{Web Development}

—Masterclass—

Assignments

Instructed by: YouAccel.com

Lectures: 349

Language: English

Duration: 19h 25m

Section 1-4:

1. Sandra is new to computing. She wants to setup her new laptop with internet access so she can browse the internet, transfer files, and send and receive emails with her friends. In a paragraph, describe the most effective and secure way Sandra can connect to the WAN with her new Laptop. Make sure to address the following concerns in your explanation:

   - The Hardware Sandra will need.
   - Security considerations (provide any recommendations to keep the network as secure as possible).
   - The ports Sandra will need open to browse the internet, exchange files over Skype and FTP, and send and receive emails.

   Note: Please use illustrations to support your explanation where necessary.

2. Joe wants to send an email to Bob (bob33@yahoo.com) from his Gmail account. After sending the email, Joe receives an auto generated response from his email service provider, indicating that Bob's email address could not be found, and that the email has bounced. Using an illustration, describe the lifecycle of the email from the moment Joe hits the send button.

3. Elizabeth wants to secure her Local Network. She is unsure whether to opt for a hardware firewall, a software firewall or both. In a paragraph, provide your

recommendation.

4. Fred recently installed a new router only to find his web browser will not display any web pages. He does notice that browsing works if he plugs the modem directly into his computer.

   What is the most likely issue in this scenario?

5. The webmaster of an e-commerce website receives complaints that his website is requesting sensitive credit card data over an unencrypted connection. What course of action should the webmaster take to secure the connection and avoid more complaints?

6. Henry is trying to access a web page by plugging in the web address into his browser. He has double checked to make sure there is no typos in the URL. His browser displays the 404 error – page not found response. There is nothing wrong with his internet connection.

   Provide at least three reasons as to why this might be happening.

7. Howard is developing a simple website for a client who needs a web presence for a new Restaurant. The website will consist of five main pages and three subpages.

   The five pages include:
   - Home
   - About Us
   - Menu
   - Blog
   - Contact Us

   The About us page will branch into three subpages:

   - Recipes
   - History
   - Awards

All the main pages and subpages will link to one another.

Develop a basic flow diagram of this website.

Section 5-9:

1. List the four main types of hosting solutions for websites and web applications. Provide two advantages and two disadvantages for each type.

2. Anthony wants to develop an e-commerce website to sell automotive parts to local dealers and repair shops. He anticipates a low level of web traffic in the first year. He expects significant growth and traffic in his second year of operation. He also believes he will receive higher levels of traffic during standard business hours, and very little traffic in off peak hours (evenings and weekends).

   Based on this information, what type of web hosting solution would you suggest for his start-up and why?

3. Billy recently registered a domain name (ibilly.com). He already has hosting setup and his website uploaded. When he plugs his domain name into his web browser, the domain name does not resolve to his home page. List three possible reasons why this issue might be occurring.

4. List and explain three important ways to secure a remote virtual server during configuration.
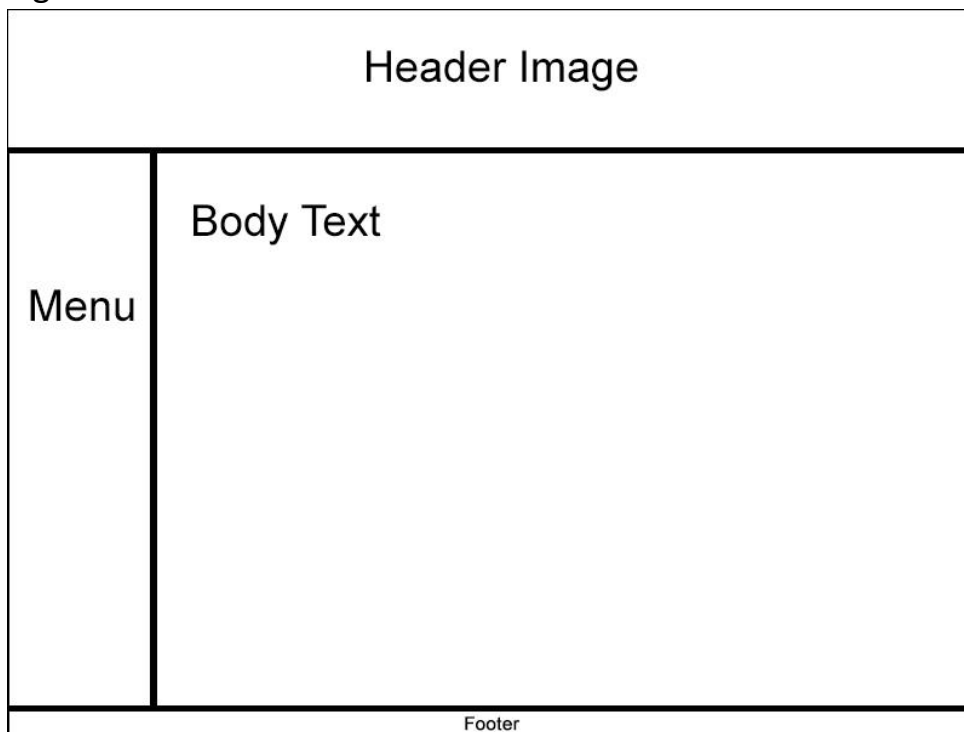
Section 10:

1. Create a HTML page layout using tables. The format of the layout should be as shown below in figure 1.1.

   There are no restrictions on the theme of the web page. You can craft the page based on any topic, for example a business page, or even a travel blog.

   The page must consist of the following components:

- Proper HTML page structure as taught in the course.
- One header image (800 x 600px)
- A Menu organized within a bulleted list consisting of 5 links.
- A body of text which contains:
  - A header nested in <h1></h1> tags.
  - Two paragraphs nested in <p></p> tags.
- Lastly include a Footer which contains a copy right symbol and the year centered within the row.

Figure 1.1

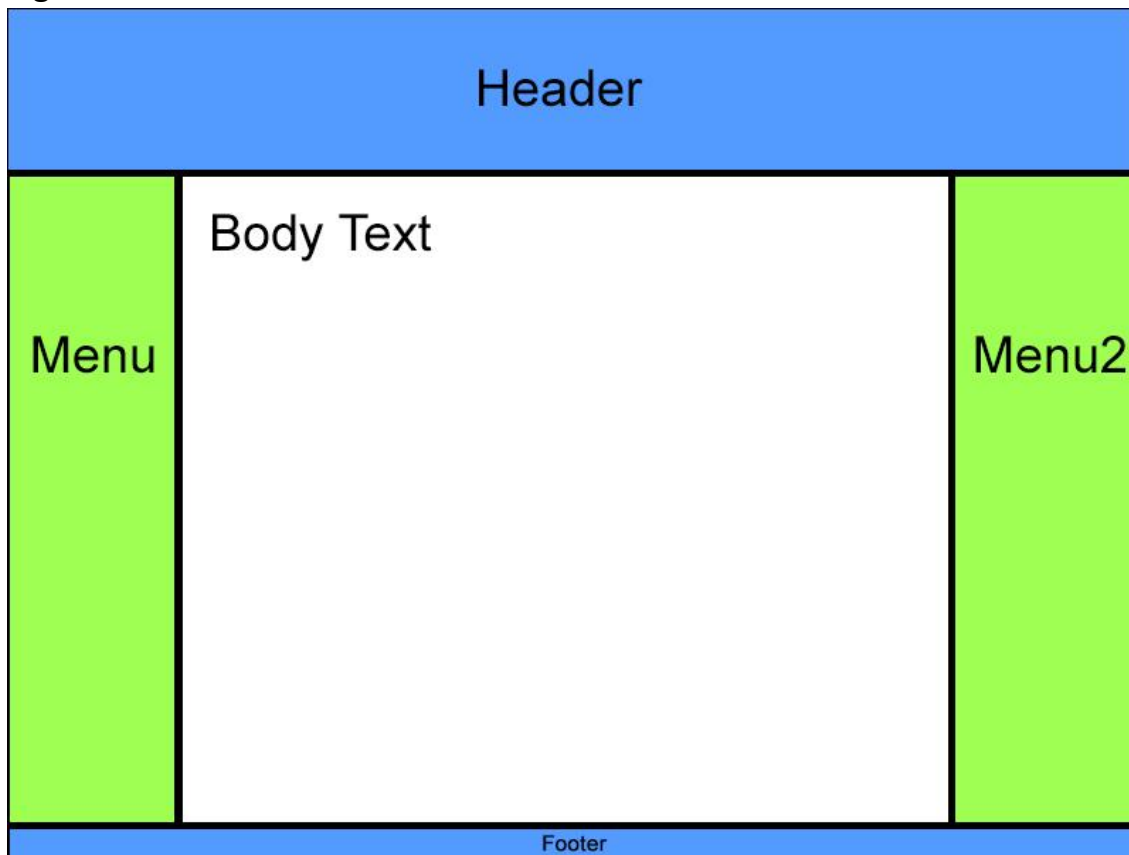Header Image

Body Text

Menu

Footer

Section 11:

2. Create a web page layout using CSS (make sure to include a container for the div elements). The format of the layout should be as shown below in Figure 1.2.

   The page must consist of the following components:
   - Proper HTML page structure as taught in the course.
   - The page should always take up 100% of the browsers content area
   - The left and right menu should take up 15% of the content area
   - Background color for the header and footer is #539bff

- Background color for the two Menus is # 9fff53
- A body of text which contains:
  - A header nested in <h1></h1> tags.
  - Two paragraphs nested in <p></p> tags.
- A Menu on the left and right organized within a bulleted list consisting of 3 links each.
- Lastly include a Footer which contains a copy right symbol and the year centered within the row.
- There are no restrictions on the height of the header and footer. Each must be at least 50pixels.

Figure 1.2

Section 12-14:

1. Create a HTML form with (client-side) jQuery or JavaScript validation.

   The form should have the following fields and validation:

Field	Validation	Error Message
Name	Minimum 3 Chars Max 50 Chars	• Please enter your name • Name cannot exceed 50 Characters
Address	Min 3 Chars Max 150 Chars	• Please enter your address • Address cannot exceed 50 Characters
Zip Code	Min, Max 5 Chars	• Please enter your Zip Code • Zip Code cannot exceed 50 Characters
Country (Drop Down) Options: USA, Canada, Mexico	Must select one option	• Please select one.
Employment Status (Radio button) Options: Employed, Student, Homemaker, Retired	Must select one option	• Please select one.
Preferences (Check box) Options: Red, Green, Blue	Must Select one option	• Please select one.
Phone	Min 7 Chars Max 15 Chars Numerical digits only	• Please enter your Phone Number • Phone Number cannot exceed 15 Characters • Please enter Numerical Digits only.

Email	Min 3 Chars Max 100 Chars Must be in proper format with @ sign, and domain extension (ie. .com)	• Please enter your Email • Email cannot exceed 100 Characters • Please enter the correct format.
Password	Min 6 Chars Max 8 Chars Must include 1 Upper case letter Must include 1 Special Char	• Please enter a password • Password cannot exceed 8 Characters • Please enter the correct format.
Verify Password	Must match Password entry above.	• Your passwords do not match.

It is not required that the form submit the data. You are only required to complete the front-end validation.

Section 15-19:

1. You are now tasked with creating a website that will utilize skills acquired from several sections of the course.

   The website can be for any product or service of your choosing. It should consist of the following 3 pages:

   • Home, About Us, FAQ, Contact Us

   Each page should be created using the Bootstrap framework. You can use any theme of your choosing.

The Home page must include:

- Mobile Responsive Bootstrap Theme
- One Jumbotron
- Three Glyphicons
- One menu of your choosing. Example: Pill, Tab, Accordian, Collapse etc.

The About Us page must include:

- One Carousel
- One Modal
- One tooltip
- Bootstrap typography for a paragraph of text describing the product/service offered.

The FAQ page must include:

- A minimum of five frequently asked questions and answers
- The questions and answers should be in the form of an Accordion Menu

The Contact Us page must include:

- A contact form with server-side validation using AJAX and PHP.
- The form should contain the following fields:

Field	Validation
Name	Min 3 Char Max 50 Char
Email	Min 3 Char Max 50 Char Email Format
Message	Max 200 Char

    Remember to generate a relevant error message if the validation fails.
- Since AJAX will be used for data validation, the page should not refresh at all. The error states should be displayed without page reload.
- The form should submit to your email address using the **PHP Mail function**.

The Contact Us page must also include:

- A newsletter registration form with the following fields:
  - Name, Email Address

- The registrations should be inputted into a MySQL database with the following Schema:

• Field	Properties
Id	Primary key, Auto-Incrementing, Integer, Length=3
Name	Var Char, Length=50
Email	Var Char, Length=50
Message	Text, Length=200

Remember that you will be developing a PHP Script to input the data into the database.

- You can also add client side validation to the form to ensure the email address and name are not left empty.