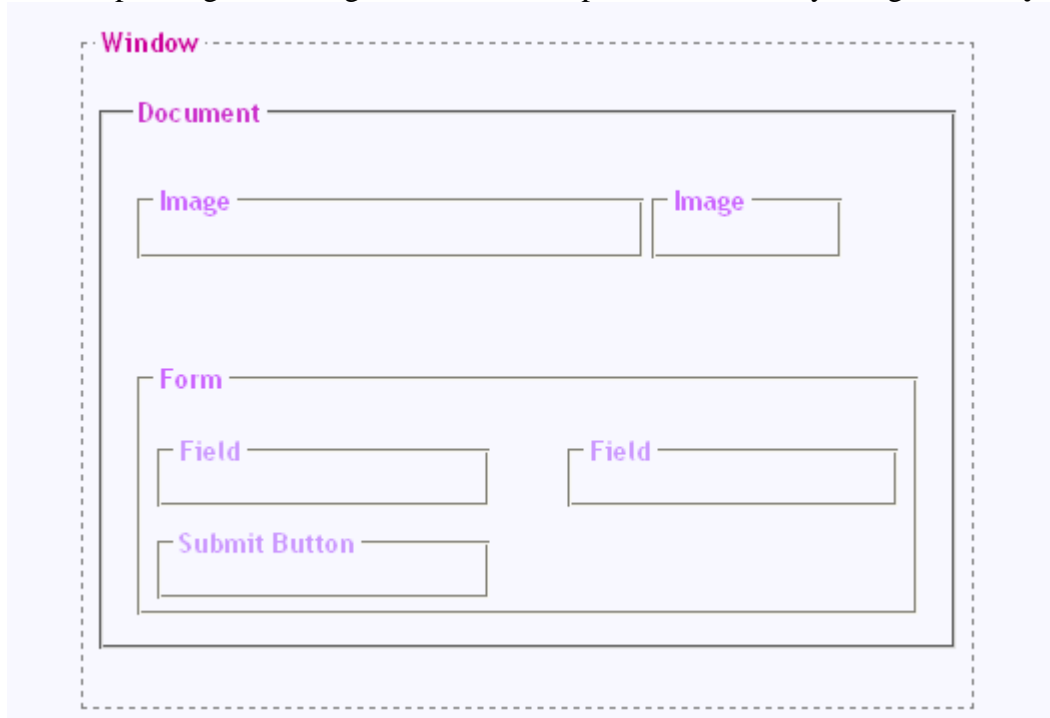| Day		
		Keywords:, DHTML, Form's

DHTML is a buzzword for dynamic HTML

DHTML = HTML +JavaScript + DOM + CSS

DHTML is also described as DOMscripting.

When the browser interprets a HTML file, it will also make a map or model of all the objects/HTML-elements that's in the HTML file. This model is a structured model that is called the **Document Object Model** or the DOM.
JavaScript navigates through the DOM to a specific element, by using the **dot syntax**.

Example:

Window.document.form.field
Window.document.image

Through the DOM we can point at a specific element on the webpage. We e.g. can then change source(src) of the image or the value of the textfield.

Changing an image dynamical on the page.

<img src="rose.jpg" name="flower">

if (month < 5)
    document.flower.src = 'tulip.jpg';   // javascript
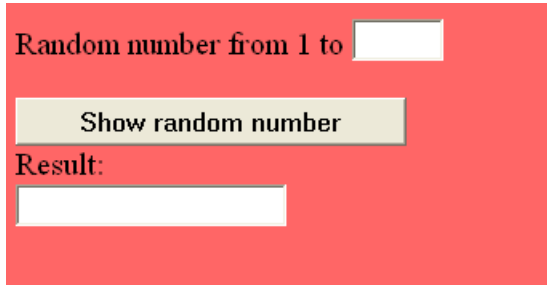
Or we can change the image on mouseover (**event**):

<img src="rose.jpg" name="flower"
 onmouseover = " document.flower.src = 'tulip.jpg';"
 onmouseout = "document.flower.src ='rose.jpg';" >

Let JavaScript read from a HTML-Forms

The random number generator.

Document


```
<html>
<head>
<title> .....BSL..Random..Generator.....</title>
<script type="text/javascript">
function calculate()
{
    var max=document.myForm.number.value; //input

    var result = Math.round(Math.random()*(max-1))+1; //calculation

    document.myForm.resultform.value = result; //output
}
</script>

</head>
<body>

<form name="myForm" method="post">
  Random number from 1 to
  <input type="text" name="number" size="4"><br /><br />

  <input type="button" onclick="calculate()" value="Show random number">
  <br />Result:<br />
  <input type="text" name="resultform" size="20">

</form>

</body>
</html>
```
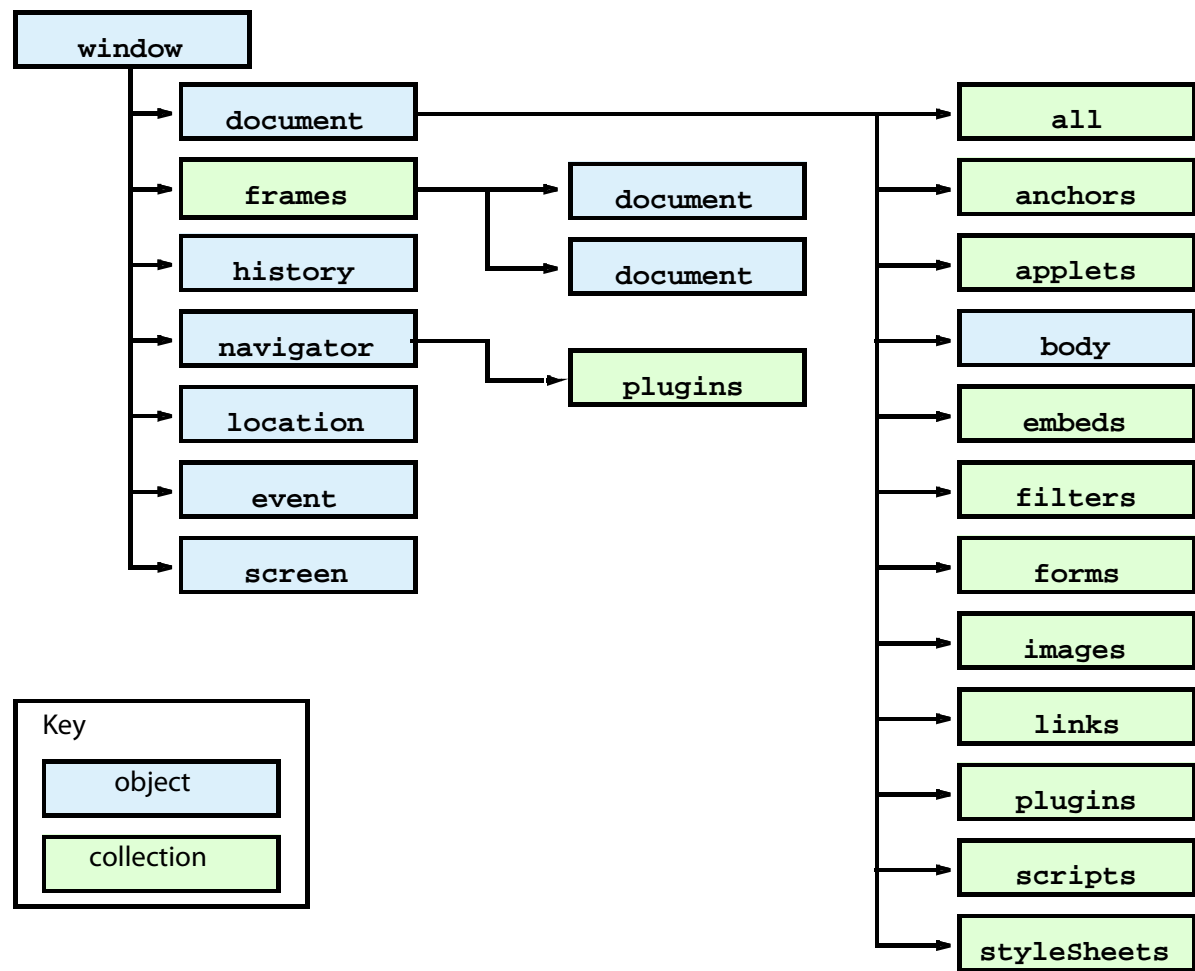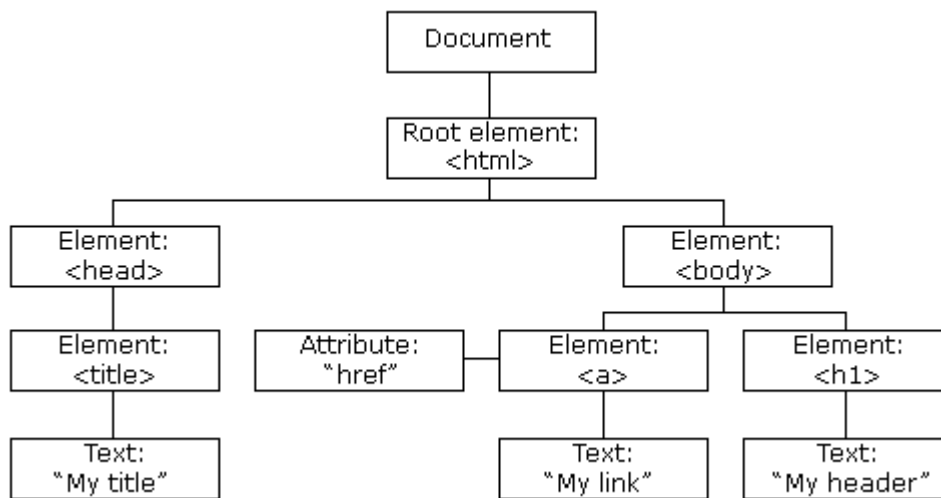
Overview of the Document Object Model

```
window
   ├──► document ──────────────────────────────► all
   ├──► frames ──────┬──► document              anchors
   ├──► history      └──► document              applets
   ├──► navigator ───────► plugins              body
   ├──► location                                embeds
   ├──► event                                   filters
   └──► screen                                  forms
                                                images
                                                links
                                                plugins
                                                scripts
                                                styleSheets
```

Key
- object
- collection

The following figure represents a document tree (node tree):

Talking/Scripting to the document

- Reference to a form object (ref = document.formname.inputname.value)
- **Reference to a specific object/element with   id = 'start'**
  (ref = getElementById('start')   )
- Collection (Array) of all elements in the document. (Document.all[])
- Object hierarchy. Parents og Children
- Dynamic CSS-style (document.body.style.backgroundColor = "blue")
- Dynamic positionering. (Animations, Dropdowns menus ets.)
- Frameset collection . (A way of storing data Client side over more webpages).
- Navigator objektet. Browser tjek

Example: domscripting_demo.html

Reference with the id attribut

With the **id** attribute we can give an element/tag a **unique** name that JavaScript can call for.

<p id="text1">Welcome </p>

The content of the paragraph can be assigned to a variable with this command.

*var name = text1.**innerText***

or new text can be put into the paragraph.

text1.innerText = "Goodbye"

innerText only works in Internet explorer !!!!!!!!!!!!!!

```
var element = document.getElementById("milk");
//element.innerText = "Kaffe";  //virker kun i explorer

element.firstChild.nodeValue = "Kaffe";  // virker i FF og Explorer m.m.
```

The same can be done with images

**

*billed1.**src** = "hackanm.gif";*

without the id you have to find other way to refer to a specific object.

document.images[0].src = "hackanm.gif"

www.w3schools.com like this kind of reference.

ek[sempel:](sempel:)

Collections of objects (Arrays)

Document.form, document.images are arrays that contain the forms and images on the html page.
E.g.

```
var selection = document.forms[0].myList.selectedIndex;
var txt=document.forms[0].myList.options[selection].text; // get selection
```

Dynamic changing the CSS-style

document.body.style.backgroundColor = "blue"

<div id = 'liste'>

    var obj = document.getElementById("liste");
    obj.style.visibility = "hidden";

Animation (Dynamic positioning) with CSS.

   (Animationer, Rulle Menuer m.m.) . It is easier if you can use Flash for animation.

Look at this tutorial: http://www.schillmania.com/content/projects/javascript-animation-1/

Form Validation

When we can get the input from the user we can validate it, meaning check if the input is correct according to some requirements, rules.

E.g. what is the requirements for a valid email address ?

Example:

Preview:

Enter your E-mail: | bsl@ats | **Submit**

Source 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" />
<script type="text/javascript">

function validate()
{
var tekst = document.myForm.email.value;
var pos = tekst.indexOf("@"); //position of @ in email

if (pos == -1)
        {
        alert("Not a valid e-mail")
        return false
        }
}
</script>
</head>


<body>
<form name="myForm" method="post" action="http://www.m-designer-
undvis.dk/eval/serverscript.asp" onsubmit="return validate()">
  Enter your E-mail:
  <input type="text" name="email" size="20" />
  <input type="submit" value="Submit" />
</form>
</body></html>
```

The form is postet to the ASP serverscript at
URL= http://www.m-designer-undvis.dk/eval/serverscript.asp

```
<body>
<!--   serverscript.asp   -->
Thank for sending the form !
<br>
It contained:
<%
response.write(request.form("email"))
%>
</body>
```

Other examples of the use of forms

Select box => no use for validation ☺

Select your favorite browser: | Internet Explorer ▼ |

Your favorite browser is: [   ]

Source code:

```html
<html>
<head>
<script language="javascript">
function put()
{
var selection = document.forms[0].myList.selectedIndex;
var txt=document.forms[0].myList.options[selection].text; // get selection


document.forms[0].favorite.value=txt; // assign new value to form
}
</script>
</head>

<body>
<form>
Select your favorite browser:
<select name="myList" onchange="put()">
      <option>Internet Explorer</option>
      <option>Netscape</option>
      <option>Opera</option>
</select>
<br /><br />
Your favorite browser is: <input type="text" name="favorite" size="20">
</form>
</body>

</html>
```

Radio button

Select which browser is your favorite:

▢ Internet Explorer

▢ Firefox

◉ Opera

| Opera |

Source code

```
<html>

<head>
<script type="text/javascript">
function check(browser)
{

document.myForm.answer.value=browser // feedback text
}
</script>

</head>

<body>
<form name="myForm">
Select which browser is your favorite:<br /><br />
<input type="radio" name="browser" onclick="check(this.value)" value="Internet
Explorer">Internet Explorer<br />
<input type="radio" name="browser" onclick="check(this.value)" value="Firefox">Firefox<br
/>
<input type="radio" name="browser" onclick="check(this.value)" value="Opera">Opera<br />
<br />
<input type="text" name="answer" size="20">
</form>
</body>

</html>
```

Other examples : http://www.w3schools.com/htmldom/dom_obj_form.asp