer lacked a systematic method of collecting data, important data may have been missed and not incorporated in the revision of this project.

Definition of Terms

The following is a glossary of web design terms most frequently associated with Hyper Text Markup Language (HTML) and Windows. Terms are not specific to particular web design applications; most of the terms are appropriate at all grade levels.

HTML - A markup language used to structure text and multimedia documents and to set up hyper text links

between documents, used extensively on the World Wide Web (dictionary.com, 2002).

World Wide Web (WWW) - The complete set of documents residing on all Internet servers that use the hyper text transfer protocol, accessible to users via a simple point-and-click system (dictionary.com, 2002).

Hyper Text Transfer Protocol (HTTP) - A protocol utilizing Transmission Control Protocol (TCP) to transfer hyper text requests and information between servers and browsers (dictionary.com, 2002).

Server - A computer that processes requests for HTML and other documents that are components of WebPages is a server (dictionary.com, 2002).

Browsers - A program that accesses and displays files and other data available on the Internet and other networks (dictionary.com, 2002).

Internet Protocol (IP) - IP is the method or protocol by which data is sent from one computer to another on the Internet. Each computer (known as a host) on the Internet has at least one IP address that uniquely identifies it from all other computers on the Internet. When sending or receiving data (for example, an e-mail note or a Web page), the message gets divided into little chunks called packets. Each

of these packets contains both the sender's Internet address and the receiver's address. Any packet is sent first to a gateway computer that understands a small part of the Internet. The gateway computer reads the destination address and forwards the packet to an adjacent gateway that in turn reads the destination address and so forth across the Internet until one gateway recognizes the packet as belonging to a computer within its immediate neighborhood or domain. That gateway then forwards the packet directly to the computer whose address is specified (whatis.com, 2002).

Internet - An interconnected system of networks that connects computers around the world via the TCP/IP protocol. (dictionary.com, 2002).

Organization of the Project

The project was divided into four chapters. Chapter One is an introduction to the project, statement of the problem, project overview, significance of the project, goals of the project, limitation, and definitions of terms. Chapter Two provides a review of relevant literature. Chapter Three records the steps used in developing the project. Chapter Four presents

recommendations and conclusions drawn from the development of the project. The Appendix, which is the curriculum, follows Chapter Four.

CHAPTER TWO

REVIEW OF THE LITERATURE

This chapter is a review of the literature that addresses the following issues: The need for technology in the classroom, teaching with technology, the need for teacher training and resources, learning styles, and the design and development of web resources.

Why Technology is Needed in the Classroom

Teaching and learning techniques are developed using constructivism in order to teach thinking as well as the content. Students are trained to use the technology using those techniques, and programming, as well as design instruction is developed in a way that promotes higher level thinking skills. The curriculum for a course in developing websites, which has been developed in this project, promotes teaching with constructivism, and higher level thinking skills.

Technology in the learning environment may appear in something as basic as word processing or as complex as multimedia or the Internet. As schools prepare to move into the 21st-century, the use of technology will probably become one of the basic literacy skills alongside reading,

writing, and arithmetic. A world of unlimited learning and resources confront today's students. Students will learn to use technology in order to learn better. Students are going to need these skills in order to function in their day-to-day jobs in the future. Technology skills are not only educational skills they are also life skills. Those who have the best tools and know how to use them will get the job done best (Miller, 1996).

Teaching with Technology

Website design courses have great value in secondary schools because of the great opportunities created that are intrinsic to programming courses. Website design in particular leads to the development of higher level thinking skills, with synthesis of their own ideas, then analysis as to whether their ideas and concepts are in fact accurate. There is support throughout the literature to support the idea that if we are to continue to develop technologically, and train analytically advanced students, teachers must know how to use constructivism in the classroom with technology (Hargrave, Simonson, & Thompson, 1996).

The need for alternative instructional environments accompanies the growing comprehension and acceptance of

constructivism. A teacher's job is to create scaffolding within which the students will work (Hargrave, Simonson, & Thompson, 1996). In other words, a teacher's role has changed from an information provider to coaching and mentoring. That is the foundation of constructivism. Overall, technology has not radically changed the way teachers have taught up until now. Developing technologies as tools to facilitate learning, understanding and exploration is in sharp contrast to what has been done, and offers a framework for using these technologies to support learning at all levels. This relatively new approach to teaching must overcome tradition. Students trained in the process of facilitation and using scaffolding, rather than the process of opening up the brain and inserting knowledge is the direction for the future.

The evidence shows that a media-based teaching and learning process is not inherently better than traditional teaching and learning processes. However, the evidence supports the position that technology based teaching and learning is effective. That is, people can learn from media and because of the improved instructional strategies and the enhanced materials, they may learn more

efficiently and in some cases, more effectively (Hargrave, 1996).

De Matos (1995) viewed teaching with higher-order thinking skills and its application as a requirement for all teachers. Technology can play an important role in teaching higher-order thinking skills more effectively. The standard drill and practice is not something for the future. De Matos refers to Plato and Socrates who believed that learning should have no utilitarian purpose, but that the real purpose for learning was for the development of thinking skills, and the ability to reason and contemplate. She seems to say that if people have an ability to manage an increasing amount of information they can handle keeping up with the information overload that is facing us today.

De Matos (1995) brings up the strategies currently used and opens up possibilities for the future. Among them is a strategy of wait-time. This is a pedagogical technique that is taught to new teachers, however, many veteran teachers fail to use it in the classroom. De Matos believes teachers must supply adequate thinking time if we want students to think well. The difficulty is that teachers have to teach thinking skills with very little

formal training in this area. This becomes a problem but this is where computers come in.

De Matos (1995) believes that the computer situation today should transform our society in a way similar to that of the gasoline engine and the way it transformed human activity. Schools seem to be an anachronism in that they never seem to catch up with society. So now, instead of teaching thinking with computers we teach how to use computers. De Matos (1995) believes there is no question that this must be taught in school, but it should be taught across the curriculum not just in math or social studies classes, so students will have an ability to think critically in all subjects.

Through Website Design a computer teacher can teach sequential and critical thinking. If computer-studies teachers do not actively encourage teachers in their own domain by using websites in the classroom then nothing significant will change with the introduction of this new tool (De Matos, 1995). Just as reading and writing were taught as separate subjects and used in all other areas there should also be a place in the future for a separate computing subject where basic skills will be taught, then those skills will be used in all other areas of curriculum.

Why Teachers Need Training and Resources

The re-training of teachers, administrators, and parents is an important step in moving toward the teaching of higher-order thinking skills. Aiken and Snelbecher state that computer science as a discipline has barely penetrated the high school curriculum (Aiken & Snelbecher, 1991). Aiken and Snelbecher point out the wide discrepancy between the number of computers in our secondary schools, and the lack of a strong computer curriculum. During the last 15 years computer applications, and availability have grown tremendously yet the high school curriculum has barely moved. It is understandable that most highly trained computer scientists go into industry rather than into teaching, however, the lack of training for teachers and administrators in this area should be addressed immediately to begin to solve the problem. Courses on how to use computers proliferate, however, the hardware, software, and Internet aspects of the computer industry are very seldom addressed. The Association for Computing Machinery (ACM) has been charged with the task of developing high school computer science curriculum and has noted the decline in interest in computer science by all students especially women and minorities. There are 50

times as many computers in American schools as there were ten years ago. Half the advanced computer science degrees given in this country were given to foreign students. Aiken and Snelbecker addressed this problem with the retraining of secondary teachers and administrators.

They proposed that the dilemma was because teachers and administrators could not distinguish between computer science, computer programming, and instruction in use of applications (Aiken & Snelbecker, 1991). Often administrators think teachers do not need to understand computing to teach it, and that it has not changed much in recent years. The lack of understanding the situation is very apparent in most school districts.

Aiken and Snelbecker proposed to offer computer science training to teachers in Washington through Gonzaga University over the course of two summers covering the undergraduate curriculum for a computer science degree. The participants were selected from math and science curricular areas because of their experience in previous training sessions with non-technical curricular area teachers. Teachers from non-technical disciplines are often surprised to learn that their work can be, simply, wrong. These two summer sessions consisting of seven classes would contribute to a master's degree in teaching.

The success of the participants directly determined the program's success. They believed the participants would be highly motivated professionals and therefore it was not necessary to have closed book in-class examinations that would cause unnecessary stress for professionals that were already highly motivated (Aiken, 1991). Collaborative learning was encouraged, and projects were the main measuring tool. They believed that working together in groups would allow all students to learn from each other. Aiken and Snelbecker concluded from their study that the success of the retraining of teachers and administrators must be based on long-term success for the trainees (1991).

There is also a need for the hiring of trained computer education teachers in order for computer science to grow. In order for post-secondary computer science schools to grow, more computer science teachers, as well as computer classes are needed on the secondary level.

Paul DePalma (1997) described a program for retraining teachers in computer science. It pertains to three laboratory-based computer science courses and an instructional design course emphasizing critical thinking. Participants met once for three hours for 15 weeks and received three graduate credits per course if they

completed the four courses. Teachers received in-service training on computers in BASIC and Pascal programming, free text and supplies, as much computer time as needed through Temple University, and a \$500 stipend.

The objective was to have 50 percent of the 56 participants finish the program. Requirements for participants to finish the program were to pass the computer science exam administered by the Philadelphia Schools District Division of Educational Technology, and become eligible computer science teachers in the district. Students who finished this program felt they had a minimum background for teaching computer science in secondary schools. They requested to have more information about advanced data structures and machine organization (De Palma, 1997). They also requested having some experienced secondary teachers involved in the project from the beginning.

The retraining of high school secondary teachers is critical to the success of computer science as a secondary curriculum. Some of the recommendations of these two groups of researchers are costly and time-consuming but necessary, if education is to use technology for the development of higher-level thinking (Aiken & Snelbecker, 1991; De Palma, 1991).

After teachers, administrators, and parents have been retrained in their thinking about teaching styles, learning styles, and how to use those styles in the classroom while teaching with technology, they must take the appropriate approach in dealing with designing websites. Designing websites can work as a higher level thinking instructional tool. The next few paragraphs go into detail about using higher level thinking to teach computer-programming skills. They will support having a programming and design curriculum.

Thomas and Upah (1996) found that students engage in higher-order thinking skills when they learn looping structure in an exploratory environment. Teaching computer programming as an algorithm to secondary school students is brought into question by Thomas and Upah. They asked if high school students understand less about the concepts of programming when students simply copy and paste sub-routines or functions without fully understanding the concepts that go toward the building of those sub-routines. Science and math teachers focus on learning concepts and thinking skills rather than memorizing algorithms. Should computer-programming teachers do the same thing? A student who directs his or her own learning uses metacognitive strategies.

Learning of programming to study the development of learning strategies and skills helps to clarify what advantages there are in teaching programming of any kind (Thomas & Upah, 1996). They explored why programming should be taught. Their reasons for teaching it were the power of programming first, then the use of software tools and the novel ways of solving problems. Last was the developing of problem-solving skills.

Programming courses teach problem solving through the process of sequential steps and overcoming frequently encountered obstacles (Thomas & Upah, 1996). First, there must be an analysis of problem and conditions. Then an approach must be developed and an expression for the solution to the problem given. After the initial solution has been attempted then programming bugs must be isolated for syntax as well as logic. Last of all, there is the everlasting, "check back to see if the solution makes sense."

A simulation model is used in this study with one student taken from the group (Thomas & Upah, 1996). A looping structure or problem was given to the students after having worked only briefly with the programming language. Students' solution times took from eight to 128 minutes to solve with an average of 24 minutes. Their

subject took 93 minutes during three different sessions. Observation of the one student under observation showed that without having specific information about counting or adding algorithms he was able to problem solve many of the solutions, however, he did give up early on finding some of the solutions after having tried for only a very short period of time.

Programming in HTML, JAVA, JAVA Script, PERL, or C++, which are all web-publishing languages fall into the same category in this study. The study showed that the subject did learn from his mistakes and took opportunity to use problem-solving skills (Thomas & Upah, 1996). After coming back from an occasional break, the student often came in with fresh ideas, as well as being anxious to get back to work.

The other students were encouraged to begin by studying examples in a given program and draw conclusions or extract possible solutions from the examples. With subtle encouragement, students were able to face programming problems and deal with them despite the temporary slowdown, without giving up on their approach for a solution. Oftentimes problems that may not have been predicted came up. It was at this point, where the beginning programmer needed a little encouragement, while

an intermediate or advanced programmer would build on previous experience to build a tenacious and aggressive attitude toward solving any problem. Many students find a solution or find someone who knows the solution to the problem. When they get to the point where they cannot find a solution or find someone else who knows the solution, they become the sought-after expert (Thomas & Upah, 1996).

Students who learn this way often become confident enough that they are willing to evaluate several possible solutions to a problem (Thomas & Upah, 1996). They become tempered in spirit with a strong self-esteem allowing them to accept the fact that they might be wrong, yet it is okay to take another approach. When programming courses focus on metacognition and have improved development of evaluation and analyzing skills rather than modeling skills, programmers and students become better thinkers and answers become more meaningful (Thomas & Upah, 1996).

In conclusion, the research literature indicates that using constructive strategies is a very effective teaching philosophy. Therefore, when teaching Website Design it is important to incorporate a constructivists' approach in the classroom. This project incorporate a constructivist environment as suggested by the research literature. It could put teachers in touch with a technology training

institutions, and instruction on how to use construct theory. Teachers would have a resource to begin the process of becoming a good teacher. Integrated into this Website could be a tutorial for website design, a tutorial for programming, and tutorial for application software. Teacher and students who access the site would have appropriate guidance in how to begin teaching and learning website design skills.

Learning Styles

Learning styles must also be taken into consideration when dealing with the constructivist's approach. The rank and file of students have not experienced this learning approach. Cohen (1997), asked if one year of teaching with constructivists approach and technology would alter the way children learn or enhance their success? The subjects were 15-gifted freshman, which had been accepted into a magnet high school. The subjects were given Dunn and Dunn's learning style inventory (LSI), and a questionnaire before and after the school year. The researcher wanted to analyze the results in determining if revisions would be necessary in order to address a more comprehensive study.

During the school year teacher, directed lecture was kept to a minimum and an emphasis of hands-on discovery

oriented activities was use (Cohen, 1997). The teachers concentrated more on individual learning styles, because they were testing to see if teachers should profile each child's learning style and design instruction based on individual needs.

A wide range of technology was used during this test. Power Macs and IBM compatible PCs were networked, and many other peripherals were available as well as software. Distance learning classrooms equipped with two-way interactive television that could transmit to a Consortium of 14 schools were also available. The classroom desks were eliminated in favor of conference tables, computer workstations, and informal tables. There was an amphitheater for presentations which went along with a very informal atmosphere.

Classroom observation, two interviews with each student, administration of the LSI test, and administration of a questionnaire, were the four methods of gathering data. Results of the data showed that there were both positive and negative results (Cohen, 1997).

A first major point is that technology seemed to impact the writing curriculum in the American Studies classrooms that were observed. HyperCard stacks, websites and computer projects were big successes in the social

studies class. The second major point made by this study showed that technology seem to affect classroom procedures as well as what was taught and how it was taught in the classroom. Students became teachers and explorers in these classrooms with a much more casual relationship, including student-to-teacher, teacher-to-teacher and teacher-to-student. The third major point that emerged was the fact that many gifted students were not enamored with the use of computers. They were often frustrated and felt that the projects were not challenging to them and they sought deeper connections of the concepts (Cohen, 1997). The explanation that they were supposed to learn how to think instead of focusing so much on content did not seem to satisfy the students.

At the end of the year, there were a number of conclusions, which drove home the point that the classroom must be curriculum driven and not technology driven (Cohen, 1997). Students were less motivated, less persistent, less responsible, less motivated by the teacher or any authority figure, and pointed out that they preferred more formal classrooms.

This study did not prove that just changing the environment could change learning styles, however, it did illustrate that going to private school, and being put

into a technology rich environment did not guarantee academic success. Having technology makes no difference; it is how the technology is used that makes the difference in the learning. Curriculum must drive the technology (Nacaise & Barnes, 1996). Technology in and of itself does not motivate students. If something can be done better without technology then do not use technology, or find a way to do it better with technology. Teaching styles become so critical when investments in technology are made. If higher-level thinking skills are not facilitated the investment in the technology is a waste. For Website Design to be taught in the classroom teachers must design a motivating curriculum.

The teaching methods discussed by Cohen (1997) above are shared by Iseke-Barnes (1997). She said teaching could be most freeing in subjects such as mathematics. She says that this allows a player in the name of mathematics to invent any set of playing pieces, rules, and constraints, and then reason out or observe the consequences of those choices. Mathematicians often refer to a mathematical solution as elegant or beautiful, both visually and intellectually, but most teachers show little or none of this to their students. It has been stated anonymously that there is no place in this world for ugly mathematics.

With investigative approaches to web development, it is much easier for a student to see the beauty and elegance of how it all fits together. If we take this approach to education, it will focus our attention towards a change that will bring us to a world of research. Students who learn to develop their own site will have to implement a research type approach to their projects.

Design and Development of a Web Resource

Lynch and Horton (1997), shows the first step in designing a website presence is defining a set of goals for a site, including a statement of purpose, and stating the main objectives. This may be one of the most important aspects of the process, since it sets the stage for the long-term evolution and use of the site for all of its intended users.

The development of these goals and objectives should be based on agreement among the intended users for a given site. This process includes a number of specific discussion items including:

- a. The content for location at the site;
- b. The acceptance process, if any, for item choices; and

- c. The specific location of the site (corporate or academic sponsorship, etc.)

Lynch and Horton (1997) also recommended a careful analysis of the potential audience for a given site so it meets their needs and expectations. Information about a potential audience consists of a number of specific items including:

- a. The amount of content expertise;
- b. The level of computer knowledge and skill;
- c. Access capabilities for the Web;
- d. Frequency of site access; and
- e. Potential access by international users, which significantly affects the use of English jargon, date/time conventions, etc.

The answers to these questions can help resolve the content of the resource site, much of its overall design interface, and many choices related to bandwidth considerations, such as the number and size of graphic files, and use of multimedia.

Summary

In Chapter Two presented a review of the research literature important to this project. The sections have shown the main thrust of changes in recent years to be in

the area of critical thinking and the role computers can play in the teaching and learning process. Using computers and incorporating a constructivist's approach to teaching has shown strong evidence for effective teaching and learning while providing a supportive framework for the curriculum. According to this approach the teacher becomes a facilitator and the students use higher-level thinking skills to develop and design their websites. The curriculum for the course presented in this project is designed to teach students to be problem solvers, and thinkers while teachers become facilitators.

CHAPTER THREE

DESIGN AND DEVELOPMENT

Introduction

Chapter Three documents the steps used in developing the project, specifically, the design as well as curriculum structure, and the curriculum development procedure. Then a description of the population served, and implementation and evaluation follows. While in conclusion a summary ends the chapter.

Design

This project is intended for a computer lab classroom with an instructor as a facilitator. The design of a curriculum for website design starts with a medium and a goal. The medium of choice for this course is HTML (Hyper Text Markup Language), which is used on line, on CD, or straight from a computer hard drive. The goal is to have a complete curriculum for the development of websites. This course is the result of a two-year project developed from the remnants of previously developed materials for scripts. There are Scripts used that incorporate Java, JavaScript, and CGI. This material as well as materials brought from other sites and code written from scratch by the designer has been compiled to create what has been

adopted by the district as a website design course. In teaching website design, scaffolding must be created to allow the students to begin using the concepts which are to be developed. The website provides this basic scaffolding to guide the student and teacher through the curriculum. The competencies essential to obtaining and maintaining meaningful knowledge in the content area were also included in the curriculum. Through a consensus of the Advisory Committee, the following outline was developed: (1) lesson title, (2) lesson objective, (3) Materials and equipment, (4) Assignment, and (5) Evaluation.

The following is an outline of the course including an introduction, homework, web design with concepts and skills, and web resources.

Course Content (One Semester Program)

1. Introduction
 - a. Course Policies And Guidelines
 - b. Course Syllabus
 - c. Course Grading
 - d. Class Policies
 - e. Internet Policies
 - f. Class Schedule
 - g. Course Materials

2. Section 2 Homework
 - a. Homework Assignment #1
 - b. Student Confidential Information
3. Section 3 Web Design With Concepts And Skills
 - a. Learn some HTML
 - i. Table of contents
 - ii. Basics HTML
 - iii. Tags and what they accomplish
 - iv. Images
 - v. Links
 - vi. Tables
 - vii. Frames
 - b. Step 1,2, &3
 - c. Content
 - d. Work Flow
 - e. Properties
 - f. Interfacing
 - g. Image mapping tools
 - h. Frames and Mouseover
 - i. Inserting video
 - j. Video quiz
 - k. Sample AVI files
 - l. Animation
 - m. Animated gif
 - n. Dreamweaver 2 tutorial

- o. Dreamweaver assignments 1-7
- p. Final Rubric
- 4. Section 4 Web Resources
 - a. Maintaining a computer
 - b. Other html and web tutorials
 - c. Places to get Free web space
 - i. Free web space
 - ii. Free web page list
 - d. Register a Web Page
 - i. URL Search Engine Submission Sites
 - ii. Traffic Building Software
 - iii. USwebsites.com submit
 - iv. euronet.nl/users/w_solarz/search.htm
 - e. Free Scripts from Surfzilla
 - f. Blackboard.com
 - g. Cool Home Pages
 - h. Quick and dirty image maps
 - i. Html image maps
 - j. Dreamweaver add-ons
 - i. Dreamweaver depot
 - ii. Dreamweaver supply bin
 - iii. Dreamweaver etc.
 - iv. Yaromat
 - v. Massimo corner

Development

Two methods of validation were applied to this curriculum. The Course outline was compared to the Desert Sands Unified School District Technology Plan (Araya, 2002) which was developed from the Education Technology Planning Guide, A Guide for School Districts, Adopted by the State Board of Education January 2001 (Commission on Technology and Learning, California State Board of Education, 2002). The school districts' technology plan is a guide for individual schools to assist in the development of their local technology plans. The district plan calls for training to be provided for staff to facilitate the curricular goals, which include the development of a curriculum for website design. Also an advisory committee reviewed and made recommendations for the course. The advisory committee consisted of two Graduate students and three faculty members, including myself, of Desert Sands Unified School District. The project started as a programming tutorial 3 years ago in ETEC 691: Advanced Computer Applications at California State University San Bernardino. Then over the last two years the curriculum has turned into a web-based course used at LaQuinta High School by two instructors, and at John Glenn Middle School by one instructor. The faculty

and students who used the course helped with constructive criticism to improve on the interface and content of the website. The committee's role was to recommend areas for improvement and expansion of the course. Students made suggestions to teachers who then passed them on to the developer of the course. The process for collecting and summarizing the recommendations is discussed further in the evaluation section. Over a two-year period the change and revision to the course has resulted in the final product presented in this project.

The main recommendations made by the teachers were to make sure there were clear goals for the teaching and learning of technology as described in the districts technology plan. They further recommended that the developer conduct a course content review on a bi-yearly basis and make updates to accommodate new information resulting from the ever-changing arena of web design and information technology. Their final recommendation was to provide students with plenty of time to gain experiences with development software applications.

Population Served

This project was developed for students at the secondary level, learning basic to advanced concepts for

the design of websites. Listed below are recommendations and not requirements for enrollment in this course.

1. Students are recommended to have basic training in computer literacy and keyboarding.
2. Students are recommended to have experience with at least one browser and one high-level word processing application.
3. Students are recommended to have an ability to organize their thoughts using a flow chart or by outlining their thoughts with a software application such as Inspiration
4. Students are recommended to have effective communication skills.

Implementation and Evaluation

This course was implemented in two phases at the same time as it was being developed. The first phase of this course was the school year 2000-2001. During that time the course was included on the schedule at LaQuinta High School. The design had been accomplished and the development was underway. The outline for the course had been posted on the school website and a course description was also posted. The course content was also available through the website. Twenty-eight students were enrolled

for the first day of class. The instructor at this time was also the developer. On a daily and ongoing basis the instructor did a formative evaluation of the project by observing and interviewing students. The data gathered was compiled in notes taken from that day. Reevaluation and adjustments were made also on a daily basis to the curriculum based on this data. The developer was able to make changes based on the student data for the current class as well, because he had access to the course website from class, and changes could be made in a matter of minutes.

The second phase took place in the 2001-2002 school year. Two teachers used the curriculum. The first teacher taught a course at LaQuinta High School in website design using the project. The teachers observed how students used the materials and interviewed a group of students. The information was summarized as suggestions and delivered to the developer by e-mail, phone, or in person. A procedure for logging the formative evaluation data was created to keep the information available so changes and updates to the project could be made. Contact between the instructor and developer was made one to three times per week, while the data was kept in a shared directory on the developer's computer.

The second teacher taught a course at a middle School in html and computer literacy using the project. The teacher and developer also collected data from observations and interviews. The same procedure for logging and documenting the formative evaluation data was used. Contact with the instructor and developer was made two to four times per week.

An ongoing evaluation by the instructors and the developer was an attempt to make the course actively engage students in the learning process. Emphasis was placed on problem solving and processing skills for the design of websites.

Summary

An outline of the steps used to develop a project such as this is presented. The target population for this course is students who have passed the school district's basic computer literacy requirements and who wish to develop the knowledge to design a useful and complete website. The curriculum development process includes curriculum structure and content.

CHAPTER FOUR
RECOMMENDATIONS AND CONCLUSIONS

Introduction

Chapter Four includes the recommendations extracted from this project. A presentation of the results upon the completion the project is offered in the conclusion.

Recommendations

The recommendations resulting from this project follow.

1. Continued development of this project is recommended to keep up with the rapid development in the industry.
2. It is recommended that a professional from the field with at least two years experience dealing with website design be the instructor for this course.
3. It is strongly recommended that supplemental web development resources be brought into the classroom in an effort to produce quality graduates from this course.
4. It is recommended that a career academy be developed which includes this course.

5. It is recommended that the site be developed into an on-line course for students who do not attend school on campus.

Conclusions

Programs of this type are needed to prepare individuals for employment in today's high information technology society. Technology is pervasive in society, and in previous chapters it has been stated that teachers and students have used technology as a babysitter. Evaluation by the teachers who used this project has indicated that the project can involve the students as active learners to develop websites, and can have a positive impact. This course may become an avenue for them to become active learners with a positive impact on their learning experience.

Evidence made known earlier in the literature review shows that a media-based teaching and learning process is not naturally better than a traditional teaching and learning processes. However, the literature review also supports the idea that technology based teaching and learning is effective. Students can learn from projects such as this. Because of enhanced materials, facilitated

by media such as this project, they may learn more efficiently.

In previous chapters it was stated there was a need for a curriculum for website design which included a design portion, HTML portion, and web design application portion. The completion of this project has satisfied that need, and at the completion of this project it is currently in use at two school sites as a course teaching website design.

APPENDIX
TECHNOLOGY 101

LaQuinta High School, LaQuinta California
Technology Department

Technology 101

Web Design and Production

Instructor: Mr. R.S. Hicks
Phone: (760) 772-4150

E-mail: bobhi@surf.dsusd.k12.ca.us

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INTRODUCTION

The following curriculum was developed using the newest training recommendations by web design industry specialists. The course aligns with the World Wide Web Consortium (1999).

The attached curriculum includes lesson plans developed for the course being presented in five fifty minute classes per week, with the first 15 to 20 minutes of each class dedicated to lecture or demonstration, while the remainder of the class being used for lab format.

All information is presented to the students using a web browser. The curriculum may be presented over a local area network, from a web site, or the files may be installed on a computer locally. Assignments and Quizzes taken on line will be submitted via email, so it is required for each student to have email access. All the material are presented via the World Wide Web, therefore there is no textbook required.

SECTION 1

COURSE POLICIES AND GUIDELINES

WebPages Design

Mr. Hicks

bobhi@surf.dsusd.k12.ca.us

home1.gte.net/bobhi

Course Syllabus

- I. Web pages design: This class will be designed as a comprehensive class for creating effective websites. Theories, visual examples, deconstructions, and instructions for making websites effective will be discussed, developed and evaluated. Questions about a website builders audience, content, structure, design, layout, access, and navigation will be answered. Installing and using applets and their parameters on a Web page will be a requirement. Programming in HTML, Java, and PERL will be covered. How to post a Web page, and advertise it as a finished product will be the ultimate goal. Each student will be tested in a practical application in each of these areas, and graded on an individual basis due to the wide variety of individual skills and experience of class members. Your participation and full cooperation will help in making this a successful year for you and for La Quinta High School.

- II. COURSE REQUIREMENTS FORMAT - We will be working on the computer everyday. This is a hands-on course with students at their own computer. Every day we will be having a variety of lecturers, discussions, quizzes, vocabulary, videos, etc.

Notebook

Maintaining a notebook is critical to your success. Notes and procedures for working on the computers will be referred to at times. Every class member will be expected to keep this notebook updated the instructor will have access to it at any time. It will be a large portion of your grade. This may be kept on a disk or in a folder. A hard copy should be kept in the classroom at all times for reference.

Grading

Grades are an aggregation of scores obtained on assignments, tests, quizzes and worksheets. Grades will be calculated on a point basis and will be posted periodically.

Materials

All textbooks needed, will be provided. Students are required to bring a pencil everyday. Students are also required to bring a notebook (with paper) everyday.

III. EVALUATION PROCEDURES GRADING SCALE

90 - 100	A
80 - 89	B
70 - 79	C
60 - 69	D
00 - 59	F

PERCENTAGE OF SCORE -

- Homework & Tests 40%
- Web Projects 40%
- In class Prepared & no Tardies 10%
- Notebooks 10%

IV. CLASSROOM PROCEDURES

1. ABSENCES - School policy will be followed. This is an activity-oriented class so your attendance and participation is critical. Your grade may be lowered 1 letter grade after three absences. After six absences you may be given an F.

2. TARDIES - Tardies will be recorded at the beginning of each class period. You are tardy if you are not in your seat before the bell rings. At the beginning of each quarter, each student will receive 40 free "tardy" percentage points. These "tardy" points are extra credit and 20 will be lost on the first tardy. The remaining 20 will be lost on the second tardy. On the third detention will be given. On the fourth tardy school policy will be invoked. Also, parent contact will be made to discuss the problem.

3. LEAVING CLASS POLICY - At the discretion of the teacher a student is allowed to leave class 2 times a quarter at their request without penalty. However the same extra credit policy as tardies will be used, and once you have used your allocation, you will not be allowed to leave at your request.

4. Other procedures will be followed in the future, and will be discussed at that time.

I have read and understand the provision in the course content sheet. I will abide by these terms and conditions.

Parent or guardians

signature _____

Student

Signature _____

Print

Name _____

Last Modified: 9/3/1999 1:46:45 PM

Internet User Contract

La Quinta High School students will have access to the Internet. The educational value of this service allows us great potential to support our curriculum and student learning. In providing this service, our goal is to promote educational excellence by facilitating resource sharing and innovation. DSUSD will make every effort to protect students from misuses or abuses as a result of their experiences with an information service. All users must be continuously on guard to avoid inappropriate and illegal interaction with the information service.

Please read this document carefully. When signed by you and your guardian/parent, it becomes a legally binding contract. Listed below are the provisions of this contract. If a user violates these provisions, access to the information service may be denied and you may be subject to disciplinary action.

Terms and Condition of This Contract

1. As a representative of LQHS, I will accept personal responsibility for reporting any misuse of the network. Misuse includes, but is not limited to, pornography, inappropriate language and non-educational sites
2. The use of the Internet is a privilege, not a right, and inappropriate use will result in a cancellation of those privileges.
3. Security on any computer system is a high priority because there are so many users. If you identify a security problem, notify the system administrator at once Never demonstrate the problem to others.
4. Vandalism is defined as any malicious attempt to harm or destroy. This includes, but is not limited to, the uploading or creation of computer viruses.

I have read and understand the provisions in the contract. I will abide by these terms and conditions.

Student Name _____ Grade _____

Student signature _____

Parent/Guardian signature _____

SECTION 2
HOMEWORK

LaQuinta High School, LaQuinta California

Technology Department

Technology 101
Web Design and Production

Instructor: Mr. R.S. Hicks
Phone: (760) 772-4150

E-mail: bobhi@surf.dsusd.k12.ca.us

Class Schedule

Meeting Date- Class period	Lecture/Lab Topic	Objective	Assignment/Quiz Due
Lesson 1 1 period	Introduction	<ul style="list-style-type: none">▪ Course outline▪ Grading policy▪ Internet contract▪ Class schedule	
Lesson 2 2 periods	Learn some HTML Basics	<ul style="list-style-type: none">▪ Define HTML▪ HTML editors▪ Web space	Grading policy Internet contract
Lesson 3 3 periods	Learn some HTML Body Tags	<ul style="list-style-type: none">▪ HTML required tags▪ Meta Tags/Font Tags▪ Alignment & Color	
Lesson 4 1 periods	Learn some HTML Paragraphs	<ul style="list-style-type: none">▪ Preformatted text	Basic page with Meta tags, Font tags, Alignments, & Color
Lesson 5 2 periods	Learn some HTML adding images	<ul style="list-style-type: none">▪ Inserting images and Links	Developed page with one full screen of pre formatted text
Lesson 6 2 periods	Learn some HTML Image maps	<ul style="list-style-type: none">▪ Concepts of image maps▪ Basic usage	Add images as optimized jpg or gif
Lesson 7 2 periods	Learn some HTML Tables	<ul style="list-style-type: none">▪ Table design attributes	Build a rectangular image map on one image

Meeting Date- Class period	Lecture/Lab Topic	Objective	Assignment/Quiz Due
Lesson 8 3 periods	Learn some HTML Frames	<ul style="list-style-type: none"> ▪ Frames usage 	Built a basic table and a 10+ cell table with attributes for at least 5 cells
Lesson 9 2 periods	Learn some HTML Forms	<ul style="list-style-type: none"> ▪ Forms usage 	Build horizontal and vertical frames with frames within frames and perimeter colors
Lesson 10 2 periods	Learn some HTML Sounds	<ul style="list-style-type: none"> ▪ Inserting sound ▪ Background sound 	Build a basic form to mail results to an email address
Lesson 11 2 periods	Learn some HTML Video	<ul style="list-style-type: none"> ▪ Video types ▪ Inserting Video 	Use sound as an element on a page Use sound as background sound on a page.
Lesson 12 3 periods	Step 1,2, &3	<ul style="list-style-type: none"> ▪ Principles of design ▪ Considerations ▪ Educational, Business, Fun 	Build page with educational video inserted on the page. With and without controls.
Lesson 13 3 periods	Content	<ul style="list-style-type: none"> ▪ Organizing a sample site 	Turn in typed results from design considerations.
Lesson 14 2 periods	Work Flow	<ul style="list-style-type: none"> ▪ Workflow as a group ▪ Workflow as an individual 	Turn in poster or inspiration software graphic of Bed and Breakfast website
Lesson 15 3 periods	Properties	<ul style="list-style-type: none"> ▪ Importance of a logo ▪ Drawing software 	Quiz on workflow
Lesson 16 3 periods	Interfacing	<ul style="list-style-type: none"> ▪ Interfacing ▪ Navigation of your site 	Email optimized approved LOGO to instructor
Lesson 17 2 periods	Image mapping tools	<ul style="list-style-type: none"> ▪ Image mapping software 	Email 20 logos to instructor

Meeting Date- Class period	Lecture/Lab Topic	Objective	Assignment/Quiz Due
Lesson 18 4 periods	Fancy Frames and Mouseover	<ul style="list-style-type: none"> ▪ Making Frames look Good ▪ Mouseover concept & help site 	Email LOGO with image map over the logo with at least 5 hotspots
Lesson 19 2 periods	Inserting video	<ul style="list-style-type: none"> ▪ Embedding video 	Email frames page with Mouseover built into page.
Lesson 20 3 periods	Animation	<ul style="list-style-type: none"> ▪ Animated gifs 	Page with Embedded Video Saved in users directory (Don't email)
Lesson 21 8 periods	Dreamweaver 2 tutorial	<ul style="list-style-type: none"> ▪ Overview of tutorials ▪ Understand Dreamweaver tools ▪ Use web page editor to build pages without editing HTML 	Email animated GIF with free download software form download site
Lesson 22 8 periods	Dreamweaver assignments 1-7	<ul style="list-style-type: none"> ▪ Design a basic site moving towards the completion of the final project. 	Day 4: have text, images, tables and frames Day 8: Fully Multiple optimized pages with Forms Mouseover, Sound, Video, and Animation
Lesson 23 10 periods	Final Rubric	<ul style="list-style-type: none"> ▪ Use the course concepts to design a site. 	Post site in free web space.
Final Meeting	Final Site review		Post fully functional site according to final Rubric

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Technology Department

Technology 101

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E-mail: bobhi@surf.dsusd.k12.ca.us

Course Materials

COURSE POLICIES AND GUIDELINES

1. Course Outline
2. Internet Contact
3. Class Schedule

Assignments

1. Learn some HTML
2. Step 1,2, &3
3. Content
4. Work Flow
5. Properties
6. Interfacing
7. Image mapping tools
8. Frames and Mighty Mouseover Machine
9. Inserting video
10. Video quiz
 1. .AVI files
11. Animation
 1. Animated gif
12. Dreamweaver 2 tutorial
13. Dreamweaver assignments 1-7
14. Final Rubric

WebPages Directory & Resources

1. Maintaining your computer
2. Other html and web tutorials
3. FREE WEB SPACE
4. Shopping cart etc.
5. Blackboard.com
6. Website class on Blackboard.com
7. Cool homepages
8. Quick and dirty image maps
9. Html image maps
10. Dreamweaver add-ons
 1. Dreamweaver depot
 2. Dreamweaver supply bin
 3. Dreamweaver etc.
 4. Yaromat
 5. Massimo corner

Designing? Why not?

A few years back, when I was first beginning the world of Internet design, I thought it would be impossible to know everything there is to know about the Website design. It all seemed so to be too much to do! I still haven't had a chance to learn "all the facts" about Web design or the Internet, but did make one important decision on this journey - I didn't have to know everything about Web development to build a very effective and intriguing Website.

This very website is living online proof that, with minimum Internet knowledge, beginners can design an efficient Internet site in just a short period of time. On this site, you'll find the resources and step-by-step instructions you will need to design your own complete fun to play, business or personal Website.

Building Your Own Website is the First Step Toward Reaching Your Goal

Whether you're thinking of starting an online business or just adding your "personal" touch to the World Wide Web, designing your own Website is the first step toward reaching your goal. You could hire some fancy designer to design your site for you, but that's no fun. Besides, you want your Website to reflect your personality, your decisions and hard work, and your unique ideas, right?

Before we discuss the endless possibilities of having your very own Website, take a moment to subscribe to Web Design Weekly. It's my personal free weekly Web design resource package to you; full of valuable and dependable Web design tools you will need to build your site. To subscribe to Web Design Weekly, simply send an email with SUBSCRIBE as the subject -- it's free

Below are ideas both for developing a personal or business Website. With these ideas, you'll be able to develop a basic outline for your new Website.

Your Personal Website:

Share your family tree with others and find long, lost relatives.

Build a site around your favorite hobby. Let others in the world know your expertise and knowledge about how to do it better. You can include pictures, demonstrations, and detailed instructions.

Start a community for your family. Update family reunions (photos, minutes, dates, locations, and times), keep a database of birthdays and “new” births, have a “kids’ only” section, and even start a family picture album for all the different members of your family - there’s tons of unique ways to build your family community!

Offer a volunteer Website for your Church or your favorite organization - boy/girl scouts, charity events, cancer foundations, etc...

If you’re still not sure about the theme of your personal Website, go here for 101 Personal Website Ideas

Your Internet Business Site:

Turn your idea or hobby into a part time or full time Internet business. If you’re good at sewing, homeowner repairs, cooking, exercising, camping, traveling, crafts, music, writing, accounting, etc., you’re the perfect candidate for an online business. Did you know that your unique experience and knowledge could turn into profits on the Internet?

You may already own a business and would like to transfer it to the Web or add an extra value to your company. Either way, you can achieve your desired goal with the simple Web design resources provided here for you.

Perhaps you have a product or personal invention in mind that you would like to promote on the Internet? There are many very successful Websites that promote only one or two products.

Interesting fact:

Sites with very specific and unique goals tend to be more successful than companies which “carry” everything from toothpaste to brakes for your car.

Just thought I’d add that in for a little encouragement. The Internet is not much different from the “brick and mortar” world when it comes to business. Offering the right product to the right market is still the most effective way to gain success online.

Still not sure what to market on the Internet? Go here for 101 Business Website Ideas.

There are just a couple of items to remember before you start designing your very own Website.

- The Internet is an ever-changing place. To stay on top, you must stay informed. Within this site, you’ll see many useful resources to help you stay informed about Internet changes and news.
- Your Website’s success will depend on your ability and willingness to add updates, delete old news, find helpful resources for your visitors, deliver what you promise, and provide a usable and informative contribution to the World Wide Web.

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Technology Department

Technology 101

Web Design and Production

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[Home](#) | [Policies](#) | [Web Resources](#)
[Course Materials](#) | [Course Description](#)

Homework Assignment #1

Part 1

E-mail Address

The first homework assignment in this class is to obtain an Internet e-mail address. This may be accomplished by one of many methods.


1. Your home Internet Service Provider (assuming you have already signed up for one) will provide you with at least one account (Many providers provide more than one now days).
2. MSN and many other free E-mail providers on-line will give you an email address for free if you register with them.
3. Many employers will provide an email account. Check company policies for use of these types of accounts for educational purposes.

Part 2

Student Information Sheet

1. Please print the form on the link above, fill it out following the directions on the form and bring it to class on the due date.

Student Confidential Information used and the beginning of the term.

Your Period number please	<input type="checkbox"/>
1. Your last name:	<input type="checkbox"/>
2. Your first name	<input type="checkbox"/>
3. Nickname	<input type="checkbox"/>
4. Age	
5. Father's name	<input type="text"/>
6. Mothers name	<input type="checkbox"/>
7. Brothers names	<input type="text" value="Bill Gate's ho"/>
8. Sisters names	<input type="text"/>
9. I plan to attend college at	<input type="text"/>
10. Located in	<input type="text" value="Submit"/>
11. I Think I will major in	<input type="text"/>
12. My Goal is to be a	<input type="text"/>
or a	<input type="text"/>
13. I consider my study habits to be	<input type="text"/>
14. In this class, I expect to earn a grade of	<input type="checkbox"/>
15. Computer classes taken since 8th grade.	<input type="text"/>
16. My favorite hobbies are:	<input type="text"/>
17. My favorite sports are:	<input type="text"/>
18. My favorite movies are:	<input type="text"/>
19. My favorite TV show is	<input type="text"/>
20. My favorite book is:	<input type="text"/>
21. This year I am going out for :	<input type="text"/>

22. Your teacher might know or remember me because:

23. Where do you want to go today?

<input type="text" value="I don't know"/>	School
<input type="text" value="Disneyland"/>	Disneyland
<input type="text" value="Bill Gate's"/>	Bill Gate's house
<input type="text" value="Back to bed"/>	Back to bed

24. How many salesmen does it take to change a light bulb?

25. Any comments?

<input type="button" value="Submit"/>	<input type="button" value="Reset"/>
---------------------------------------	--------------------------------------

SECTION 3

WEB DESIGN WITH CONCEPTS AND

SKILLS

Learn Some HTML

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If you're ready to get started... Let's go...

The tutorial is broken into the basics and some more specific topics. I suggest you start with the basics. This will give you a better understanding of how things work so you will be able to edit and change content on any web page you may find yourself working on.

Chapter 1, Basics: This section gives you information to help you get started.

Chapter 2, Body Tag: This section shows you how to build the basic structure of an HTML page, how to add background, text styles etc.

Chapter 3, Paragraphs and line breaks: This section shows you breaking at paragraphs and lines, breaking your paragraph into sections etc.

Chapter 4, Images: This section teaches you how to add images to your web pages, image alignment options etc.

Chapter 5, Image Maps: This section shows how to create image maps, lists and add comments to your code.

Chapter 6, Tables: This section teaches you how to improve the layout of your page using tables.

Chapter 7, Frames: This shows you how to use frames to improve navigation, borderless and floating frames etc.

Chapter 8, Forms: This section teaches you how to add forms and thus add interactivity to your website.

Chapter 9, Sound: This section shows you how to add sound to your web page.

Chapter 10, Video: This section shows you how to add video to your web page.

Basics

First lets learn some terms.....

HTML or Hyper Text Markup Language is the language used for hypertext documents. You can use it to make a hyperlink, which can transport you to a new site. The new site is located by its URL and can be another HTML document, pictures, sound files, etc. HTML is designed to be platform independent, not bound to a particular hardware or software environment.

HTML programs are written as plain, ASCII text files. This means they can be written in any text editor such as Word or Notepad. To test how a HTML program is displayed in a browser, the best way is to open the HTML file from a browser. For example, open Netscape, then go File, Open file then find your HTML file on the drive you specify.

HTML requires you construct documents with an emphasis on the structure of the text and leave the appearance of your document up to the browser displaying the document (so you don't have complete control of how it looks).

What is a HTML editor?

The editor is an application you can write the HTML code with. Any Text editor can double up as your HTML editor. Notepad can be used to write and edit HTML pages. Notepad if you can believe it is part of all windows operating systems. The "Tags" used to write HTML must be known pretty well in order to use notepad as an editor, but if you can stick it out and learn from a few examples you will be much the better for it. There are other editors, which allow you more power and flexibility.

You can try some at:

www.sousage.com

www.coffeecup.com/software

www.macromedia.com

Some reference tools:

www.developer.com

www.htmlgoodies.com

www.w3schools.com

<http://www.davesite.com/webstation/html>

Some Browsers to consider using:

www.netscape.com

<http://www.microsoft.com/windows/ie/default.asp>

A browser is what allows you to see and html page, and change the code into a page that can be read and see the pictures the way they were meant to be seen.

Web space:

When you are ready to post your page on the web there are many places you have to select from to have everyone in your family or your new business see what fantastic work you've done. You may post them at home with your parents permission.

www.tripod.com
www.fortunecity.com
www.geocities.com

Just to name a few, which are free with the basic size and configuration.

Now lets look at different tags you can use to make the text you type look SWEET.

Tags and what they can accomplish

1. Let me start with an example of what you must have for a basic HTML document to come up on a browser.

```
<HTML>  
<head>  
<title>Hello world (First Page basic sentence)</title>  
</head>  
<body>  
Hello world  
</body>  
</html>
```
2. Then when you save a file it must end with HTM or HTML as an extension. That's what comes after the period.
3. Many, or I should say most of the tags e.g. <HTML> have an ending tag </HTML>. You may use all caps or lower case but try to be consistent with what you decide to use. Notice the slash (/) in the ending tag. When there is an ending tag it always has a slash in it.
4. Some tags have attributes in them, which determine what it will look like in the browser or how it will behave. More on that later. They look like this----
"name of attribute"="value of attribute."
5. Tags are also what are referred to as nested. They are paired and when you get to the middle you have to go back out in the reverse order.

```
<b><u><i>sample text which is bold, underlined, and  
Italicized!!!</i></u></b>
```


Get it nested like \\\V/// for every action there is a reaction but it must be in order otherwise you may get errors.
6. The HEAD tag is what contains important information like META tags which help get you listed in search engines, and Title of the page between the <title> </title> tags is the name this is saved when the site is book marked, authors name and the editor used. Some times what is called a script will also have parts that are put in the header, but I wouldn't worry about those yet. I just point this out in case you happen to spot on in another page while you are checking out the source code, which I highly encourage. You can learn much from other people pages, and examples.
7. The body tags are what come after the header. Inside the first body tag you will have attributes like color of text, or a link, or a visited link.
How's this for an example:

```
<body text="green">
Hello world
</body>
```

This text will display Hello world in green text.

```
BGCOLOR can also be set like this: <body text="green" bgcolor="black">
</body>
```

This displays green text and black background

8. Now how about the words and sentences we want to make look different. What can we do for them? How about `` for bold, or `<I></I>` for italics. Maybe a `<U></U>` for underlined. For example `bold` would look like this **bold**, and `<i>italics</i>` would look like this *italics*, and for a last look `<u>underlined</u>` is just underlined. So what do you think? So far so good right? Nothing too complex. I mean this is not rocket science is it?
9. Now how about a horizontal line, Use the `<HR>` tag to make a horizontal rule line. There is something different here though. You don't need an end tag for this it will create a line all by itself. The width, height and alignment of the line can be specified in the attribute. Remember them? We did the equal sign stuff. For example `<HR WIDTH="90" SIZE="6" ALIGN="CENTER">`

This will put a horizontal line that is 90 pixels wide (you can also use percentage), 6 pixels high and aligned in the center of the page of the table cell if you are using a table. More on tables later. By the way, the noshade attribute will take away the 3D look that most browsers put on a HR. You can also use a color attribute.

Try it...or should I show you an example. Sooner or later you have to step out on your own.

OK I'll give you an example.

```
<html>
<head>
<title> Hello world</title>
</head>
<body bgcolor="black" text="green">
Hi there <b>world.</b> I'm <u>here</u>!! I'm going to make a great site for
you.
<i>enjoy everything you see</i>
<hr width="80%" align="right" size="2">
```

```
</body>
</html>
```

How do you like it so far?

I've been using some line breaks in my text and some formatted text for the page I did to make this. Lets try that now.

`<P>` is a tag used to indicate the start of a new paragraph. You don't need an ending tag here either.

For example to get the double line break between 2 paragraphs you just put a `<P>` and your ready for the next paragraph. This would have looked like this:

For example to get the double line break between 2 paragraphs you just put a

And your ready for the next paragraph. This would have looked like this:

Now lets try a `
`. This tag doesn't need an end tag either, just place it where you want to start a new line and not have that double space we just got with the `<P>` tag.

For example: LQHS won CIF in 2000.`
`LQHS also won CIF in 2001

Looks like this:

LQHS won CIF in 2000.

LQHS also won CIF in 2001

When we don't have a `
` or `<P>` tag the text will just wrap to the size of the screen. You can also align text with the `<P>` tag but it is an attribute you very seldom deal with. Try it. I'm not going to give you an example here.

You can `<CENTER>` text as well. You need an end tag here and you can feel the power of control, and what is appearing on the screen in front of you.

```
<center>
```

This is text aligned in the center of the page

```
</center>
```

This is text aligned in the center of the page

If you have a header, you can use a series of tags for them `<H1>`, `<H2>`, `<H3>`, `<H4>`, `<H5>`, and `<H6>`. You guessed it....They all need an ending tag. For all practical purposes you need to have an ending tag for any section, word, or letter of text you want to get formatting with. As you can see you can end up with a boatload of tags. So I suggest you take a look at the source code of a plain text page and see how it is

formatted. For I.E. you go to the view menu then click on source and notepad should open with a look at what the HTML looks like for that page.

Now a quick look at those header tags

This is H1 header

This is H2 header

This is H3 header

This is H4 header

This is H5 header

and this is H6 header

We can also use attributes to center a header. This would look like this:

```
<H1 align="center">This is how to center a header</H1>
```

Now lets take a look at the fonts. `---``` tag, is and important and something you need to consider to make your page look nice. But you also need to consider what fonts you user may or may not have on their computer. Yes you read that right; it depends on what fonts are on the viewers' computer, unless you have time to make graphics to resemble the characters you want to use. You can put them in the order you want to have them. If the first doesn't work the second will be used, and so on. It looks like this:

```
<font face="comic sans MS, times new roman"> This will use comic sans MS first and if it's not installed on the computer then it will go to times new roman.</font>. If none of the fonts are there then the computer default font will be used.
```

```
How about <font face="arial, times" size="+4"> This will use arial or times and increase the font size by 4. </font>
```

An interesting application of the size attribute lies in the use of drop caps, or extra-large capital letters used to signify the beginning of a chapter, topic or sentence. This can be accomplished with the following code:

```
<Font size="+4">O</font>nce upon a time...
```

This looks like

Once upon a time....

The COLOR attribute tells the color the text will be displayed in. Colors are represented by RGB (red-green-blue) hexadecimal codes, preceded by a hash (#), in the format #rrggbb. So red is #FF0000, green is #00FF00, and blue would be #0000FF. These are used like this:

```
<font color="#FF0000">This is red</font> shows the text in red.
```

There are 16 basic colors for the Internet text, black, green, silver, lime, gray, olive, white, yellow, maroon, navy, red, blue, purple, teal, fuchsia, and aqua, which may be called by their real names instead of RGB color codes. So you could right the last link like this.

```
<font color="red">This is red</font>
```

The <basefont> tag, which always appears in the<head> of the document, sets the default font size, color and typeface used for that particular document. This is how that would look:

```
<head>  
<Basefont size="+3" color="red" face="arial">  
</head >
```

This will cause all text on the page to be displayed in red arial, and increased by 3. You don't need an end tag for this one. It's called an empty tag.

There are many other tags that come in handy when formatting text; I'll illustrate them briefly, and leave you to experiment with them:

```
<sub>...</sub> and <sup>...</sup> for subscript and superscript.
```

```
<em>...</em> is used to emphasis text, and is similar to the <i>...</i> italics tag.  
<strong>..</strong> is much more stronger emphasis, similar to the <b> boldface tag</b>.
```

```
<blockquote>...</blockquote> is used to display text that has been quoted from elsewhere. Typically, it inserts an empty line above and below the text, and also indents it from the left and right . For example:
```

As Shakespeare memorably said

```
<blockquote>  
To be or not to be <br>  
That is the question  
</blockquote>
```

Looks like this:

As Shakespeare memorably said

To be or not to be
That is the question

`<pre>...</pre>` is used to present blocks of text precisely as they have been formatted and aligned within the opening and closing tags, retaining all tabs, carriage returns a white spaces. For example:

```
Ah, what a beautiful day!  
I think I shall go for a walk?  
Who knows what will happen? The sky might fall on my head!  
</pre>
```

Would be displayed as:

Ah, what a beautiful day!
I think I shall go for a walk?
Who knows what will happen? The sky might fall on my head!

Try typing this, and remember to use notepad and save as an .htm or.html file.

```
<html>  
<head>  
<title> Hello World</title>  
</head>  
<body bgcolor="red" text="black">  
<p>  
<center><H1>My homepage</h1></center>  
</p>  
Intel <sup>TM</sup>  
<Center>  
<font face="comic san serif" color="green">  
Lets try to have some fun here and <u><b>experiment</b></u>  
</center>  
<br>  
<font color="yellow" size="+5">Now we are really having some fun</font>  
<hr width="80%" align="center" size="4">  
</body>  
</html>
```

Thanks for your attention. Now try some links and images....

Images

Image can be inserted in the html, and just be there or they can be used as a link to do whatever you want to do. Always remember the more “stuff you attach to your page the slower it will load (Sound, Movies, and yes ever images).

```
<img src=“hello.jpg”>
```

with no end tag.

You can use images in the same folder or other folder, or even other sites. For example:

```
http://www.dsusd.k12.ca.us/schools/lqhs/graphics/ibologo.gif
```

You can use the alt attribute to tell a browsing what would go in the image place if the image does not show for some reason. By typing ``

The alignment, height, and width can also be designated with attributes,

```
<img src=“hello.jpg” align=“right” height=“100” width=“30”>
```

A designation of the boarder thickness can also be set with a `border=“2”` attribute.

Sometimes the text is too close to the boarder of the image and you want a little space so you just use the `HSPACE=“10”` or `VSPACE=“20”` attributes to move the text back away from the image a little. Hspace and vspace work in pixels.

As I pointed out earlier on this page you can make an image into a link by putting the `img src` reference in between the anchor tags like this:

```
<a href=“http://www.dsusd.k12.ca.us”>
```

```
<img src=“http://www.dsusd.k12.ca.us/graphics/main/banner.jpg” align=“right” alt=dsusd logo” border=“2”>
```

```
</a>
```

The last item to discuss with images in this section is using them as a background on a page. Remember the body tag?

```
<body background=“graphics/tlqhs.jpg” bgcolor=“#FFFFFF”>
```

The rest of your document goes here

```
</body>
```

Now you have the ability to make you document move and have nice colors and backgrounds.

Next we’ll find out about Tables.

Tables

A table has many tags. Lets list them:

Starting Tag	Ending Tag	Tag Description
<TABLE>	</TABLE>	Containers for borderless table
<TABLE BORDER>	</TABLE>	Tag pair for table with borders
<TR>	</TR>	Establishes a row within a table.
<TD>	</TD>	Defines a cell within a table.
<TH>	</TH>	Centers a heading at a table's top or side
<CAPTION>	</CAPTION>	Places a title at the top of the table.

The title is a part of the table, and so is everything else contained within the <TABLE> ... </TABLE> tags. The data contents of each cell is included between the <TD> ... </TD> pair. Only textual data has been used in table shown above. As we will see shortly, graphics can be used to create special effects. The <TR> ... </TR> pair defines rows. The <TH> ... </TH> tag pair defines heading elements while the <CAPTION> ... </CAPTION> centers a top title.

Regular textual tags, such as
, <P>, or the .. pair can be used within the cells. Each table cell may be looked at as its own HTML document opening up many possibilities.

The HTML code producing Example 1 is:

```
<TABLE>
<TD>Row One - Column One</TD>
</TABLE>
```

A table with a border is graphically more appealing. The table shown in Example 2, with a border, is shown below.

Row One - Column One

Example 3 - A one by one table with border

The HTML code producing Example 3 is:

```
<TABLE BORDER>
<TD>Row One - Column One</TD>
</TABLE>
```

How about some more interesting tables?

Demonstrating an Almost “plain vanilla” 2 Row by 3 Column Table
and A Not So “plain vanilla” 2 Row by 3 Column Table

An Almost “Plain Vanilla”
2 Row by 3 Column Table

Row 1 Column 1	Row 1 Column 2	Row 1 Column 3
Row 2 Column 1	Row 2 Column 2	Row 2 Column 3

Centered Not So “Plain Vanilla” 2 Row by 3 Column Table
BORDER=5 and CELLSPACING=20 and CELLPADDING=20

Row 1 Column 1	Row 1 Column 2	Row 1 Column 3
Row 2 Column 1	Row 2 Column 2	Row 2 Column 3

The HTML producing the above table is:

```
<TABLE BORDER=10>  
<CAPTION ALIGN=TOP><B>  
A Not So “Plain Vanilla”<BR> 2 Row by 3 Column Table  
</B></CAPTION>  
<TR>  
<TD>Row 1 Column 1</TD><TD>Row 1 Column 2</TD><TD>Row 1 Column  
3</TD>  
</TR>  
<TR>  
<TD>Row 2 Column 1</TD><TD>Row 2 Column 2</TD><TD>Row 2 Column  
3</TD>  
</TR>  
</TABLE>
```

Now how about some special effects:

<i>This is Emphasis</i>	<u>Heading 3</u>	Unformatted text
Bold with three lines		

This table demonstrates text formatting within cells. The center cell in the second row is a null cell produced with an empty entry. The cell at the lower right corner contains a GIF image. The following is the HTML used to produce this table.

```
<TABLE BORDER>
<TR>
<TD><EM>This is Emphasis</EM></TD>
<TD><H3>Heading 3</H3></TD>
<TD>Unformatted Text;</TD>
</TR>

<TR>
<TD><B>Bold<BR>with<BR>three lines</B></TD>
<TD></TD>
<TD><IMG SRC="ibologo.gif"></TD>
</TR>
</TABLE>
```

Try this and see what happens to the cells:

```
<TABLE BORDER>
<TR>
<TD>Row 1 Col 1</TD>
<TD>ROWSPAN=3>ROWSPAN=3<BR>Element 1,2</TD>
<TD>Row 1 Col 3</TD>
</TR>

<TR>
<TD>Row 2 Col 1</TD>
<!-- There is no entry for Row 2 Col 2 -->
<TD ROWSPAN=2>ROWSPAN=2<BR>Element 2,3</TD>
```

```
</TR>
```

```
<TR>  
<TD>Row 3 Col 1</TD>  
<!-- There is no entry for Row 3 Col 2 -->  
<!-- There is no entry for Row 3 Col 3 -->  
</TR>  
</TABLE>
```

Now try this:

```
<TABLE BORDER>  
<TR>  
<TD>Row 1 Col 1</TD>  
<TD COLSPAN=2>COLSPAN=2<BR>Element 1,2</TD>  
</TR>  
  
<TR>  
<TD COLSPAN=3><A HREF=http://www.charm.net/~lejeune>  
<IMG ALIGN=CENTER SRC=home.gif>  
Urb's Home Page</A><BR> COLSPAN=3 - Element 2,1</TD>  
</TR>  
</TABLE>
```

For titles on the top of the table do this:

```
<TABLE BORDER>  
<CAPTION>This is the table's caption. <B>In bold</B></CAPTION>  
<TR>  
<TH>Monday</TH><TH>Tuesday</TH><TH>Wednesday</TH>  
</TR>
```

```
<TR>  
<TD>Row 1 Column 1</TD><TD>Row 1 Column 2</TD><TD>Row 1 Column  
3</TD>  
</TR>
```

```
<TR>  
<TD>Row 2 Column 1</TD><TD>Row 2 Column 2</TD><TD>Row 2 Column  
3</TD>  
</TR>  
</TABLE>
```

Frames

Not all pages can be setup in a frame style presentation and its use should be very carefully. Frames do provide a super way of indexing data by allowing the user to have constant visibility of navigation information. Careful layout is the first step. You need to make a decision on what form or “look” you require before starting construction.

The `<frameset>` tag is the container for all code in the layout and must appear before `<body>` open and close tags. The attributes of `<frameset>` are columns and rows so you must decide how they apply to your layout. For beginners we will look at a page divided into columns and a page divided into rows. These can also be broken into columns or rows as shown here. Columns separation uses `<frameset cols=>`; and rows, `<frameset rows=>`. Widths of columns (or heights of rows) may be dictated in pixels or percentages of window size. Using an asterisk (*) conveniently allows for use of remaining space.

Columns

(Two columns with two rows in column #1.)

col 1, row 1	col 2
col 1, row 2	

The basic code:

```
<frameset cols="50%,50%">
<frameset rows="50%,50%">
<frame src="col1row1.html">
<frame src="col1row2.html">
</frameset>
<frame src="col2.html">
</frameset>
```

Rows

(Two rows with two columns in row #1.)

row 1, col 1	row 1, col 2
row 2	

The basic code:

```
<frameset rows="50%,50%">
<frameset cols="50%,50%">
<frame src="row1col1.html">
<frame src="row1col2.html">
</frameset>
<frame src="row2.html">
</frameset>
```

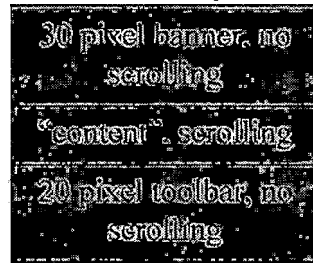
Attributes of frames

Name, scrolling, and noresize are three critical attributes of <frame>. Applying a name to the frame, name=" ", provides its use as a target as I will discuss later, but may be omitted if the frame is not to be targeted. Scrolling, hscrolling, and vscrolling can be set to "yes", "no", or "auto" to control the appearance (or disappearance) of the frame's scroll bars. hscrolling and vscrolling control the horizontal and vertical bars independently. "auto" is a nice setting because it lets the browser display scroll bars only when necessary. As an author, you may restrict browsers from changing frame size by adding noresize.

This example includes all elements of the <frame> tag.

```
<frameset rows="30*,20">  
<frame name="banner" scrolling="no"  
noresize src="banner.html">  
<frame name="content" scrolling="yes"  
noresize src="content.html">  
<frame scrolling="no" noresize  
src="toolbar.html">  
</frameset>
```

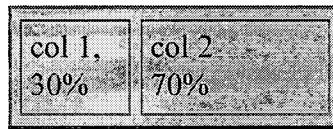
The resultant layout.



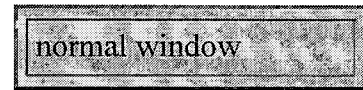
A word of caution:

Not all browsers are “frames-capable” and Netscape has provided a `<noframes>` tag set to follow the `<frameset>` command. Those surfers with Netscape 2.0 will see the frames layout and others will view an alternate or normal page. The code for the “normal” page is bounded by the `<noframes>` and `</noframes>` tag set and includes the `<body>` and `</body>` tag set and all code therein. A basic sequence of code is shown here.

```
<frameset  
cols="30%,70%">  
<frame  
src="col1.html">  
<frame  
src="col2.html">  
</frameset>  
<noframes>  
<body  
bgcolor="#ffffcc">  
</body>  
</noframes>
```

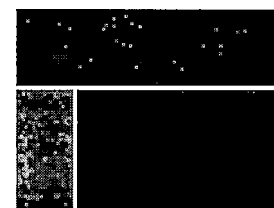
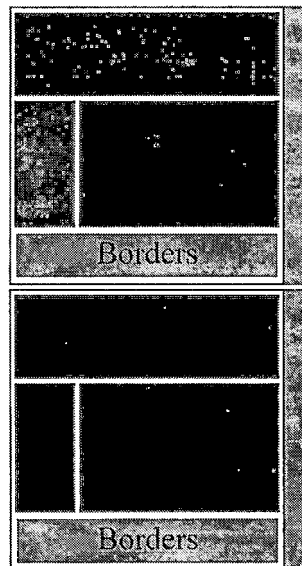


Viewed with a “frames-capable” browser



Viewed with a “noframes” browser

Borders or No Borders



Borderless



Borderless

Removing borders from the frameset is simple. Include `frameborder="0"` `framespacing="0"` `border="0"` within the opening frameset tag. Those are zeroes, not "Ohs."

Frames and Targets

For each `<frameset>` in the layout a separate html file is required for each `<frame>`. These are "normal" pages but must be sized to fit within the areas assigned in the layout. Each page is named to match that used in the layout and included in the `<frame src="__.html">` tag. Since these html files are viewed in a smaller window pane (frame), attention must be given to the size of images and fonts used and the arrangement of text.

Hint: `<table>` tags combined with height and width specification provides good control of these smaller frames. The `<nobreak>` and `
` tags are useful in controlling text.

Here are a few ideas that might stir your imagination:

- Frames can be used to keep footers and/or headers visible at all times. These may include a toolbar for selecting linked pages that will open in an adjacent frame above or below the toolbar.
- Fixed or scrollable vertical linking lists can be made visible in a left or right frame that will display the selection in the adjacent frame while keeping the list visible.
- Horizontally scrollable panoramas or lists are possible and may add interest to a presentation.

TARGETED FRAMES

It is necessary to provide “control” within the frame that changes information in another frame. Consider a frameset of two columns, the left an index frame for making a selection and the right a content frame for displaying the selection. If the <frame> tag in the layout frameset included name=“content”, the controlling frame (index.html) should include <base target=“content”> within the <head> tag. All links in the index.html frame will then target the “content” frame. Without this entry, it will be necessary to include target=“content” within each of the links.

The targeted frame (content.html) name=“content” needs to include the tag, <target=“_top”>. This tag will make the “content” frame load over itself each time it is targeted.

Example Layout:

```
<frameset cols=“20%,80%”>
<frame src=“index.html”>
<frame name=“content”
src=“content.html”>
</frameset>
```

Frame, index.html:

```
<head>
<base
target=“content”>
</head>
<body>
</body>
```

Frame,

```
content.html:
<target=“_top”>
<body>
</body>
```


Some of the content of this Web page comes from

Web concept and design the comprehensive guide to creating effective Web pages

by Crystal Waters

The rest of the content comes from R. S. Hicks

Step one: determine your sites goal

Assignment

Before you fill your head with virtual sugar plums, plans of the little search engine that could, and how you're going to be "Cool Site of the day" for eight days in a row because your graphics are as amazing as the Sunrise (not that I think you're that grandiose), let's actually do some ground floor planning. It's time to ask yourself: "What results do I want from creating my WebSite?"

There are a number of reasons to create a WebSite. Look through this list, grab a piece of paper or a stack of index cards, and make a list of your own. Feel free to add reasons if you come up with more. Take as many as you like for now. Some topics may sound a bit silly, weird, or irrelevant, but no one else needs see your list but you and your instructor. We'll worry about organizing the list of ideas or whether or not they can actually be implemented later. We'll use a software package called Inspiration, or Microsoft Word.

There's no need to get to specific about topics right now just try to brainstorm a bit.

Ready? Recite after me:

I want to create a site in order to...

Promote a product

Promote a service

Sell products

Sell a service

Sell advertising space

Raise money/donations

Tell customers about my company

Enhance my company's image

Change my company's image

Create a community

Tell a story

Receive feedback from customers

Post calendars or schedules

Show off my HTML skills

Show off my Web design skills

Learn HTML skills

Fulfill a class assignment

Complete to a work assignment

Promote my resume

Promote my writing/portfolio

Teach people a skill

Create an alternate way for people to learn about me

Create an alternate way for people to learn about my company

Give employees internal information

Post job opportunities

Give product support (i.e. FAQs about product)

Entertain my audience

Research a subject

Publish views on a subject

Receive e-mail from potential pen tells

Support an existing publication

Support an organization, store, TV show, etc.

Provide contemporary information to our media

Provide shareware or demos of products

Provide a unique resource on a topic

Push technology's envelope (i.e. experimentation with Web technologies such as VRML and Java)

Enter the 20th-century (i.e. I need/my company needs a Web page because everyone else has one)

Meet people

Get rich

Get famous

Step two: Who needs it? Who wants it?

Now that you have a general idea of what you want to get out there, just who is it that you want to come view the thing? For example, if you're creating a site with the goal of promoting your graphic design/illustration skills and get freelance gigs, just who do you want to come see your work? Here's a sample list:

Your friends

Galleries

Book publishers

Magazine editors

Your parents

Part directors

Advertising firms

Web designers

People who do the hiring

Companies with big budgets

People with fast access to the Web so that images load faster

People with high-res monitors (able to view true color)

People who use the latest browser versions (for special effects)

In your case, the age and sex of the audience is irrelevant, unless you have a very particular style or prefer to work for certain organizations or genre of publications, such as senior citizen gardening guides or children's comic books.

But if your goal is to support an existing publication about electric guitars, for example, your target audience member may have some or all of the following characteristics:

Goes to concerts

Buys lots of CDs

Collects guitars

Has an interest in guitars

Plays the guitar

May want to subscribe

Loves Jimi Hendrix

Is age 12 to 50 with a median age of 19

Is more likely male than female

Is part of a band

Wants to be in a band

Still has a day job (not a high tax bracketed one)

Monitor only supports 256 colors

28.8 or slower dial in access

Accesses the Web via online services (AOL/CompuServe/Prodigy)

So let's get out another index card or two, and make another list profiling the people you want to bring to your site. Even if you think the category is irrelevant, try giving it an answer. If you've done market research or surveys already now is the time to break out the data. But remember, **you want to write down who we/you want to bring to the site**, not just people who think may be slightly interested.

Age range

Sex

Sexual orientation

Marital status

Family status (do they have children? How many?)

Ethnic group

Religion or lack thereof

Political affiliation

Salary level

Budgets/spending level

Level of education (high school, college, doctorate)

Type of education (medical, technical, artistic)

Level of computer experience

Level of Internet experience

Type of job experience

Current job

Access the Web from home

Access the Web from work

Type/speed of connection (i.e. T1, ISDN, 28.8 modem, 14.4 modem, 56 modem)

Amount of time they spend online

Time of day/night they access the Web

Type of computer (low-end/high-end)

Type of monitor resolution (256 colors; millions of colors)

Computer platform (Windows, Macintosh, Amiga, Newton, Linux, Unix)

Web browser they used to access the Web (Netscape navigator? AOL? I.E.?)

Hobbies

Interests

Past times

Organizations they belong to

Publications they read

Television shows they watch

Music they listen to

Movies they see

Food they eat (gourmet? Budget? Vegetarian?)

Restaurants they frequent

Country in which they live

Area of the country in which they live

Type of clothing their wear

Credit standing

Preferred way of shopping (mail-order? Shopping malls?)

Level of spending control (i.e. buyer of goods and services for a large corporation or teenager with an allowance)

Type of living environments (country, city, suburb, apartment, house, condo)

Whether or not they have to call long distance to access the Web (no local dial in No.)

Again, there are probably a few profile categories that you'll come up with that I missed. Write those on your list. They will count as extra credit.

WHERE DO YOU FIND MARKETING INFORMATION?

If you don't already have access to the set of marketing survey results, and take a look at some sights that provide results from basic consumer online information surveys. For example, Gvu WWW users survey home page.

[HTTP://WWW.cc.gatech.edu/gvu/user_surveys/](http://WWW.cc.gatech.edu/gvu/user_surveys/)

The Georgia Institute of technology graphic, visualization, and usability centers World Wide Web users survey is endorsed by the WWW Consortium (W3C), the NCSA's software development group (S. D. G.-the mosaic developers), and INRIA (the acting European host for the W3C and collaboration with CERN). According to its site inflow, over 23,000 unique responses were collected comment and results cover such categories as general demographics, browser usage, consumer attitudes, and preferences.

Third step: What do you do with all this stuff?

Ah ha, the clincher. After you determine a general description of the type of person you'd like to visit your site, you can then use the information to help determine a number of design aspects for your site. Let's take a look at some of the user attributes, and show what those attributes can mean to your design.

AGE RANGE: could determine color scheme (write crazy colors for kids; large text for older viewers); language usage (some may not be legal or preferable for a younger audience).

FAMILY STATUS: could determine how much time they spend on the Web. Kids could use it to study, the family may also spend more time doing things other than browse the Web during the summer.

BUDGET/SPENDING LEVEL: may determine amount of time spent on the Web (most people have to pay for access, some hourly); will definitely determine how much they buy (if you're trying to sell products).

LEVEL OF COMPUTER EXPERIENCE: heavily influences how much the viewer needs to be guided through different activities on a site (how to download a file, how to add a plug-in or help application).

HOW THEY ACCESS THE WEB: accesses the Web from home/accesses the Web from work/whether or not they have to call long distance to access the Web (no local dial in numbers)/type/speed of connection (i.e. T1, ISDN, 28.8 modem, 14.4 modem): all of these will help determine how much time a person has to spend on the Web (if at work, or slow connection, either a boss may be looking over their shoulder, or they have to spend more time/money accessing). Also help determine how large graphics can be to be tolerable; will help determine length of pages.

TYPE OF MONITOR RESOLUTION/COMPUTER PLATFORM/WEB BROWSER: each of these will influence what resolution graphics are preferable; what tags will be best avoided where others may be taken advantage of (there's no use in creating shock wave, or flash files if most of your viewers can't use them).

HOBBIES/INTERESTS/PAST TIMES: if your site isn't the hobbies/interests/pastime of your viewers, it may at least be able to include links (or perhaps a searchable database to various sites or the resources of interest within the hobbies/interests/past times they enjoy.

COUNTRY/AREA IN WHICH THEY LIVE: could determine what content is legally reusable or what software can be posted for download. If you're planning to sell products over the Web, these factors will also determine what kind of tax, shipping costs, shipping limitations comment and other information must be provided.

PREFERRED WAY OF SHIPPING: will help to assess whether you should provide an area for online ordering (if your viewers are used to shopping via credit card and mail-order, they probably will be more comfortable shopping through the Web), and help to determine what level of security you will offer customers.

Content is King

All this time he thought content was king, right? Until you spend an hour or to (hopefully) making the two lists in the previous chapter.

Now you're finally going to do some brainstorming about what's actually going into the site-then you'll start dealing with how its basically organized. The actual structure comes a little way down the line.

Time to get out lots of index cards, because rather than a less to, your going to put each topic you come up with on the top of each card.

To: to properly brainstorm, you've got to let do of thinking that an idea may be silly were stupid or impossible. Write them all down, no matter what they are. You'd be amazed at some of the things you come up with, and what cool things may come out of them.

First step: determine your site's goal

The example all use is Bonnie's bed and breakfast, a fictional seven-room decor in a small town and gold country, near the California's year that amount. Note that my brainstorm list is in no particular order, nor is there any attention paid to just how realistic the category can be carried out. This is just idea time. When you're brainstorming, think of **every**thing that may be **unique** about what you're subject matter is.

Bonnie's bed and breakfast content list

<ul style="list-style-type: none">• Where we're located• roommates• pictures of each room• pictures of the building• history of building• history of Victorian houses• the remodeling after purchase• history of town• history of area• map of town• proximity of our scenic areas• directions to BB&B by cars• directions to BB&B by bus• car rental agencies• phone number• times of year we're open• menus• recipes• souvenirs• special seasonal deals• honeymoon sweet• nearby activities• nearby restaurants	<ul style="list-style-type: none">• pet policy• children policy• day-care• whether• what to wear• what to pack• hiking routes• high-altitude precautions• breakfast schedule• gourmet coffee• special diet/menu requests• nearby health facilities• workout room• biking• room frames• beds• phones• rating• organizations we've along to• what the press has said about us• antiques• quilts• seasonal fairs and events
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<ul style="list-style-type: none"> • nearby bars • group rates • party planning • catering • reservation requirements • payment methods • staff profiles • the fabulous BB&B ghosts • cloth with bathtub • sauna • parking • famous guests • guest comments and complements • frequently asked questions 	<ul style="list-style-type: none"> • panning for gold • guided tours • job opportunities at BB&B • emergency phone numbers • other websites of interest • gift certificates • discounts at local eateries • local plant life • local wildlife • rules about camping • forest fire hazards • deposit policy • check policy • how make the reservation.
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Use Microsoft Word to build a table for organizing each of these topics into six categories.

Work Flow

Keep in mind we're talking structural presentations, not visual presentations when your working on charting your site at this point. (Yeah, I know, but we'll get to that soon... You'll thank me later, I promise). Before we can design a page visually, it has to be determined what each page needs as far as user interaction and informational needs for your viewers

The goal is to create a plan that will enhance the efficiency (such as how easy it is to date), usefulness, and navigational usability of the site. We also take note that any logical relationships of this page to the others on the site or on other people's Web pages.

Bonnie's bed and breakfast

Pictures of the building

Where were located

Times of year were opened

Phone number

Organizations we along to

Frequently asked questions

Optional elements of this area with notes on links and elements that can be easily changed were updated:

Photographs of the outside of the building

Photos can change seasonally

Clicked here to see the building in spring/winter/fall/summer

Link "clicked here to find out about the history of BB&B"

Link to "photographs of each room"

Caption is under each photo

Where we're located

Text directions

View a GIF of a map

Download a GIF of a map

Link to an “area” section

Time of year were opened

Text with dates

A table calendar that shows when rooms are available (updated weekly)

Links to different months of the year

Forms to stand for availability of rooms

Links to seasonal deals

Links to seasonal events

Maybe sell ad space to local vendors

WORKFLOW BASICS

While there’s no set way that a site’s workflow should be set up, there’s a lot to be learned from traditional editorial workflow, such as a magazine that is applicable to putting together the workflow process for a WebSite, especially if it’s to be a site that is regularly updated.

Numbers of team: freelance writers, freelance artists, editors, copy editors, art director, and HTML production department. In the Web world, we can use many of the same steps-however, since the median is different, changes may be reflected as so:

1. Article is conceived by editorial team.
2. Article assigned to writer by editor.
3. Writer reads article.
4. Writer turns in article to editor.
5. Editor reads article and edits it.
6. Editor discusses article with art director.
7. Editor turns article over to copy editor.
8. Copy editor turns article with changes back to editor.
9. Editor makes changes, turns into art department.

10. Editor, editor-in-chief, art director,
11. The HTML production head discussed art and layout.
12. Art department pairs rough layout on paper, plans art.
13. Art director assigns art.
14. Artist creates art.
15. Artist turns into art.
16. Art HTML production department pairs initial online layout.
17. Editor reviews layout.
18. Editor approves layout.
19. Copy editor reads copy and layout form, returns changes to editor.
20. Editor approves changes, returns layout to art department.
21. HTML production department pairs new version of layout and places final art.
22. Copy editor re-reads story, makes any final changes (fitting text, filling in missing captions, and so on).
23. HTML production department produces final layout.
24. Managing editor, editor, copy editor, and art director approve final layout.
25. HTML tested on server.
26. HTML files do live.

If you're a one-person team, then your flow may go like this.

1. Determine your stories content.
2. Write your story.
3. Re-read article and edits.
4. Determine accompanying arts.
5. Create art (or purchase clip art).
6. Prepare initial online layout.
7. Review layout.
8. Re-read copy and layout form.
9. Make editorial changes.
10. Prepare new version of layout.
11. Review new version of layout.
12. Make any final changes.
13. Put files on server.
14. Test files on server.
15. HTML files do live.

Properties

Page elements, such as font size, colors, and other visual cues, serve as navigating and identifying cues to your viewers. Take a look at any typical magazine, book, or newsletter, and you'll notice that it has a distinctive logo or title, matching story or chapter title typefaces, and page numbers in the same place on every page. Once you've been a subscriber to the same magazine, you become familiar with what columns you want to read and where to find them, either by knowing in general what area of the magazine they can be found (new stories in the front, features in the middle, humor column on the last page), or by identifying the writers picture, or even knowing where to find a page number in the table of contents, if the design has remained consistent for at least a few issues.

The same goes for Web pages where there are probably a lot of Web publishers that don't consider their sites a "magazine" or "newspaper" per se successful navigation and the rarity with a site depends on the same basic visual features. Subtitles, were larger than body text type, tell you you're about to embark on a new section. Text under an image or photograph explains what the picture is all about. A page, section, or chapter number gives you a hint about where you stand in the whole puddle of pages.

Nameplate/banner/logo

Generally the nameplate, banner, or logo of a site is the first and most prominent visual on the first page, impossibly subsequent pages. This identifying feature should be **distinctive** it serves to establish a visual identity that viewers will (hopefully) remember.

If you have an existing business, your business logo is an obvious choice for the identifying banner of your WebSite. If you're a logo rookie, the rules of a good logo are that it be unique, that it's stylish but not too trendy (unless, of course, your running a "trendy" oriented business), and most of all, communicates what you want the audience know about you, your business, and your attitude.

Design your own logo/banner/nameplate

On a piece of paper sketch what you would like to have as your company logo. Try to deal in concepts rather than making a specific sketch. Label the parts for colors and shapes.

After your sketch has been approved go to a paint (which comes with all windows operating systems) or drawing program and sketch or draw your logo. You may also take clip art and modify it for the purposes of this class.

HUMAN-COMPUTER INTERFACING

FAMILIARITY BREEDS CONTENT

“The computer can’t tell you the emotional story. We can give you the exact mathematical design, but what’s missing is the eyebrows.”

Frank Zappa

Anyone who has ever designed a software application that has any sort of user intervention portion has played a part in human-computer interface development history. If you’ve created any sort of WebSite, then this means you, too. Perhaps some of these ventures haven’t played a very crucial part, and they haven’t turned the computer industry or the public on its year, but there have been some that have. Take the introduction of the Macintosh operating system for instance, which then bred the rush of other visual operating systems such as Tandy’s desk mate, Geo works, and Microsoft Windows for PCs. Suddenly, floppy and hard disks were represented by desk icons, documents by symbolic electronic sheets of paper, directories by tiny Manila folders-at the very least, we could use menus and keyboard shortcuts to manipulate our files. We take these features for granted now, and most of us know what these symbols mean, and what will happen when we double-click on them.

This success stems from the familiarity people have with the properties these symbols represent. The folder holds files, a trash bin is where you throw things away. And it’s great that instead of having to type out archaic commands, we can click on a file and drag it from place to place.

Have you ever noticed the little “Home-row” bumps under computers keyboard? They’re a favor to us touch typists so that we know where to place our fingers without looking at the keyboard-a form of touch-typist Braille if you will. Well, on a typical DOS/Windows keyboard, the bumps are on the letters F. and J. On the Mac, they’re on the D and K. If I’ve been using a Windows machine, and switched to a Mac, I’ll type “Ygr eubf ud viytdudh ygtiyhg nt gsut,,,” rather than “the wind is coursing through my hair...” Before I know what’s hit me. Is this bad interface design, or simply a mistake? I’m not sure-at just know that if I’ve just type something that’s complete gibberish, I’m annoyed.

Interface Designer

BECOMING A SUCCESSFUL INTERFACE DESIGNER

It's logical to conclude that if someone is comfortable getting around your site, they'll spend more time there, and enjoy the experience that much more. While Web design and implementation isn't the same as developing, say, an ergonomic toaster, the basic human-thing interface rules apply. Namely, that as innovative or beautiful or zippy your site or application is, if it doesn't serve the person using it, it's no good.

And yes, we are at the mercy of whatever browser our viewers happen to be using. This we can't help. But we can make information we present accessible in a familiar, and yet unique fashion.

Donald Norman, author of *The Design Of Everyday Things*, stated in his interview that "the first principle of human interface design, whether for a door knob or a computer, is to keep in mind the human being who wants to use it. The technology is subservient to that goal." He then went on to suggest that the ideal interface design team should include cognitive scientists. (" Or at least a psychologist or and anthropologist"), programmers, and industrial designers. Shell I wait here while you go back to school for 40 years?

LET'S JUST FACE FACTS. Most of us, when faced with a Web design project, don't have this kind of team to play back-up for us, and I envy you immensely if you're both and HTML coder and a cognitive scientists.

What we fallback on is logic and our own experience with applications (street signs), and look at sites that we find intuitive to give us ideas that take us down the non--wayward road.

LOGIC VS. REALITY

Can we assumed that every newbie on the Web knows that if a word is underlined that means that when they click on it, it will take them somewhere? Or that when they put their cursor over an image, and it turns into a little pointing hand, that when they click, they'll be on their way to a new experience? I really can't tell you for sure. There are symbols that most computer users are used to, or well-run across in nearly every application they'll use. One, for example is the question mark. Generally people know that they click there when they are thinking, "I have questions, I need help!"

Your assignment for today is:

1. To find 20 common navigation icons. Use the Internet to search for the icons. You can use the search engines. Copy them onto a page and give an explanation as to how they should be used.
2. Then find three websites on the Web, which have free buttons or symbols for you to use on your websites.

A Lesson for Image mapping has not been developed due to existing material on the World Wide Web.

www.boutell.com/mapedit/

A Lesson for Frames and Mouse over has not been developed due to existing material on the World Wide Web.

www.bagism.com/frameshop/

www.pankpages.com/mouseover.htm

Video

This section is about the different types of formats available, and show you how to use them on your website. Lets talk about the standards.

Multimedia on websites is obstructed by the wide accepted standard of audio and video transmission. There are a wide variety of audio formats to choose from. Make sure to limit the size of the files so your customers don't have to wait for long for the sound or video to download.

The WAV file is the most widely used format. WAV files may be recorded at a variety of different frequencies, they go from 8 kHz to 44 kHz, and they're also considerably larger in size as compared to the other formats, for example: a 3-minute CD-quality audio track in wav format can reach 50 MB.

AIFF or Audio Interchange File Format was developed by Apple Computer to store audio of the Mac. AIFF files may also be recorded at different frequencies and compression levels. Unix machines use AU files.

MIDI or Musical Instrument Digital Interface is a little different from its cousins, unlike the WAV or AIFF formats, files of this type do not store data, instead they store information about which notes are to be played on the sound card.

Since MIDI files only contain instructions for the computer's sound card, they are very small. A 2-minute MIDI clip may be just 20 KB. The only problem is the quality, it may be poor. It is dependant on the quality of the computer and it's sound card.

But hang on a minute, if you've been following along, you'll have to conclude that WAV files are too large for consumption, and MIDI files work great for instrumental melodies, but die a slow death when it comes to the Rolling Stones. So, how does one incorporate a good rock song into a web page and not have a big file to deal with.

RealAudio had the answer. It's a highly compressed audio format that uses a technique known as streaming to deliver real-time audio over the Internet. This format does not require it to download the whole file before it can be played.

One of the more popular uses of audio on the web is to have a sound file play as the page loads into the browser. This is easily accomplished by the <BGSOUND> tag, which must appear within the <head> of the document. The <BGSOUND> tag takes two important see a simple control panel on the page, attributes the SRC attribute, used to specify the location of the audiofile, and the LOOP attribute which specifies the number of repetitions.

So if you'd like the theme from "Bonanza" to play as your page loads, you could use this code:

```
<HTML>
<HEAD>
<TITLE>Sound on this Page</TITLE>
<BGSOUND SRC="bonanza.wav" LOOP="2">
</HEAD>
<BODY>
This is the body of the page
</BODY>
</HTML>
```

The audio file may be a WAV, MIDI or AU format, and you can have the audio loop continuously by specifying LOOP="infinite." This can be stopped by pressing the browser's stop button. BGSOUND will only work in Internet Explorer.

Embedding Basics

The basic command for placing any QuickTime movie into a web page is EMBED. This is what a basic QuickTime HTML statement looks like.....

```
<EMBED SRC="Sample.mov" HEIGHT=120 WIDTH=160>
```

Replace the name "Sample.mov" with the name of the movie you wish to place on your page.

Also, change the values for height and width to match the dimensions of your movie.

If you aren't

sure about the dimensions of your movie, open your movie in the QuickTime movie player and

select Get Info from the Movie menu. Then select Choose Size from the pop-up menu.

QuickTime Attributes

The QuickTime EMBED command has more attributes than just Height and Width.

Some of

the more basic attributes are explained in detail below. If you would like more advanced options,

check out the Apple Quicktime developer's page by clicking here now.

HEIGHT = Size in pixels

This attribute specifies the height (in pixels) of the embedded document. The Height parameter is required

for any standard QuickTime embedding. If you would like to have the QuickTime

controller on your movie, then add 24 to this attribute. For example.

The actual dimensions of a movie could be...Height = 120, Width = 160. For a controller to be present on the web page, 24 would be added to Height=120 resulting in Height=144. The HTML text will look like this :

```
<EMBED SRC="Sample.mov" HEIGHT=144 WIDTH=160>
```

This Movie Now Has A Fully Visible Controller

WIDTH = Size in pixels

This attribute specifies the width (in pixels) of the embedded document. The Width parameter is required for any standard QuickTime embedding. This attribute is unaffected by the presence of a controller.

CONTROLLER = Value

Controller is an optional parameter. This sets the visibility of the movie controller.

Acceptable values

for this parameter are True and False. If you do not specify, the default value is True.

This Movie Has Controller = False, Notice The Lack Of Playing Ability

AUTOPLAY = Value

Autoplay is an optional parameter. Acceptable values for this parameter are True and False.

When Autoplay is set to True, the movie will begin playing automatically. If you do not specify the parameter, the default value is False.

A Lesson for Animation has not been developed due to existing material on the World Wide Web.

www.animationartist.com/headlines/tutorials.htm

A Lesson for Animated GIFs has not been developed due to existing material on the World Wide Web.

www.mindworkshop.com/alchemy/gifcon.html

A Lesson for Dreamweaver 2 tutorial has not been developed due to existing material on the World Wide Web.

www.trainingtools.com/online/dreamweaver/index.htm

A Lesson for Dreamweaver assignments 1-7 has not been developed due to existing material on the World Wide Web.

home1.gte.net/bobhi/webpages/pdf/DW2_Web101_Lessons.pdf

Rubric for Final Web Site

Use one of the site ideas taken from the Step 1, 2, & 3 assignment earlier this semester

Fail	C	B	A
<ul style="list-style-type: none"> The requirements for a C are not completed. 	<ul style="list-style-type: none"> Good interface design. i.e. buttons, color combinations etc. Site is completed as outlined by the student with a page for each section on the flow chart completed with text and graphics appropriate for that page. 	<ul style="list-style-type: none"> All the requirements of a C. Site flow is logical and easy to follow for the instructor. Java or JavaScript is used for sound, video, or event handling. If the site is a sales site, or review site an interactive script must be included for a review form (do not use E-Mail), Shopping cart, or credit card. 	<ul style="list-style-type: none"> All the requirements of a C, and B are met. Image map Video Sound Forms If the site is a sales site, or review site it must be interactive, including a shopping cart script.

SECTION 4

COURSE POLICIES AND GUIDELINES

Maintaining Your Computer

Hardware

- 1) Buying a new home computer? First asked yourself how are you going to use the computer. Then by features according to what you need.
- 2) Keep these minimum standards in mind before you buy a home PC:
56 K. v 90 modem Intel's Pentium II,III, or Celeron, or Apple's PowerPC processors, all with at least 400 MHz 32 MB RAM 8 GB or larger hard drive
- 3) Make it a habit to regularly delete unneeded files that take-up space on and slowdown in your hard drive.
- 4) Speed up your computer. In your computers fonts folder, keep only the fonts you regularly use. Windows users will find it in the Windows folder. Create a new folder named old fonts and move your seldom-used fonts into it.
- 5) If your Mac warns you don't have enough memory to do a function save your worked and restart. Increase your virtual RAM setting using the memory control panel. Or buy more RAM.
- 6) Save Ink by printing one copy of the document. Print in draft quality.
- 7) For as little as \$200 you can get a TV scan converter that projects computer images onto a TV screen for wider viewing by students. Examples at www.electroweb.com/product/HARDORD/TVView_microXGA.HTM
- 8) Ask for Educator Discounts before you buy. Compaq provides info. on educator discounts @ WWW.Compaq.com/Education/K12. Apple also offers discounts for Education. Del offers educator discounts up to half off standard retail at WWW.Del.com. Micron makes discounts available to schools. Call 800/742-4334. IBM also discounts personal and school computers. Call 800/427-7235.
- 9) To troubleshoot computer problems from home, try Yahoo computers reference and help desk:
[HTTP://computers.yahoo.com/computers/reference_help_desk/](http://computers.yahoo.com/computers/reference_help_desk/).

Repair Procedure

- 10) Repair forms will be in the library, the teachers work room, and room 702.
- 11) The students will be using the school web site to log all repairs.
- 12) Repairs will also be listed for the school site district repairman who is scheduled to be her once each week.
- 13) Your repair request will be taken care of in the order it was received. This will depend on availability of parts & capabilities of repair personnel.
- 14) Wed. and Fri. 0 period MCS class will be working on repairs.

Scandisk

- 15) Start, Programs, Accessories, system tools, Scandisk
- 16) This will help prevent lost data, and/or lost storage space.
- 17) POWERPOINT

Defrag

- 18) Start, Programs, Accessories, System Tools, Defrag
- 19) This will organize your hard drive so it will run faster and have fewer errors.
- 20) POWERPOINT

FoolProof

- 21) Students will delete files accidentally or on purpose so protect your computer.
- 22) Students will use your computer to play games on. (and you would not even know they are doing it.)
- 23) They can read your e-mail over the network.
- 24) You install the software and put in your own password.
- 25) You can reinstall if there are problems.
- 26) If you have more than one computer setup a computer the way you want it and make a setup disk from that computer.
- 27) Backup your files.
- 28) Backup your files.
- 29) Backup your files.
- 30) Backup your files.
- 31) Backup your files.
- 32) Example setups can be seen in Rm. 702, Rm. 706, & Rm. 708.
- 33) There is a site license.

Software

- 34) Do not hit delete to remove software. Use the uninstall feature to make sure hidden files disappear.
- 35) Label and store all original software disks. You never know when you'll need to reinstall a program.
- 36) Don't rush through software installation follow the step-by-step directions on-screen.
- 37) Floppy disks are not designed to last forever. Trash old disks and use disk cases to guard against dust and other damage.
- 38) www.driverguide.com is a great site for finding drivers for printers or any other pieces of hardware.

Files

- 39) Create a copy of your browser is bookmarks/favorites. In Netscape from the bookmarks menu, then save as from the file menu. In Microsoft's Internet Explorer, from the favorites menu select organize favorites.
- 40) Organized as you work. Save bookmarks and were files in specific folders for easy access.
- 41) Ensure compatibility of Microsoft Word files between home and school by always saving in the lowest version of word you use. From the file menu select save and specify version from the Save As type pull down menu, or save as rich text file (RTF).
- 42) Need to determine the latest version of the document you been transferring between home and school? You can identify the most current version by viewing a files creation information. Highlight the file by clicking on it once. Right mouse click and select Properties from the pop-up menu.

Help!

- 43) Print a software programs onscreen help section and follow along as you work.
- 44) University web sites often feature excellent tutorials on popular software applications. Try [HTTP://www.uwsp.edu/acad/psych/compute.htm](http://www.uwsp.edu/acad/psych/compute.htm) for word, in Netscape, and more. Software developers also offer tutorials. Check [www..Microsoft.com/Education/k12](http://www.Microsoft.com/Education/k12) for an example.
- 45) Visit search sites like yahoo or Alta Vista to locate tons of useful software help and tutorials sites. In your search append the keyword help or tutorial after the name of the software you're trying to learn.

Students

- 46) Let students learn new software programs and teach their peers.
- 47) Organized younger students into a mouse patrol. Have students come in early each morning, turn on class computers.
- 48) Keep a spiral ring of index cards on top of computer monitors. List student names on cards indicating when it's their turn to use the computer.
- 49) Share names of students who file a your acceptable use policy with colleagues so they know who shouldn't be using the computer.
- 50) Integrate technology into projects and coursework to lessen distractions and focus students' attention.
- 51) Pair novice users with experienced students-but let the nonuser do the driving.
- 52) Place vocabulary words and homework assignments on screen savers as a reminder for students.

Cyberspace

- 53) Save the first E-mail reply you receive from mailing list you have joined. It often contains instructions on how to unsubscribe.
- 54) Remember e-mail is not private. Don't use the school computer to send any mail you wouldn't want your mother or your principle to read.
- 55) Use a search sites advanced or power search menu to help eliminate long list of irrelevant leads.
- 56) Turn Microsoft PowerPoint and Word files into web pages. From the file menu, select save as HTML.
- 57) For a collection of helpful computer tips from a computer mag, check WWW.PCworld.com and WWW.win95mag.com.
- 58) Have students' copy and paste URLs-web addresses-from bookmarks into a Word document and links will become active. Annotate the links to remember the general subject.
- 59) Make your class WebSite useful to parents. List homework assignments, class projects, and the times when you welcome phone calls.
- 60) Use your browsers find feature to jump to keywords within a web page. From the edit menu, select find.
- 61) Add frequently used web sites to your browsers' toolbar. Explorer users: Select Favorites then add page to toolbar favorites. Netscape users: Select the bookmarks from the bookmarks menu and drag-and-drop desired bookmarks into the personal toolbar folder.

Effective Searches

- 62) Search engines give you what you ask for. Learn how search sites work by reading their help section.
- 63) Kid friendly search sites include WWW.Yahooligans.com and www.ask.com (ask Jeeves).
- 64) Use the translate feature on Alta Vista's search site anytime you want to translate web page from English to another language or vice versa.
- 65) Limit your search to a specific domain or country likely to contain what you're looking for. Refer to search sites help menus for the appropriate syntax.
- 66) In typing a URL into your browser's address line you can usually omit the HTTP:// at the front. Just type and address that follows. Also remember: sentences end with periods, not URLs. Be sure to omit the period that follows a URL. Listed at the end of the sentence.
- 67) Problems printing from your browser? Copy from a web page onto a word processing document and print that document.
- 68) Save mail from Education mailing lists in public folders on the schools network so all your colleagues can access the information.

- 69) Invite your schools technology coordinator in to discuss your needs in expectations. Don't grab the coordinator on the way to the lab. Make a win-win situation for everyone by explaining your needs in advance.

Educational WebSites

Visual science

- 70) Dennis Kunkel and his Microscopy www.pbrc.hawaii.edu/kunkel
- 71) The digital first nine months WWW.pregnancycalendar.com/first9months still one of favorite sites for its gallery of stunning microscopic photographs, or micrograms, but everything from red blood cells to common slow bacteria.
- 72) Sig.biostr.washington.edu/projects/da
- 73) www.hurricanehunters.com

Science learning

- 74) www.amnh.org
- 75) www.exploratorium.edu
- 76) kids.earth.nasa.gov
- 77) www.hhmi.org/coolscience
- 78) www.kineticcity.com

Inventions and Labs

- 79) www.invent.org
- 80) home.doe.gov/people/labsmap.htm
- 81) www.uspto.gov
- 82) www.patents.ibm.com
- 83) www.research.microsoft.com

News & Answers

- 84) whyfiles.news.wisc.edu
- 85) www.pbs.org/wgbh/nova
- 86) www.marsnews.com
- 87) www.madsci.org
- 88) www.sciencedaily.com

The Universe

- 89) seds.lpl.arizona.edu/nineplanets/nineplanets/nineplanets.html
- 90) www.spaceflight.nasa.gov
- 91) space.jpl.nasa.gov
- 92) www.StarTrails.com
- 93) observe.ivv.nasa.gov/nasa/ootw/current

Earth & Environment

- 94) www.earthobservatory.nasa.gov
- 95) www.glacier.rice.edu
- 96) www.nationalgeographic.com
- 97) volcano.und.nodak.edu
- 98) teraserver.microsoft.com

Heath & Medicine

- 99) www.intelihealth.com
- 100) www.mayohealth.org
- 101) www.vh.org/Providers/Textbooks/BrainAnatomy/BrainAnatomy.html
- 102) www.drkoop.com
- 103) www.transweb.org

High Technology

- 104) www.cnet.com
- 105) www.howstuffworks.com
- 106) www.mp3.com
- 107) www.etown.com
- 108) www.won.net

Moving Science

- 109) www.innerauto.com/innerauto/htm/auto.html
- 110) www.historicwings.com
- 111) weber.u.washington.edu/~jbs/itrans
- 112) cars.com

Eclectic Science

- 113) library.advanced.org/17049/gather
- 114) www.learner.org/exhibis/parkphysics

HTML / Web Programming

WDVL: Tutorials (very good)
HTML Goodies (very good)
W3-Tech School of Web Design
Web Design and HTML Tutorials
WebMonkey for Kids
Web Page Design for Designers
Lisa Explains it All - HTML Help for Kids
WebReference: HTML with Style (tutorial)
NCSA: A Beginner's Guide to HTML
Advanced HTML - Q&A Archive
How a Web Server Works
InfoDesign - Portal for Information Design Resources
Big Nose Bird Webmaster Resources
Pixel Foundry: Ten Quick Tips for Better Site Design
Patti's Place for Web Developers
HTML 4.01 Reference
HTML Validation Service
Hebrew Guide to Building Websites
Website Abstraction Web Building Tutorials
FreeCode - Free Programming Source Code
Tutorial Index
Learn ASP
ASP Resource Index
Neat Net Tricks

Hotwired: Web Monkey
Cookie Central
Project Cool - Developers Zone
A Beginner's Guide to HTML
HTML Crash Course for Educators
Absolute Resource (very good)
Builders.com - Building Metlife Online
Builders.com - Great Tips from CNET Designers
Free Index
Java Icon Generator
Mega Web Tools: Java Resources (index)
HTML Writers Guild
Introduction to HTML Version 2.0
The Bare Bones Guide to HTML
Yale Web Style Guide
Support Area for Microsoft FrontPage
Support Resources for Microsoft FrontPage
Web 101
The Web Designer
Web Source - Large Index of Resources
The Complete Resource for All Web Builders
The Ten Commandments of HTML FAQ
Useit - Articles on web design
NetMechanic - Online Link Testing, HTML validation
Bobby - Test HTML for different browsers

WWW Translation Page
Training Tools (free downloadable courses)
Building a School Website
O'Reilly Network's ONLamp
Web Development Journals / Magazines
Web Developer's Journal
Web Techniques Magazine
Web Review - Cross Training for Web Teams
Tomalak's Realm - Strategic Web Design News
The PERL Journal
CGI Scripts
NCSA's introduction to CGI
The CGI Resource Index
Matt's Perl CGI Scripts
Java Script
Page Tutor: JavaScript Tutorial
Website Abstraction - JavaScript Technology Central
Scream Design: JavaScript / DHTML Script Library
Free Site: Javascripts and Applets
Page Source: Javascript Tutorials
Cut-N-Paste JavaScript
JavaScript Source (Free Scripts and Tutorials)
John's Introductory JavaScript Tutorials
Timothy's JavaScript Examples
Related Links

Resources - Programming (JR Hotsites)
Resources - Web/HTML Programming (JR Hotsites)
Resources - Flash (JR Hotsites)
Resources - Graphic (JR Hotsites)
Pictures: Clipart and Icons (JR Hotsites)

Free web space and places to register you site

Places to get free web space

home.iae.nl/users/fpieters/webpage.html

freeweblis.freesevers.com/

Register Your Web Page

www.tiac.net/users/seeker/searchenginesub.html

www.smithfam.com/

www.uswebsites.com/submit/

www.euro.net.nl/users/w_solarz/search.htm

A Lesson for scripts has not been developed due to existing material on the World Wide Web.

scripts.surfzilla.com/

A Lesson for sharing resources has not been developed due to existing material on the World Wide Web.

www.blackboard.com

A Lesson for good looking page design (good and bad) has not been developed due to existing material on the World Wide Web.

www.coolhomepages.com/

A Lesson for Image mapping has not been developed due to existing material on the World Wide Web.

zorak.best.vwh.net/imagemap/

A Lesson for HTML Image maps has not been developed due to existing material on the World Wide Web.

www.htmlgoodies.com/tutors/imagemap.html

A Lesson for Dreamweaver addons has not been developed due to existing material on the World Wide Web.

www.andrewwooldridge.com/dreamweaver/

home.att.net/%7EJCB.BEI/Dreamweaver/

www.idest.com/dreamweaver/

www.yaromat.com/

www.massimocorner.com/

SECTION 5
LESSON PLANS

Lesson Title: **Introduction**

Lesson Outline:

1. Course outline
2. Course Grading
3. Class Policies
4. Internet Policies
5. Class Schedule
6. Course Materials
7. HOMEWORK ASSIGNMENT #1
8. Student Confidential Information

Lesson Objectives:

Upon completion of this unit the student will be able to:

1. Identify requirements for success completion of this course.
2. Locate class schedule and assignments posted on the Internet.
3. List attendance issues in the classroom.

Materials and Equipment:

Computer with Internet connection and LCD projector

Evaluation:

Homework

Comprehension:

All students will complete each unit of this lesson with 100% accuracy for proceeding to the next unit.

Lesson Title: **Learn Some HTML Basics**

Lesson Outline:

1. Overview of what is in the HTML lessons
2. Table of contents
3. Know some HTML editing software brands
4. Know places to get free web space.

Lesson Objectives:

Upon completion of this unit the student will be able to:

1. Identify HTML tags which can be used.

Materials and Equipment:

Computer with Internet connection and LCD projector

Evaluation:

Homework

Comprehension:

All students will complete each unit of this lesson with 100% accuracy for proceeding to the next unit.

Lesson Title: Learn Some HTML Body Tags

Lesson Outline:

1. Learn basic tags for HTML and body tags
2. Learn tags for text

Lesson Objectives:

Upon completion of this unit the student will be able to:

1. Identify HTML tags for body tags.
2. Identify tags for formatting text.

Materials and Equipment:

Computer with Internet connection and LCD projector

Evaluation:

Homework

Comprehension:

All students will complete each unit of this lesson with 85% accuracy for proceeding to the next unit.

Lesson Title: **Learn Some HTML Paragraphs Lesson**

Lesson Outline:

1. Learn basic tags for HTML and body tags
2. Learn tags for text

Lesson Objectives:

Upon completion of this unit the student will be able to:

1. Identify HTML tags for body tags.
2. Identify tags for formatting text.

Materials and Equipment:

Computer with Internet connection and LCD projector

Evaluation:

Homework

Comprehension:

All students will complete each unit of this lesson with 85% accuracy for proceeding to the next unit.

Lesson Title: **Learn Some HTML Adding Images**

Lesson Outline:

1. Learn how to add an image to an HTML page
2. Learn how to create a link

Lesson Objectives:

Upon completion of this unit the student will be able to:

1. Identify HTML tags for images.
2. Identify tags for creating a link.

Materials and Equipment:

Computer with Internet connection and LCD projector

Evaluation:

Homework

Comprehension:

All students will complete each unit of this lesson with 85% accuracy for proceeding to the next unit.

Lesson Title: Learn Some HTML Image Maps

Lesson Outline:

1. Learn basic tags for HTML Image maps

Lesson Objectives:

Upon completion of this unit the student will be able to:

1. identify HTML tags for Image maps.

Materials and Equipment:

Computer with Internet connection and LCD projector

Evaluation:

Homework

Comprehension:

All students will complete each unit of this lesson with 85% accuracy for proceeding to the next unit.

Lesson Title: **Learn Some HTML Tables**

Lesson Outline:

1. Learn basic tags for HTML Tables

Lesson Objectives:

Upon completion of this unit the student will be able to:

1. Identify HTML tables.

Materials and Equipment:

Computer with Internet connection and LCD projector

Evaluation:

Homework

Comprehension:

All students will complete each unit of this lesson with 85% accuracy for proceeding to the next unit.

Lesson Title: Learn Some HTML Frames

Lesson Outline:

1. Learn basic tags for HTML Frames

Lesson Objectives:

Upon completion of this unit the student will be able to:

1. Identify HTML tags for HTML frames.

Materials and Equipment:

Computer with Internet connection and LCD projector

Evaluation:

Homework

Comprehension:

All students will complete each unit of this lesson with 85% accuracy for proceeding to the next unit.

Lesson Title: **Learn Some HTML Forms**

Lesson Outline:

1. Learn basic tags for HTML forms

Lesson Objectives:

Upon completion of this unit the student will be able to:

1. Identify HTML tags forms.

Materials and Equipment:

Computer with Internet connection and LCD projector

Evaluation:

Homework

Comprehension:

All students will complete each unit of this lesson with 85% accuracy for proceeding to the next unit.

Lesson Title: Learn Some HTML Sounds

Lesson Outline:

1. Learn basic tags for HTML sound

Lesson Objectives:

Upon completion of this unit the student will be able to:

1. Identify HTML tags for sound.

Materials and Equipment:

Computer with Internet connection and LCD projector

Evaluation:

Homework

Comprehension:

All students will complete each unit of this lesson with 85% accuracy for proceeding to the next unit.

Lesson Title: **Learn some HTML Video**

Lesson Outline:

1. Learn basic tags for HTML Video

Lesson Objectives:

Upon completion of this unit the student will be able to:

1. Identify HTML tags for video.

Materials and Equipment:

Computer with Internet connection and LCD projector

Evaluation:

Homework

Comprehension:

All students will complete each unit of this lesson with 85% accuracy for proceeding to the next unit.

Lesson Title: **Learn Step 1, 2, & 3**

Lesson Outline:

1. Learn how to design a web site which is appropriate for the audience

Lesson Objectives:

Upon completion of this unit the student will be able to:

1. Identify HTML tags for body tags.

Materials and Equipment:

Computer with Internet connection and LCD projector

Evaluation:

Homework

Comprehension:

All students will complete each unit of this lesson with 85% accuracy for proceeding to the next unit.

Lesson Title: **Learn Content**

Lesson Outline:

1. Learn how to organize a web site

Lesson Objectives:

Upon completion of this unit the student will be able to:

1. Organize a web site using organizational software.
2. How to group content and make sites user friendly.

Materials and Equipment:

Computer with Internet connection and LCD projector

Evaluation:

Homework

Comprehension:

All students will complete each unit of this lesson with 85% accuracy for proceeding to the next unit.

Lesson Title: Learn Work Flow

Lesson Outline:

1. How to get the job done step by step.
2. Categories for a web site

Lesson Objectives:

Upon completion of this unit the student will be able to:

1. Identify how to step through the jobs required to get a site organized.
2. Identify how to work in a group or as a one-person team.

Materials and Equipment:

Computer with Internet connection and LCD projector

Evaluation:

Homework

Comprehension:

All students will complete each unit of this lesson with 85% accuracy for proceeding to the next unit.

Lesson Title: **Learn Properties**

Lesson Outline:

1. Learn how to use an image editing software to build a site logo.

Lesson Objectives:

Upon completion of this unit the student will be able to:

1. Identify what a good logo will look and where it should be placed.

Materials and Equipment:

Computer with Internet connection and LCD projector

Evaluation:

Homework

Comprehension:

All students will complete each unit of this lesson with 85% accuracy for proceeding to the next unit.

Lesson Title: **Learn Interfacing**

Lesson Outline:

1. Learn how to make a website that can be navigated easily.
2. Learn how to set up a site to be navigated in a simple way.

Lesson Objectives:

Upon completion of this unit the student will be able to:

1. Identify how buttons work.
2. Identify good navigational qualities of a site.

Materials and Equipment:

Computer with Internet connection and LCD projector

Evaluation:

Homework

Comprehension:

All students will complete each unit of this lesson with 85% accuracy for proceeding to the next unit.

Lesson Title: **Learn Image Mapping Tools**

Lesson Outline:

1. Learn how to setup an image mapping tool
2. Learn how to use and image mapping tool

Lesson Objectives:

Upon completion of this unit the student will be able to:

1. Identify an image map.
2. Use basic image mapping tools.

Materials and Equipment:

Computer with Internet connection and LCD projector

Evaluation:

Homework

Comprehension:

All students will complete each unit of this lesson with 85% accuracy for proceeding to the next unit.

Lesson Title: Learn Fancy Frames and Mouseover

Lesson Outline:

1. Learn how to make “fancy” Frames.
2. Learn How to make mouse over buttons

Lesson Objectives:

Upon completion of this unit the student will be able to:

1. Identify what needs to be done to make frames that look like a boarder.
2. Make a mouse over button.

Materials and Equipment:

Computer with Internet connection and LCD projector

Evaluation:

Homework

Comprehension:

All students will complete each unit of this lesson with 85% accuracy for proceeding to the next unit.

Lesson Title: **Learn Dreamweaver 2 Tutorial**

Lesson Outline:

1. Learn how to use the Web page editor
2. Learn tags for text

Lesson Objectives:

Upon completion of this unit the student will be able to:

1. Identify HTML tags for body tags.
2. Identify tags for formatting text.

Materials and Equipment:

Computer with Internet connection and LCD projector

Evaluation:

Homework

Comprehension:

All students will complete each unit of this lesson with 85% accuracy for proceeding to the next unit.

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<http://info.med.yale.edu/caim/manual/>
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