



# A Brief History of JavaScript

I can only hope Stephen Hawking doesn't mind me paraphrasing his book title as the title of this chapter!<sup>1</sup> Just as in his book *A Brief History of Time*, we are about to begin an exploration of a universe of sorts, from its humble beginnings to its current state of being.

In this chapter, we will explore the genesis of JavaScript. More than providing a mere history lesson though, in the tradition of Mr. Hawking himself, I'll give you a deeper look and show what's below the surface. In the process, you'll gain an understanding of the problems inherent in early JavaScript development and how those flaws have largely been overcome. By the end of our journey, you'll have a good understanding of the pitfalls to avoid and start to know how to overcome them (the rest of that knowledge will be revealed in subsequent chapters). So, let's get ready for an adventure, and let's do Mr. Hawking proud!

## How JavaScript Came to Exist

The year was 1995, and the Web was still very much in its infancy. It's fair to say that the vast majority of computer users couldn't tell you what a web site was at that point, and most developers couldn't build one without doing some research and learning first. Microsoft was really just beginning to realize that the Internet was going to matter. And *Google* was still just a made-up term from an old Little Rascals episode.<sup>2</sup>

Netscape ruled the roost at that point, with its Navigator browser as the primary method for most people to get on the Web. A new feature at the time, Java applets, was making people stand up and take notice. However, one of the things they were noticing is that Java wasn't as accessible to many developers as some (specifically, Sun Microsystems, the creator of Java) had hoped. Netscape needed something more.

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1. *A Brief History of Time* is the title of one of the most famous books on physics and cosmology ever written, and is the obvious, ahem, inspiration, for the title of this chapter. Its author, Professor Stephen Hawking of the University of Cambridge, is considered one of the world's best theoretical physicists. His book brought many of the current theories about the universe to the layman, and those of us that pretend we actually know what we're talking about when discussing things like superstrings, supersymmetry, and quantum singularities (outside a *Star Trek* episode, that is!). For more information, see [http://en.wikipedia.org/wiki/Stephen\\_Hawking](http://en.wikipedia.org/wiki/Stephen_Hawking).
  2. The word *google* was first used in the 1927 Little Rascals silent film *Dog Heaven*, to refer to having a drink of water. See <http://experts.about.com/e/g/go/Google.htm>. Although this reference does not state it was the first use of the word, numerous other sources on the Web indicate it was. I wouldn't bet all my money on this if I ever made it to the finals of *Jeopardy*, but it should be good enough for polite party conversation!

Enter Brendan Eich, formerly of MicroUnity Systems Engineering, a new hire at Netscape. Brendan was given the task of leading development of a new, simple, lightweight language for non-Java developers to use. Many of the growing legions of web developers, who often didn't have a full programming background, found Java's object-oriented nature, compilation requirements, and package and deployment requirements a little too much to tackle. Brendan quickly realized that to make a language accessible to these developers, he would need to make certain decisions. Among them, he decided that this new language should be loosely typed and very dynamic by virtue of it being interpreted.

The language he created was initially called LiveWire, but its name was pretty quickly changed to LiveScript, owing to its dynamic nature. However, as is all too often the case, some marketing drones got hold of it and decided to call it JavaScript, to ride the coattails of Java. This change was actually implemented before the end of the Navigator 2.0 beta cycle.<sup>3</sup> So for all intents and purposes, JavaScript was known as JavaScript from the beginning. At least the marketing folks were smart enough to get Sun involved. On December 4, 1995, both Netscape and Sun jointly announced JavaScript, terming it “complementary” to both HTML and Java (one of the initial reasons for its creation was to help web designers manipulate Java applets easier, so this actually made some sense). The shame of all this is that for years to come, JavaScript and Java would be continually confused on mailing lists, message boards, and in general by developers and the web-surfing public alike!

It didn't take long for JavaScript to become something of a phenomenon, although tellingly on its own, rather than in the context of controlling applets. Web designers were just beginning to take the formerly static Web and make it more dynamic, more reactive to the user, and more multimedia. People were starting to try to create interactive and sophisticated (relatively speaking) user interfaces, and JavaScript was seen as a way to do that. Seemingly simple things like swapping images on mouse events, which before then would have required a bulky browser plug-in of some sort, became commonplace. In fact, this single application of JavaScript—flipping images in response to user mouse events—was probably the most popular usage of JavaScript for a long time. Manipulating forms, and, most usually, validating them, was a close second in terms of early JavaScript usage. Document Object Model (DOM) manipulation took a little bit longer to catch on for the most part, mostly because the early DOM level 0, as it came to be known, was relatively simplistic, with form, link, and anchor manipulation as the primary goals.

In early 1996, shortly after its creation, JavaScript was submitted to the European Computer Manufacturers Association (ECMA) for standardization. ECMA (<http://www.ecma-international.org>) produced the specification called ECMAScript, which covered the core JavaScript syntax, and a subset of DOM level 0. ECMAScript still exists today, and most browsers implement that specification in one form or another. However, it is rare to hear people talk about ECMAScript in place of JavaScript. The name has simply stuck in the collective consciousness for too long to be replaced. And, of course, this book itself is about *JavaScript*, not ECMAScript. But do be clear about it: they are the same thing!

What made JavaScript so popular so fast? Probably most important was the very low barrier to entry. All you had to do was open any text editor, type in some code, save it, and load that file in a browser, and it worked! You didn't need to go through a compilation cycle or package and

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3. As a historical aside, you might be interested to know that version 2.0 of Netscape Navigator introduced not one but two noteworthy features. Aside from JavaScript, frames were also introduced. Of course, one of these has gained popularity, while the other tends to be shunned by the web developer community at large, but that's a story for another book!