AJAX TECHNOLOGY

S. BEULAH TERESA¹, AGNES LERIN PEREIRA², G.GIRUBAA³, M. PAVITHRA⁴

1,2,3&4 II. BSc., Information Technology, Department of Computer Science,
Sri Krishna Adithya College of Arts and Science, Coimbatore, TamilNadu, India.

---***---

Abstract: *Ajax is a client-side script that communicates between a server/database. AJAX technology is the method of exchanging data with a server, and updating the parts of a web page – without reloading the entire page. It uses ADT between the web browser and server. It refers to the use of XmlHttpRequest objects to interact with a web server dynamically via JavaScript. It also allows easier interaction.*

Keywords: Ajax, ADT, JavaScript, XML, HTML, DOM, DHTML.

I.INTRODUCTION

AJAX can be abbreviated as Asynchronous JavaScript and XML. It was first introduced by Microsoft and had been known as DHTML / JavaScript web application with remote calls. AJAX is a new technique for creating better, faster, and interactive web applications. With XMLHttpRequest object, a JavaScript can trade with a web server, without reloading the webpage. AJAX uses asynchronous data transfer i.e. HTTP requests to and from the browser and server, it allows web pages to request small bits of information from the server instead of whole pages.

AJAX technology has five parts:

1. HTML (Hyper Text Mark-up Language)

2. JavaScript

3. DHTML (Dynamic Hyper Text Mark-up Language)

4. DOM (Document Object Model)

5. XML (Extensible Mark-up Language)

II.TECHNOLOGIES USED IN AJAX

To implement AJAX the following technologies are required:

1. XHTML (Extensible Hyper Text Mark-up Language) and CSS (Cascading Style Sheet)

2. DMO (Dynamic Object Model) for dynamic display.

3. XML (Extensible Mark-up Language) and XSLT (Extensible Stylish Language Transformation) for the interchange, and manipulation and display.

4. XMLHttpRequest (Extensible Mark-up Language Hyper Text Transfer Protocol) object for communication.

III.USERS of AJAX

Google is making a huge investment for developing AJAX technology. All major products Google has introduced over the last year are AJAX applications.

BROWSER SUPPORTING AJAX TECHNOLOGY

1. Google Chrome

2. Apple Safari

3. Mozilla/ Mozilla Firefox 1.0 and above

4. Microsoft Internet Explorer 5.0 ad above

5. Netscape 7.1 and above

6. Konqueror

7. Opera 7.6 and above

IV.AJAX SECURITY: SERVER SIDE

- AJAX-based Web applications use the same server-side security methods of regular Web applications.

- User specified authentication, authorization, and data protection requirements in user's web.xml file (declarative) or in your program (programmatic).

- AJAX-based Web applications are subject to the several security threats as other Web applications.

classic
web application model
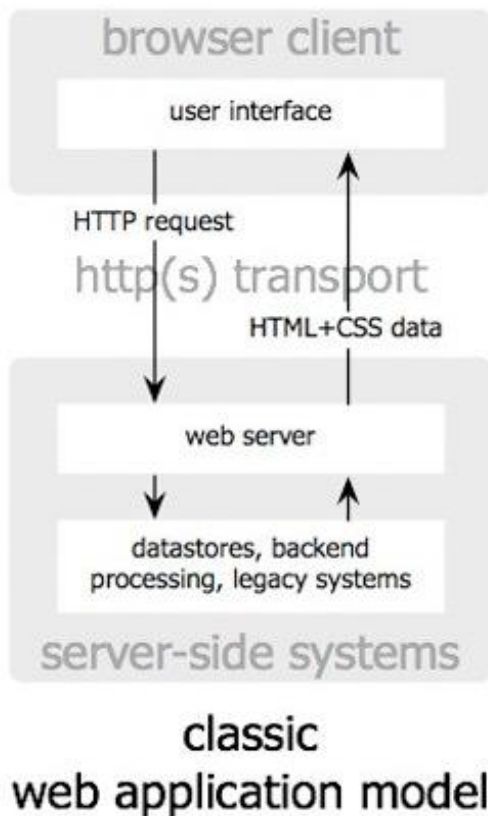
V. AJAX SECURITY: CLIENT SIDE

- JavaScript code is visible to a user/hacker. Hence hacker can use JavaScript code for referring server-side weaknesses.

- Downloaded JavaScript code is constrained by the sand-box security model and it can be relaxed for signed JavaScript.

VI. ADVANTAGES

Better interactivity

The use of asynchronous requests allows the client's browser to be more interactive and to respond quickly to inputs.

Easier navigation

The use of AJAX can reduce connection to the server it only has to be requested once.

Reduced bandwidth

Using AJAX, a web application can request only the content that needs to be updated, hence this drastically reduces the usage of bandwidth and loading time.

VII. DISADVANTAGES

- AJAX opens up another attack vector for malicious code that web developers might not fully test for.

- AJAX interfaces are substantially harder to develop properly than static pages.

- Any browser that does not support JavaScript or XMLHttpRequest, will not be able to use pages that depend on AJAX technology.

- With AJAX, all functions are loaded on a dynamic page, clicking the back or refresh button would take you to an entirely different web page or to the beginning of what your dynamic web page was processing.

Ajax
web application model
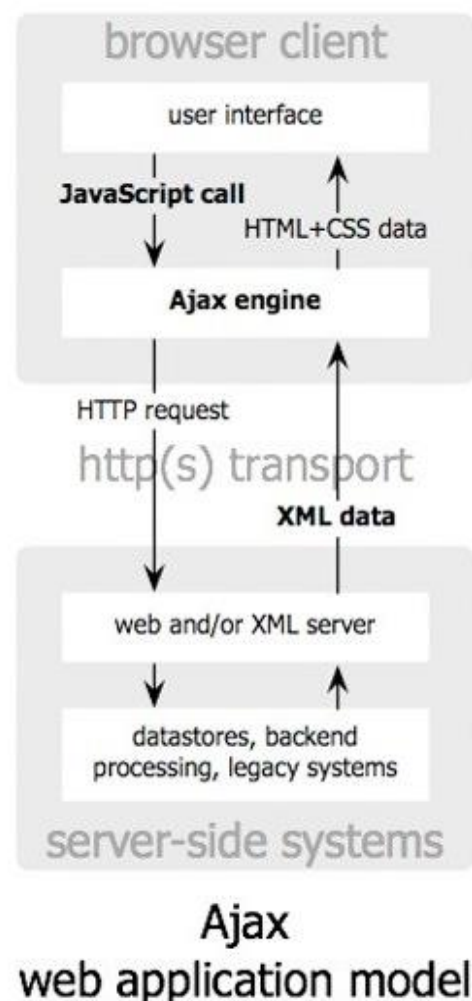
VIII. CONCLUSION

The AJAX technique makes Internet applications smaller, faster and more user-friendly. It allows us to develop new and improved ways of interacting webpages. AJAX

technology breaks the paradigm of page reload and saves a lot of bandwidth. It can be used to send and retrieve the data without reloading the web page. It also assess what technologies to use and when to use, in order to create an application that is beneficial to all who use it.

IX.REFERENCES

1.   Ajax technology
https://krazytech.com/technical-papers/ajax-technology

2.   Advantages and disadvantages,
http://www.jscripters.com/ajax-disadvantages-and-advantages/

3.   Security of Ajax Application
https://www.tutorialspoint.com/ajax/ajax_technology