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Seminar
On
AJAX

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INTRODUCTION

- **Ajax** stands for asynchronous JavaScript and XML.
- It is a group of interrelated web development techniques used on the client-side to create interactive web applications .
- AJAX is about updating parts of a web page, without reloading the whole page.
- Ajax uses a combination of HTML and CSS to mark up and style information .

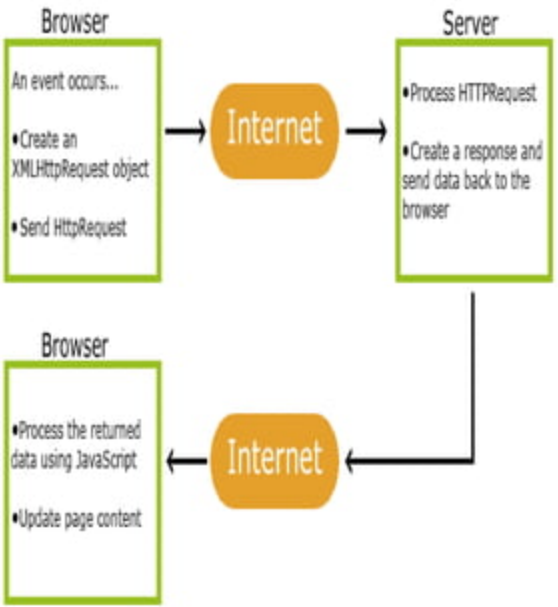
WHAT IS AJAX?

- Asynchronous JavaScript and XML (AJAX).
- Not a stand-alone language or technology.
- Combines a set of known technologies in order to create faster andmore user friendly web pages.
- Client side technology.
- Makes web pages more responsive by exchanging small amounts ofdata.
- Allows the web page to change its content without refreshing thewhole page.
- Web browser technology independent of web server software.

TECHNOLOGIES

- HTML or XHTML and CSS for presentation
- The Document Object Model for dynamic display of and interaction with data
- XML for the interchange of data, and XSLT for its manipulation
- The XMLHttpRequest object for asynchronous communication
- JavaScript to bring these technologies together

AJAX Works



- AJAX allows web pages to be updated asynchronously by exchanging small amounts of data with the server without reloading the whole page.
- Classic web pages,must reload the entire page if the content should change.
- Examples of applications using AJAX: Google Maps, Gmail, Youtube, and Facebook tabs.

AJAX Example

- The AJAX application contains one div section and one button.
- The div section will be used to display information returned from a server.
- The button specify and hold function.
- The script section contains the function.

AJAX - Create an XMLHttpRequest Object

- The XMLHttpRequest object is used to exchange data with a server behind the scenes(i,e) possible to update parts of a web page, without reloading the whole page.
- Syntax for creating an XMLHttpRequest object:

```
xmlhttp=new XMLHttpRequest();
```

AJAX - Send a Request To a Server

METHOD	DESCIPTION	SYNTAX
open(method,url,async)	Specifies the type of request, the URL, and if the request should be handled asynchronously or not. method: the type of request: GET or POST url: the location of the file on the server async: true (asynchronous) or false (synchronous)	xmlhttp.open("GET","ajax_info.txt",true);
send(string)	Sends the request off to the server. string: Only used for POST requests	xmlhttp.send();

AJAX - Server Response

- The responseText Property is used when the response from the server is not XML,returns the response as a string.
- tTo get the response from a server, use the responseText or responseXML property.

PROPERTY	DESCRIPTION
RESPONSE TEXT	get the response data as a string
RESPONSE XML	get the response data as XML data

AJAX - The onreadystatechange Event

- When a request is sent to server, we need to perform some actions based on the response.
- Three important properties of the XMLHttpRequest object:

I. The onreadystatechange event is triggered every time the readyState changes.

II. The readyState property holds the status of the XMLHttpRequest.

III. status 200: "OK"

Using a Callback Function

- A callback function is a function passed as a parameter to another function.
- If you have more than one AJAX task on your website, you should create ONE standard function for creating the XMLHttpRequest object, and call this for each AJAX task.
- The function call should contain the URL and what to do on onreadystatechange.

ADVANTAGES

- page can be refreshed dynamically
- response of the interface to user is faster
- load much faster because the payload is much smaller
- reduces the demand for bandwidth
- allows the web applications to be much more efficient
- operate more like an application rather than a standalone program

DISADVANTAGES

- integration of browsers
- hard for the user to bookmark the state of the web page

CONCLUSIONS

- Ajax provides functionality to create a robust web application.
- If an Ajax web application is coded properly it will run faster than and as secure as a non-Ajax program.
- Ajax also allows websites to reduce their overall bandwidth usage and server load by reducing the amount of full page loads.

REFERENCES

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THANKS