

TRAINER PREPARATION GUIDE 1.3: DEBUG AND TEST AN HTML5-BASED TOUCH-ENABLED APPLICATION

Lesson Objective 1.3:

Debug and test an HTML5-based touch-enabled application.

Required materials to teach this lesson:

1. Microsoft® Expression® Studio 4 (preferred)
2. Windows® Phone SDK 7.1 is suggested (runs in Microsoft Visual Studio®)
3. 98-375-ENU-1.3-LP
4. 98-375-ENU-1.3-IC
5. 98-375-ENU-1.3-ICKey
6. 98-375-ENU-1.3-PC

Preparation tasks

Technical preparation activities:

1. Internet access; test to ensure access to the demonstration site prior to class (some schools might blocked it): <http://blogs.msdn.com/b/ie/archive/2011/10/19/handling-multi-touch-and-mouse-input-in-all-browsers.aspx>

2. **Vocabulary:**

debug: to detect, locate, and correct logical or syntactical errors in a program or malfunctions in software or hardware.

Document Object Model (DOM): a World Wide Web Consortium (W3C) specification that describes the structure of dynamic HTML and XML documents in a way that allows them to be manipulated through a web browser.

emulator: hardware or software designed to make one type of computer or component act as if it were another.

touch screen: a computer screen designed or modified to recognize the location of a touch on its surface. By touching the screen, the user can make a selection or move a cursor.

3. **Additional readings and resources:**

MSDN:

Internet Explorer® Learning: <http://msdn.microsoft.com/en-us/ie/aa740476>

Internet Explorer Test Drive: <http://ie.microsoft.com/testdrive/default.html>

Internet Explorer 9 Guide for Developers: <http://msdn.microsoft.com/en-us/ie/hh410106>

Other resources (books, e-reference):

W3Schools: <http://www.w3schools.com/html5>

W3C Mobile Device Validator: <http://validator.w3.org/mobile/>

Mobile Validator: <http://ready.mobi/>

Note: HTML5 is changing and developing quickly. The list of resources is current as of January 2012. Check resources for current and up-to-date information at the time of classroom use.

Instructor computer setup:

1. A workstation with Internet access.
2. Expression Web 4 (including service pack 2) is needed for the in-class activity.

Instructional preparation activities:

1. Review the instructor notes in the notes view of Microsoft PowerPoint® presentation 98-375-ENU-1.3-LP.
2. Make copies of student documents available as needed.
3. Complete the instructions for the demonstration ahead of time. Determine whether available browsers support the HTML5 features in the demonstration.

Lesson sequence (50 minutes)

Activating prior knowledge/lesson staging (5 minutes):

Instruct students to answer each question in the "Guiding questions" section of the In-class Activity document or in their personal class notes.

Guiding questions:

1. **Why is it important to debug and test your application?** The introduction of so many new devices that can be used to access web applications makes it more important than ever to test and debug your application thoroughly. It is also important to understand how users interact with these devices via the keyboard and mouse, pen, or even a finger touch.
2. **What are the features of an HTML5-based touch-enabled application?** The W3C is working on the HTML5 touch events specifications, which include: touchstart: a finger is placed on a DOM element; touchmove: a finger is dragged along a DOM element; and touchend: a finger is removed from a DOM element. These elements provide the user with touch-sensitive features when viewing a web page, such as drawing on a canvas (another new HTML5 tag).
3. **How is an HTML5 touch-enabled application tested?** On the PC, the developer can simulate single touches using the mouse. There are also several emulators available such as Microsoft's Internet Explorer Test Drive (see references for URL). The W3C has several validators for testing the code, such as the mobile validator: <http://validator.w3.org/mobile/>. Of course, the best way is to actually test it on as many devices as possible.

Lesson activity (35 minutes):

1. Teacher instruction (35 minutes)
 - a. Use the PowerPoint presentation 98-375-ENU-1.3-LP to review debugging and testing an HTML5-based touch-enabled application.
 - b. An In-class Activity document is available for use as needed.

Lesson review (10 minutes):

1. Lead students in a discussion of the guiding questions.
2. During and after the discussion, have students list any questions they have or any topics with which they would like more assistance.
3. Have students work in pairs to try to answer the additional questions written by students. Answer any questions that cannot be answered by students, or collect them for follow-up later.
4. Provide the Post-class Activity document for additional practice using online testing resources.