

TRAINER PREPARATION GUIDE 4.3: CODE ANIMATIONS BY USING JAVASCRIPT

Lesson Objective 4.3:

Code animations by using JavaScript.

Required materials to teach this lesson:

1. Microsoft® Expression® Studio 4 (preferred) or Notepad++. Notepad++ provides real-time feedback for writing JavaScript. Download: <http://www.notepadplusplus.org/>. (Internet Explorer® 9 or later)
2. Most recent jQuery library from [jQuery.com](http://jquery.com)
3. 98-375-ENU-4.3-LP
4. 98-375-ENU-4.3-IC
5. 98-375-ENU-4.3-ICKey
6. 98-375-ENU-4.3-PC
7. 98-375-ENU-4.3-Resources

Preparation tasks

Technical preparation activities:

1. Download jQuery library to be able to animate text on a web page.
2. Either extract the Resources files associated with this activity or copy the code below into an empty HTML page. Make sure the script src file name matches the file you downloaded.

```
<!DOCTYPE html>
<html>

<head>
<meta charset=utf-8>
<title>Please fade</title>
<script src="jquery-1.7.1.min.js"></script>
<style type="text/css">
.effects {
    color: #E11010;
    background-color:white;}
</style>
<script>
$(document).ready(function() {
$('#effects').css({'background-color':'#00cc00','border':'4px solid #0000ff'});
$('#effect2').animate({
left: '650px', opacity: .5, fontSize: '24px'},1500,'linear');
}); // end ready
</script>
</head>

<body>
<h1>This heading will fade when the page loads....</h1>
<script>
```

```
$( 'h1' ).fadeOut(1500)
</script>
<div id="effects">This heading moves into its place! With a green
background and blue border! </div>
<br />
<div id="effect2">Watch this text grow and fade to 50% opacity! </div>
</body>
</html>
```

3. **Vocabulary:**

animation: the illusion of movement created by using a succession of static images. In computer graphics, the images can all be drawn separately or starting and ending points can be drawn with the intervening images provided by software.

recursion: the ability of a routine to call itself. Recursion enables certain algorithms to be implemented with small, simple routines; it does not guarantee speed or efficiency.

4. **Additional readings and resources:**

MSDN®:

Animating your UI: <http://msdn.microsoft.com/en-us/library/windows/apps/hh465165.aspx>

Windows® Library for JavaScript reference: <http://msdn.microsoft.com/en-us/library/windows/apps/br211669.aspx>

Other resources (books, e-reference):

SourceCodeOnline - JavaScript: <http://www.sourcecodeonline.com/sources/javascript.html>

jQuery API: <http://api.jquery.com/animate/>

Note: Support for HTML5 and CSS3 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 Expression Web 4 (with Service Pack 2) or Notepad ++ (preferred).

Instructional preparation activities:

1. Review the instructor suggestions in the notes view of Microsoft PowerPoint® presentation 98-375-ENU-4.3-LP.
2. Make copies of student documents available as needed.
3. Complete the instructions for the demonstration before class.

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. **How can JavaScript be used to create animations?** Animations are considered an illusion of movement by creating the appearance of motion on the page. JavaScript can be used to change the location of an element, or switch one image for another (by changing the value of the src attribute).

2. **What are the benefits of using an animation library?** Libraries such as jQuery, Windows Library for JavaScript, Yahoo User Interface Library (YUI), and MooTools are available for developers to use and also to contribute their JavaScript code to. Libraries increase reusability and decrease the time it takes to build web pages.

Lesson activity (35 minutes):

1. Teacher instruction
 - a. Use the PowerPoint presentation 98-375-ENU-4.3-LP to review code animations using JavaScript.
 - 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 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 review.