B.E.

Fifth Semester Examination, May-2009

Web Development (CSE-307-E)

Note : Attempt any *FIVE* questions. All questions carry equal marks.

Q. 1. (a) Why does not HTML control the layout of a page?

Ans. HTML is a structural language, which means it is or should be used to add structure into a text through toys. The task toy should them only be used to format data into a task to create columns with rows. But since the apparitional of tables in HTML, it has been very often used for layout purpose, usually split a web page into columns. Besides the fact that it breaks the nearing of HTML, it doesn't help either in various cases that we could summarize by the difficulty to parse or render a taste in some context (disabilities, view port restrictions).

This document describes one way to create a 3 columns layout and links to other layout techniques.

Layout Description : The technique described below allowed to build a 3 columns layout, with the following features :

(i) The text in the centre of page is the one that comes first in the code, which means that's the first to be read in non CSS or nonvisual browsers.

(ii) The left column and the right one follow in this order.

It's ideal for home page since it allows to have a complex text in the centre and nice lists of links on the side.

One of the restriction is that it won't work for too bad CSS implementation, but it will degradenicely into a traditional vertical layout.

This layout is applied to the page itself so that you can get an idea of what it produces.

Q. 1. (b) Can you put any URL in a link?

Ans. Hyperlinks play an important role in HTML. We always need to jump from one web page to another several times while surfing the internet. Hyperlinks make this task practically feasible. They redirect us to another location on World Wide Web once clicked. All the textual links on a web page which we click to go to another web page are hyperlinks. The most common attribute of hyperlinks is that when we roll over our mouse cursor on them, the cursor transforms into a hand with a pointing finger towards the hyperlink. Hyperlinks are also known as anchors. They mark textual data and images as a point which, when clicked, redirects to another web page, text or image. There are two types of hyperlinks in HTML :

(i) External Hyperlinks

(ii) Internal Hyperlinks

External hyperlinks are those which points to another web page. On the other hand, internal hyperlinks are those which points to a different location on the same web page. Both the links are created by using <A> (anchor) tag. We can create the hyperlinks with the help of three attributes :

(a) <A>, the anchor tag

(b) HREF="", which is used with the <A> tag

(c) URL, which is used with HREF to tell the link where to redirect the user.

For example : To create an external hyperlink we can write the HTML code as :

```
<A HREF="http://www.yahoo.com">Go To Yahoo</A>
```

For more study material Log on to http://www.ululu.in/

According to the above example, if you click on 'Go To Yahoo' text, you will be redirected to http://www.yahoo.com URL which is mentioned with HREF attribute.

Sometimes, we also need to jump to a specific location on the same web page instead of going to another web page. In these circumstances, internal hyperlinks are used. To create internal hyperlinks we have to decide the location and its name. Then, the name of that location will be used to jump to that location. When a particular location is identified, then to assign a name to it the 'name' attribute is used with the <A> tag. For example :

```
<A NAME="bottom">BOTTOM</A>
<A HREF="#bottom">go to the bottom </A>
```

In the above code, first of all we have assigned a name to the text BOTTOM as bottom with the help of NAME attribute. This text is written at the bottom of the web page. Then, in the next code we have specified that name after the HREF which will take us to the bottom of the page. One more thing which is to be noted here is that there is no filename before the # sign. This indicates that the link is pointing towards a location on the same web page.

Apart from external and internal hyperlinks, we can also insert e-mail links in the HTML documents. For this purpose, 'mailto:' protocol is used instead of http. For example :

```
<A HREF="mailto://query@contentmantra.com">Post your Queries</A>
```

Q. 2. (a) What is CSS style rule?

Ans. A Cascading Style Sheets Rule : A Cascading Style Sheets rule containing a selector and a declaration and how to apply CSS to HTML code and HTML documents in order to bring more style to Web pages.

A Cascading Style Sheets rule is made up of a selector and a declaration.

```
H2 {color : blue;}
selector {declaration;}
```

The declaration is the part of the rule inside the curly braces. It specifies what a style effect will be. For example, "color : blue".

The selector specifies which element(s) will be affected by the declaration. Think of the selector as a link of sorts between the HTML mark-up document and the style of the Web page. A selector that refers to an HTML element is called a type selector. Any HTML element name can be used as a type selector. HTML "tags" without content ("empty containers") such as
 or <HR> can not be used as a selector. They are not included in the current CSS specification.

A declaration has two parts separated by a colon: property and value.

```
selector {property : value}
```

More than one declaration may be placed inside the curly braces and a semicolon must separate each declaration from the next. The ending declaration does not require a semi-colon but I like to use it.

```
selector {property : value; property : value;}
H2 {color: blue; font-family : Arial, sans-serif;}
```

If you neglect to place a semi-colon between any two declarations your style sheet will seriously malfunction or totally fail.

Instead of coding

```
H1 {font-family:Arial, Helvetica, sans-serif;}
H2 {font-family:Arial, Helvetica, sans-serif;}
```

For more study material Log on to http://www.ululu.in/

H3 {font-family:Arial, Helvetica, sans-serif;}

You may group selectors together. When grouping selectors you will need to separate each selector with a comma. When grouped together, one rule applies to several selectors.

H1, H2, H3 {font-family : Arial, Helvetica, sans-serif;}

The grouping means the same thing as the 3 lines above.

I want to mention the font-family property for a minute.

H2 {font-family : Arial, Helvetica, sans-serif;}

This rule says that Arial will display if it is available on the user's computer, otherwise Helvetica will display if it is available. If neither font is available on the user's computer, then the user's default sans-serif font will display. What if there is no sans-serif font available? Well then, the default font of the installed browser will be displayed on that user's computer.

H1 {font-family:"Comic Sans", Arial, sans-serif;}

Now you have seen the properties of color and font-family. You are wondering how to get these rules into your Web document. You can use an internal style sheet with the mark-up coded in the <HEAD> section of the HTML document. Begin with <STYLE TYPE = "text/css"> and end your internal style sheets rules with the </STYLE> tag. (See the code example below.) You should use the HTML opening comment mark of <! -- to precede your style sheets and the --> to close your style sheets prior to the </STYLE> tag, to hide your code from older browsers. Style sheets only work with the version 3.x or higher versions of Netscape Navigator, Internet Explorer and Amaya (located at W3C.org) as of this writing.

Q. 2. (b) What is difference between the strict and transitional HTML document types?

Ans. Diff. between Strict and Transitional : Mark-up does not allow the "presentational" elements attributes that have been de repeated, whereas transitional does because it is a transition from the tag soup that was html 3 to the separation of content 8I presentation.

Strict : anything deprecated (condemned) or made obsolete is not allowed, whereas, transitional allows deprecated elements in the markup. I like how Tedester addressed "strict mark-up is more solidly future proof.

The primary differences which make the Transitional variant more permissive than the Strict variant (the differences are the same in HTML 4 and XHTML 1.0) are :

* **A Looser Content Model :**
- Inline elements and plaintext (#PCDATA) are allowed directly in: body, blockquote, form, no script and noframes
* **Presentation Related Elements :**
- underline (u)
- strike-through (s)
- center
- font
- basefont
* **Presentation Related Attributes :**
- background and bgcolor attributes for body element.
- align attribute on div, form, paragraph (p) and heading (h 1...h6) elements
- align, noshade, size and width attributes on hr element.
- align, border, vspace, and hspace attributes on img and object elements.

For more study material Log on to http://www.ululu.in/

- align attribute on legend and caption elements.
- align and bgcolor on table element.
- nowrap, bgcolor, width, height on td and the elements.
- bgcolor attribute on tr element
- clear attribute on br element.
- compact attribute on dl, dir and menu elements
- type, compact, and start attributes on ol and ul elements.
- type and value attributes on li element.
- width attribute on pre element.

* **Additional Elements in Transitional Specification :**

- menu list (no substitute, though unordered list is recommended; may return in XHTML 2.0 specification).
- dir list (no substitute, though unordered list is recommended)
- isindex (element requires server-side support and is typically added to documents server side) .
- applet (deprecated in favor of object element).

* **The Language Attribute on Script Element** (presumably redundant with type attribute, though this is maintained for legacy reasons).

*** Frame Related Entities :**

- frameset element (used in place of body for frameset DTD)
- frame element
- iframe
- noframes
- target attribute on anchor, client-side image-map (imagemap), link, form, and base elements.

Q. 3. (a) List the steps needed for processing the form using CGI?

Ans. Steps needed for processing the form using CGI :

(i) Make a directory named cgi-bin, or cgi or htbin etc. in your public html folder.

(ii) Up pack your free script & open it up in a text editor (not a word processor). Something like textpad, ultra edit etc. & follow directions to configure the script.

Set the top line to point to the location of the perl program on your server (on EFN it would be # user/bin/perl5). You will be undoubtedly need to enter your domain name & the email address to send results to and the name/location of the mail program on your server (at EFN is usr/sbin/sendmail).

(iii) Save your configured script. If you are using a text editor that allows a choice between unix and dos line endings, choose unix. If you are using Windows Notepad, Save it & hope. If the script you got ends in .pl or has no file extension & save it with a .cgi extension.

(iv) Upload your scripts to your server in ASCII node. If you upload it in binary, it probably won't work.

(v) On unix systems, all files come with owners & permissions about what can be done with the file. Next we need to set the permissions on the file so that it can be executed. We want to let you users & groups read & execute, & owners read, write & execute. We do not want visitors writing to our script, as they may make changes we don't want. These permissions are often described by a number or a set of letters. So, five up your flip program & find how it lets you chamod a file & set its

For more study material Log on to http://www.ululu.in/

permissions to owner read/write/execute, group read/execute & user read/execute (755) or dwrx-rx-rx. You can also set this staff via a shell account on the server, if you have shell access & understand basic unix commands.

(vi) Go back to your html form & point it to your cgi script-(action=cgi-bin/mymail.cgi) Upload the form & test it.

Errors : If you get a page not found error, check the spelling etc. & check that the permissions allow it to be read. If your get an Internal message, it is executing the script, but there is a problem in the script. If you have shell access, you can go to the directory where your scripts is & test it with perl-cw script name cgi. This will check the syntax of the script. If you do not have shell access go through steps 1-6 again, more carefully.

Q. 3. (b) Explain Input/Output operations on the WWW.

Ans. In computing input/output or input/output refers to the communication between an information processing system (such as computer) and the outside world-possibly a human, or another information processing system. Inputs are the signals or data received by the system and outputs are the signals or data sent from it. The term can also be used as part of an action; to "perform input/output" is to perform an input or output operations. Input/output devices are used by a person (or other system) to communicate with a computer. For instance, keyboards and mousers are considered input devices of a computer, while monitors and printers are considered output devices of a computer. Devices for communication between computers, such as modems and network, cards, typically serve for both input and output.

Note that the designation of a device as either input or output depends on the perspective. Movers and keyboard take as input physical movement that the human user outputs and convert it into signals that a computer can understand. The output from there devices is input for the computer. Similarly, printers and monitors take as input signals that a computer outputs. They then convert there signals into representations that human users can see or read.

In computer architecture, the combination of the CPU and main memory (i.e., memory that the CPU can read and write to directly) with individual instructions is considered the brain of computer and from that point of view only transfer of information from or to that combination, for example to or from a disk drive, is considered input/output. The CPU and its supporting circuitry provide memory-mapped input/output. That is used in low-level computer programming in the implementation of device drives.

Q. 4. (a) Why is it that the preferred way is to use Servlets through a JSP?

Ans. Most java applications nowadays are build on the MVC pattern... In the controller side (servlet) you implement business logic. The servlet controller usually forward the request to a jsp that will generate the actual html response (the View in MVC). The goal is to separate concerns... Thousands of books have been written on that subject.

JSP's are essentially markup that automatically gets compiled to a servlet by the servlet container, so the compile step will happen in both instances. This is why a servlet container that supports JSP must have the full JDK available as opposed to only needing the JRE.

So the primary reason for JSP is to reduce the amount of code required to render a page. If you don't have to render a page, a servlet is better.

A JSP is compiled to a servlet the first time it is run. That means that there's no real runtime difference between them.

However, most have a tradition to use servlets for controllers and JSPs for views. Since controllers are just java classes you can get full tool support (code completion etc.) from all IDEs. That gives better quality and faster development times compared to JSPs. Some more advanced IDE's (IntelliJ IDEA springs to mind) have

For more study material Log on to http://www.ululu.in/

great JSP support, rendering that argument obsolete.

If you're making your own framework or just making it with simple JSPs, then you should feel free to continue to use JSPs. There's no performance difference and if you feel JSPs are easier to write, then by all means continue.

Q. 4. (b) How does a Servlet create? Give two ways with one example of each.

Ans. Create a Servlet : In this topic, we feature how to create a sample servlet (ServletSample), from start to finish. We explain the sample code and give you pointers on how to develop your own servlets.

While the details of the steps below are specific to the ServletSample servlet code, you can use the information in this section as an example of how to develop your own servlets.

To create the ServletSample servlet, perform these steps :

Step 1: Write the Servlet :

To write the ServletSampleservlet, perform these steps :

1. Open your programming editor to edit a new file to be called ServletSample.java. For more information, see the WebSphere Development Studio Client Help.
2. Enter the servlet import statements.
3. Extend the HTTP Servlet class.
4. Write the required servlet methods.
5. Get the HTTP request information, if any.
6. Create the HTTP response.

Step 2 : Compile the Servlet :

Use Qshell to compile the sample servlet and your own servlets.

After you have written the source code (.java file) for your servlet, you must compile it into a .class file before you can package it for and deploy it on your iSeries server.

Compiling Code on the iSeries Server :

Perform these steps to compile the ServletSample code :

- Start Qshell : On the iSeries command line, type STRQSH and press the Enter key. The QSH Command Entry screen displays. When the $ prompt displays, Qshell is ready for commands.

- Use the cd command to change the current directory to the directory that holds your servlet source code. On the Qshell command line, type :

cd /path_to_mydir

where /path _to - mydir is the fully qualified path name of your directory and press Enter.

- Compile Your Servlet :

On the QSH command line, type :

javac my _servlet - name.java

where my _servlet _name is the name of your servlet and press the Enter key.

Alternatively, you can compile your servlet code using WebSphere Development Studio Client. For more information, see the WebSphere Development Studio Client Help.

Step 3 : Package and Deploy an Application :

Use the WebSphere Development Studio Client to package compiled code into a Web module before you install it on the server and to create a deployment descriptor (web.xml) file. For more information, see the

For more study material Log on to http://www.ululu.in/

WebSphere Development Studio Client.

Step 4 : Test the Servlet :

Run the ServletSample to make sure it works.

To Create a Servlet Perform the Following Tasks :

Design the servlet into your web application, or, if accessed in a generic way, design it to access no application data.

Create a class that extends either Generic Servlet or Http Servlet, overriding the appropriate methods so it handles requests.

Use the Sun Java System Web Server Administration interface to create a web application deployment descriptor.

Q. 5. Explain microsoft. Net technology and its comparison with the competing technologies.

Ans. Microsoft.Net Technology : You can rely on the latest software technologies like .NET technology to generate and attach yourself to a boundless array of secure personalized experiences. Custom-made interaction is what you can find, when .NET technologies and XML technologies team up, permitting you to access information via the internet, online and offline stand alone software application. Microsoft.NET technology, an innovative technology is basically made up on open Internet protocol and software standards with tools and services that link computing and communication. To put in simple terms .NET is a software that links information, people, systems and devices. . NET extends to clients, servers & developer tools.

The Microsoft .NET Comprises Frame Work Programmjng Model : It enables software developers to build web-based software applications, smart client applications and XML web services application, which expose their functionality systematically over a network.

- The Developer Tools : Provide a fast application integrated development environment for programming with the Microsoft .NET technology Framework.

- A set of services including Microsoft windows 2000, Microsoft SQL server and Microsoft BizTalk Server integrate, run, operate and manage XML Web services and application.
- Client software (Windows XP, windows CE, Microsoft Office XP), which help software developers, a deep and compelling user experience across a group of devices and existing products.

Microsoft.Net technology Frame work consists of Common Language Runtime Class Libraries :

- Common language renders runtime services like language integration, security enforcement, memory process and thread management.
- It also has a role in development time. when features such as life-cycle management, strong type naming, cross- language exception handling and dynamic binding reduce the amount of code that a software developer must write to turn business logic into a reusable software component.

Comparison : Two main technologies that stand out for the implementation of enterprise applications and Web services are Sun Microsystems' Java 2 Enterprise Edition (J2EE) and Microsoft's .NET framework. These two are competing to become the platform of choice for enterprise application and Web services developers. Each platform provides specific development tools and APIs to assist developers. The purpose of this research is to provide an unbiased comparison of the two platforms based on their features and services offered from the viewpoint of developers in the context of building an enterprise or Web application from design right through to deployment.

For more study material Log on to http://www.ululu.in/

Q. 6. (a) What are the elements that embed an HTML document?

Ans. HTML Elements :

: Designates the start of destination of hypertext link.

Applet : Places executable content on the page.

Area : Defines the shape, coordinates and associated URL of one hyperlink region within a client side image map.

b : Specifies that the text should be rendered in bold.

bare : Specifies an explicit URL used to resolve links and references to external sources such as images and style sheets.

base font : Sets a base font value to be used as the default font.

body : Specifies the beginning and end of the document body.

br : Inserts a line break.

button : Specifies the container for which HTML.

caption : Specifies a brief description for a table.

center : Centers subsequent text and images.

col : Specifies columns based default for the table properties.

del : Indicates the text that has been detected from the document.

div : Specifies a container that renders HTML.

dl : Denotes a definition list.

embed : Allows documents of any type to be embedded.

form : Specifies that the contained controls take part in a form.

frame : Specifies an individual frame within a frame set element.

input : Creates a variety of form.

Q. 6. (b) What are important guidelines for creating a website?

Ans. Website Design "Simple Guidelines" : How big should my website be?

Your website can be as big or as small as you want. You might have enough information to complete a five-page or more website or you just want a one-page or a two-page website as an introduction to your business or perhaps just a sales page to sell a digital product.

Plan out the number of web pages and the titles. Your Home or "index" page will be the web page that your visitors will see first. The name or "title" of the home page might be your company name or some other descriptive phrase. Your other pages can be simple words based on what the content will be–such as "About Company", "Products", "Services", "Contact Info"....anything you decide is fine as long as it fits and is appropriate to your page content.

Content is Still "King" : If you've done any research on website content, you've probably come across the phrase "Content Is King". But do you know why? The answer is SEO.

SEO is the acronym for Search Engine Optimization. It is defined as the process of increasing traffic (the amount of visitors) to a web site. The higher a web site ranks the greater the chances that it will be visited. And the purpose of having a website is to get as many visitors as you can, right?

Yes, content is king. What you say within your website and how you say it is very important to search engines. Keep it rich with keywords and key phrases while making it easy-to-read and understand. Remember it only takes about 6-10 seconds to lose a visitor, so also keep it brief and to-the-point.

For more study material Log on to http://www.ululu.in/

(i) Interactive event handlers.

(ii) Non-interactive event handlers.

An interactive event handler is the one that depends on user interactions with the form or the document. For example, on mouse over is an interactive event handler because it depends on the user's action with the mouse.

The following table outlines all of the events handlers in Java Script :

Event	Applies to	Occurs when	Event handler
(i) Abort	Images	User aborts the loading of an image	An Abort
(ii) Blur	windows, frames, and all form elements	User removes input focus from window, frame or form element.	On Blur
(iii) Change	Text fields, text areas, select lists	User change value of element	On change
(iv) Error	Images, windows	The loading of a documentator image causes an error.	On Error
(v) Load	Document body	User loads the page in the navigator	On load

Q. 8. Write short notes on :

(a) PERL **(b) Forms handling**

(c) ASP **(d) RDF.**

Ans. (a) PERL : Perl is a general purpose computer language ideally suited to handling works and text. Perl is admired for staying simple and to do simple things, but having the power to do every chore that a system administrator might require. To quote the pert gurus, "it makes the easy things easy and the difficult things possible."

Programs written in perl are called perl scripts, whereas the term the perl program refers to the system program named perl for executing perl scripts.

Perl is implemented as an interpreted language. Thus, the execution of a perl scripts tend to use more CPU time than a corresponding C program, for instance. On the otherhand computers tend to get faster and faster writing something in perl instead of c tends to save your time.

Perl meant the "Practical Extraction Report Language."

(b) Forms Handling : The procedure how to articles on forms covered the easy bit of producing the form, includes that the difficult bit is getting the output from the form. The best way for a personal user or small to

For more study material Log on to http://www.ululu.in/

Writing The Content : When writing the content for each page, keep in mind the focal point of what each page is about. Choose your words carefully and include as many key words and key phrases as possible while maintaining clarity. In other words-write short, simple, to-the-point sentences.

"Your content will determine whether your visitors stay or leave."

Graphics & Photos : The initial appearance of your website is vitally important. It will determine whether or not your visitors stay or leave. You want them to stay, of course. Strategically placed graphics and/or photos can enhance the user experience. So it's important for you to decide specifically what graphics or photos you would like on your website and which pages you want them on. Of course, you can leave this up to your web designer, but quite a few web designers request that any graphics or photos be supplied to them.

Sometimes a client will hire me to create a custom banner or a small logo or provide a graphic image for them. So you have many choices.

How your website is played out may depend on the content. It's important that the layout "flows & goes" with the content it holds.

Q. 7. (a) Explain Java Script Syntax.

Ans. Java Script Syntax : To run scripts in Javascript, it will need a Javascript enabled browser.

For example : The netscape navigator or the Microsoft Internet explorer.

To get started with Java script, it will be able to see the tag that will set a script apart from the HTML. The tags used to begin and end a script are the

<SCRIPT> and </SCRIPT> tags

The opening tag should appear like this :

```
<SCRIPT language = "Java Script">
..... Java Script Code .....
</SCRIPT>
```

For example :

```
<HEAD>
<TITLE> My World </TITLE>
<SCRIPT language = "JavaScript">
function my-function ( )
{
      // Write all statements here
}
</SCRIPT>
</HEAD>
```

There may be as many <SCRIPT> Tags as you need throughout the body of HTML document, just as it were a normal tag.

Q. 7. (b) What is Event handling?

Ans. Event Handling : When an event occur, a program executes Java script code that responds to the event. Code that executes in response to a specific event is called an event handler. So, an event handler executes a segment of a code based on certain events occurring within the application, such as on load or on click. Java scripts event handler can be divided into two parts :

For more study material Log on to http://www.ululu.in/

medium sized firm running their site on somebody else's server is via an email. When the form is submitted, then the file at the URL specified in the FORM tag by the Action attribute is run. This is normally a script file which determines whether it was a post or a GET.

(c) ASP : An Active Server Page is a standard HTML file that is extended with additional features. Like a standard HTML file, an Active Server Page contains HTML tags that can be interpreted & displayed by a web browser. Anything you could normally place an HTML file-java applets, blinking text, client wide scripts, client side Active-X controls-You can place in an ASP. However, an ASP has three important features that make it unique.

- An ASP can contain server side scripts. By including server side scripts in an ASP, you can create web pages with dynamic content.
- As ASP provides several but in objects. By using these objects accessible in an ASP, you can make your scritps much more powerful.
- An ASP can be extended with additional components.

(d) RDF : The Resource Description Framework (RDF) integrates a variety of application from library catalogs & world-wide directories to syndication & aggregation of news, software & content to personal collections of music, photos & events using XML as an interchange syntax. The RDF specifications provide a light weight ontology system to support the exchange of knowledge on the web. RDF is designed to provide a method for classification of data on websites in order to improve searching & navigation

Based on XML : RDF is implemented in XML (RDF/XML) & adds new rules to XML as well as reducing some constraints. For example it supports flat structures, eliminating the need to have data nested in a hierarchy. RDF is structured as one or more triples :

(i) The subject (ii) Property (iii) The actual value

A Common Denominator : RDF serves as a common denominator that allows different sets of vocabulary to be recognized. For example using the RDF descriptor for zip code would let systems exchange zip code data that use "ZIP" & "ZIPCODE".

For more study material Log on to http://www.ululu.in/