

CS402 Web Technology

Prerequisites: CS101, CS201, CS 302

Course Contents:

Introduction

(5%)

Internet and its evolution. Difference between host based and client-server computing. Single tier vs. Multi-tier computing model. Evolution of World Wide Web. Significance of open standards in implementing web applications.

Client Side Technology

(40%)

HTML Basics: Html tags, entities, links, frames, tables, list, forms images, Background, colors. HTML Advance features: HTML Layout, fonts, styles, head, meta, URLs, scripts, attributes, events, URL encode. XHTML vs. HTML. XHTML syntax, XHTML DTD. Cascading Style Sheet: Introduction. CSS versions. CSS syntax, background, text, font, border, margin, padding list properties. CSS dimensions, classification, Positioning, Pseudo-classes and Pseudo-elements. Javascript: Introduction, syntax, variables, Control statements, operators, functions, events, Javascripts objects: string, date, array, Boolean, math, String, etc. Creating user defined objects. Browser detection, Cookie handling, validation and timeout management using JavaScript. HTML Document Object Model: Introduction. Objects, Collections, methods and events. Core vs. HTML DOM. Browser Objects: Window, Navigator, Screen, History, Location, Document. Different versions of DOM, Compatibility across various browsers. Objects representations of different HTML elements in DOM. Introduction to MVVM architecture. Developing rich web applications.

Server Side Technology

(25%)

Hyper Text Transfer Protocol. HTTP methods and error codes. Format of HTTP Request and Reply packet. Important HTTP headers. Static vs. Dynamically generated HTML pages. Common Gateway Interface (CGI/1.1). Server side scripting Technology and its advantages. One of the following technologies may be used to discuss the scripting concepts (PHP, ASP, ASP.NET, JSP, JSF). The discussion should include following topics - Request handling, Response creation, HTML form data processing, application data and application lifetime management. Concurrency control, Session data and session lifetime management, Cookie Management, Database connectivity. MVC architecture. AJAX.

Extensible Markup Language and related standards

(25%)

Introduction, Syntax, Elements, attributes, well formed and valid XML document. Namespaces, DTD and XMLSchema, validating XML document, Parsing of XML Document: XML DOM, SAX. XSL language, XSLT-XPath, XPath syntax, nodes, axis, operators and functions. XSL transformation, XSLT templates and important elements.

Web services

(5%)

Introduction to SOAP, WSDL, UDDI

Main Reading

1. Dietel, Dietel, Nieto, "Internet and World Wide web – How to Program", Eastern Economy Edition, Prentice Hall of India.
2. Marchal Benoit, "XML by Examples", Prentice-Hall of India.

Supplementary Reading

1. Website [http:// www.w3schools.com](http://www.w3schools.com)