

Lecture 2.5

Working with background, Image and Date object

Course Instructor

Engr. Madeha Mushtaq

Controlling the background

- The body tag has the following attributes
 - backgroundcolor
 - Background
 - text

Setting the bgcolor

- We can access the bgcolor as
- `document.body.style.backgroundColor` – Or
- `document.getElementById("id of the body tag").style.backgroundColor`

Setting the bgcolor

```
<html>
<head>
  <title> Setting Bgcolor </title>
</script>
<script>
  function Setbgcolor() {
    var bg = prompt("Enter background color");
    document.body.style.backgroundColor = bg;
  }
</script>
</head>
<body id = "body">
  <INPUT TYPE ="button" VALUE ="Color" onClick="javascript:Setbgcolor()">
  <h1> Hello Dear!</h1>
</body>
</html>
```

Setting the text color

- We can access the body text as
- `document.body.style.color` – Or
- `document.getElementById("id of the body tag").style.color`

Setting the text color

- You can set the text for different elements:
- `document.getElementById("P2").style.color = "blue";`
- Return the text color of an element:
- `alert(document.getElementById("h1").style.color);`

Setting the text color

```
SetText_2.html x
1 <html>
2 <head>
3   <title> Setting Text</title>
4 </head>
5
6 <body>
7   <p id = "para">Blue</p>
8 <script>
9   document.getElementById("para").style.color = "blue";
10 </script>
11 </body>
12 </html>
```

Setting the background

- We can access the background as
- `document.body.background` – Or
- `document.getElementById("id of the body tag").background`

Setting the background

```
SetBackground_3.html x
1 <html>
2 <head>
3   <title> Setting Background</title>
4 </script>
5 function Setbackground(bgsrc) {
6   document.body.background = bgsrc;
7 }
8 </script>
9 </head>
10
11 <body>
12   <INPUT TYPE = "button" VALUE = "Car" onClick="javascript:Setbackground('Car.jpg') ">
13 </body>
14 </html>
```

Exercise

- Write a JavaScript program to modify the text-align, font-size, font-family of heading1 using getElementById.
- Write a JavaScript program to change the background color of all the <div> tag.
- Write a JavaScript to add the text shadow in all paragraphs in a given essay.
- Useful tip: • <element-name>.style.textShadow = "Apx Bpx" will set you the shadow

Working with images

- JavaScript has a built-in object called Image
- The Image object allows you to create objects that represent images created using the element
- Properties: name, border, height, width, hspace, vspace, src.

Working with images

- An image object can be created as
 - `var objname= new image()`
- The most important property of an image object is `src`
- This designates the actual image file you will use as a source for your Image object
 - `objname.src= “abc.jpg”`
- This property can be used to dynamically change an image on the webpage

Working with images

- The primary use for an Image object is to download an image into the cache before it is actually needed for display
 - Instance of image object is created
 - Src property is set to the name of the image to be downloaded

Working with images

```
Image_4.html x
1
2 <html>
3 <head>
4   <title>Working with Images</title>
5 </head>
6
7 <body bgcolor = "pink">
8   <h1> Working with Images </h1>
9   <button onclick="document.getElementById('pic').src='image.jpg'">Image</button>
10  
11  <button onclick="document.getElementById('pic').src='car.jpg'">Car</button>
12 </body>
13 </html>
```

Image Rollover

```
ImageRollover_8_New.html x
1
2 <html>
3 <head><title>Image Rollover</title></head>
4 <body>
5 <p>Hover over the image with your mouse to see the simple rollover effect.
6 <br/>
7 <a href=""
8   onmouseover="document.images.button.src='click_red.gif';"
9   onmouseout="document.images.button.src='click_green.gif'">
10   
11 </a>
12 </p>
13 </body>
14 </html>
```

Slide Show

- Array of images
- Main image
- Next and previous image buttons
- Next image and previous image functions

Class Task

- Write a JavaScript code to display the image slideshow as shown:

My Slide Show



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Working with date object

- The Date object is used to work with dates and times
- It can be used to find the current time and date
- Many time based tasks can be performed
- Date objects are created as
 - `var today=new Date()`

Working with date object

- Date object methods:
- `getDate()`:
 - Returns the day of the month (from 1-31)
- `getDay()`:
 - Returns the day of the week (from 0-6)
- `getFullYear()`:
 - Returns the year (four digits)
- `getMonth()`:
 - Returns the month (from 0-11)

Working with date object

- `getHours()`:
 - Returns the hour (from 0-23)
- `getMilliseconds()`:
 - Returns the milliseconds (from 0-999)
- `getMinutes()`:
 - Returns the minutes (from 0-59)
- `getSeconds()`:
 - Returns the seconds (from 0-59)

Working with date object

This will display current date.

```
Date_first.html x
1 <html>
2 <head>
3   <title>Current Date</title>
4   <script language = "Javascript">
5     var currentDate = new Date();
6     var dateElement = document.getElementById("date");
7     dateElement.innerHTML = document.write("Today is " + currentDate.toDateString());
8   </script>
9 </head>
10 <body>
11   <p id="date"></p>
12 </body>
13 </html>
```

Working with date object

```
<HTML>
<HEAD>
  <TITLE>Time of Day</TITLE>
  <SCRIPT LANGUAGE="JavaScript">
    var mydate = new Date()
    var mytime = mydate.getHours()
    if (mytime<12)
      alert("Good Morning")
    else {
      if(mytime<17)
        alert("Good Afternoon")
      else
        alert("Good Evening")
    }
  </SCRIPT>
</HEAD>
<BODY>
</BODY>
</HTML>
```

The Date method used here, `getHours`, returns the hours on a 24-hour clock. In other words, if it's 20 minutes after mid night, the `getHours` will return a zero; if it's 6 p.m., `getHours` will return an 18.

Working with date object

```
<HTML>
<HEAD>
  <TITLE>Example Birthday</TITLE>
  <SCRIPT LANGUAGE="JavaScript">
    var year = prompt("What year where you born")
    var month = prompt("What month where you born in")
    var bday = prompt("What date where you born on")
    var birthDay = new Date()
    birthDay.setYear(year)
    birthDay.setMonth(month)
    birthDay.setDate(bday)
    var day = birthDay.getDay()
    if (day==0) alert("You were born on Sunday")
    if (day==1) alert("You were born on Monday")
    if (day==2) alert("You were born on Tuesday")
    if (day==3) alert("You were born on Wednesday")
    if (day==4) alert("You were born on Thursday")
    if (day==5) alert("You were born on Friday")
    if (day==6) alert("You were born on Saturday")
  </SCRIPT>
</HEAD>
<BODY>
</BODY>
</HTML>
```

JavaScript Animation

- The JavaScript animation is implemented as gradual changing of DOM element styles or canvas objects.
- The whole process is split into pieces, and each piece is called by timer.
- An animation is created by replacing one Image frame with another at speed such that it appears to be a moving Image.
- Animations can be created using JavaScript by using a timer which replaces one image frame with another.
- The two timer function `setTimeout()` and `setInterval()` to execute JavaScript codes at set intervals

JavaScript Animation

Method	Description
<code>setTimeout(function,duration)</code>	This function calls function after duration milliseconds from now
<code>setInterval(function,duration)</code>	This function calls function after every duration milliseconds
<code>clearTimeout(timeout)</code>	This function calls clears any timer set by the setTimeout() functions

Some useful tips:

- `<element-name>.style.left = A px` sets the left position of the element
- `<element-name>.style.right = A px` sets the right position of the element
- `<element-name>.style.top = A px` sets the top position of the element
- `<element-name>.style.bottom = A px` sets the bottom position of the element

Exercise

- Write a JavaScript program to move two small squares inside one big square in a random manner. User should be able to start and stop this animation using button based events.
- Useful tip: `Math.floor(Math.random() * Math.floor(max))` will give you a random number that is less than max value.

References

- **Chapter 11** Beginning HTML, XHTML, CSS, and JavaScript, by Jon Duckett, Wiley Publishing; 2009, ISBN: 978-0-470-54070-1.
- **Chapter 4,5,7** Learn JavaScript, by Chuck Easttom, Wordware Publishing; 2002, ISBN 1-55622-856-2