Module
Presenter's Manual
for

Building Next Generation Web Sites

Effective from: July 2013
Ver. 1.0

Amendment Record

Version No.	Effective Date	Change	Replaced Pages
1.0	July 2013	New	-

Table of Contents

1. Introduction

At the end of this course, students will be able to:

- ➢ Explain the evolution of HTML
- ➢ Explain the page structure used by HTML
- ➢ List the drawbacks in HTML 4 and XHTML
- ➢ List the new features of HTML5
- ➢ Explain CSS and JavaScript
- ➢ Explain jQuery
- ➢ Explain browser support for HTML5
- ➢ Explain the elements constituting an HTML tag
- ➢ Describe doctype
- ➢ Explain the basic tags in HTML
- ➢ Describe container and standalone tags
- ➢ Explain the role of HTML5 in Mobile devices
- ➢ Explain the Heading tag
- ➢ Explain the different tags related to formatting
- ➢ Explain monospaced font, preformatted text, and block quotation
- ➢ Describe the different types of lists
- ➢ Explain the procedure to change the background color and image
- ➢ Describe hyperlinks
- ➢ Explain how to hyperlink to a Web page and e-mail address
- ➢ Explain how to hyperlink to anchors and other content
- ➢ Identify the new functions of CSS3
- ➢ Explain the different types of selectors
- ➢ Explain nested tags
- ➢ Define Classes and IDs for applying styles
- ➢ Explain the process to apply styles to hyperlink
- ➢ List and explain text and font styles
- ➢ Explain paragraph indentation and application of border
- ➢ Explain horizontal paragraph alignment
- ➢ Explain vertical spacing within a paragraph
- ➢ Explain graphic formatting in Web pages
- ➢ Explain graphic insertion, sizing, and padding
- ➢ Explain CSS3 Animation
- ➢ Describe the use of CSS3 on Mobile devices
- ➢ Explain HTML 5 semantic tags
- ➢ Explain HTML 5 semantic tag layouts
- ➢ Explain the usage of navigation bar
- ➢ Describe a text-based and graphical navigation bar
- ➢ Explain image mapping
- ➢ Explain divisions in HTML5
- ➢ Describe the creating and formatting tables
- ➢ Explain the table size and the width of a column
- ➢ Describe the table formatting and merging of table cells
- ➢ Explain the page layout for tables
- ➢ Describe HTML5 forms
- ➢ Explain the working of new input types in HTML5
- ➢ Explain the new Form attributes and elements
- ➢ Describe the need for multimedia in HTML5
- ➢ Explain the audio elements in HTML5

- ➢ Explain the video elements in HTML5
- ➢ Explain the accessibility of audio and video elements
- ➢ Describe how to deal with Non-supporting browsers
- ➢ Explain scripting
- ➢ Describe the various versions of JavaScript language
- ➢ Explain the client-side and server-side JavaScript
- ➢ Describe the <script>tag
- ➢ List the variables and data types in JavaScript
- ➢ Describe the JavaScript methods to display information
- ➢ Explain escape sequences.
- ➢ List the built in functions in JavaScript
- ➢ Explain events and event handling
- ➢ Explain jQuery
- ➢ Describe how to use the jQuery Mobile
- ➢ Explain operators and their types in JavaScript
- ➢ Explain regular expressions in JavaScript
- ➢ Explain decision-making statements in JavaScript
- ➢ Explain loops
- ➢ Explain break and continue statement
- ➢ Explain single-dimensional arrays
- ➢ Explain multi-dimensional arrays
- ➢ Explain functions
- ➢ Explain return statement
- ➢ Describe objects
- ➢ Explain different browser objects
- ➢ Describe Document Object Model (DOM)
- ➢ Describe the features of different mobile devices
- ➢ List the different type of platforms available for mobile devices
- ➢ Explain the design aspects of a mobile Web site
- ➢ Explain the architectural aspects of a mobile Web site
- ➢ Explain the requirements for developing and testing of a mobile Web site
- ➢ Explain support of HTML5 in mobile Web site
- ➢ List the best practices for optimizing a mobile Web site
- ➢ Describe Canvas in HTML5
- ➢ Explain the procedure to draw lines
- ➢ Explain the procedure to use color and transparency
- ➢ Explain the procedure to work with various drawing objects
- ➢ Describe working with images and text
- ➢ Describe the procedure to create Web page events with JavaScript and jQuery
- ➢ Describe the process of including external content in Web pages
- ➢ Explain Web Storage in HTML5
- ➢ Explain Session Storage
- ➢ Explain Local Storage
- ➢ Explain the Indexed DB API
- ➢ Describe a native app
- ➢ Explain the difference between native apps and HTML5 apps
- ➢ Describe the advantages of native and HTML5 apps
- ➢ List the steps to convert HTML5 apps to native apps
- ➢ List and explain text and font styles
- ➢ Describe inline spans
- ➢ Explain paragraph indentation and application of border
- ➢ Explain horizontal paragraph alignment
- ➢ Explain vertical spacing within a paragraph

2. Information on Session Allocation

Module	Theory (No. of Hours)	Lab (No. of Hours)	Total (No. of Hours)
HTML5	24	24	48

Throughout this Presenter's Manual, the module **Building Next Generation Web Sites** will be referred to as **HTML5**.

3. Module Deliverables available on OnlineVarsity

To aid the teaching process, following are the deliverables
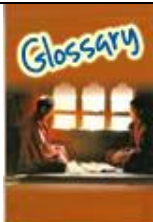
Faculty Deliverables:
1.   Presenter Manual (PM)

To aid the learning process, following are the deliverables

Student Deliverables:
1.   Learner's Guide (eBook)

Resources available on OnlineVarsity for Students:

Icons	Feature - Description/Functionality
	Download Book - Student has the option to download the subject related e-book and read offline.
	Glossary - Student can access a list of subject related specialized words with their definitions.
	FAQ - Student can access frequently asked questions and their answers.
	Show Me How - Student can view a step-wise simulation/demonstration of the module related topics.

	Let Me Try - Student can practice a step-wise simulation/demonstration of the module related topics.
	Practice 4 Me - Student can test and evaluate their understanding of module related topics.
	Work Assignments - Student can solve scenario based lab assignments (Hands-on). The faculty will evaluate and give their feedbacks.
	Download Source code/Files – Student can download courseware related source files.
	References - Student can access additional subject related material for reading.
	Feedback - Student can provide feedback on the course material.
	Ask to Learn – Student can submit subject related technical queries. Queries submitted will be directed to the particular course coordinator/head.

4. Week-wise Session Schedule

- **A Session has duration of 2 hours.**

➢ **Week-Wise Schedule**

Week	Day 1	Day 2	Day 3	Day 4
1	Session 1 HTML5 – T1	Session 2 HTML5 –L1	Session 3 HTML5 – T2	Session 4 HTML5 – L2
2	Session 5 HTML5 – T3	Session 6 HTML5 – L3	Session 7 HTML5 – T4	Session 8 HTML5 – L4
3	Session 9 HTML5 – T5	Session 10 HTML5 – L5	Session 11 HTML5 – T6	Session 12 HTML5 – L6
4	Session 13 HTML5 – T7	Session 14 HTML5 – L7	Session 15 HTML5 – T8	Session 16 HTML5 – L8
5	Session 17 HTML5 – T9	Session 18 HTML5 – L9	Session 19 HTML5 – T10	Session 20 HTML5 – L10
6	Session 21 HTML5 – T11	Session 22 HTML5 – L11	Session 23 HTML5 – T12	Session 24 HTML5 – L12

HTML5: Building Next Generation Web Sites
T: Theory Session
L: Lab Session

5. Session Coverage

Session No.	Session Title	Session Details	Deliverables' Mapping
1	**HTML5 – T1**	All the topics as listed below from Session 1 and Session 2 of *HTML5 – NexTGen Web* book should be covered in this session. **Session 1 – Introduction to the Web** ➢ Explain the evolution of HTML ➢ Explain the page structure used by HTML ➢ List the drawbacks in HTML 4 and XHTML ➢ List the new features of HTML5 ➢ Explain CSS ➢ Explain JavaScript ➢ Explain jQuery ➢ Explain browser support for HTML5 **Session 2 – Introduction to HTML5** ➢ Explain the elements constituting an HTML tag ➢ Describe doctype ➢ Explain the basic tags in HTML ➢ List the different data types, attributes, and entities of HTML5 ➢ Describe container and standalone tags ➢ Explain the role of HTML5 in Mobile devices	**HTML5 – NexTGen Web** SG – Session 1 SG – Session 2
2	**HTML5 – L1**	All the Workshop topics from Session 1 and Session 2 of *HTML5 – NexTGen Web* course should be covered in this session.	**HTML5 – NexTGen Web (OnlineVarsity)** Session 1 Session 2

Session No.	Session Title	Session Details	Deliverables' Mapping
3	**HTML5 – T2**	All the topics as listed below from Session 3 and Session 4 of *HTML5 – NexTGen Web* book should be covered in this session. **Session 3 – Formatting Text Using Tags** ➢ Explain the Heading tag ➢ Explain the different tags related to formatting ➢ Explain monospaced font, preformatted text, and block quotation ➢ Describe the different types of lists ➢ Explain the procedure to change the background color and image **Session 4 – Creating Hyperlinks and Anchors** ➢ Describe hyperlinks ➢ Explain absolute and relative paths ➢ Explain how to hyperlink to a Web page and e-mail address ➢ Explain how to hyperlink to anchors and other content	**HTML5 – NexTGen Web** SG – Session 3 SG – Session 4
4	**HTML5 – L2**	All the Workshop topics from Session 3 and Session 4 of *HTML5 – NexTGen Web* course should be covered in this session.	**HTML5 – NexTGen Web (OnlineVarsity)** Session 3 Session 4

Session No.	Session Title	Session Details	Deliverables' Mapping
5	HTML5 – T3	All the topics as listed below from Session 5 and Session 6 of *HTML5 – NexTGen Web* book should be covered in this session. **Session 5 – INTRODUCTION TO CSS3** ➢ Identify the new functions of CSS3 ➢ Explain the different types of selectors ➢ Explain nested tags ➢ Define Classes and IDs for applying styles ➢ Explain the process to apply styles to hyperlink **Session 6 – Formatting using Style Sheets** ➢ List and explain text and font styles ➢ Describe inline spans ➢ Explain paragraph indentation and application of border ➢ Explain horizontal paragraph alignment ➢ Explain vertical spacing within a paragraph	**HTML5 – NexTGen Web** SG – Session 5 SG – Session 6
6	HTML5 – L3	All the Workshop topics from Session 5 and Session 6 of *HTML5 – NexTGen Web* course should be covered in this session.	**HTML5 – NexTGen Web (OnlineVarsity)** Session 5 Session 6
7	HTML5 – T4	All the topics as listed below from Session 7 and Session 8 of *HTML5 – NexTGen Web* book should be covered in this session. **Session 7 – DISPLAYING GRAPHICS AND CSS3 ANIMATION** ➢ Explain graphic formatting in Web pages ➢ Explain graphic insertion, sizing, and padding ➢ Explain CSS3 Animation	**HTML5 – NexTGen Web** SG – Session 7 SG – Session 8

Session No.	Session Title	Session Details	Deliverables' Mapping
		➢ Describe the use of CSS3 on Mobile devices **Session 8 – CREATING NAVIGATIONAL AIDS AND DIVISION-BASED LAYOUT** ➢ Explain HTML 5 semantic tags ➢ Explain HTML 5 semantic tag layouts ➢ Explain the usage of navigation bar ➢ Describe a text-based and graphical navigation bar ➢ Explain image mapping ➢ Explain divisions in HTML 5	
8	**HTML5 – L4**	All the Workshop topics from Session 7 and Session 8 of *HTML5 – NexTGen Web* course should be covered in this session.	**HTML5 – NexTGen Web (OnlineVarsity)** Session 7 Session 8
9	**HTML5 – T5**	All the topics as listed below from Session 9 and Session 10 of *HTML5 – NexTGen Web* book should be covered in this session. **Session 9 – CREATING TABLES** ➢ Describe the creating and formatting tables ➢ Explain the table size and the width of a column ➢ Describe the table formatting and merging of table cells ➢ Explain the page layout for tables **Session 10 – HTML FORMS** ➢ Describe HTML5 forms ➢ Explain the working of new input types in HTML5 ➢ Explain the new Form attributes ➢ Explain the new Form elements	**HTML5 – NexTGen Web** SG – Session 9 SG – Session 10
10	**HTML5 – L5**	All the Workshop topics from Session 9 and Session 10 of *HTML5 – NexTGen Web* course should be covered in this session.	**HTML5 – NexTGen Web (OnlineVarsity)** Session 9

Session No.	Session Title	Session Details	Deliverables' Mapping
			Session 10
11	HTML5 – T6	All the topics as listed below from Session 11 and Session 12 of *HTML5 – NexTGen Web* book should be covered in this session. **Session 11 – HTML5 AUDIO AND VIDEO** ➢ Describe the need for multimedia in HTML5 ➢ List the supported media types in HTML5 ➢ Explain the audio elements in HTML5 ➢ Explain the video elements in HTML5 ➢ Explain the accessibility of audio and video elements ➢ Describe how to deal with Non-supporting browsers **Session 12 – INTRODUCTION TO JAVASCRIPT** ➢ Explain scripting ➢ Explain the JavaScript language ➢ Describe the various versions of JavaScript language ➢ Explain the client-side and server-side JavaScript ➢ Describe the <script>tag ➢ List the variables and data types in JavaScript ➢ Describe the JavaScript methods to display information ➢ Explain escape sequences. ➢ List the built in functions in JavaScript ➢ Explain events and event handling ➢ Explain jQuery ➢ Describe how to use the jQuery Mobile	**HTML5 – NexTGen Web** SG – Session 11 SG – Session 12
12	HTML5 – L6	All the Workshop topics from Session 11 and Session 12 of *HTML5 – NexTGen Web* course should be covered in this session.	**HTML5 – NexTGen Web (OnlineVarsity)** Session 11 Session 12

Session No.	Session Title	Session Details	Deliverables' Mapping
13	HTML5 – T7	All the topics as listed below from Session 13 and Session 14 of *HTML5 – NexTGen Web* book should be covered in this session. **Session 13 – Operators and Statements** ➢ Explain operators and their types in JavaScript ➢ Explain regular expressions in JavaScript ➢ Explain decision-making statements in JavaScript **Session 14 – Loops and Arrays** ➢ Explain while loop ➢ Explain for loop ➢ Explain do..while loop ➢ Explain break and continue statement ➢ Explain single-dimensional arrays ➢ Explain multi-dimensional arrays ➢ Explain for..in loop	**HTML5 – NexTGen Web** SG – Session 13 SG – Session 14
14	HTML5 – L7	All the Workshop topics from Session 13 and Session 14 of *HTML5 – NexTGen Web* course should be covered in this session.	**HTML5 – NexTGen Web (OnlineVarsity)** Session 13 Session 14
15	HTML5 – T8	All the topics as listed below from Session 15 of *HTML5 – NexTGen Web* book should be covered in this session. **Session 15 – Functions and Objects** ➢ Explain functions ➢ Explain parameterized functions ➢ Explain return statement ➢ Describe objects ➢ Explain different browser objects ➢ Describe Document Object	**HTML5 – NexTGen Web** SG – Session 15

Session No.	Session Title	Session Details	Deliverables' Mapping
		Model (DOM)	
16	HTML5 – L8	All the Workshop topics from Session 15 of *HTML5 – NexTGen Web* course should be covered in this session.	**HTML5 – NexTGen Web (OnlineVarsity)** Session 15
17	HTML5 – T9	All the topics as listed below from Session 16 of *HTML5 – NexTGen Web* book should be covered in this session. **Session 16 – Building a Mobile Web Application** ➢ Describe the features of different mobile devices ➢ List the different type of platforms available for mobile devices ➢ Explain the design aspects of a mobile Web site ➢ Explain the architectural aspects of a mobile Web site ➢ Explain the requirements for developing and testing of a mobile Web site ➢ Explain support of HTML5 in mobile Web site ➢ List the best practices for optimizing a mobile Web site	**HTML5 – NexTGen Web** SG – Session 16
18	HTML5 – L9	All the Workshop topics from Session 16 of *HTML5 – NexTGen Web* course should be covered in this session.	**HTML5 – NexTGen Web (OnlineVarsity)** Session 16
19	HTML5 – T10	All the topics as listed below from Session 17 of *HTML5 – NexTGen Web* book should be covered in this session. **Session 17 – CANVAS AND JAVASCRIPT** ➢ Describe Canvas in HTML5 ➢ Explain the procedure to draw lines ➢ Explain the procedure to use color and transparency ➢ Explain the procedure to work	**HTML5 – NexTGen Web** SG – Session 17

Session No.	Session Title	Session Details	Deliverables' Mapping
		with various drawing objects ➢ Describe working with images and text ➢ Describe the procedure to create Web page events with JavaScript and jQuery ➢ Describe the process of including external content in Web pages	
20	**HTML5 – L10**	All the Workshop topics from Session 17 of *HTML5 – NexTGen Web* course should be covered in this session.	**HTML5 – NexTGen Web (OnlineVarsity)** Session 17
21	**HTML5 – T11**	All the topics as listed below from Session 18 of *HTML5 – NexTGen Web* book should be covered in this session. **Session 18 – HTML5 Web Storage** ➢ Explain Web Storage in HTML5 ➢ Explain Session Storage ➢ Explain Local Storage ➢ Explain the Indexed DB API ➢ Describe a native app ➢ Explain the difference between native apps and HTML5 apps ➢ Describe the advantages of native and HTML5 apps ➢ List the steps to convert HTML5 apps to native apps	**HTML5 – NexTGen Web** SG – Session 18
22	**HTML5 – L11**	All the Workshop topics from Session 18 of *HTML5 – NexTGen Web* course should be covered in this session.	**HTML5 – NexTGen Web (OnlineVarsity)** Session 18
23	**HTML5 – T12**	All the topics as listed below from Session 19 of *HTML5 – NexTGen Web* book should be covered in this session. **Session 19 – HTML5 Geolocation and APIs** ➢ Explain the Geolocation API ➢ Explain the Google Maps API ➢ Describe the Drag and Drop API	**HTML5 – NexTGen Web** SG – Session 19

Session No.	Session Title	Session Details	Deliverables' Mapping
		➢ Explain the Application Cache API	
24	**HTML5 – L12**	All the Workshop topics from Session 19 of *HTML5 – NexTGen Web* course should be covered in this session.	**HTML5 – NexTGen Web (OnlineVarsity)** Session 19

6. Library References

➢ **HTML5: Up and Running** by Mark Pilgrim
➢ **Introducing HTML5 (Voices That Matter)** by Bruce Lawson
➢ **Head First HTML5 Programming: Building Web Apps with JavaScript** by Eric Freeman, Elisabeth Robson

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