An Instructional Design Expert Review of an Asynchronous Web-based Masters Course Module

Module 4: Web Site Development

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Virginia Tech

An Instructional Design
Expert Review of an Asynchronous
Web-based Learning Course Module

A. PRODUCT DESCRIPTION:

Product title, developers, client:

What follows is an expert review of an asynchronous web based instructional course offered by Virginia Tech as part of a Master's degree for k-12 teacher education population. The module under review is called: Module 04: WWW Site Development http://www.itma.vt.edu/itma1/courses/webdev/. Mr. David Halpin developed this module. Mr. Halpin is currently obtaining his Ph.D. in Instructional Technology from Virginia Polytechnic Institute and State University located in Blacksburg, Virginia. The subject matter expert who provided the content development and vision is Dr. Greg Sherman, a professor in Instructional Technology at Virginia Tech. The Instructional Technology program is located within the department of Teaching and Learning under the College of Human Resources and Education. Dr. Sherman may be contacted at the following email address: shermang@vt.edu.

Instructional Goals:

The instructional goal for Module 04: WWW Site Development as stated under the main objective header (http://www.itma.vt.edu/itma1/courses/webdev/syllabus.htm) is as follows: The goal of this module is to provide you with the skills you need to begin creating your web-based electronic portfolio. Upon completion of this module you will have a web site that includes the following:

- A Home Page with personal contact information
- An online resume
- Links to various portfolio components
- Links to outside sites
- An overall design theme
- Images, clipart, bullets, horizontal rules, and tables

In addition, your site should be easy to navigate; easy to read, and well designed. Plus you should ultimately feel comfortable enough using Netscape Composer that you can create other web sites for your personal and professional use.

Throughout this module you will also become comfortable publishing (uploading) your web page to the new ITMA server, and subsequently accessing that information over the

Internet. This is important because much of your future work in the IT Master's program will be incorporated into your portfolio and uploaded in this manner.

Amended Instructional Goals

1. Using Netscape Composer, students will create their own well-designed web-based portfolio framework consisting of a Homepage and pages for each of their portfolio components as listed under "The Portfolio" description provided at: http://hydra.etl.vt.edu/itweb/components.htm
2. Incorporated within these pages will be an overall design theme, hypertext links, graphics, bullets, horizontal rules and tables.
3. Students will place their previously developed resume within their electronic portfolio and organize and display a number of previously identified web resource links.
4. Additionally using an FTP software, students will be able to upload their image and html files to the appropriate Virginia Tech server computer.

I could not find a listing or review of entry behaviors that would be necessary prior to beginning this module. If included, the entry behaviors should stated at the top level entry page of this module, such that prior to beginning the tutorial lessons, the user may go back and pick up the necessary skills if lacking.

Entry level skills and prerequisites for Module 4:

The user should feel comfortable navigating and searching both the ITMA web site, and the Internet in general. The user should also feel comfortable navigating their own hard drive, and creating new folders. Additionally the user should be able to move, copy and paste files between different folders on their computer. They should be able to digitize images into their computer (as stated in the module 4 skills survey), or be able to locate, download and save images to their hard drive from the Internet. Should they wish to create their own background images for their web pages (as requested in assignment #2), they may need to know how to create background GIFs using an image editing program as well.

Instructional Objectives and Sub-objectives:

This next section will attempt to list all the objectives or sub-objectives that were found listed in this module. They will be presented as organized within the module lessons. From the Syllabus page, which lists the overall course objectives, a link to the assignments page is provided. It is here that individual assignments and sub-objectives are found. The following Assignment objectives are specified on the "Syllabus" page:

1. Web Design
2. The Home Page
3. Navigation and Hyperlinks
4. The Resume
5. External Links
6. The Final Exam

Assignment 1: Web Design

Objectives as stated on page:

1. Read the entire Yale Web Style Guide Manual
2. Find 3 Internet sites that demonstrate "good design" and write a single paragraph why as related to Yale's Web Style Guide Manual
3. Find 3 Internet sites that demonstrate "poor design" and write a single paragraph why as pertaining to Yale's Web Style Guide Manual guidelines

Ancillary Objectives for consideration:

1. Think about how you might want your site to look and make note of what you can do to avoid frustrating people who visit your site.
2. Ponder how you can make it easy for your future users to navigate or find specific information on your site
3. Consider what kind of look or theme you'll want for your site

Classification of Instructional Objectives:

Intellectual Skills: Concepts, procedural knowledge and rules (differentiate, classify, and show)

Comments on objectives listed above:

I like the activity of applying what you know to both good and bad examples found on the Internet. Could this activity be more structured by having the users reference critiques as related to the original objectives that the site in question might be trying to achieve? For example, a training or learning tutorial site may have a linear or sequential fashion for certain portions of its online training (as referenced in Yale's Web Style Guide Manual), while an information dissemination type of site may incorporate a more web-based, hierarchical or categorical listing type of layout.

Better yet, the instructional objective might follow the Walt Dick and Lou Cary ID model, and be stated as: Given the Yale Web Style Guide Manual and access to the internet, the user will find 3 "good example web sites" and 3 "bad example web sites" citing 3 supporting reasons for each site found as supported by the Yale Web Style Guide Manual.

The ancillary objectives are definitely worthwhile, as these design concepts will eventually materialize in the user's electronic portfolio. Would it not be beneficial to have the participants formalize some of these formative design considerations literally as well at this point, attempting to operationalize which layout styles they may use for their own personal Home Page?

Assignment 2: The Home Page

Objectives as stated on page:

1. Create a new folder on your hard drive and name it portfolio
2. Complete the first 5 sections of the Composer Tutorial
3. Create a Home Page for your personal electronic portfolio which includes the following: Your name and contact information, your email address, a short description of yourself, at least one image, at least one horizontal rule, some sort of background besides plain white
4. Save your Home Page as index.htm and follow directions listed in the Publishing tutorial to upload and post your home page and associated image files to your unique cohort directory on the ITMA server.

Classification of Instructional Objectives:
Intellectual Skills: Rules (Create, Higher order rules employed to perform tasks, apply rules appropriately to develop a product)

Comments on objectives listed above:
Again a Dick and Cary ID instructional objective is not specifically provided to the user prior to beginning this assignment. Although, the steps are sequentially broken down and the overall instructional objective is implicit within the assignment directions.

I may question some of the objectives as being in direct conflict with the rules of "style" as referenced in Yale's Style Guide Manual. Specifically, the author directs the user to incorporate horizontal rules and "traditional" tiled background GIFs.

Horizontal Rules:
One reference Yale cites repeatedly throughout their manual is Creating Killer Web sites (http://www.killersites.com), of which I have both the first and second edition of David Siegel's book: Creating Killer Web. On page 116 in the first edition of Creating Killer Web Sites, David declares that "Deadly Sin number 2" of web sites are Horizontal Rules. He goes on to state that "Horizontal rules are a weak substitute for proper hierarchy and organization of vertical space on web pages. There are millions of horizontal rules on the Web, doing nothing but taking up space and breaking the natural flow of pages. Horizontal rules are not spacers; they are barriers. The only time they are useful is in very crowded newspaper front pages, where space is so tight that proper amount of white space is too "expensive". Newspapers need to resort to these kinds of compromises; web pages don't." I will next discuss the idea of background tiled GIFs as a necessary component for inclusion in the Home Page.

Background GIFs as tile patterns Mr. Seigel proclaims "Deadly Sin Number 3" in Creating Killer Web Sites (2nd edition, page 146) are "Background Images That Interfere". David states: "Backgrounds on the web have reached epidemic proportions. Wallpaper is nice, but reading the handwriting on the wall can cause

damage to the retina. People use background images because they add a "theme" to the page, or because they fill up all that unused space. It's the kitchen sink school of page design, which often escalates to homicidal (not killer) site design. Backgrounds do more damage to web pages than almost anything else. Thoughtless designers get carried away, the pixels fly, and surfers get hurt. The only good background is a solid color or nearly solid color."

Even Yale's Web Style Guide Manual under Graphics/Colored Backgrounds states that "background patterns and background images are the most controversial graphic elements on Web pages. Both features add graphic complexity without increasing legibility. Poor choice of background graphics have generated some of the ugliest pages on the Web". While the manual goes on to say that properly used backgrounds can result in creating stunning impacts (like those found on CD-ROMS), they conclude by saying…"shifting the page background from gray to white is really the only alteration of the standard Web page background that we can recommend if your highest priority is screen legibility. The legibility of the computer screen is already compromised by the low resolution of the computer screen…Black text on a white background yields the best overall type contrast and legibility."

With these points cited, I wonder what justification the author is using for having the users incorporate both of these potential caustic features into their pages? Maybe the author could define background images as those of the "non-tile" type and provide examples how they can be used to create a left-hand border that runs perpendicularly down the page with ample white space for content on the right. This type of background image tiles as well, but only vertically down the page, and not horizontally.

Assignment 3: Navigation and Hyperlinks

Objectives as stated on page:

1. Using Composer, create a new page for each of your main portfolio.
2. Read through the section of the Composer tutorial dealing with Hyperlinks and create a main navigation menu on your homepage linking to each of your 5 subsections
3. Go to each of your component pages and add a link back to your Home Page.
4. Add a main heading to each component page that is descriptive of what the contents will be.
5. Add a page title to each page, including the Home Page.
6. Save all your files in the proper folder on your hard drive and publish them to your folder on the ITMA server.

Ancillary Objectives for consideration:

You may want to add more navigation links in your site, such as adding links to other component pages in your site from each individual component page.

Classification of Instructional Objectives:
Intellectual Skills: Rules (Create, Higher order rules employed to perform tasks, develop product as rules applied appropriately)

Comments on objectives listed above:
While the objectives don't follow Dick and Cary's ID model or rules for delineating instructional objectives, they are clear, precise, appropriately justified, and broken down into manageable chunks. The author might have stated the instructional objective at the beginning of the assignment as: Using Composer, the user will create a series of web pages, each incorporating an appropriate navigation menu and title page header, that correspond to the individual component sections of their electronic portfolio (list the 6 individual sections here).

Assignment 4: The Resume

Objectives as stated on page:

1. Create a new blank web page in Composer from which you will paste the text or contents of your Resume from your word processing program.
2. Read through the section on Composer dealing with Tables, and create one or more tables on your page.
3. Use these tables to reformat you resume so that it looks good.
4. In addition to using a table, your resume should be formatted using a bulleted list. Information on Bullets can be found in the "Paragraph Formats" section of the Composer tutorial.
5. Add a similar graphic link back to your Home Page from this Resume page as well as a title and background image.
6. Go back to your Home Page and revise the navigation menu to include a link to your new resume page.
7. Publish your new files to the ITMA server and verify your site links via your browser.

Classification of Instructional Objectives:
Intellectual Skills: Rules (Create, Higher order rules employed to perform tasks, develop product as applied to rules)

Comments on objectives listed above:
While not of the Dick & Cary style, the above objectives are clear, precise, appropriately justified, and broken down into manageable chunks.

Assignment 5: External Links

Objectives as stated on page:

1. Take prior journal entries of recorded educational web sites that are pertinent to the user's needs and incorporate these links into their electronic portfolio on a new page titled "Links". Decide upon categories to feature your resource links and create a header for each category on the "Links" page.

2. Begin importing the sites from your journal and other Module 3 assignments, placing each one under the appropriate heading. You should have at least 50 sites when your finished, spread out in however many categories you've created.
3. Create a table of contents at the top of this page that targets a link to each category on the page.
4. Add the same graphical link from this page back to your Home Page, similar to what you've done on your other pages
5. Go back to your Home Page and revise the navigation menu to include a link to your new "Resource" page.
6. Save everything and then publish your site as before, verifying its accuracy via your browser.

Classification of Instructional Objectives:
Intellectual Skills: Rules (Create, Higher order rules employed to perform tasks, develop product as rules applied appropriately)

Comments on objectives listed above:
Objectives above more closely approximate the Dick and Cary model, while still providing the sequential steps needed to help the user complete the task.

Assignment 6: Final Exam

Objectives as stated on page:
Upon completion of this module you will have a web site that includes the following:

1. A Home Page with personal contact information
2. An online resume
3. Links to various portfolio components
4. Links to outside sites
5. An overall design theme
6. Images, clipart, bullets, rules, and tables

Classification of Instructional Objectives:
Intellectual Skills: Rules (final check, review and submission of portfolio assignments)

Comments on objectives listed above:
The author appropriately restates what the entire product should be and its components before having the user proceed to the final exam. Appropriately, there are no questions on this exam, but merely the submission of the web URL for the final user portfolio that was created in this module. The assessment matches the instructional objective!

The Learning Environment:

This product is intended to be used almost entirely in an asynchronous web-based learning environment. There will be one face to face initial meeting between the instructor and students, but after this meeting, the rest of the communication will be conducted via email and a class listserv. There is a separate email provided specifically for technical questions in addition to program phone numbers, tutorials, and a student IT Talk discussion group.

One critical area I see necessary for success is the inclusion of proper cross platform support tools and tutorials for both the Mac and PC platforms as referenced in the "Open Studio" area and "Resources" section of Module 04. Should users of both platforms be taking this module, it is critical that both platforms be equally supported in terms of appropriate screen snapshots and shortcuts. Additionally, any referenced animation creation tools should be available for both platforms, or a similar representative product be offered. Providing links to existing online support for each platform is crucial for a distant asynchronous type of environment.

Media Characteristics:

The primary media characteristics for this module are text, which is presented, in a web-based form. Two-way communication if is facilitated asynchronously through email to both a technical support person and the module instructor. This media type provides complete autonomy to the users, allowing them to control the place, pace and depth of support needed within the timeline of the syllabus requirements. There is supporting graphics that accompany text where appropriate. This course is geared toward the self-motivated independent learner.

Intended Users:

The primary users of this module are k-12 teachers and administrators throughout northern and southwestern Virginia. They are taking this course to satisfy primary recertification requirements with respect to the Virginia DOE Technology Standards of Learning. The population is comprises both Mac and PC users who are primarily at the novice and low intermediate level with respect to technology acumen.

B. INSTRUCTIONAL COMPONENTS & CONDITIONS:

Assignment 1: Web Design
This first assignment has an introduction, which is then followed up by a presentation of a large body of information (Yale Web Style Guide Manual). After the user has read this information he/she is then directed to perform an activity which has them apply the information just presented. They will receive practice applying the Yale style guide principles as they write evaluative paragraphs of specific sites they have selected from the Internet. At the conclusion of the assignment the author provides a brief review of the material learned by restating the objectives of this lesson and its future utility as related to the "Big Picture". An assessment component is incorporated as well, as this activity will be submitted and evaluated by the course instructor. It appears the author tries to incorporate the transfer of this activity by prompting the users to think about how these newly acquired skills will be incorporated not in only evaluating existing web sites, but in the initial design and creation of their own web site.

Suggestions for assignment and identification of component elements:
The introduction does a good job of gaining learner attention, vaguely informing them of the objective for the lesson. The worth of the SKA to be acquired is also linked to the "Big Picture" of developing their own electronic portfolio. The activity does an excellent job of relating the new SKA to the content domain, and in the proper context for the learning to be acquired. The learners are allowed to explore their learning environment freely as well. The only area lacking is the use of clear concrete examples within the context of the electronic online portfolio (this will be addressed in more detail below). Practice is provided for all and matches the objectives within the context, but the feedback is delayed (suggestions provided below). I will next expand upon the areas of possible improvement with respect to examples and feedback.

While the author provides an example of one electronic portfolio, there are no comments made by the author evaluating its attributes or components. It is left to the user to determine or assume that this is a "good" example. Yet, when I went through the portfolio example, there was a broken link in this portfolio for an entire section. It may be helpful to provide more than 1 good example, i.e. provide several good and bad examples with explanations from Yale Style Guide Manual supporting where they fall short or excel. It should be noted that the Yale Style Guide does provide examples within their manual, but none of these relate to the specific development of a personal electronic portfolio. Another possible area of improvement for this lesson concerning the immediacy of feedback provided with respect to the practice instructed. If the feedback should be as immediate as possible, then maybe the author could incorporate a multiple choice form using Hot Potatoes, which would ask users to identify salient design problems or beneficial attributes of predetermine online portfolio examples, both good and bad.

With respect to assessment, this is incorporated by the final submission of the web site critiques. While the author has assigned an overall point value to this assignment,

nowhere do I see a grading rubric breaking down how the 20 points will be assessed. It may be beneficial to provide a checklist or rubric for the learner with corresponding point values, or degrees to which each point will be earned. This would allow the learner to check his/her work. Next I'll briefly discuss the learning conditions for the performance type of Intellectual Skills as related to Assignment one.

Looking at the strategies and conditions to be incorporated into Intellectual skills, the author does a good job of encouraging learners to recall previously learned information or examples that illustrate the concepts and rules being presented (this is the actual assignment for this lesson). The users also are presented a demonstration of the application rules (examples provided in the Yale web style guide manual), and instructed to present a variety of experiences in which they can practice applying the rules. The only area where this activity may fall short concerns the presentation of varied examples and non-examples calling attention to distinctive attributes as related specifically to online electronic portfolios. The users may benefit from an inquiry based multiple-choice form prompting them to identify specific attributes of the example portfolios in question.

Assignment 2: The Home Page

This assignment incorporates an introduction which justifies the creation of a Home Page and its relationship to the overall electronic portfolio. An activity is presented which has the learners work through 6 sections of an online Composer tutorial. This will aid them in the practice of the desired learning skills for this unit and serve as the final assessment for the lesson. It doesn't appear that there is a review provided with this lesson, but the instructional design component of transfer is inherent as the users work through the tutorial in efforts to "transfer" the skills discussed in the creation of their individual Home Page.

Suggestions for Assignment and identification of Component elements:

The introduction does an excellent job of relating the task at hand (creating a Home Page), to the bigger picture of "where it will fit into the entire site" by providing a discussion of float charts. This indirectly gains the learners' attention and presents the relevance of the SKA to be acquired. Clearly perceived learner accountability is established with the assignment of creating a product, and up front the author identifies the support mechanism (online tutorial) that will aid the learner in accomplishing the task assigned. I will offer one suggestion. While the author goes into detail on the value of creating a flowchart (future road map for the creation of the entire electronic portfolio), and even provides a link to various flowchart programs, he then appears to negate the value of this discussion by saying this will not be a required component for this course.

Why go into such detail regarding flowcharts prior to starting this assignment? Should this information be listed under an "Additional Info" link, or supporting ancillary documentation? Basically, if it is germane to the instructional objective for this assignment, and I agree with the author that it is, then should it not be incorporated into one of the products developed prior to completing the Home Page? Should the float chart

not be an assignment, the author may want to focus the introduction more specifically to the task of creating the Home Page it self, highlighting its purpose, objectives, etc. From the book "Creating Killer Web Sites 2nd edition" David Siegel puts a large emphasis of the creation of a tunnel effect with entry pages, focusing the user to the core page (Home Page) which then is broken out into subsections. This technique David Seigel refers to as a "Third Generation" web site (p. 14). While the creation of "splash pages" and exit tunnel pages may be beyond the scope of this module, it probably would not be a bad thing to make users aware of "entry pages", "Site maps", or the purposes of the "Core Home Page".

The activity of actually creating a Home Page with specific components is a good one. This relates the instructional objectives or newly acquired SKA to the content domain, and through using the tutorial as an assistant, there is learner guidance provided. The activity is set up such that the users are encouraged to explore the options of the Composer program, but there appears to be a minimal set of examples and non examples supporting this activity within the tutorial itself. While the author does take screen shots of the Composer toolbars to help explain the sequential steps for creating an initial page, all the directions and screen shots are of a PC based Composer program. This may be confusing for the who work on a Macintosh, since the toolbar pallets and shortcut commands provided in the tutorial are not identical on both Mac and PC platforms.

Additionally, the author provides some instructions in this assignment for downloading a background image, which only pertain to the user of a PC machine and not a Mac. Similarly the author instructs the learner to use the right mouse click (non-existent on a Mac) to select certain options concerning particular artifacts on a web page (text, images, etc.). While noting these shortcuts is a valuable piece of information, the Mac users should also be made aware that the same shortcuts are available to them simply by placing the mouse overtop an artifact and holding the mouse button down. In just a few seconds, the same option menu the author describes for the PC right mouse click will then appear for Mac users as well. Bottom line, the platform bias, inexperience, or inability of the author to address multiple platform considerations should not be an inhibitor for the end users taking this tutorial.

Under the "Getting Started" section of the tutorial the author provides directions for "Editing the Page You're Browsing". He references clicking a "pencil icon" on the Composer component toolbar, but I was unable to find the "pencil" icon. While this may appear a minor inaccuracy, it may prove frustrating for new users attempting to follow the directions explicitly provided.

Differences between Mac and PC menu items and control locations increase greatly when attempting to use the tutorial with respect " Character Formats". On the PC the character box is called Character properties, while on the Mac it is called Character Info. The tutorial instructs the user correctly that the Character properties box on the PC allows selection of font face, font size and font style settings, but on the Mac these same settings can also be access directly from choices on the Font Menu bar as well. A similar incongruent example is provided for the "Adding Color" PC screen shots as compared to what a Mac user will experience. While I'm sure motivated students are competent

enough to make these cross- over instructional differences between the Mac and PC, if the object of the course is to alleviate or remove potential learning barriers, then it may be beneficial to have two parallel tutorials, one specifically for the Mac and one for the PC.

Irrespective of the inconsistency concerning the screen shots and PC shortcut commands the Mac user must translate, the author does an excellent job of sequentially enumerating the specific steps in each section of the assigned tutorials. This is especially clear in the "Publish" tutorial section. The author takes a complicated situation and provides excellent examples for each cohort by providing the exact file path name each individual should use.

One minor consideration concerns that of designating all the files, both html and images into the same directory on the ITMA server. By the time the entire electronic portfolio is completed, it may become quite difficult to amend or manage for the user. The author could have the user set up a simple folder subfolder relationship with one folder for images and one folder for html files, with both folders then nested in a single portfolio directory. This may make it much easier to update and manage their portfolio files as they go along.

The practice of actually making the Home Page is excellent, and the feedback should be obviously apparent as the user correctly creates the individual components of his/her Home Page. Again there is learner guidance provided for all, feedback is immediate, and the practice matches the instructional objective of this activity.

As noted in the introduction to this section, there does not appear to be a review at the conclusion of Assignment 2, nor at the beginning of Assignment 3 prior to beginning the next lesson. It may be beneficial for the author to remind the user of what objectives were just accomplished, or have the user summarize the key components of what was just accomplished prior to proceeding on.

I do not see an official assessment component in this section, but I'm assuming the successful uploading of the updated portfolio content would serve in this regard. There is an overall point value given for this assignment, but no review checklist or corresponding rubric to assist the user in knowing how and to what degree the points will be assessed or accumulated.

From the standpoint of learning conditions as pertaining to intellectual skills, the author does a good job of implementing many of the conditions provided in appendix G. Most importantly the learners are provided the opportunity to "play" with the concepts within "real" environments in the creation of an actual product. Additionally the author does an excellent job of breaking down the desired learning process and providing explicit learner examples (screen shots) to support these procedural rules.

Assignment 3: Navigation and Hyperlinks
The author again does an excellent job of providing a compelling introduction to this activity. Learner attention is gained by relating the activity to the big picture of keeping the user's portfolio easily navigable by future potential employers. There is an activity that continues to guide the user in the completion of the overall big picture by providing guidance via an online tutorial. As stated before the tutorials are clearly delineated and provide the user the practice and feedback necessary to acquire the SKA in question. The author does a better job of review in this section, by providing a brief restatement of section objectives prior to going to the next subsection within this same lesson. He also cites good examples using the actual page itself to demonstrate the use of creating "target" links. I do not see an official assessment component in this section, but I'm assuming the successful uploading of the updated portfolio to date will work in this regard. There is an overall point value given for this assignment, but no checklist or corresponding rubric to assist the user in knowing how and to what degree the points will be assessed or accumulated.

Finally transfer opportunities seem to be provided in this lesson as the author suggest that the user is free to add additional links as needed to their own portfolio after completing the required tutorial.

Suggestions for assignment and identification of component elements:
Once again the tutorial is purely PC oriented, and should include a parallel Mac site as well. I enjoyed the depth to which the author provided a background context describing a URL and how the URL components lead to particular pages on Internet servers. I also commend the effort to provide clear concise information with respect to absolute and relative path URLs. Here may be a good opportunity as suggested in the previous section to have the user create a simple hierarchy of folders and subfolders to better organize their growing electronic portfolio.

From the standpoint of learning conditions as related to Intellectual skills, the author incorporates many of the suggested strategies from appendix G. For example, the author breaks down the process into steps, and clearly communicates these steps to the user. The author clearly communicates the definition of concepts (URL's, Relative vs. Absolute), and encourages the learner to recall previously learned information by citing examples of Operating System "help" screens which also incorporate the idea of "Links".

Assignment 4: The Resume
In assignment four the author provides an introduction, albeit brief, and then he gets right into the procedural steps for executing the instructional objective for this lesson: creating a html page which incorporates the text from a participant's resume. There is an activity incorporated into this lesson, which when executed, provides practice and ultimate feedback in the form of a finished product. Other then the final uploading of the Resume page to the server, there does not appear to be any assessment (assuming assessment involves some sort of criteria/feedback/rubric mechanism). I do not seem to see any sort of review at the conclusion of this assignment.

Suggestions for assignment and identification of component elements:
There could be more of an introduction incorporating learner attention, but the author does use the brief introduction to provide a learner support mechanism and articulation of previous SKA needed to succeed in this new learning environment (the resume was already completed in a prior module). The activity itself incorporates yet another tutorial, which by the definition cited in Appendix H, provides a stepwise presentation of new information with examples and practice for the learner. The practice and feedback is apparent as described above, but completely self reliant upon the learner being able to execute the activity as directed in the tutorial lesson. The activity (tutorial) presents clear examples, although non-examples are lacking, and provides opportunities for learners to explore the learning environment with minimal instructor guidance.

A suggestion for incorporating a review may be achieved by adding a sentence or two about what the learner has accomplished at this point (restating the objectives) and congratulating them on their accomplishments thus far.

I do not see an official assessment component in this section, but I'm assuming the successful uploading of the updated portfolio content will serve in this regard. There is an overall point value given for this assignment, but no checklist or corresponding rubric to assist the user in knowing how and to what degree the points will be assessed or accumulated.

From the standpoint of learning conditions as related to Intellectual skills the author incorporates many of the suggested strategies from appendix G. For example, the author breaks down the process into steps, and clearly communicates these steps to the user. The author clearly communicates the definition of concepts (Tables, Paragraph Formats, Headings, Lists, etc.), and encourages the learner to "play" with the rules and concepts in the actual creation of the Resume page.

Assignment 5: External Links
Assignment five has an excellent introduction gaining learner attention by stating the utility of this lesson's instructional objective: creating an "External Links Resource" HTML page. The author identifies the incentives for the activity and relates the instructional objectives to what the learner already knows (previously identified WWW education sites from past journal entries). There is an activity which incorporates practice and self-directed user feedback as the actual Resource HTML page is created. This lesson does an excellent job of providing good examples. For instance, the author cites the actual examples within Assignment 5 web page, references examples throughout the Composer tutorial, and refers the user back to the online Sample portfolio. A good review is likewise provided by the author via the restating the objectives early in the assignment, and the inclusion of a summary example of what the completed assignment should look like.

Again, I do not see an official assessment component in this section, but I'm assuming the successful uploading of the updated portfolio content to date will serve in this regard. There is an overall point value given for this assignment, but no checklist or

corresponding rubric to assist the user in knowing how and to what degree the points will be assessed or accumulated.

Suggestions for assignment and identification of component elements:
I have attempted to incorporate the identification of component elements in the above paragraphs. The lesson is very well constructed and thus I only have one suggestion. The author did not appear to provide any non-examples, and an idea of how not to categorize irrelevant or divergent links under one heading may be beneficial.

From the standpoint of learning conditions as related to Intellectual skills the author incorporates many of the suggested strategies from appendix G. For example, the author breaks down the process into steps, and clearly communicates these steps to the user. The author clearly communicates the definitions of URL breakdowns, link properties, linking to targets, and absolute and relative path names. The author also encourages the learner to "play" with the rules and concepts in the actual creation of the Resource web page.

Assignment 6: The Final Exam
This section is not actually a lesson, but a summary checklist of the overall web site developed thus far. A concise checklist is provided, just prior to the user submitting their completed product. For appropriate reasons, this section does not employ the overall components of an instructional lesson, as it is intended as an automated submission form of the completed project.

C. INSTRUCTIONAL CONTEXT:

The instructional product of this module incorporates several instructional contexts. In assignment one, the context is mostly information presentation followed with the creation of a product (web site review) wrapped in the overall context of "Real". This is the same context for assignments two through 5 as well, except that the initial context changes from information presentation to tutorial in nature, still incorporating creation in the overall "Real" context. The assignments employ the context functions of Orienting and Instructional from the standpoint that the learners are introduced to the Big Picture, and given clear responsibilities to fulfill. Instructional functions within this context are utilized throughout the assignments as specific creation like activities are generated. Wrapped somewhat more loosely within each assignment is assessment and transfer, but ample practice and review are provided as the user creates their expanding electronic portfolio.

Addressing specifically the elements constituting "Orienting" contextual functions, the author does an excellent job on assignments 1, 2, 3 and 5 of gaining learner attention, stating learner objectives, relating the utility of the lessons, and providing rewards and clearly established supporting learner mechanisms.

With respect to the contextual function of "Instructional", again the author does a good job with respect to providing clear SKA's to be acquired with concrete examples in most of the assignments. The author may be able to provide additional non-examples though for each of the assignments. The author provides little review in assignment 4, and probably could embellish all assignments in this regard. With respect to the concept of practice and feedback, I am unable to determine the immediacy of the feedback, and to what degree it is embellished from the instructor. It appears as though most of the feedback will be generated by the user as he/she begins creating their web pages. Should the feedback be from the instructor (which does occur with the return of the graded assignment), this needs to be as immediate and detailed as possible for it to have maximum learning effectiveness.

The Creation and Real contexts are utilized consistently in each assignment, and narrowly directed in assignments 2 through 5. In these assignments the learner is creating an authentic electronic portfolio that will ultimately serve a lasting purpose for the learner after completing this module.

Using Keller's ARCS Model of Motivation in the ID Process I noticed several methods framed by the author. Under the heading of Attention Strategies, the author does an excellent job of incorporating "Concreteness" by providing examples in all major tutorial sections. Likewise he orients the learner in many of the introductions by providing anecdotal information concerning good and bad web sites or frustrating past surfing experiences, all in a humorous congenial fashion. I would also submit that the author incorporates the motivational methods of inquiry, as he provides several opportunities for the learners to explore as well.

Under the heading of Keller's Relevance Strategies, the author again strikes a home run! He repeatedly reminds learners of their past experience from previous modules, and clearly states the present and future worth of each assignment.

Finally, under Keller's Satisfaction Strategies, the author readily incorporates "Natural Consequences" by allowing the learners to expeditiously apply their newly acquired skill in a realistic setting.

The motivational area where improvement might be warranted concerns the instructional context as it relates to the immediacy of feedback, and the inclusion of possibly more appropriate "electronic portfolio" examples. While there are explicit examples guiding the user through individual tutorials, there appears a dearth of examples with respect to the overall product the learners are creating. It also should be noted one more time that the tutorial examples should include screen snap shots, and shortcuts for the Mac platform as well as the PC platform.

Within these same contexts of "real and creation" the author may want to employ more "confidence strategy" motivational effects. For example, it may be highly beneficial to provide a self-evaluation tool (similar to the assessment rubric I mentioned earlier) which

would allow the user to see exactly how a particular assignment would ultimately be graded. The author may also want to attempt to incorporate an additional extension section to particular tutorial assignments in regards to providing increasing levels of difficulty (JavaScript mouseovers for those who need/want more challenge). With these minor suggestions made, I would not change the creation/real context employed, but embellish them appropriately as stated above.

D. INSTRUCTIONAL MESSAGE DISPLAY

Using the instructional message design guidelines as referenced in Appendix J of our evaluation guidelines I will next attempt to evaluate the effectiveness of message design and layout for Module 04. I will first consider evaluation of Module 04 with respect to general message perception.

General Message Perception:
The author of Module 4 does an excellent job of following the American culture standard of organization following the horizontal left to right and vertical top to bottom layout. The screen presentations overall are clean, yet stylish containing easily identifiable and relevant information. When considering attention getting attributes the author employs varied color and density of information to direct the user's attention. Each section contains a consistent header style notifying the user of what section they are currently in.

Likewise, I believe the author does a good job of separating the units into logical visual clusters. This helps the user organize the information and internalize the relevance of individual sections within the whole. Within each section the author continues to present the information at a pace which continues to challenge the user, yet not frustrate or overwhelm them as being too slow or too rapid. One possible amendment might concern the overall length of some of the Composer tutorials themselves.

The author keeps the scrolling to a minimum for each of the individual assignment pages, but has a tendency to get quite long on the supporting tutorials for assignments 2 through 5. Citing from Sun's Web Style Guide (http://www.sun.com/styleguide/tables/Page_Length.html) "Scrolling the browser window allows a reader to advance in the text with less loss of mental "context" than does following a link. This advantage lasts up to about four screenfuls of text. After that, there is a tendency for people to lose their context, and get frustrated with the mechanism of scrolling, and their inability to keep track of what's elsewhere on the page.

Thus, for example in the "Working with Web Pages" tutorial, on an 800X600 resolution screen, the length of this tutorial was approximately 8 screen scrolls (double the suggested length for content continuity as referenced in Sun's Web Style Guide manual). This test was performed with the browser window maximized for the screen as well. While the author attempts to break this single page up with a table of contents anchored

to specific portions of this extended page, he fails to provide a return to "top of page" anchor beneath each individual referenced section. Thus the user, while quickly jumping to a particular area upon entering the page, will need to continuously scroll back to the top to "jump" again to another section.

In some tutorials the sequencing or breakdown of subheadings (the table of contents) jumps to only a very brief description of a particular command, which is then broken up by horizontal rules. I early referenced the implication of horizontal rules and how they tend to unnecessarily break the flow of information. One suggestion might be to rethink the grouping of topics in the table of contents collapsing a few headings if only a parsimonious amount of information is presented under this heading. This may help restructure the tutorials into smaller chucks of more congruent information. To solve the excessive scroll problem the author may provide a "Table of Contents" or "Top of Page" link beneath each section, or as the Sun Web Style Guide suggest, jump to another page after 4 screen scrolls.

I will compliment the user for following Sun's recommendation to provide a downloadable file for the user to print. This brings up a final consideration with respect to web layout of Module 04. The overall template used to present the information is quite good, and provides a consistent presentation of information across browser versions and OS platforms. My only suggestion may involve the limiting of the right hand table layout to 365-375 pixels. As suggested in Yale's Style Guide manual (http://info.med.yale.edu/caim/manual/pages/design_grids.html)…"We choose 535 pixels as the maximum dimension for the page layout because that is the widest table that will print on a standard letter size paper." Within this context the right hand margin then can safely present information in a column 365-372 pixels wide.

The reason for considering a template of this size is twofold. One, as state above, should a user want to print any portion of the web site, and not have access to high end printer which allows a "scale-to-fit" printing option, the web page right hand margin will not be clipped when printed. This may be beneficial for the some of the assignment sections of Module 04, which can get quite detailed in their presentation of sequential steps to execute.

Secondly, by limiting the text to a smaller margin (leaving extra white space on the right hand side in larger browser resolutions) the designer is allowing the user to read or digest the information in an easier fashion. In other words, among graphic designers, it is understood that limiting the overall visual text width allows the reader's eye to more easily "return" back to the next line while reading. This prevents eyestrain when reading either print or electronic media. This method is employed on many web sites that are text heavy, as well as in magazines that are not "forced" to columinze their content, but do so for easy readability and comprehension.

An easy solution, based of the flexibility of the author's template, may be to instruct readers using larger resolutions (those greater than 640 pixels wide), to scale their browser window width down manually while working within the Module 04 site. But

remember this will cause the overall length of the page to increase. For example, when I scaled down the width of the Composer tutorial "Working with Web Pages", it jumped from 8 screen scrolls to 9 1/2 screen scrolls. Also, this quick fix will not work for the "Getting Started" tutorial, for the tool bar snapshot images are too wide to allowing manually shrinking the browser window without inducing the worse effect of horizontal screen scrolling. So for this approach to be implemented, the toolbar images themselves would need to be scaled down manually in PhotoShop.

Ironically, the author failed to heed his own recommendations provided within the Module 04 Composer tutorial. Under the tutorial labeled "Page Properties", there is a link titled "Setting Page Length" (http://hydra.etl.vt.edu/module04/Composer12.htm). In this section the author states "A good rule of thumb for writing a page meant to be read onscreen is to make it no longer than two to three 640X480 screens' worth of information, including local navigation links at either the beginning or the end of the page layout. If you make the page longer than the window, your reader has to remember too much information that's already scrolled off the screen. A disadvantage of a very long Web page is that the reader must depend on the vertical scroll bar to navigate. Small scrolling movements can completely change screen contents, leaving the reader no familiar landmarks. Thus I would submit this a worthy update to be incorporated in future planned revisions of this site.

Moving on to other matters concerning general screen display, the author does a great job of providing consistent navigation modes throughout the entire site. He likewise does not obscure message by too much-non critical detail.

With respect to text formatting the author employs proper typography rules for clear reading and legibility. For example, there is no use of all capital letters, and Marginal headings are employed to improve text organization. I have already discussed my concerns regarding the excessive use of line breaks with horizontal rules, and the packaging of the overall amount of text (or information) within one page. I will next critique the site with respect to general principles regarding pictures and illustrations.

The author shines throughout module 4 with respect to picture, illustration, and diagram guidelines regarding general visual design. All picture functions are clearly designated with accompanying instructions and are closely related to the context of the text. The pictures and diagrams used exactly resemble the size, color, placement and context they are intended to portray. I didn't see specific captions drawing attention to particular screen shots, but this may not be needed, as the author directly provides supporting text above and below each toolbar illustration.

There are three minor points worth mentioning with respect to the images used. As stated earlier, it may behoove the author to capture similar screenshots on a Mac platform and create a parallel site for those users. Additionally, the graphics used may want to be scaled down, such that they would fit within a 480 pixel wide window. Of course they would still need to be legible or labeled appropriately. Finally, some of the toolbar images may be more easily understood, should the author employ highlighting techniques

such as arrows, etc. which reference the supporting text beneath the toolbar. For example, I remember trying to find a pencil icon referenced in one toolbar snapshot image, and was unable to find the icon the text was referencing (**Editing the Page your Browsing**: http://www.itma.vt.edu/itma1/courses/webdev/composer1.htm).

The next section under the Instructional Message Display guidelines addresses the use of audio. There were no audio components in Module 04, and as such, no discussion or evaluation in this regard will ensue. In conclusion, I believe I have adequately evaluated the guidelines with respect to instructional message display, and have listed possible revisions immediately after each critique was proffered.

E. THE REVISION LIST:

First Priority:

One point of possible confusion concerns the identification of which portfolio components module 04 is suppose to support. In the main entry page (http://hydra.etl.vt.edu/itweeb/Modules.htm NOW OFFLINE) the author states Module 04 "may" be useful in developing portfolio components: 1b, 1c, 1d, and 1e.

I would submit either it is useful or not useful, and to state this fact definitively. Additionally it may be useful to provide a link from 1b, 1c, 1d and 1e on this page, opening up a separate window to an anchor defining these portfolio components. As defined on the portfolio components and sub-components page (http://hydra.etl.vt.edu/itweb/Components.htm NOW OFFLINE) 1b is "Links", 1c is "Educational Site Reviews", 1d is "Personal Philosophy & Best Practice" and 1e is "Resume".

Under http://hydra.etl.vt.edu/itweb/combymod.htm NOW OFFLINE, Electronic Portfolio Components are aligned to particular supporting modules. Here module 04 is show to support 1b, 1d, 1e, and 3. This alignment does not match what the author cites at the intro to module 04 found at: http://hydra.etl.vt.edu/itweb/Modules.htm).

Additionally when the learner first reads the overview of Module 04 (http://hydra.etl.vt.edu/itweb/Modules.htm NOW OFFLINE), the author of this introduction states that user in this module will develop their electronic portfolio "shell" in this module. Then when one goes to the first entry page for module 04, another brief review of what this module is about is provided, but now the term "shell" is not used, but the idea of a framework is presented. This may be confusing to the first time viewer, and can be easily rectified by using identical terminology in both instances.

The flowchart graphic provided in Assignment 2 has text that is illegible: (http://www.itma.vt.edu/itma1/courses/webdev/assignment2.htm). It is difficult to read on my 800X600-resolution monitor, even when I take the resolution down to 640X480.

The text should be made clearer, labeled appropriately so legible, or spelled out in the supporting text.

Finally, there should be more examples of good and bad electronic portfolio web sites provided. The designer may want to provide written support concerning what makes them good or bad.

Second Priority (but no less important!):

Visit the Mac and Cross platform web software sites provided below, and where appropriate, incorporate these resource links under the "Resources" section of Module 04 and in the "Open Studio" Portion of the ITMA web site:

HTML Editors

The author provides a list for web creation tools and appears not to list the number one Mac HTML editor (4 stars MacWorld) which is **Golive Cyber Studio** personal edition (Mac) $99-http://www.golive.com. Golive was recently purchased by Adobe, and users will soon be seeing a cross platform version of this tremendous product. Additionally, Symantec Corporation also sells a Mac only HTML editor called **Visual Page** for just $99. Finally there's the respected **BBEdit HTML** editor for more advanced non-WYSISWG HTML coding.

There are several inexpensive WYSIWYG HTML editors that are cross platform and probably worth listing on this resource page. For instance **Claris Homepage** (Mac/PC) is only $99 (http://www.clarishomepage.com) and **Web Workshop** (Mac/PC) is only $49 at an Educator price, and it comes with a teachers guide (http://www.nysunburst.com).

America Online also provides a free HTML editor called: **AOLpress 1.2** (http://www.aolpress.com) which is a cross-platform product. Additionally, it may be worth linking to Microsoft's downloadable Word-HTML conversion packages as another possible source of a simple free HTML editor.

Image Animation Software
Freeware
A Mac specific shareware program for creating animated GIFs is called "**GifBuilder**". This program was develop as freeware by Yves Piguet and can be found at http://iawww.epfl.ch/Staff/Yves.Piguet/clip2gif-home/GifBuilder.htm Nowhere on the "Resources" page or "Design Studio" page is this product listed.

JPEGView is another Mac image conversion utility that the users may be made aware of (http://emorgan.lib.nscu.edu/teaching/manuscript/0600-0007.html)

Smart Dubbing 1.0
From Netherlands a Mac FREEWARE program that converts QuickTime movies and PICS animations into animated GIFs. (http://www.xs4all.nl/~invaders/newindex.htm)

Likewise a cross-platform public domain image-processing product called **NIH Image** is available from the national institute of health. It has many of the same functions (sharpen, shadows, brush tool, spray can tool, pencil tool, etc.) that Adobe PhotoShop does for free! The user simply saves their image as a TIFF, PICT or BMP and then converts it to a web equivalent via GIF converter or a similar image conversion utility. This software is available on both the Mac and PC platforms.
Mac download: http://rsb.info.nih.gov/nih-image/
PC download: http://www.scioncorp.com/frames/fr_download_now.htm

This has also inspired a JAVA based image-editing program called **Image/J** that runs anywhere, and can edit and save images as GIF or JPEG. This can be found at: http://rsb.info.nih.gov/ij/

I openly admit that I am not totally clear on the NIH imaging functions, but the NIH software definitely merits further exploration for possible inclusion in the ITMA site.

Non Freeware Image Animation Software
You may also want to post **WebPainter** from Totally Hip Software ($89). It provides animation features and onion skinning to simplify the animation process. WebPainter also covert QuickTime movies into animated GIFs. TotallyHip also has a shareware Mac program called GIF Utility Pack which allows users to optimize and preview animated GIF's (http://www.totallyhip.com).

Finally Totally Hip Software provides a free Demo pack of animated clip art called **Hip Clips** available in Mac and PC platforms. While many of the animated GIFs are static (hence the inducement to purchase the entire working package), there is a varied assortment of animated GIFs included in the Demo set free for use by the downloader.

GIFmation from BoxTop Software ($49) is till another Mac/PC piece of software that creates animated GIFs that are cross pallet browser compatible (http://www.boxtopsoft.com/)

Also at BoxTop Software is a freeware PhotoShop plug-in utility called **ColorSafe**. This utility takes whatever color you using in PhotoShop and coverts it to its closest equivalent web safe compatible color. By alternating various side-by-side pixel "shades" of color, a new apparent "solid" color is perceived by the viewer. This then allows a wide expansion of color choices over the traditional 216 common palette cross platform web colors used now.

Internet Web Tutorial Sites:

Finally there are additional critically acclaimed Internet tutorial design sites like Creating Killer Web sites (http://www.killersites.com), or Sun's "Web Style Guide" (http://www.sun.com/styleguide/) that might also be listed under the Tutorials link in the "Open Studio" support page or "Resources" page. These are overall evaluative suggestions that concern the entire module, and are thus included here as directed by Dr. Sherman.

Third Priority:

A point of overall navigation design that the author may want to take into consideration concerns when the users initially enter into the Module 04 site. The author may want to purposefully direct users toward certain areas by providing a funnel effect of sequential pages or directional arrows for the user to follow. This is a major design component of the Yale Web Style Guide, which the author cites as a definitive reference for creating web sites. Yale states that while the user is always free to select the order in which certain material is viewed, this does not prohibit the site designer from specifically attempting to direct the user as the designer intends throughout the site. For example, after entering the first page of module 04: http://www.itma.vt.edu/itma1/courses/webdev/
the author may want to steer users to the "Big Picture" or Syllabus by providing a directional arrow. If the author feels this information should be reviewed prior to jumping into a specific assignment, he may provide a funnel effect or "next arrow" icon to accomplish this.

Finally, the author may want to redesign the tutorial hierarchy, such that the page length of the tutorials are not so long, but in separate pages and more manageable chunks.

F: Final Thoughts

This concludes my expert review evaluation. While the tool Dr. Sherman provided to guide this evaluation forced its user to be hypercritical of every aspect of the site in question, I must say, that overall the site is well designed, legible, easy to understand and pleasing to the eye. The author should be commended! I hope this review will assist him in future reworks of the site as this module will be used for many years to come!