School of Information and Computer Technology Sirindhorn International Institute of Technology Thammasat University

ITS351 Database Programming Laboratory

Laboratory #1: HTML & CSS

Objective:

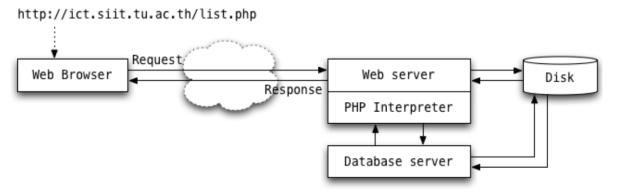
- To introduce the basic components of web applications.
- To study basic constructs of HTML.
- To learn how to improve on the tag and attribute based style of formatting using CSS.

Terminology

Last Updated: 16/08/15

Term	Description
HTML	a language used to represent the web contents. It stands for "HyperText Markup Language". It is basically text with markup tags that identify the particular type of information. HTML tags are enclosed in angle brackets (< >)
Web server	a software that manages the file and information sharing using HTTP protocol. A web server basically accepts requests from web browsers through the Internet, and sends the requested files or data back the web browsers. Apache is a famous web server that can be obtained from http://httpd.apache.org .
PHP	A scripting language designed for generating dynamic web pages. PHP uses C-like syntax. PHP interpreter works as a module in the web server.

Basic Architecture of Web Application



A web application is a kind of applications that works through the Internet. It interacts with user via a web browser application installed on the user's computer, but the processing is mainly done at the server. Here are the basic steps involving with web application.

- 1. User enters a URL in the browser, for example, http://ict.siit.tu.ac.th/list.php. This URL points to a script file of web application.
- 2. The browser connects to the web server specified in the URL (ict.siit.tu.ac.th), and request the specified page (list.php).

 $@ \ Copyright \ \ ICT \ Program, \ Sirindhorn \ International \ Institute \ of \ Technology, \ Thammas at \ University$

1/7

- 3. The web server accepts the request, and reads the page from the disk.
- 4. The page, which is a PHP script, is sent to the PHP interpreter to be processed.
- 5. The PHP interpreter executes the script and generates the output in form of HTML. This script may interact with the database server.
- 6. The output is sent back to the web browser.
- 7. The browser renders and shows the returned HTML contents.

Recommended Software Packages

OS	Software	Installation
MS Windows	XAMPP	Download the installation file from https://www.apachefriends.org/index.html
		2. Execute the downloaded file and follow the installation steps.
Mac OS X	MAMP	1. Download the installation file from http://www.mamp.info
		/en/index.html.
		2. Unarchive the downloaded zip file.
		3. Double-click on the DMG file, and drag MAMP to the Application folder. Here, we need to start /Applications/MAMP when we want to use the web server.
Ubuntu	Native	1. sudo apt-get install apache2 php5 libapache2-mod-php5
Linux	Packages	2. sudo apt-get install mysql-server libapache2-
		mod-auth-mysql php5-mysql phpmyadmin

DocumentRoot

Basically, web server does not share all the files on the hard disk, but it shares only the files stored under the **document root**. The document roots are different in each platform.

OS	Software	Document Root	Configuration File
MS Windows	XAMPP	c:/xampp/htdocs/	C:/xampp/apache/conf/httpd.conf
Mac OS X	MAMP	/Applications /MAMP/htdocs	/Applications/MAMP/conf/apache /httpd.conf
Ubuntu Linux	Native Packages	/var/www	/etc/apache2/apache2.conf

We can change the document root by modifying the configuration in the configuration file.

DocumentRoot "C:/myweb'

Suppose we have a file named "hello.html" in the document root, we can access it from the browser by using http://localhost/hello.html. Note that localhost is the default host name when we access the web server from the browser running on the same machine. The followings are the example of matching between URLs and file locations.

File Location	URL
	http://localhost/index.html http://localhost/
[DocumentRoot]/hello.html	http://localhost/hello.html
[DocumentRoot]/folder1/list.html	http://localhost/folder1/list.html
[DocumentRoot]/folder1/folder2 /show.html	http://localhost/folder1/folder2 /show.html

Basic HTML

As stated before, HTML is a markup language for displaying web contents. An HTML file is a text file with tags specifying formatting or type of information. Here is the basic structure of an HTML file.

```
<!DOCTYPE html>
<html>
  <head>
    <!-- Setting goes here -->
    </head>
    <body>
        <!-- Content goes here -->
        </body>
    </html>
```

For example, the following HTML file sets the page title, and shows a heading.

Frequently-used HTML Tags

Tag	Description	Example
title	Page title	<title>My Web Page</title>
h1, h2, h3, , h6	Heading level 1, 2, 3,, 6	<h1>Page Title</h1>
p	Paragraph	A quick brown jumps over a lazy dog
a	Link to a URL	<pre>School of ICT</pre>
div	Group elements into a block	<div>A quick brown jumps over a lazy dog Paragraph 2</div>

 $@ \ Copyright \ \ ICT \ Program, \ Sirindhorn \ International \ Institute \ of \ Technology, \ Thammas at \ University$

Last Updated: 16/08/15

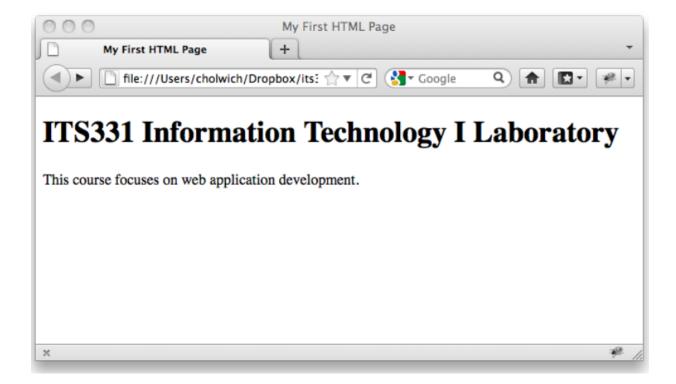
Tag	Description	Example	
table	Table	<pre></pre>	
tr	Table row		
th	Table heading		
td	Table cell; use rowspan and colspan to allocate a cell occupying more than one row or column.	<pre></pre>	
ul, ol	Unordered, and ordered lists	<pre> Mocha Latte Americano </pre>	
li	List item		

© Copyright ICT Program, Sirindhorn International Institute of Technology, Thammasat University Last Updated: 16/08/15

Worksheet

Use Notepad++ to create an HTML file with the following contents. Save the file as "worksheet.html" under the document root.

Open a web browser and go to http://localhost/worksheet.html. The browser should show the content of the file as follow



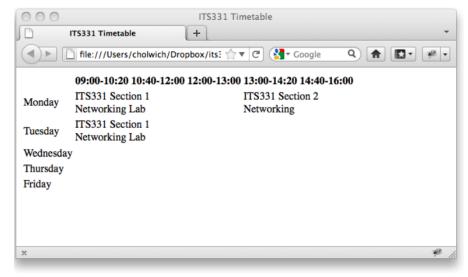
© Copyright ICT Program, Sirindhorn International Institute of Technology, Thammasat University Last Updated: 16/08/15

Create another HTML file named "timetable.html" under the document root as shown below.

```
<!DOCTYPE html>
<html>
<head><title>ITS331 Timetable</title></head>
<body>
 \langle t.r \rangle
     09:00-10:2010:40-12:00
   12:00-13:0013:00-14:2014:40-16:00
  <t.r>
   Monday
   ITS331 Section 1<br>Networking Lab
     
   ITS331 Section 2<br>Networking Lab
  Tuesday
   ITS331 Section 1<br>Networking Lab
      
  <t.r>
   Wednesday   
     
  Thursday  <
     
  Friday   
     
  </body>
</html>
```

Go to http://localhost/timetable.html. The browser should show the content below.

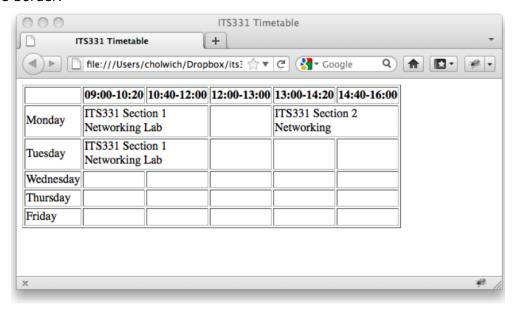
Modify tag in the file to be . Then, the browser should show the table border.



 $@ \ Copyright \ \ ICT \ Program, \ Sirindhorn \ International \ Institute \ of \ Technology, \ Thammas at \ University$

6/7

Modify tag in the file to be . Then, the browser should show the table border.



Create a link from worksheet.html to timetable.html by adding the following tag ITS331 time table

ITS331 time table

Exercise

- 1. Create a folder named "exercise1" under the document root. Put all the files in this folder.
- 2. Create a file named "main.html" with your personal information, such as address, education, experiences. This page must contain all of the following HTML tags: title, h1, h2, p, ul, li
- 3. Create a file named "mytimetable.html" with your own study timetable. You can make it look similar to the table in the worksheet.
- 4. Make "my timetable" in "main.html" become a link to "mytimetable.html"

© Copyright ICT Program, Sirindhorn International Institute of Technology, Thammasat University Last Updated: 16/08/15