Review of Impact of AJAX on Web and Mobile

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Abstract—Ajax stands for Asynchronous Javascript And XML. AJAX is a client-side script that enables communication between a server and database. AJAX is a way of using existing standards (JavaScript and XML) to make more interactive web applications. Using AJAX communication with the server takes place asynchronously and transparently to the user. Main key benefit of AJAX is to allow exchange of data with a server, and updating the parts of a web page – without reloading the complete page and enables processing on Client side. AJAX is a technology for creating “better faster more responsive web pages”. AJAX refers to the use of XmlHttpRequest objects to interact with a web server dynamically via JavaScript. This paper presents an overview about Ajax and its related technologies.

Keywords— AJAX, AJAX Impact, Server Side and Client Side AJAX.

I. INTRODUCTION

AJAX can be condensed as Asynchronous JavaScript and XML. It was first presented by Microsoft and had been known as DHTML/JavaScript web application with remote calls. AJAX is another system for making better, quicker, and intelligent web applications. With XMLHttpRequest object, a JavaScript can exchange with a web server, without reloading the site page. AJAX employments non-concurrent information exchange for example HTTP solicitations to and from the program and server, it permits pages to demand little bits of data from the server of entire pages.

AJAX is a web improvement procedure utilized for making intelligent web applications. The aim is to make website pages feel increasingly responsive by exchanging little measures of information with the server in the background, so the whole site page does not need to be reloaded each time the client requests a change. This is proposed to build the website page's interactive, useful, and responsive.

AJAX vs Classic web Application

Figure 1: Ajax Application
III. MOBILE AJAX

Mobile AJAX is a key pattern of Mobile Web 2.0. Mobile AJAX is not very distinguished from desktop AJAX. The genuine capability of Mobile AJAX applications lies in sending rich web applications on cell phones. Desktop AJAX takes care of indistinguishable issues from AJAX in work area programs - it can give Rich Web condition and better client experience, additionally it results in decrease of traffic among server and cell phones.

Mobile Web 2.0

AJAX Security:

AJAX is as prone to attacks as any other normal web application. Developer must make sure of below points while coding in AJAX.

IV. SERVER SIDE

AJAX-based Web applications utilize a similar server-side security strategies as of for normal Web applications.

- One must take care of protection against JSON hijacking for older browsers
- Always return JSON with an Object on the outside like {“myobject”: “Array”}. Always have the outside primitive be an object for JSON strings.
- XML and JSON should be preferred to be build on framework.
- JSON and XML should be preferred for writing webservices.

Client Side:

Below steps should be used at Client Side coding in AJAX:

- Use .innerText instead of .innerHTML : The use of .innerText will prevent most XSS problems as it will automatically encode the text.
- Never use eval() function in design.

- Standardized data to consumer: When using data to build HTML, script, CSS, XML, JSON, etc. one must make sure how data must be presented in a literal sense to keep it's logical meaning. Data should be properly encoded before used in this manner to prevent injection style issues, and to make sure the logical meaning is preserved.
- One must avoid writing serialization code on client side.
- Avoid building XML or JSON dynamically : Just like building HTML or SQL you will cause XML injection bugs, so stay away from this or at least use an encoding library or safe JSON or XML library to make attributes and element data safe.
- Encryption should not be performed on client side, It should be done at server side using TLS/SSL.

V. ADVANTAGES

The essential points of interest of AJAX style Web applications are not so much hanging tight but rather more control for the client. AJAX achieves this by

- Bandwidth use – Instead of Loading full page only incremental/updated portion of page is loaded resulting in saving greater Bandwidth usage.
- Enhanced Interactivity: Asynchronous requests allows browser to be responsive while sending requests to server.
- Exploiting current Web programs' rich illustrations capacities—straightforwardness, shading, liveliness, requesting, compositing, and soon—to add more charm and intelligence to the introduction of data.
- Separation of information, organization, style, and capacity - AJAX approach can in general urge developers to plainly isolate the strategies and arrangements utilized for the distinctive parts of data conveyance by means of the Web.
- Increased application speed

VI. LIMITATIONS

AJAX won't work in all internet browsers. As its name proposes, AJAX requires JavaScript. This by itself implies that AJAX applications won't work in internet browsers and gadgets that don't bolster JavaScript. Therefore it isn't available to numerous run of the mill Web clients. AJAX additionally requires that XMLHttpRequest be bolstered, which numerous programs don't. Another issue is about JavaScript Interoperability.
AJAX depends on JavaScript, which is frequently actualized distinctively by various programs or forms of a specific program. Along these lines, locales that utilization JavaScript may should be tried in various programs to check for similarity issues. Last issue with AJAX is the way the application interface is refreshed. At the point when updates to the interface happen, it may not be outwardly obvious that a change has happened. The issue is much increasingly troublesome for screen peruser clients. Screen readers typically read in a linear fashion. At the point when changes occur in the interface, the screen reader may not know about the change and the new substance will probably not be perused.

VII. CONCLUSION

In this paper we displayed numerous points of interest when utilizing Ajax in web applications or using AJAX in Mobile Applications yet in addition thought about certain downsides. The fundamental preferences in the field of ease of use influence client fulfillment and response time which impact the effectiveness with which the application can be utilized. Other than this, new functions enhancing user comfort can be created and few to applications are only possible through the use of Ajax. Then again issues may emerge on the grounds that the program loses some command over the HTTP traffic and its capacities for route may not fill in not surprisingly. In any case, with some exertion designers can understand working program route capacities for generally situations. Ajax can be utilized with none of the burdens being referenced. For the gathering of uses that can’t be acknowledged without Ajax, the circumstance is unique.

They may not be available for certain gatherings of Internet clients, however contrasted with the previous non-presence of this application class, it is as yet a great improvement towards user ace of doing things.

REFERENCES

[1] https://github.com/AJAX
[2] The impact of AJAX on network by lorry Mac Vittie
[4] Dr SamratVivekanand and Mr Mijal Mistry IMPACT OF AJAX IN WEB APPLICATIONS, IJAET 2012
[12] https://www.tutorialspoint.com/ajax/ajax_technology