

## Lab 9: Javascript - SetTimeout

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In this Javascript lab, you will learn how to execute Javascript functions over time by creating a Photo Slide Show.

### Create a new XHTML file

Create a new XHTML file named lab9\_js\_time.html and save it in your 513 folder. Next, find at least three images that you would like to include in your slide show. For my example, I searched Google images for 1950s TV and movie stars. Feel free to use your own images. Save and download the images into your images folder and remember the names of each image.

### SetTimeout Explained (Example . . . don't code)

```
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
<title>Untitled Document</title>
</head>

<body>
<script>
setTimeout("alert('You have been on this page for 3 seconds!');", 3000);
</script>
</body>
</html>
```

Timed Events control when events happen on your web page.

- Set an Alarm with setTimeout()
- Built in Javascript function setTimeout() tells JavaScript to run a command at some time in the future.
- The function has two parameters:
- Javascript command
- time in milliseconds to wait before running the command.

### Syntax

```
<script>
    setTimeout("alert('You have been on this page for 3 seconds!');", 3000);
</script>
```

### Explained

- The Javascript command is between quotes and ends with a semicolon.
- The second parameter is a number in milliseconds (1,000 milliseconds in a second.).
- The setTimeout function executes the first parameter, after waiting the amount of time listed in the second parameter

## Create a User Interface

```
<body>
<h1>Slide Show</h1>
<form id="slideshow" name="slideshow" method="post" action="">
  <p>
  </p>
  <p>
    <label>
      <input name="caption" type="text" id="caption" size="50" />
    </label>
  </p>
  <p>
    <label>
      <input type="button" name="start" id="start" value=" Start" />
    </label>
    <input type="button" name="stop" id="stop" value=" Stop" />
  </p>
</form>

</body>
</html>
```

The first step is to create a HTML form to be used as the interface for your Photo Slide show. The form will have a default image, a caption text field, start and stop buttons. Outside the form I gave the page an appropriate h1 heading. Notice, I gave the form tag the ID slideshow, the image the id my\_image, and text field box the id caption.

Code:

```
<h1>Slide Show</h1>
<form id="slideshow" name="slideshow" method="post" action="">
  <p>
  </p>
  <p>
    <label>
      <input name="caption" type="text" id="caption" size="50" />
    </label>
  </p>
  <p>
    <label>
      <input type="button" name="start" id="start" value=" Start" />
    </label>
    <input type="button" name="stop" id="stop" value=" Stop" />
  </p>
</form>
```

## Create the Arrays

```
var the_images = new Array();
the_images[0] = new Image();
the_images[0].src = "images/marilyn.jpg";
the_images[1] = new Image();
the_images[1].src = "images/barney.jpeg";
the_images[2] = new Image();
the_images[2].src = "images/lucille_ball.jpg";
the_images[3] = new Image();
the_images[3].src = "images/grif.jpeg";

var the_text = new Array();
the_text[0] = "Isn't she pretty!";
the_text[1] = "Member of the Nerd Herd";
the_text[2] = "I always liked Red Heads";
the_text[3] = "The first TV legend!";
```

To create the slide show, we need to create two arrays. One will store the path to the images for the slide show while the second will hold the captions to the images. In the image array, each image is stored in a new Image() object. This preloads the images into the browsers cache while the web pages load, preventing any lag during the slideshow. A second array is created to store captions.

```
var the_images = new Array();
the_images[0] = new Image();
the_images[0].src = "images/marilyn.jpg";
the_images[1] = new Image();
the_images[1].src = "images/barney.jpeg";
the_images[2] = new Image();
the_images[2].src = "images/lucille_ball.jpg";
the_images[3] = new Image();
the_images[3].src = "images/grif.jpeg";
```

```
var the_text = new Array();
the_text[0] = "Isn't she pretty!";
the_text[1] = "Member of the Nerd Herd";
the_text[2] = "Funniest Women on TV";
the_text[3] = "The first TV legend!";
```

## Code the Slide Show (Part I)

Our next step is to code a script that will loop through the arrays and create a rotating slide show. A variable is declared that sets the index to the value of 0, the first indexed item in the arrays. A rotate function is declared that sets the image with the id my\_image to indexed item in the image array. The contents of the caption array are printed to the textbox with the id caption. Next, the

index variable is increased by 1. Finally, the value of the index variable is tested against the length of the images array and reset to 0 to loop through the images.

In the next step, a three second delay will be added to the loop so you have time to enjoy each image.

**Code:**

```
var index = 0;

function rotate()
{
window.document.my_image.src= the_images[index].src;
window.document.slideshow.caption.value = the_text[index];
index++;
if (index >=the_images.length)
if (index >= the_text.length)
{
index=0;
}
}
```

### Code the Slide Show (Part II)

Using the setTimeout function, the rotate function is called every three seconds. First a variable, the\_timeout is declared, then within the rotate function, the the\_timeout variable is executed.

```
var the_timeout;

the_timeout = setTimeout("rotate();",3000);
```

**Complete Slide Show function Code:**

```
var index = 0;
var the_timeout;

function rotate()
{
window.document.my_image.src= the_images[index].src;
window.document.slideshow.caption.value = the_text[index];
index++;
if (index >=the_images.length)
if (index >= the_text.length)
{
```

```

index=0;
}
the_timeout = setTimeout("rotate();",3000);
}

```

## Event Handlers are Added to the Start and Stop Buttons

```

<body>
<h1>Slide Show</h1>
<form id="slideshow" name="slideshow" method="post" action="">
  <p>
  </p>
  <p>
    <label>
      <input name="caption" type="text" id="caption" size="50" />
    </label>
  </p>
  <p>
    <label>
      <input type="button" name="start" id="start" value=" Start " onclick="rotate();" />
    </label>
    <input type="button" name="stop" id="stop" value=" Stop " onclick="clearTimeout(the_timeout);" />
  </p>
</form>
</body>

```

Event handlers are added to the start and stop button. The start button calls the rotate() function while the stop button clears the\_timeout and stops the slideshow.

### Code:

```

<input type="button" name="start" id="start" value=" Start " onclick="rotate();"/>
<input type="button" name="stop" id="stop" value=" Stop " onclick="clearTimeout(the_timeout);"/>

```

## Complete Code

```

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<title>Slide Show</title>
<script>
var the_images = new Array();
the_images[0] = new Image();
the_images[0].src = "images/marilyn.jpg";
the_images[1] = new Image();
the_images[1].src = "images/barney.jpeg";
the_images[2] = new Image();
the_images[2].src = "images/lucille_ball.jpg";

```

```

the_images[3] = new Image();
the_images[3].src = "images/grif.jpeg";

var the_text = new Array();
the_text[0] = "Isn't she pretty!";
the_text[1] = "Member of the Nerd Herd";
the_text[2] = "The funniest women on TV";
the_text[3] = "The first TV legend!";

var index = 0;
var the_timeout;

function rotate()
{
window.document.my_image.src= the_images[index].src;
window.document.slideshow.caption.value = the_text[index];
index++;
if (index >=the_images.length)
if (index >= the_text.length)
{
index=0;
}
the_timeout = setTimeout("rotate();",3000);
}

</script>
</head>

<body>
<h1>Slide Show</h1>
<form id="slideshow" name="slideshow" method="post" action="">
<p>
</p>
<p>
<label>
<input name="caption" type="text" id="caption" size="50" />
</label>
</p>
<p>
<label>
<input type="button" name="start" id="start" value=" Start " onclick="rotate();"/>
</label>

```

```
<input type="button" name="stop" id="stop" value=" Stop " onclick="clearTimeout(the_timeout);"/>
</p>
</form>

</body>
</html>
```