

## WEB 2.0 AND RICH INTERNET APPLICATIONS

Sub Code: 10IS832  
Hrs/ Week: 04  
Total Hours: 52

IA Marks : 25  
Exam Hours : 03  
Exam Marks : 100

### PART - A

#### UNIT – 1

6 Hours

**Introduction, Ajax – 1:** Web 2.0 and Rich Internet Applications, Overview of Ajax, Examples of usage of Ajax: Updating web page text, Chatting in real time, Dragging and dropping, Downloading images. Creating Ajax Applications: An example, Analysis of example ajax.html, Creating the JavaScript, Creating and opening the XMLHttpRequest object, Data download, Displaying the fetched data, Connecting to the server, Adding Server-side programming, Sending data to the server using GET and POST, Using Ajax together with XML.

#### UNIT – 2

7 Hours

**Ajax – 2:** Handling multiple XMLHttpRequest objects in the same page, Using two XMLHttpRequest objects, Using an array of XMLHttpRequest objects, Using inner functions, Downloading JavaScript, connecting to Google Suggest, Creating google.php, Downloading from other domains with Ajax, HTML header request and Ajax, Defeating caching, Examples. Building XML and working with XML in JavaScript, Getting the document element, Accessing any XML element, Handling whitespace in Firefox, Handling cross-browser whitespace, Accessing XML data directly, Validating XML, Further examples of Rich Internet Applications with Ajax.

#### UNIT – 3

6 Hours

**Ajax – 3:** Drawing user's attention to downloaded text, Styling text, colors and background using CSS, Setting element location in the web pages, Setting the stacking order of web page elements, Further examples of using Ajax. Displaying all the data in an HTML form, Working with PHP server variables, Getting the data in to array format, Wrapping applications in to a single PHP page, Validating input from the user, Validating integers and text, DOM, Appending new elements to a web page using the DOM and Ajax, Replacing elements using the DOM, Handling timeouts in Ajax, Downloading images with Ajax, Example programs.

#### UNIT – 4

7 Hours

**Flex – 1 :** Introduction: Understanding Flex Application Technologies, Using Flex Elements, Working with Data Services (Loading Data at Runtime), The Differences between Traditional and Flex Web Applications, Understanding

How Flex Applications Work, Understanding Flex and Flash Authoring. Building Applications with the Flex Framework: Using Flex Tool Sets, Creating Projects, Building Applications, Deploying Applications Framework Fundamentals: Understanding How Flex Applications Are Structured, Loading and Initializing Flex Applications, Understanding the Component Life Cycles, Loading One Flex Application into Another Flex Application, Differentiating Between Flash Player and the Flex Framework, Caching the Framework, Understanding Application Domains, Localization, Managing Layout: Flex Layout Overview, Making Fluid Interfaces, Putting It All Together.

## **PART B**

### **UNIT – 5**

**7 Hours**

**Flex – 2:** MXML: Understanding MXML Syntax and Structure, Making MXML Interactive Working with UI Components: Understanding UI Components, Buttons, Value Selectors, Text Components, List-Based Controls, Pop-Up Controls, Navigators, Control Bars Customizing Application Appearance: Using Styles, Skinning components, Customizing the preloader, Themes, Runtime CSS

### **UNIT – 6**

**6 Hours**

**Flex – 3:** ActionScript: Using ActionScript, MXML and ActionScript Correlations, Understanding ActionScript Syntax, Variables and Properties, Inheritance, Interfaces, Handling Events, Error Handling, Using XML

### **UNIT – 7**

**7 Hours**

**Flex – 4:** Managing State: Creating States, Applying States, Defining States, Adding and Removing Components, Setting Properties, Setting Styles, Setting Event Handlers, Using Action Scripts to Define States, Managing Object Creation Policies, Handling State Events, Understanding State Life Cycles, When To Use States. Using Effects and Transitions: Using Effects, Creating Custom Effects, Using Transitions, Creating Custom Transitions.

### **UNIT – 8**

**6 Hours**

**Flex – 5:** Working with Data: Using Data Models, Data Binding, Enabling Data Binding for Custom Classes, Data Binding Examples, Building data binding proxies. Validating and Formatting Data: Validating user input, Formatting Data.

### **Text Books:**

1. Steven Holzner: Ajax: A Beginner's Guide, Tata McGraw Hill, 2009.  
(Listed topics from Chapters 3, 4, 6, 7, 11, 12)



2. Chafic Kazon and Joey Lott: Programming Flex 3, O'Reilly, June 2009.  
(Listed topics from Chapters 1 to 8, 12 to 15)

**Reference Books:**

1. Jack Herrington and Emily Kim: Getting Started with Flex 3, O'Reilly, 1<sup>st</sup> Edition, 2008.
2. Michele E. Davis and John A. Phillips: Flex 3 - A Beginner's Guide, Tata McGraw-Hill, 2008.
3. Colin Moock: Essential Actionscript 3.0, O'Reilly Publications, 2007.
4. Nicholas C Zakas et al : Professional Ajax, 2<sup>nd</sup> Edition, Wrox / Wiley India, 2007.

**USER INTERFACE DESIGN**

**Sub Code: 10IS833**

**IA Marks : 25**

**Hrs/Week: 04**

**Exam Hours : 03**

**Total Hrs: 52**

**Exam Marks : 100**

**PART - A**

**UNIT 1**

**8 Hours**

**Usability of Interactive Systems:** Introduction, Usability Requirements, Usability measures, Usability

Motivations, Universal Usability, Goals for our profession

**Guideline, principles, and Theories:** Introduction, Guidelines, principles, Theories, Object-Action Interface Model

**UNIT 2**

**5 Hours**

**Managing Design Processes:** Introduction, Organizational Design to support Usability, The Three pillars of design, Development Methodologies, Ethnographic Observation, Participatory Design, Scenario Development, Social Impact statement for Early Design Review, Legal Issues.

**UNIT 3**

**7 Hours**

**Evaluating Interface Designs:** Introduction, Expert Reviews, Usability Testing and Laboratories, Survey Instruments, Acceptance Tests, Evaluation During Active Use, Controlled Psychologically Oriented Experiments.

**Software Tools:** Introduction, Specification Methods, Interface-Building Tools, Evaluation and Critiquing Tools.

**UNIT 4**

**8 Hours**

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