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RESEARCH ARTICLE



Which one is better - JavaScript or jQuery

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Abstract: JavaScript is a programming with direct support to object oriented methodologies. Basically JavaScript is a computer language which is used in most of the web browsers. jQuery is not a language, but in fact it is a well written JavaScript code. As quoted on official on jQuery website, "it is a fast and concise JavaScript Library that simplifies HTML document traversing, event handling, animating, and Ajax interactions for rapid web development".

Key words: JavaScript, jQuery, Netscape, html, java, web browsers

JavaScript

Introduction:

Most of the internet applications are built by using many interoperable languages; hence HTML alone is not sufficient in making web application more interactive. That's why HTML incorporates JavaScript to scrutinize the web applications more sophisticated.

JavaScript is a programming with direct support to object oriented methodologies.

Basically JavaScript is a computer language which is used in most of the web browsers like Chrome, Firefox, Netscape, Safari, It is mainly used for establishing interactions via interfaces. We can see end of scenarios where we find the usage of Java script on websites.

Though it is one of the most powerful computer languages, it is very easy to learn and understand. It is a very preferable language for the new developers as they find it very easy to use and understand because of its easiness, simplex.

Initially the main drawback or we can the problem which we were having with Java script was its own way of implementing things, because of which many issues raised which leads to many bugs. In order to resolve these bugs, the developers started much time in resolving them.

Now this problem is being resolved as all web browsers are using a standard approach which ultimately leads to a reduction in these king of bugs and issues.

As we have already discussed above that JavaScript is being used by majority of web browsers not only on desktops but also on tablets, mobile phones, gaming consoles, smart TV's. Below figure is an example of a JavaScript Image Slide Show.



Fig: Example for the usage of JavaScript in web browsers

The syntax which JavaScript makes use of is being inspired by C. Though JavaScript copies many names and naming conventions from Java, these two languages are completely different from each other, in other words we can reciprocal to each other. As these two languages has different semantics. The name “JavaScript” is actually somewhat misleading. Except for a superficial syntactic resemblance, JavaScript is completely different from the Java programming language. JavaScript is being formalized by making use of ECMA Script language standard. JavaScript makes use of prototype based scripting language and it makes use of first class functions.

Birth of JavaScript

Many of us don't know that JavaScript was initially developed under the name of MOCHA, later it officially started calling by the name LIVE SCIRPT. First it was launched in September 1995 under the beta release of Netscape navigator 2.0. Later it was renamed when another version i.e. Netscape browser version 2.0B3 was launched.

The reason why it is being renamed to JavaScript is to provide support for Java technology in its Netscape navigator for web browser. But later on the Netscape got much criticism for using the name JavaScript, as they had used the name in order to make some profit in the name of Java.

Brendan Eich is the developer who developed JavaScript while working under Netscape Communications Corporation. The reason which leads to the development of JavaScript will astonish all as it was created to prove the superiority of Netscape over Microsoft. As we know Java was a competitor of C++ with a main focus on the professional programmers, Netscape wanted to create an interpreted language which helps or complement Java to attract nonprofessional programmers like how Microsoft Visual Basic did.

Thus Netscape tried to create a portable version of client server (operating system) which runs smoothly with Java which will give a tough competition to Microsoft Visual Basic, which indeed happen as JavaScript proved to be a very tough completion to Microsoft’s VB.

Versions:

Let’s have a look at the various versions of JavaScript which Netscape has launched as far.

In the early days of web, JavaScript was created by Netscape and officially it was named as “JAVASCRIPT” under the trademark from Sun Microsystems now commonly known as Oracle.

JavaScript is mainly used to describe the implementation of language created by Netscape now known as Mozilla. When Netscape submitted the scripting language to ECMA i.e. The European Computers Association to standardize it, got stuck with the trademark issues because of the awkward name being used i.e. ESMA Script. Hence sometimes it is also called as ECMA script avoids confusion as Microsoft’s language version is also known as “JScript”.

Release Month	Release Year	Version	Chrome	Netscape	Firefox	IE	Opera	Safari
March	1996	1.0	-	2.0	-	3.0	-	

Aug	1996	1.1	-	3.0	-	-	-	
June	1997	1.2	-	4.0 - 4.05	-	-	3	
Oct	1998	1.3	-	4.06 - 4.7x	-	4.0	5	
-	-	1.4	-	Netscape Server	-	-	6	
Nov	2000	1.5	1.0-10.0.666	6.0	1.0	5.5 6 7 8	7.0	3.0-5
Nov	2005	1.6	-	-	1.5	-	-	
Oct	2006	1.7	28.0.1500.95	-	2.0	-	-	
June	2008	1.8	-	-	3.0	-	11.50	

-	-	1.8.1	-	-	3.5	-	-	
June 22	2009	1.8.2	-	-	3.6	-	-	
July 27	2010	1.8.5	-	-	4	9	11.60	

Table: The above information is being collected by referring to various media

Advantages of JavaScript:

- JavaScript is being used by most of the web browsers
- It provides an easy way to access various document objects
- And it can manipulates all of the objects
- With less download time it provides attractive animations
- To use JavaScript no special plug-ins are required
- Security is very high

Examples for JavaScript:

How to write a JavaScript

Basically JavaScript is scripting language which is being used by HTML to make web applications more interactive. Unlike JSP it will be interpreted and run on the browser being used by the clients.

The following are the few points to be remember when we are writing JavaScript commands.

They are as follows

- It is a case sensitive.
- Semi colon (;) must be used at the end of each JavaScript command
- We must ignore the line breaks until and unless it is not in the statement
- We must ignore the white space between words and tabs

Syntaxes for JavaScript

The <script> tag is mainly used for alerting a browser that JavaScript code will follow. Usually JavaScript are browser dependent, loosely typed language and are embedded in the HTML.

Syntax:

```
<script language = "JavaScript">  
JavaScript  
</script>
```

JavaScript Examples

Program: JavaScript program to determine whether an Integer is an Even or Odd number

```
<html>  
<head>  
<title> JavaScript program </title>  
<script language = "JAVASCRIPT">  
Var n;  
n = parseInt(windowprompt("enter a value"));  
if (n%2==0)  
{  
    document.writeln("<h1> Even number </h1>");  
}  
else  
{  
    document.writeln("<h1> Odd number </h1>");  
}
```

```
</script>  
</head>  
</html>
```

Example 2: The below program shows various being used in JavaScript

Program: JavaScript program to for date

```
<html>  
<head>  
<title> JavaScript program to check for date </title>  
</head>  
<body>  
<script language = "JavaScript">  
var curdate = new Date() ;  
var mday = curdate.getDate();  
document.writeln(" Day is: " +mday);  
var offset = curdate.getTimezoneOffset();  
document.writeln(" Time zone: " +offset);  
}  
</script>  
</body>  
</html>
```

Example 3:

Program: JavaScript program to find factorial of a given number

```
<html>  
<head>  
<title> JavaScript program to find factorial of a given number </title>  
<script language = "JavaScript">  
var num, I, fact=1;  
num = parseInt(window.prompt("enter a value","0"));  
if (num == 0)  
{
```

```
document.writeln("<h1> the factorial of 0 number is 1");
}
else
{
for(i=1; i<=num; i++)
{
fact=fact*i;
}
document.writeln("<h1> the factorial of "+num+" is" +fact);
}
</script>
</head>
<body>
</body>
</html>
```

What is jQuery?

Introduction:

First of all in order to understand what jQuery is, we need to understand the basics of JavaScript, HTML and CSS.

Basically jQuery is not a language, but in fact it is a well written JavaScript code. As quoted on official on jQuery website, "it is a fast and concise JavaScript Library that simplifies HTML document traversing, event handling, animating, and Ajax interactions for rapid web development".

In simpler words so that a normal reader can also understand, we can say that jQuery is an open source JavaScript library whose main goal is to simplify the interactions between an HTML document, Document Object Model and JavaScript. In other words we can say for those who are having lot of experience in JavaScript that jQuery makes Dynamic HTML (DHTML) very easy. Basically jQuery simplifies the following

- HTML document traversing and manipulation,
- Browser event handling
- DOM animations

- Ajax interactions
- Cross-browser JavaScript development.

Why we should use jQuery:

There are many reasons why we should we use jQuery. The first reason is that jQuery is very popular among the developers and is extensible when compared to other available JavaScript frameworks.

The following is the list of various big companies that make use of jQuery, they are as follows:

- Google
- Netflix
- IBM
- Microsoft

The following are the various reasons why we choose jQuery over other languages:

- As already discussed jQuery is not a language, but in fact it is a well written JavaScript code.
- It is an open source
- jQuery is under the license ship of MIT and GNU General Public License (GPL) license.
- It is free
- It can be learned easily
- A person who knows JavaScript can easily understand and learn jQuery.
- No need of learning the syntaxes, knowing the syntaxes of JavaScript is more than enough.
- It is very fast
- Here there is no need of writing more number of lines of code in order to achieve complex functions.
- By making use of jQuery the performance of applications can be increased.
- It is very small and can be gzipped.
- Without wring thousands of line, critical UI functions can be implemented.

- It is very easy to learn as most of the concepts are being taken from the existing ones such as Html and CSS.
- The number of plug – in it has are huge and goes on increasing day by day.

Various releases:

Releasing month	Releasing year	Version no.	Last updating version and month	Last updating year	Imp Notes
26 Aug	2006	1.0	--	--	First stable release
14 Jan	2007	1.1	--	--	--
10 Sept	2007	1.2	--	--	--
14 Jan	2009	1.3	--	--	Introduce Sizzle Selector Engine
14 Jan	2010	1.4	--	--	--
31 Jan	2011	1.5	--	--	<ul style="list-style-type: none"> Deferred callback management Ajax module rewrite
3 May	2011	1.6	--	--	<ul style="list-style-type: none"> Improvements in attr() and val() functions
3 Nov	2011	1.7	--	--	<ul style="list-style-type: none"> New APIs: .on() and .off() Old APIs are still supported.

9 Aug	2012	1.8	--	--	<ul style="list-style-type: none"> • Rewriting of Sizzle Selector Engine • Improvising animations • \$(html, props) flexibility.
Jan 15, 2013	Jan 15, 2013	1.9	1.9.1 - Feb 4	2013	<ul style="list-style-type: none"> • Removal of deprecated interfaces • Code cleanup
May 24, 2013	May 24, 2013	1.10	1.10.2 - July 3	2013	<ul style="list-style-type: none"> • Incorporated bug fixes • Differences reported from both the 1.9 and 2.0.

Advantages:

- Many popular modern web browsers makes use of jQuery such Chrome 1, Chrome Nightly, IE 6, IE 7, IE 8, Opera 9.6, Safari 3.2, Web Kit Nightly, Firefox 2, Firefox 3, Firefox Nightly and many more.
- Many updates are being released on timely basis
- The kind of development it has that anyone can fix bugs, enhance and can take part in development.
- It is very popular as a huge of users makes use of it to develop code for web applications.
- It has minimizes the differences between the web browsers.
- It is very light footed.
- It has a very good plug in architecture.
- Many big companies like Microsoft, Dell, Bank of America, CBS, and Netflix has adopted it.
- It is very friendly with other JavaScript libraries.

- The kind of library it has is fully documented full code examples which help a user to easily understand them.
- It resolves conflicts with other JavaScript libraries.
- Its community support is actually fairly useful, including several mailing lists, IRC channels, and a freakishly insane amount of tutorials, articles, and blog posts from the jQuery community.
- jQuery treats both programmers and designers as equal.

jQuery download:

jQuery can be downloaded from the official website of jQuery.

Basics of jQuery:

By making use of jQuery we can “select” (query) HTML elements and perform "actions" on them.

jQuery Syntax:

Basically the JQuery syntax is mainly used for **selecting** the HTML elements and to perform some **action** on the elements.

The below is the Basic syntax for jQuery:

\$(selector).action()

Here in the above syntax

- \$ indicate how to and when to define/access jQuery
- (**selector**) is basically used to "query (or find)" the HTML elements
- And lastly but not the least “**action()**” which is being used to perform actions on the elements.

Various examples for the above syntax:

The below are various examples which makes use of the above syntax. They are as follows

- **\$("#test").hide()** – it is mainly used to hide the element which have id="test".
- **\$("p").hide()** - it is mainly used to hides all <p> elements.
- **\$(this).hide()** - it is mainly used to hide the current element.

- `$(".test").hide()` – it is mainly used to hide all elements which have class="test".

Example 1: The below is jQuery example which change the background color of a body tag

```
$('#body').css('background', '#ccc');
```

Example 2: The below is the JavaScript function which will change the background color with on load function.

```
{  
  
function changeBackground(color)  
  
{  
  
    document.body.style.background = color;  
  
}  
  
onload="changeBackground('blue');"  
  
}
```

Example 3:

```
<!DOCTYPE html>  
  
<html>  
  
<head>  
  
<title> An example which shows the usage of jQuery  
  
</title>  
  
<script src="https://ajax.googleapis.com/ajax/libs/jquery/1.7.2/jquery.min.js"></script>
```

```
</head>

<body>

<div> This example will make use of jQuery but it will not use it.</div>

<h1> Basic program to understand jQuery </h1>

</body>

</html>
```

As we know that JavaScript is a language but in order to understand how actually JavaScript, we need to refer the resources being provided by W3C.

And to know how its API can help us, we need to refer to jQuery documentation.

Conclusion (Should we use JavaScript or jQuery?):

One of the biggest advantages we get with jQuery or another JavaScript framework is the speed in which the code can be written. Even a one line of code can change how a project will interact with a user with very little effort. In Example 1 below a web developer can change the background of our page, it makes things very easy and for a customer it assists in the speed and development of their application or website. If suppose we are write the function to achieve the same goal which is displayed in Example 2 will take the developer longer as they would have to test it in different browsers and so on. Though the example being discussed is very small and simple one (example) but to create a complex arrangement of code the testing is less and in jQuery the hard work and codes set are already complete and have been tested.

Using JavaScript or jQuery really depends on the circumstances. And for most of the applications jQuery will suit the needs of the developer.

The following are various other reasons

- The jQuery UI plugins are all styled by CSS including both the core jQuery UI style and plugin specific style.
- It helps to make it very easy to keep the feel and look and consistent

- It gives us an ability to create your own customized theme i.e. we can create our own customized themes.

- <http://jqueryui.com/themeroller/>

These are various reasons which make jQuery very popular among not only experts but also the beginners.

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