

DHTML

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Define what is DHTML?

- DHTML stands for “dynamic hypertext transfer markup language”.
- DHTML is not a language.
- DHTML is a term describing the art of making dynamic & interactive WebPages.
- Designed to enhance a web user’s experience.

Define DHTML cont....

- DHTML is a combination of web development technologies used to create dynamically changing websites.
- WebPages may include animation, dynamic menus & text effects.
- The technologies used include a combination of HTML, JavaScript, or VBScript, CSS & the document object model(DOM).

DHTML = CSS + JavaScript + DOM + HTML

Why DHTML

- With DHTML you can create:
 - Animation
 - Pop-up menus
 - Inclusion of Web page content from external data sources
 - Elements that can be dragged and dropped within the Web page

Features

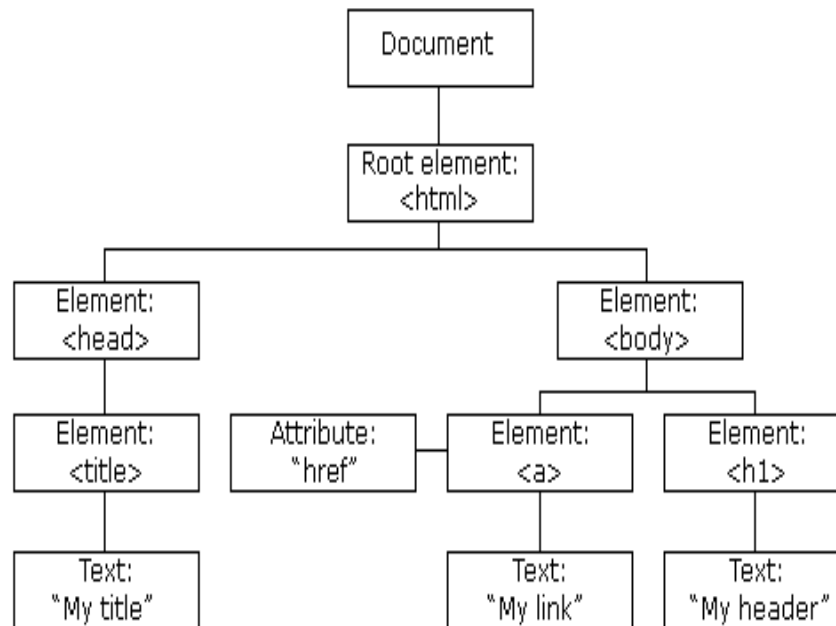
- DHTML includes the following features:-
 - Dynamic content, which allows the user to dynamically change web page content.
 - Dynamic positioning of web page elements.
 - Dynamic style which allows the user to change the web page's color, font, size or content.
 - Dynamic fonts (Netscape Communicator)
 - Data binding (Internet Explorer)

Document Object Model

- To allow scripts and components to access features of HTML and CSS, the contents of the document were represented as objects in a programming model known as the Document Object Model (DOM).
- The DOM also provides access to user actions such as pressing a key and clicking the mouse.
- DHTML DOM refers the different elements contained within the web page as objects. It is a platform independent object model that allows the scripts to access the HTML and CSS elements.
- DHTML DOM provides full support to events triggered by the user. This allows responding to user's input and to generate better interactivity with much ease.

Document Object Model

The HTML DOM Tree of Objects



DHTML objects

- Every element contained within a web page is referred as an object. The DHTML objects allow you to access and manipulate the element by using the different properties and methods.
- Some of DHTML objects:
 - **a**: specifies the beginning and end of a hypertext link.
 - **body**: specifies the start and end of the body of the document.
 - **div**: divides a web page into multiple sections, where each section can render other HTML elements.
 - **document**: represents the entire HTML document.
 - **form**: Specifies a container for other controls.
 - **frame**: specifies a frame within a frameset.
 - **frameset**: specifies a frameset that can hold multiple frames.
 - **html**: specifies the HTML elements.

DHTML objects

■ Some of DHTML objects:

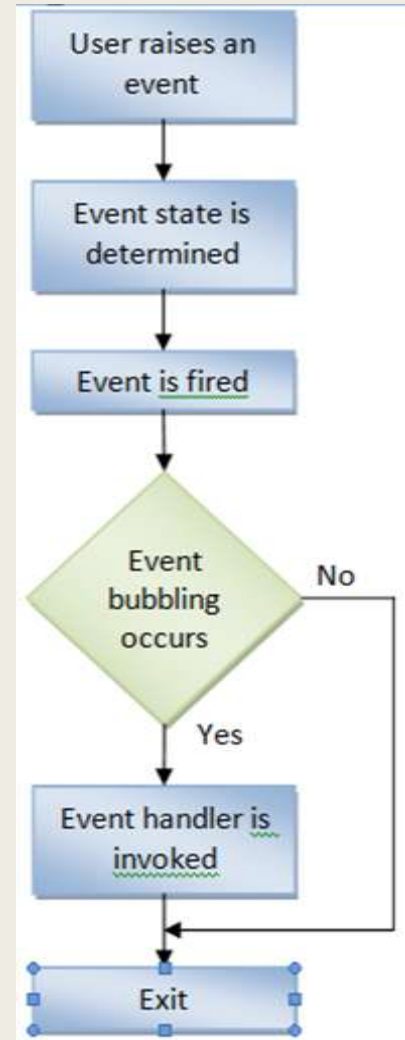
- **img**: specifies an image or video clip to be embedded in the document.
- **input**: creates different form input controls.
- **li**: specifies a list item.
- **link**: specifies a link between the existing document and external document.
- **span**: Specifies an inline element to apply styles to a part of the text.
- **table**: specifies that the content should be displayed in a table.
- **td**: specifies the data to be displayed in a table cell.
- **tr**: specifies a table row.

Event

- An event occurs when the user interacts with the web page. Some of the commonly generated events are mouse clicks, key strokes, and so on.
- The process of handling these events is known as event handling. Event handling is process of specifying actions to be performed when an event occurs. This is done by using an event handler.
- The event handler is a scripting code or a function that defines the actions to be performed when the event triggered.
- When an event occurs, an event handler function that is associated with the specific event is invoked.

Life circle of an event

- The user performs an action to raise an event.
- The event object is updated to determine the event state.
- The event is fired.
- The event bubbling occurs as the event bubbles through the elements of the hierarchy.
- The event handler is invoked that performs the specified actions.
- **Some keyboard events:**
- **onKeyDown:** Occurs when a key is pressed down.
- **onKeyUp:** Occurs when a key is released.
- **onKeyPress:** Occurs when a key is pressed and released.



Dynamic styles

- Dynamic styles are a key feature of DHTML.
- Quickly change the appearance and formatting of elements in a document without adding or removing elements.
- We can change inline styles on individual elements and change style rules using simple script-based programming.
- Helps keep your documents small and the scripts that manipulate the document fast.

Data binding

- Bind individual elements in your document to data from another source, such as a database or comma-delimited text file.
- When the document is loaded, the data is automatically retrieved from the source and formatted and displayed within the element.

Difference between HTML and DHTML

- HTML stands for Hyper Text Mark-up Language where DHTML stands for Dynamic Hyper Text Mark-up Language.
- Html is a language where DHTML is a Technology.
- HTML is a collection of tags where in DHTML, It is a collection of technology.
- DHTML sites are dynamic in nature and HTML is static.
- A plain page without any styles and Scripts called as HTML whereas A page with HTML, CSS, DOM and Scripts called as DHTML.
- HTML sites will be slow upon client-side technologies while DHTML sites will be fast enough upon client-side technologies.

Uses

- Animate text and images in their document, independently moving each element from any starting point to any ending point, following a predetermined path or one chosen by the user.
- Embed a ticker that automatically refreshes its content with the latest news, stock quotes, or other data.
- Use a form to capture user input, and then process and respond to that data without having to send data back to the server.
- Include rollover buttons or drop-down menus.

Advantages of DHTML

1. **DHTML** is more efficient for content management purposes.
2. **Results in faster and fresher** content and visual appeal.
3. **DHTML** for web design is that it is easier to create good internal linking and cross linking.
4. **Small file size:-** DHTML files are small compared to other interactive media such as flash or shockwave. Therefore they have a shorter download time & take up less bandwidth.
5. **Supported by both major browser manufactures:-** both Microsoft & Netscape currently support DHTML in some shape or form.

Advantages of DHTML

6. **Fast and Zippy:** - DHTML loads content on fly. Your whole page does not loads but only the content part that needs to be altered, so saving the crucial time for the users and giving the snazzy look to the website.
7. **DHTML will be a standard:-** the WWW consortium or the W3C is the currently implementing standards for DHTML technologies. It has already released preliminary specification for DOM & CSS.
8. **No plug-ins necessary:-** DHTML uses most of the features already present in the browsers, so there is no need to download any sort of plug-ins.
9. **Great Utility:-** The dynamic features possessed by dHTML are helping web designers to create Web pages that posses compact looks, downloads fast, have graphic effects, provides greater functionality and can hold much more text or content all at the same time.
10. **Doesn't require a java virtual machine.**

Disadvantages of DHTML

1. **Costly editing tools:-** DHTML provides great functionality but the editors available for that in market are pretty expensive. E.g.:- Dreamweaver & fusion
2. **Only new browser support DHTML:-** DHTML is only supported by Netscape 4.0 or higher & internet explorer(IE) 4.0 or higher version.
3. **Long and complex coding:-** DHTML coding is long and complex only the expert JavaScript & HTML programmers can write them & edit them with good degree of functionality.
4. **Browser support problem:-** DHTML suffer from browser support problems for different browser.
5. **Unprotected source code.**

Thank you !!

