Web Engineering-3

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What is Web?

- The Web is a network of computers all over the world.
- All the computers in the Web can communicate with each other.
- All the computers use a communication standard called HTTP.

How does the WWW work?

- Web information is stored in documents called web pages.
- Web pages are files stored on computers called web servers.
- Computers reading the web pages are called web clients.
- Web clients view the pages with a program called a web browser.

How does a Browser Fetch a Web Page?

- A browser fetches a page from a web server by a request.
- A request is a standard HTTP request containing a page address.
- An address may look like this:
  - http://www.someone.com/page.htm.

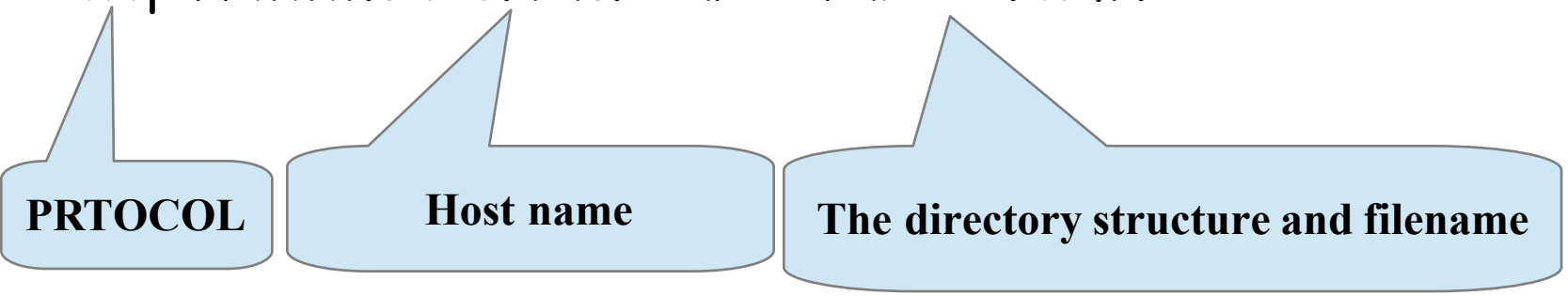
How does a Browser Display a Web Page?

- All web pages contain instructions for display
- The browser displays the page by reading these instructions.
- The most common display instructions are called HTML tags.
- HTML tags look like this This is a Paragraph .

What is a URL?

- A URL, or Uniform Resource Locator, is the location of a file on the Web.
- When you type the address of a Web page into your browser, you are typing a URL.
- The most common format of a URL:
  - http://www.cites.uiuc.edu/101/url101.html
- Deferent parts of URL

http://www.cites.uiuc.edu/101/url101.html.



What is Engineering???

- The application of science to practical uses such as the design of structures, machines, and systems.
- The profession of applying scientific principles to the design, construction, and maintenance of systems to reduce cost, and have good quality.
- The main components are:
  - Time
  - Cost
  - quality

What is Web Engineering???

- Web Engineering is the application of systematic and quantifiable approaches (concepts, methods, techniques, tools) to cost-effective requirements analysis, design, implementation, testing, operation, and maintenance of high-quality Web applications.
- Web Engineering is also the scientific discipline concerned with the study of these approaches.(Gerti Kappel)

Prerequisite for this course

- Web Engineering I
- Web Engineering II

Web Engineering-1

- Web development concept
- Web designing and technologies
- Build basic web application projects
- Information About: TCP/IP, WAP, DNS,Email,TelNet, HTTP and FTP,URL, HTML, CSS, Forms, JavaScript, XML,

Web Engineering-2

- Installation and configuration of the development environment
- Process and concept of Request and Responses work flow
- The concept of reusable code using custom functions
- The concept and implementation of data persistency usage session and/or cookie
- Query the database using web programming
- Understand the concept and implementation of validation and sensitization of user input
- Creation of the dynamic web applications

Web Engineering-2

- PHP and MySQL,PHP-MySQL Development Environment setup, Variables, Statements, Operators, conditions, loops, arrays, Files, Sessions, Cookies in php.
- MySQL Database with PHP
- Validation
- Simple Application

Web Engineering-3

- Work with regular expressions,
- handle exceptions, and validate data,
- parsing XML and JSON using PHP and AJAX
- and adopt these technologies with real world examples
- Be able to work with third party libraries efficiently
- Working with compression and decompression as well as dealing with CSV files

Contents

- Object Oriented PHP Basics
- PHP Advanced Data Validation using Regular Expression
- PHP Error and Exception Handling
- PHP and Ajax
- PHP and XML
- PHP and JSON
- PHP PEAR Packages
- PHP Graphics using GD Library

Requirements

- The students are required to study the text material for the whole course content to be able to carry out all the workload.
- The students should allocate 4 hours' time for each session to understand and cover the course topic.
- Allocation of an extra 4 hours for Lab and solving exercise problems is strongly recommended as well.
  - Latest version of PHP
  - Latest version of MySQL
  - Latest version of Apache
  - Web Engineering II course

Organization Details

- Course Code:
- Number of Credit: 5 cp
- Total number of hours required per semester is 80
- 4 hour lecture +1 hour lab per week
- Evaluation:
  - 20% Assignments and Projects
  - 20% mid-term exam
  - 60% final exam

References

- Goyvaerts, Jan; Levithan, Steven; Regular Expressions Cookbook, O'Reilly, 2012
- Castagnetto, Jesus; Rawat, Harish; Schumann, Sascha; Scollo, Chris; Veliath, Deepak; Professional PHP Programming, Wrox Press, 2012
- Holdener T., Anthony; Ajax: The Definitive Guide, O'Reilly, 2008
- Fawcett, Joe; Ayers, Danny; Quin, R. E., Liam; Beginning XML, Wrox Press, 2012
- Olsson, Mikael; PHP Quick Scripting Reference, Apress, 2010
- Zandstra, Matt; PHP Objects, Patterns and Practice, Apress, 2010

Lecturer's introduction

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This is the end for this lecture