

existing browser window.

.textUnderlinePosition (TF5.5) dow with a web page in it. document.open() document.write(string) document.close() rewrite from scratch new HTML content for an

```
.className | CSS class(es
                                document.all()
.clientHeight
                                 Loose association: members
.clientWidth
                                belong to at least 1 inputable.
.clientLeft @ .offsetLeft
                                (in add'n to Element members)
.clientTop @ .offsetTop
                                .accessKey shortcut
.contentEditable (IE5.5)
                                .align | (-N4)
.currentStyle
                                .blur() focus elsewhere
.dir 🖺
                                .checked [ (checkbox, radio)
disabled greyed-out (+Op)
                                .click() simulated mouse
 Input .disabled
                                .cols (textarea) (-N4)
.document
                                dataFid
.filters
                                .dataFormatAs
.getAttributeNode(name)
                                .dataSrc
.getAttribute(name)
                                .defaultChecked ) read-only
.getElementsByTagName(n)
                                .defaultSelected > used at
                                .defaultValue ) reset time
      XHTML says to use in
                                .disabled grayed-out
innerHTML what's between
                                .focus()
  start & end tags $N6 body
                                .form @
                                Jength (of select's options)
innerText subtags stripped
isContentEditable (TE5.5)
isDisabled (IE5.5)
isMultiLine (TES.5)
.isTextEdit
.lang
Janguage
.name 🖺 🖝 .id
.offsetWidth
.offsetHeight
.offsetTop ) relative to
.offsetLeft
.offsetParent
onactivate (TE5.5)
.onafterupdate
onbeforeactivate (IE5.5)
onbeforecopy
onbeforecut
onbeforedeactivate (IE5.5)
onbeforeeditfocus
.onbeforepaste
.onbeforeupdate
oncellchange
.onclick
.oncontextmenu
oncontralselect (TE5.5)
oncopy
.oncut
.ondataavailable
.ondatasetchanged
.ondatasetcomplete
ondblclick (+N4)
ondeactivate (TE5.5)
ondrag
.ondragend
.ondragenter
.ondragleave
.ondragover
.ondragstart
ondrop
.onerrorupdate
onfilterchange
onlayoutcomplete (TE5.5)
onlosecapture
```

.onmousedowr

onmouseout

onmouseover

.onmouseup

```
.maxLength [ (typable text)
                                                               .alt 🗏
                               .multiple (select) (-N4)
                                                               .dynsrc
                                .onchange
                                .onclick
                                .ondblclick (+N4)
                                onfocus
                                .onfocusin
                                onfocusout
                                .onhelp
                                .onkeydown
                                                               .longDesc
                                .onkevpress
                                .onkeyup
                               .onselect (-N4)
                                                               .lowsrc
                                .options[] (select)
                                .select() swipe visible text
                                selected | <option>
                                .selectedIndex (select, 0...)
                                .size (visible text width)
                                .readOnly
                                .recordNumber
                                .remove()
                                                               .useMap
                                .rows III (-N4) (textarea)
                               .tabIndex
                                .type |
                                value E
                                .wrap 🗏 (textarea)
                                                               are form members also)
                              .onselectstart
                               outerHTML
                              .outerText
                               parentElement
onmouseenter (IE5.5)
                              .parentTextEdit
onmouseleave (IE5.5)
                              .readyState
onmousemove (-N4)
                              .removeAttribute(name)
               * roll-
                               removeAttributeNode(attr)
                              runtimeStyle
                              .scopeName
.onmousewheel (TE5.5)
                               scrollWidth
```

```
attributes element subnode:
 .cloneNode(descendentstod)
 hasChildNodes()
 insertBefore(nnew,nref)
                               .dataFld
.appendChild(nnew)
                               .dataTransfer
.removeChild(nnref
                                eventPhase
                                .fromElement
Access: document.imgname
(in add'n to Element members)
                               isChar
                               .kevCode
fileCreatedDate
 ileModifiedDate
fileUpdatedDate
                               .offsetX
                               offsetY
                               .originalTarget
                               .pageX ? click point within
                                pageY
                                preventBubble()
                               .preventCapture()
                                preventDefault() (+Op)
                               .propertyName
                                .rangeOffset
                                .rangeParent
                               .reason
                                recordset
.src III prefetch for rollovers
                                relatedTarget (+0p)
  (new Image).src="x.gif";
                                repeat
  then change on the fly
                               .returnValue
                               screenX
                               .screenY
                               .shiftKey
                               shiftLeft (TE5.5)
                               .srcElement
x @ Element .offsetLeft
                               srcFilter
y Element .offsetTop
                               srcling
                               .stopPropagation() (+Op)
                               .target generating element
                                timeStamp
                                toElement
form element
                               type e.g. "click" for onclick
the <form> Access via
                               view (window)
document.forms[index] or
                               .wheelDelta (IE5.5)
document.formname
                               .which mouse button or gen
(Element and Node members
                                 erally: 1=left 3=right
```

.width (N4 only)

local click point

z=attribute, s=text, ett

nodeName | id or name

.ownerDocument root (-IE5)

nodeValue

firstChild

lastChild

.align

.border

fileSize

height 📳

hspace

isMap

.loop II

.mimeType

.onabort()

.onerror()

.onload()

.protocol

.start

.vspace

.width

.action 🗏

.method [

.onreset

.onsubmit

.target

.elements[] � inputables

.encoding @ enctype

.complete

.nextSibling

.previousSibling

.parentNode 2.00

.childNodes[7

```
.buddles true=i
                                  <form id="frm" name="frm">
.button mouse button agen-
                                    cinput id="btn" name="btn"
  erally: 0.1=left 2=right
                                     type="button
.cancelBubble
                                     onmousedown=
                                     "return mdown(event);" />
.cancelable w/preventDefault
.charCode
.clientX / click point within
         browser window
                                  function mdown(e)
.clientY
                                    if (e.button == 2
.ctrlKey
                                       e.which == 3)
.contentOverflow (TE5.5)
                                       alert("right-click");
.ctrlLeft (IE5.5)
.currentTarget handler (+Op
                                    else {
.data dropped URLs 6 (N4)
                                       alert("left-click"):
                                    return false:
detail e.g. click count
                                    // false=browser ignore
                                     // true=browser handle it
                                  </script>
 getPreventDefault()
 height (N4 only)
                                  This script uses way 3 or 2:
 initEvent(type,c,c) (+0p)
                                  function mdown2(e) {
 initKeyEvent(type,c,c,...)
                                    if (e != null) {
 initMouseEvent(type,c,c,...)
                                       return mdown(e)
.initUIEvent(type,c,c,...)
                                     f (window.event != null) {
                                       return mdown(
                                         window.event)
.layerX ) local click point
        or dimensions
                                  document.frm.btn
modifiers (N4 only)
                                    .onmousedown=mdown2;
.nextPage (TE5.5)
```

```
Netscape 4
                      | | < layer > and some others.
                      M<div>M<span>M<a>
                      if style="position:relative
                           or "position:absolute"
                     Access by name or number
                       document.layers.name
screen click point
                       document.layers[index]
                     .background (e.g. "bg.gif")
                     .bgColor [ (e.g. *#FFFFFF")
                     .captureEvents(mask)
                     .handleEvent(event)
                               .left .top .right
                      .document & (HTML within)
                        .open() .write() .close() to
                        rewrite </aver> contents.
                      .hidden (true or false)
                     .layers[] contained layers
                     .load(url, width)
                     .moveAbove(layerobj)
                     .moveBy(dx,dy)
                     .moveTo(x,y) (within layer)
                      .moveToAbsolute(x,y) (page)
                     .offset(dx,dy)
                     .pageX
                     .pageY
```

.parentLayer

.releaseEvents(mask)

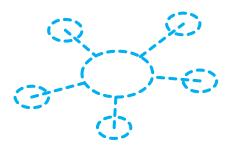
resizeRu(dwdh)

body vlink> Eman Fathi Information Technology Institute

Object Model

WHAT IS DOM?

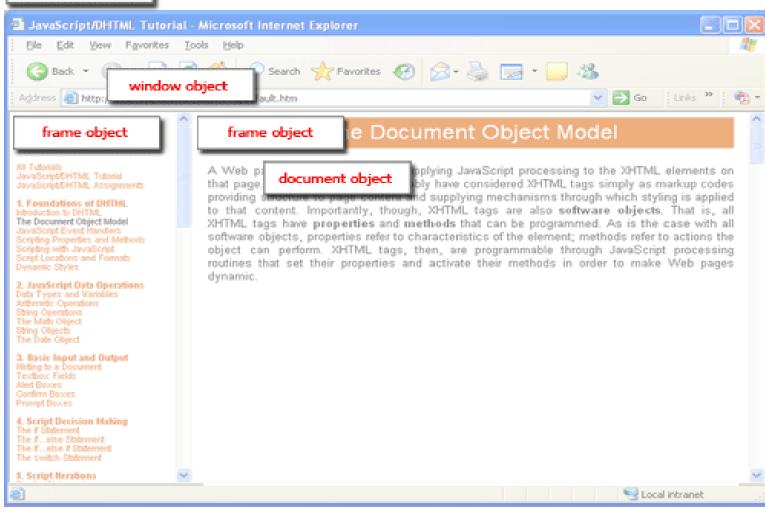
- Stands for Document Object Model.
- W3C standard.
- Defines a standard way to access and manipulate HTML documents.
- Platform independent.
- Language independent



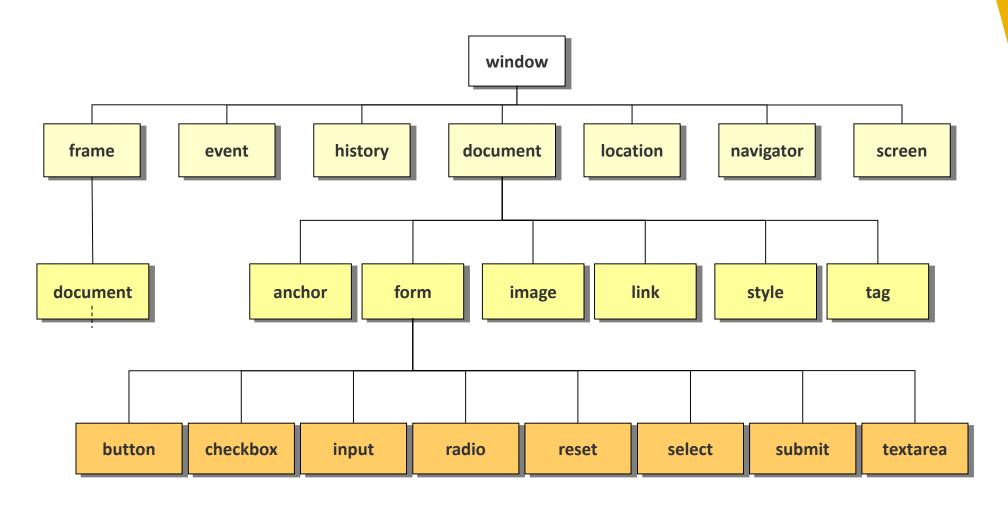
THE DOM MODEL

CONT.

navigator object



DOM TREE



JAVASCRIPT OBJECTS HIERARCHY

Every page has the following objects:

- window: the top-level object; has properties that apply to the entire window.
- navigator: has properties related to the name and version of the Navigator being used.
- document: contains properties based on the content of the document, such as title, background color, links, and forms.
- location: has properties based on the current URL.
- history: contains properties representing URLs the client has previously requested.



- The top level object in the JavaScript client hierarchy.
- The Window object represents a browser window.
- Window object has a set of properties & methods.

Object Model Reference:

window

To reference its properties & methods:

- [window.]property
- [window.]method

Properties		
Name	Description	Syntax
name	Return or set a window's name	window.name
statusbar	Sets whether or not the browser's statusbar should be visible	Window.statusbar=0 // Not visible Window.statusbar=1// visible
closed	Specifies whether a window has been closed	window.closed
opener	Return details of the source window	window.opener
screenX screenY	read-only property returns the distance of the left border of the browser from the left side of the screen	window.screenY window.screenY
scrollX scrollY	Returns the number of pixels the document has been scrolled horizontally.	window.scrollX Window.scrollY

Properties-cont		
Name	Description	Syntax
document	Reference to the current document object.	window.document
frames	An array referencing all of the frames in the current window.	window.frames[i]
history	Reference to the History object of JavaScript	window.history
navigator	Reference to the browser application	window.navigator
location	Reference to the Location object of JavaScript	window.location



Methods		
Name	Description	Syntax
alert()	Displays an alert box with a message and an OK button	window.alert("Hello")
confirm()	Displays a dialog box with a message and an OK, returning true, and a Cancel, returning false	Window.confrim("Do you want to exit")
prompt()	Displays a dialog box that prompts the user for input	name=prompt("Please enter your name","")
open()	Opens a new browser window	window.open(, ,)
close()	close a specified window	window.close()



Methods-cont		
Name	Description	Syntax
moveTo(h,v)	Moves the window to horizontal and vertical position relative top-left of screen:	window. moveTo(,)
moveBy(h,v)	Moves the window by + or - horizontal and vertical pixels:	window.moveBy(,)
resizeTo(h,v)	Changes the size of the window to horizontal and vertical number of pixels:	window.resizeTo(,)
resizeBy(h,v)	Changes the size of the window + or – current size	window.resizeBy(,)
scrollTo(h,v)	Scrolls the document in the current window or frame to horizontal and vertical pixel positions from top of document:	window.scrollTo(,)
scrollBy(h,v)	Scrolls the document in the current window or frame by + or - horizontal and vertical pixel from current position:	window.scrollBy(,)

CONT.



OPEN METHOD

Return Value: A reference to the newly created window, or null if the call failed.

```
var myWindow = window.open("", "", "width=200,height=100");
var myWindow = window.open("", "MsgWindow", "width=200,height=100");
myWindow.document.write("This is 'MsgWindow'. I am 200px wide and 100px tall!");
```



resizable yes no 1 0	Whether or not the window is resizable. IE only
scrollbars yes no 1 0	Whether or not to display scroll bars. IE, Firefox & Opera only
menubar yes no 1 0	Whether or not to display the menu bar
status yes no 1 0	Whether or not to add a status bar
titlebar yes no 1 0	Whether or not to display the title bar. Ignored unless the calling application is an HTML Application or a trusted dialog box
toolbar yes no 1 0	Whether or not to display the browser toolbar. IE and Firefox only
top=pixels	The top position of the window. Negative values not allowed
width=pixels	The width of the window. Min. value is 100
height=pixels	The height of the window. Min. value is 100

WINDOW TIMERS



Methods-cont Methods-cont		
Name	Description	Syntax
setInterval()	Evaluates an expression at specified intervals	<pre>intervalID = window.setInterval (exp,time_interval)</pre>
setTimeout()	Evaluates an expression after a specified number of milliseconds	<pre>timeoutID = window.setTimeOut (exp, time_interval)</pre>
clearTimeout()	Clears the delay set by setTimeout()	window.clearTimeout(timeoutID)
clearInterval()	Cancels repeated action which was set up using setInterval()	window.clearInterval(intervalID)



NAVIGATOR

- The navigator object represents the browser application.
- This object allows scripts to see:
 - 1.browser type
 - 2.browser version
- Object Model reference: [window.]navigator
- All of its properties are read-only.

NAVIGATOR

- Proterties
 - appName
 - appVersion
 - Platform
 - browserLanguage
- Methods
 - javaEnabled()

FRAME

- Created by using the HTML <FRAME> tag in a Window that contains the
 <FRAMESET> tag.
- A frame is an independent window within a parent window.
- Each frame has its own URL and is treated, with a few exceptions, as a Window object by JavaScript.
- Frame object has all the methods and properties of a window object.
- window.frames[i]

 An array containing references to all the named child frames in the current window.
- To access a specific frame in a window:
 - window.frames[0]
 - window.frames["frame_name"]

LOCATION

- The Location object is part of a Window object.
- The location Object refers to the current URL.
- Object Model Reference: [window.]location
- href is the defult property of the location object.
 location="documentURL"
 location.href="documentURL"
- *replace* method loads the specified URL over the current history entry. location.replace(URL)

HISTORY

- The history Object lets you send the user to somewhere in the history list from within a JavaScript program.
- The history Object is an Array of URLs. Like all Arrays, it has a length Property.
- Object Model reference: [window.]history
- Properties
- ▶ length
- Methods
- back()
- ▶ forward()
- > go()

DOM EVENTS

EVENTS

- Events are actions that respond to user's specific actions.
- Events are controlled in JavaScript using event handlers that indicate what actions the browser takes in response to an event.
- Event handlers are created as attributes added to the HTML tags in which the event is triggered.
- An Event handler adopts the event name and appends the word "on" in front of it.
 - < tag onevent = "JavaScript commands;">
- Thus the "click" event becomes the onClick event handler

EVENTS CONT.

Mouse Events	
Event handler	Description
onMouseDown	when pressing any of the mouse buttons.
onMouseMove	when the user moves the mouse pointer within an element.
onMouseOut	when moving mouse pointer out of an element.
onMouseUp	when the user release any mouse button pressed
onMouseOver	when the user moves the mouse pointer over an element.
onClick	when clicking the left mouse button on an element.
onDblClick	when Double-clicking the left mouse button on an element.
onDragStart	When the user has begun to select an element

EVENTS CONT.

Keyboard Events	
Event handler	Description
onKeyDown	When User presses a key
onKeyPress	When User holds down a key
onKeyUp	When User a key

EVENTS

Other Events	
Event handler	Description
onAbort	The User interrupted the transfer of an image
onBlur	when loosing focus
onFocus	when setting focus
onChange	when the element has lost the focus and the content of the element has changed
onLoad	a document or other external element has completed downloading all the data into the browser
onUnload	a document is about to be unloaded from the window
onError	When an error has occurred in a script.
onMove	when moving the browser window

EVENTS CONT.

Other Events	
Event handler	Description
OnReset	When the user clicks the form reset button
onSubmit	When the user clicks the form submit button
onScroll	When the user adjusts an element's scrollbar
onResize	When the user resizes a browser window
onHelp	When the user presses the F1 key
onselect	When selecting text in an input or a textarea element
onStart	When A marquee element loop begins
onFinish	When a marquee object finishes looping
onSelectStart	When the user is beginning to select an element

BINDING EVENTS



- Binding Event Handlers to Elements can be:
 - Event handlers as tag attribute
 - event handlers as object property

EVENT HANDLERS AS OBJECT PROPERTY

```
<script>
function showAlert ()
{
  alert("you have clicked me")
}
  document.forms[0].b1.onclick = showAlert
</script>
```

Note: there
are no
parentheses

EVENT HANDLERS AS TAG ATTRIBUTE

•

This will make the browser ignore the action of href

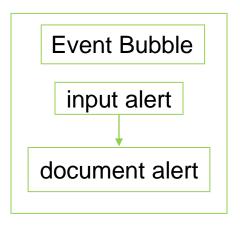
EVENT OBJECT

Properties of the event Object in IE

- shiftKey , altKey , ctrlKey
- button "Mouse Button"
- clientX, clientY
- fromElement
- cancelBubble

EVENT PROPAGATION

```
<script>
       function tryme()
              alert("document")
       document.onclick = tryme
</script>
<br/><body leftmargin=0 topmargin=0 >
<input type=text onclick="alert('input')">
```



→ if we made a click in the textbox

EVENT BUBBLING

- Event Bubbling
- → Events in Internet Explorer bubble up from the target element through an element hierarchy.
- To cancel the Bubbling.
 event.stopPropagation()

Thank You