

**AN INTRODUCTION TO
WEBSITE DEVELOPMENT FOR COURSE WEBPAGES
AT MICHIGAN STATE UNIVERSITY**

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Introduction

Web applications have three main purposes to sell a product, to share general information about a specific subject, and to share information about yourself. The purpose of this course website is to share general information about the courses and research that Dr. Evangelyn Alocilja administers. For example, course objectives, important dates and times, pre and post test information, distributing labs and homework, etc. Throughout this manual there will be a set of instructions that describe the steps that were taken to create the website www.msu.edu/~alocilja.

Understanding a Web Page

The first step to setting up a web application is to understand its components. The main component and only component of a web application is setting up web pages. A web page is a text file containing Hypertext Markup Language (HTML) formatting tags and links to graphic files and other web pages through a web server. In other words, “an interactive form of communication that uses a computer network.” Web pages are unique in such a way that they can be interactive and use multimedia. For example tests can be taken on the web and results can be distributed to the user immediately after the test was taken or a game can be played against others around the world. The list goes on...

The main thing to remember when creating a web application is to establish one main goal and illustrate that goal by setting up many linking web pages. There are web applications on the world wide web now that have a lot of useful information but unfortunately they haven't establish a main goal. Therefore, those sites are cluttered and very confusing in which they are less likely to target their audience. Deciding your one main goal will take three steps; gather all the information that you would like to portray on the site, organize the information into categories, and identify your audience. By following these three steps you will be on your way to a successful website.

Deciding a Web Interface

FrontPage 2000 is one of many web site interfaces. The difference between FrontPage 2000 and all the others is that it was designed for a small business audience that wanted to put together quick and easy websites. The Web Developer Journal states that FrontPage 2000 is straightforward and easy to use where you can input and format text, insert tables, images, and other objects, move stuff around the screen, etc. FrontPage 2000 is tightly bound to the Microsoft Office environment and is designed to work seamlessly with RichText-filled Word documents, Excel spreadsheets, and Access databases.

FrontPage 2000 was chosen as a developer tool for this project because of that exact reason. Its simplicity and easy maneuvering ability from one Microsoft application to the next makes developing a course website effortless. This manual lays out the steps in creating www.msu.edu/~alocilja in FrontPage 2000. The manual also outlines a program called Widgets that MSU created for course web pages to become more interactive with the student.

Introduction to FrontPage 2000

FrontPage allows you to create, format, and lay out text; add pictures created outside of FrontPage, establish hyperlinks, and organize your website and their links by using several views of the pages in a web in a drag-and-drop environment. Throughout this section of the manual we will be creating a web page named BE431_homework. The steps to creating this page layout the basic functions of FrontPage 2000.

Templates

When opening FrontPage you can either start with a blank document or a template. A template is a pattern that can either be used throughout the whole web application or for one web page. The developer usually creates their own but FrontPage has many demo templates available for your use if you don't want to develop your own. These are located under **File New Page**. For this

demonstration we will use the created template index.html (Figure 1) as a pattern for the whole web application.



Figure 1. The index.html page for www.msu.edu/~alocilja

As you will notice all of the main pages in this web application are similar to the index.html page. Let's create a document that is a homework web page for the course BE 431. Open the index.html page and go to **File Save as**. Name this file **BE431_homework**. Now let's manipulate the BE 431 homework web page to fit your main goal. *NOTE: The creation of this template is demonstrated in the Tables section of this manual.*

Web Page Design

After creating a template and establishing a main goal for the web application most developers have to identify a new goal for every page in their web application. The goal for the BE 431 homework page would be to distribute the homework when the homework is assigned and to distribute the solutions after the students handed in the assignment. Therefore, the layout for this page will have to include a series of tables, buttons, text, and even some graphics that link to each homework assignment and each solution.

Open the file BE431_homework.htm. This file should look like Figure 1 because there haven't been any manipulations done to it since it's been saved. Delete every thing below the colored Table of Contents leaving the large red box blank. Your screen should look like Figure 2.

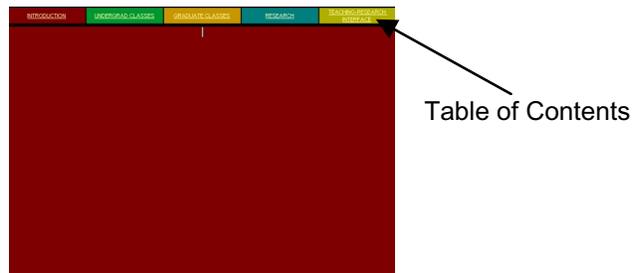


Figure 2. Template for www.msu.edu/~alocilja

Tables

Now we must evaluate the layout of this template. In FrontPage 2000 most layouts are designed with a series of tables. Tables can be used to position text, graphics or add an effect to a hyperlink. Shown in Figure 3a is the Table Properties window located under **Table Properties Table**. This window will be used to change the style of the selected table. Cell properties is another function that can be used to change the properties of the individual selected cell, which is located under **Table Properties Cell** (Figure 3b).

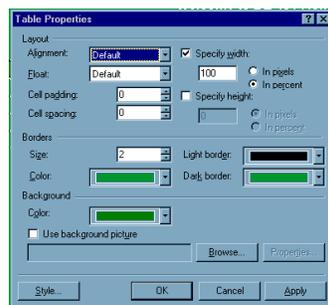


Figure 3a. Table Properties

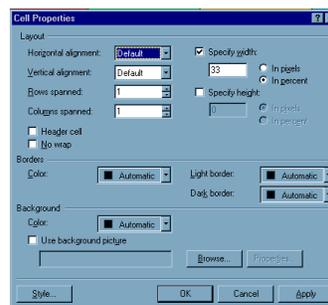


Figure 3b. Cell Properties

We will start creating our BE 431 homework web page by manipulating the template index.html. This particular layout consists of two separate tables. The first table is shown in Figure 4a, the Table of Contents. The Table of Contents will be used to link the four main pages to one another. It consists of four columns and one row (four cells) and the hyperlinks of each main page is listed

in each cell. The second table, shown in Figure 4b consists of one column and one row (one cell). This is the table we will use as our workspace.



Figure 4a. Table of Contents



Figure 4b. Workspace Table

Using Table and Cell Properties

The background color for all of the undergraduate pages is green. Since BE 431 is an undergraduate course we will have to change the background color of the workspace, Figure 4b to green. To do so, right click on the workspace table. Click on cell properties and then change the background color to green.

Now we are ready to add text, graphics and another table to the workspace cell that we just changed green. First we have to consider the next layout. Let's assume that there are five homework assignments and five solutions that will be distributed on this web page throughout the semester. Therefore, there will be at least 10 hyperlinks on this page not including the five links that make up the Table of Contents at the top of the page.

A title to this web page needs to be added so your audience knows where they are located inside your web application. Click on the green workspace and type in the title of this web page **Welcome to BE 431 Homework**, and press **enter**. Depending on your default you might want to change the font, color and alignment of the text.

A table must be added inside the workspace to aid in placing the 10 homework assignment and solution hyperlinks. Click on the green workspace and then go to **Table Insert Table**. Type **5** in the row space and **3** in the column space and press **enter** (Figure 5).



Figure 5. A table is added to the template to aid in hyperlink placement.

Using Tables to Accent Hyperlinks

To make the homework and solution hyperlinks stand out on the page we can use buttons that are made out of tables. By color coding and using border shading these buttons will stand out on the page therefore catching the attention of your audience. Ten buttons will be added to this table, five in the first column for the homework assignments and five in the third column for the solutions. We will decide what to do with the middle column later. *NOTE: This is just a demonstration and does not have to be followed exactly. These colors can be changed to a preference of your liking later.*

1. To make a button place your cursor in the first row, first column and click on **Table Insert Table**. Type **1** in the row selection and **1** in the column selection (one cell).
2. Highlight the table that was just created and go to **Table Properties Table**. Change the border size to **two**. Change the border color and the dark border color to **green** and change the light border color to **black**. Also change the background color to **dark green** (Figure 6).

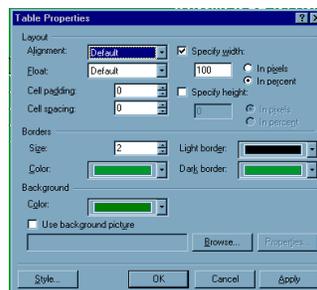


Figure 6. Table properties for a button.

3. Click on the table that you just created and type **Homework 1**.
Change the font to Arial and change the color to white.
4. To change the size of the table click on **Table Properties Table**.
Click on specify width then click check the in pixels box and type 150.
This will specify the width of the table to 150 pixels (Figure 7).

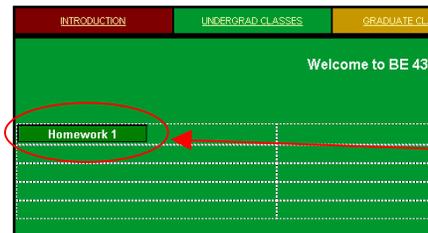


Figure 7. Specific width of the Homework 1 table is 150 pixels.

Dynamic HTML

To make the homework assignments and solution hyperlinks stand out even more on the page we can use a tool called Dynamic HTML (DHTML). Dynamic HTML allows you to add effects to your hyperlinks.

1. To add a DHTML highlight the Homework 1 table and go to **Format Dynamic HTML effects**. On the DHTML tool bar at the bottom of the window click on **choose an event** then select **mouse over**. Next click on the **choose an event** menu to the right of the last column and select **formatting**. To the right of formatting another column will appear click on **choose an event** and click **border**. Fill this table in as shown below in Figure 8.

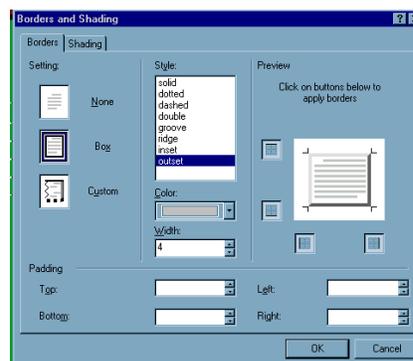


Figure 8. Adding a border DHTML effect.

2. Press OK and click preview on the lower left-hand side of the screen to preview the DHTML effect. Slide your mouse over Homework 1. The Homework 1 button should look like it's coming out of the screen.

There are many more DHTML effects that you can provide to any hyperlink whether it is text or a graphic. Remember, even though these effects enhance your web page you must strategically place them so every web page in your web application look similar. If you don't do this, the web application will become very confusing to your audience.

Adding a Hyperlink that is in Word Format

Hyperlinks can link to separate URL's that take you to other web pages or they can link to your own web pages. These pages can either be created in FrontPage, Excel, Word or PowerPoint and saved as an *.html file in your homepage directory. For these buttons we will add hyperlinks that are saved as Word HTML pages therefore let's assume the assignment for homework one was saved as homework_1.html but created in Microsoft Word.

1. To add a hyperlink to this button, the words Homework 1 and click on **Insert Hyperlink**. Find the file Homework 1 to add it as a URL highlight it and press **OK**. In order for the Homework 1 file to be accessible as an URL it must be saved as an html file in the homepage directory.
2. To save a word document as an html file in Microsoft Word 2000 open the word document go to **File Save as Web Page** which will save it as a **homework_1.html** file. Make sure you save these pages in your homepage directory.

- Repeat steps 12-18, nine times to add four homework DHTML buttons to column one and five solution DHTML buttons to column three. Your web page should look similar to Figure 8.



Figure 8. Homework and Solution DHTML buttons.

The Back Button

For all web pages to be interlinked you must always leave room for a back button. A back button will always take you to the last place you've visited. Just in case your audience went to the wrong page or found the information that they needed. With a back button they have an easy way to get back to their original page. For example shown if Figure 8 the last button in the first column is the back button called BE 431 Homepage. The BE 431 Homepage is the only page that links to the BE 431 Homework page therefore the only choice for the back button would be the BE 431 Homepage.

Advanced FrontPage 2000 Topics

Adding Graphics and assigning it a Hyperlink

Graphics can be added to FrontPage 2000 by designing them in a different software program, i.e. Microsoft PowerPoint, Microsoft Image Compose, etc or by using Clip Art and copying and pasting these graphics into the cell of your choice. For example shown if Figure 9 the globe a Clip Art graphic and the words *Understanding how the Biosystems Works* graphic was created in Microsoft PowerPoint copied and pasted into the middle cell.

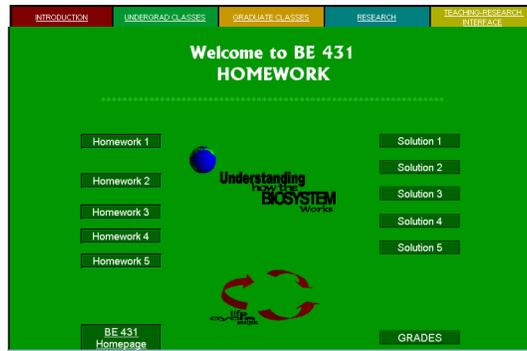


Figure 9. BE 431 Homework with graphics added.

If you wanted to add a hyperlink to the graphic click on the graphic then click on the rectangular hotspot button located on the picture tool bar. Drag the rectangle around the graphic and add the URL when the “create a hyperlink” window pops up.

Components

To add extra components in FrontPage 2000 to enhance your web page is really easy. The components are located under **Insert Component**. All the components that are available are shown in Figure 10. Basically each component can be added by putting your cursor at the spot where you want to add the component on your web page and then drag your mouse to **Insert Component** click on the component of your choice. Each component’s property window will pop up and should be self explanatory when changing these properties to fit your objectives.

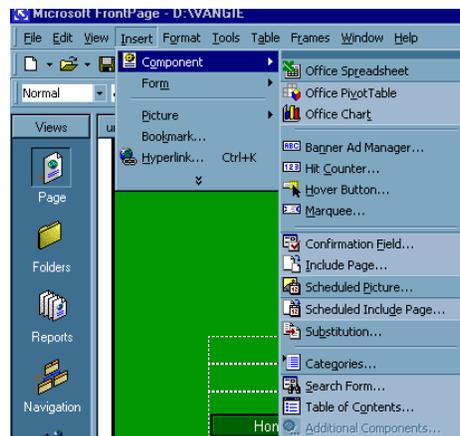


Figure 10. FrontPage 2000 Components

MSU Widgets Program

The Faculty Facility for Creative Computing (FFCC) at Michigan State University provide special computing programs that create online course materials. These materials aid in taking attendance, showing information about the students, providing online quizzes and tests, designing feedback forms, collaborating group discussions, tracking student grades, turning in files to an instructor, and aid in distributing announcements. The following requirements must be established to utilize the VU widgets:

1. **PILOT account**: The first step is to activate your pilot account. If you have a working e-mail address at pilot.msu.edu, then your account is active.
2. **CL UNIX account**: In addition to having a Pilot account, you need to obtain a Computer Laboratory UNIX account. The CLUNIX application form is available in Room 220, Computer Center, or on the Web at <http://www.msu.edu/~systems/forms/unixapp.html>.

The form requires the signature of your department chair.

The "Problem Number" required in item 7 on the form will be assigned by FFCC staff in Room 114, Computer Center.

Write "Requesting a CLUNIX account for VU Widgets" in item 9.

There is no charge or fee for a CLUNIX account used solely for VU Widgets in support of MSU courses. For other purposes, please see the Computer Laboratory rates page.

3. **Prof Group**: Make sure you are in the Prof PTS Group for the course. To check if you are on the list go to <http://ffccreal.cl.msu.edu/ffcc>. If you are not on the list, your department chair needs to add your Pilot ID to the list of professors with access to the course AFS space. For instruction on adding you to the Prof PTS Group list go to <http://ffccreal.cl.msu.edu/ffcc/profptsgroup/shtml>.

4. **Course Info:** Know which semester the course is being taught (i.e. First or second summer session or full summer section). Know which section(s) of the course you will be teaching. Know who your TA's are and have their Pilot ID's ready. Once you have Pilot and CLUNIX accounts, the FFCC can help you set up and customize VU Widgets for your class.

Once all of the paper work is filled out you will be required to make an appointment at the Computer Center and go to room Room 114 in the Computer Center for the VU Widgets installation and support. Visit the VU Widgets website at <http://ffccreal.cl.msu.edu/ffcc/vu.shtml> for other information concerning this process.

Conclusion

In conclusion the web application www.msu.edu/~alocilja has many more web pages that are interlinked together to serve the purpose of creating a website that interacts with each individual student. Every course web site's main goal is to interact with students while keeping them updated on all the course activities throughout the semester. To enhance the site, the professor might want to administer tests and quizzes online. To do so, you can use the Michigan State University's VU Widgets program to help you out. The Faculty Facility for Creative Computing provides consulting services in support of using the VU Widgets to create online course material. By combining FrontPage 2000 as the web page developer interface and using the VU Widgets program at Michigan State University a course website will be easy to develop and compatible for all students use.

Works Cited:

Cornell, Tom. Microsoft FrontPage 2000.
http://webdevelopersjournal.com/software /frontpage_2000.html. December 1999.

Faculty Facility for Creative Computing (FFCC). VU Widgets Tour
<http://ffccreal.cl.msu.edu/ffcc/>. October 2000.

Hester, Nolan. Visual Quickstart Guide, FrontPage 2000 for Windows.
Copyright 1999. Pages 3-8, 13-29.

Matthews, Martin and Poulsen, Erik. The Complete Reference FrontPage 2000, Osborne/McGraw Hill. Copyright 1999. Pages 3-61, 307-330, 459-509.