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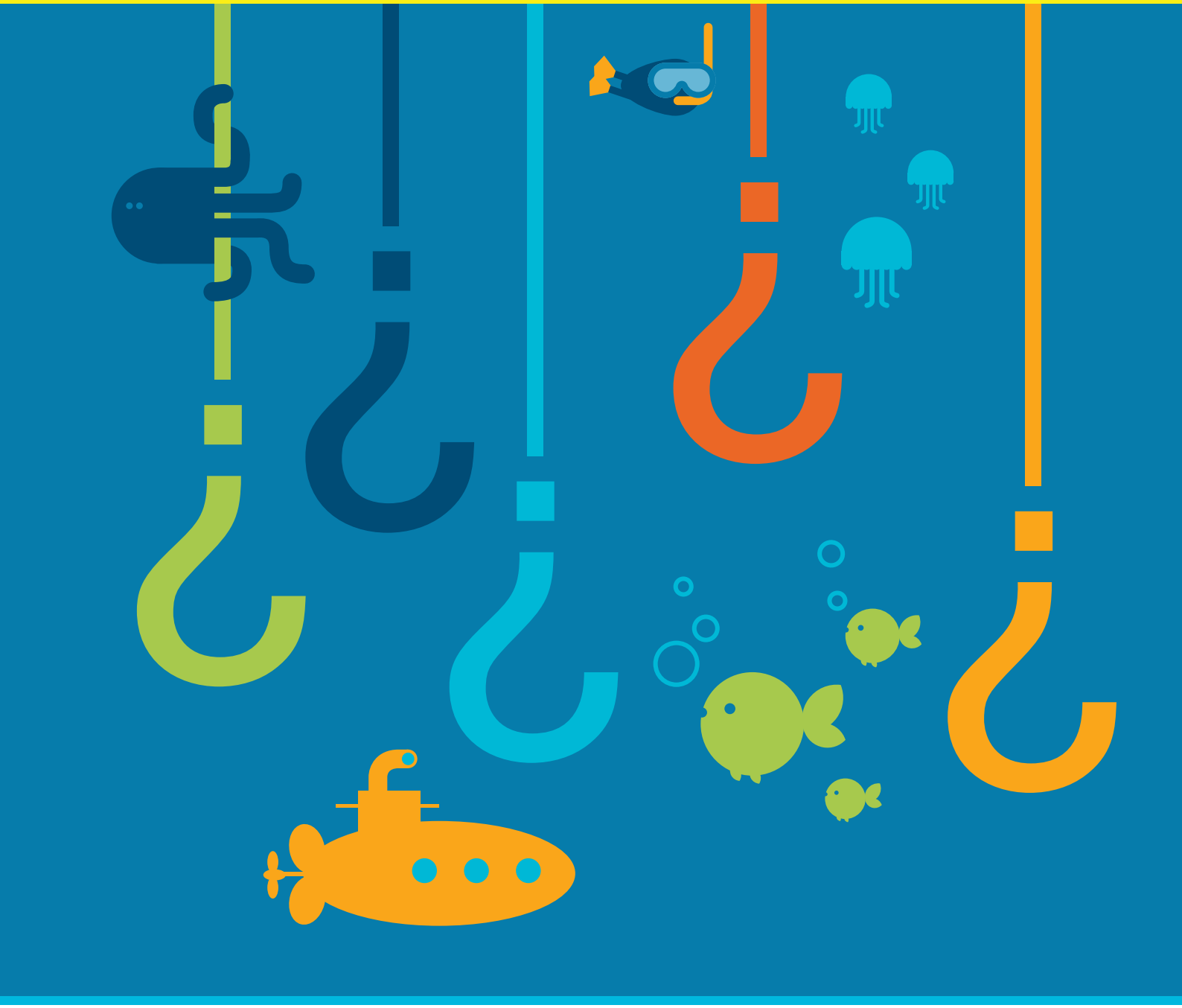

5 Reasons Why Java Developers Should Care About HTML5

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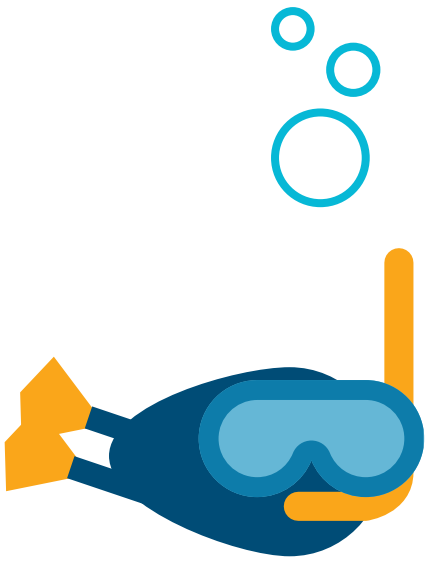
Kendo UI
THE WAY OF HTML5

Since the early days, Java developers have relied on web browsers to serve as the front end of their applications. At times this has been frustrating: HTML has been historically clunky to work in, JavaScript was slow and painful to use, debugging tooling was lacking or nonexistent, and getting applications to work in all browsers was a painstaking process.

But times are changing. The recent rapid advances in browser technologies—commonly referred to as HTML5—ease these concerns and make far more possible in the browser. Let's look at some of the key advantages HTML5 provides to the Java world.



1. Universal Deployment

Like Java, one of the key advantages of HTML is its ability to work cross-platform. As an added advantage, however, HTML can be deployed to traditional desktop platforms, as well as target all mobile platforms. This includes iOS, Android, BlackBerry, Windows Phone, Symbian, and more. This universal deployment means you can hit all platforms with a single UI codebase.

HTML5 achieves universal deployment by standardizing a number of new APIs needed to make modern web applications. This includes APIs to develop offline applications, in-browser data stores, and plugin-free audio and video right in the browser.

Furthermore, technologies like PhoneGap and Telerik's Icenium make it possible to access device APIs - camera, accelerometer, contacts, etc. - directly from JavaScript. Add on new CSS techniques like responsive design, and you have all the tools you need to develop rich applications that work anywhere.

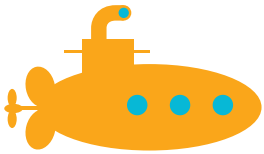
2. User Interface Controls

HTML5 improves development by adding a number of new controls for building on the web. The controls available to build web applications in HTML4 were limiting. Even simple tasks like collecting a date from a user required a non-trivial third party plugin.

The new controls include ways to build pages - <header>, <footer>, <article>, <aside>, <main>, and so forth - as well as a number of new form controls. For example, the <input> element has the ability to collect the following 13 new types of data from users: color, date, datetime, datetime-local, email, month, number, range, search, tel, time, url, and week. These new inputs are especially powerful on mobile, since the browser can customize how the data is collected; For example mobile browsers let the user pick dates from a calendar instead of manually typing each digit into a text box.

In addition to more native controls, the recent surge in front-end development has led to improved frameworks to build controls in JavaScript. UI libraries like jQuery UI and Telerik's Kendo UI have made it seamless to add complex and customizable UI controls like accordions, menus and tabs to your applications.

These frameworks are also direct beneficiaries of the recent speed increases taking place across browsers.



3. Speed

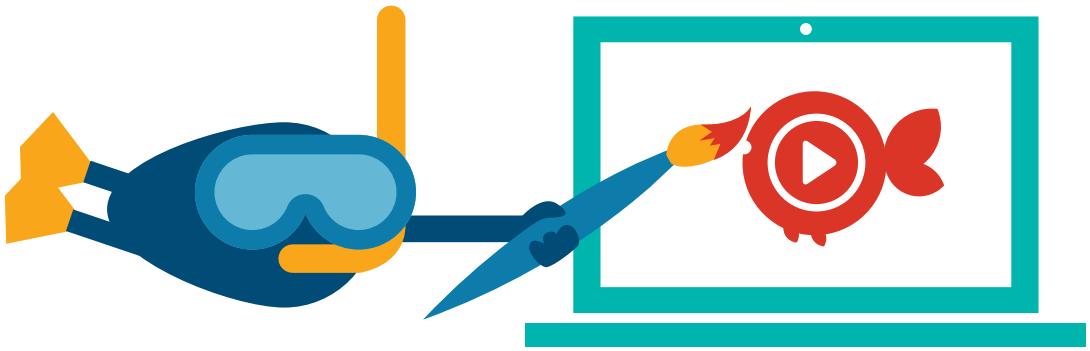
While not, strictly speaking, part of HTML5, the recent concentration on browser development has led to an arms race between browsers to speed up their rendering and JavaScript engines.

As a result, the JavaScript engines in all browsers are now several orders of magnitude faster than their predecessors of only a few years ago. Due to the faster speeds, developers are using JavaScript more than ever before.

For example, many applications are being built as SPA (Single Page Applications), applications that load as a single page, then load additional content and data through JavaScript. New APIs are used to make the application feel more like a traditional web app. For example the HTML5 history API is used to replicate the native back and forward handling that users expect to work.

And the speed gains are not just in JavaScript. CSS3 introduced a powerful set of APIs to perform animations, transitions, and transformations—2D and 3D ones—right in the browser. Since these animations are native, the browser can utilize hardware acceleration and run these animations directly on the user's GPU. This leads to far better performing animations, especially on mobile devices.

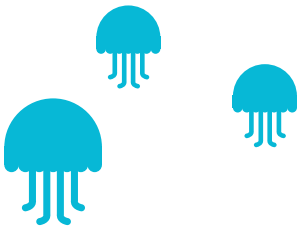
4. Canvas



One new element in HTML5 - <canvas> - can be used to draw graphics and render images and video in real time. This technology has revolutionized the game development industry. Popular games such as RuneScape are making the switch from native to HTML5.

Not a game developer? Because of its power and cross platform support, <canvas> has plenty of additional applications. This includes everything from simple tasks like animating an image, to robust data visualizations like bar graphs or pie charts.

Canvas eases the barrier to entry for developers looking to create these visualizations. No longer do developers need to turn to third party solutions such as Flash.



5. Cross Browser Compatibility

To Java developers that are used to writing code for a single runtime environment, testing code in multiple and often wildly different browsers has always been a pain point.

Fortunately, HTML5 has standardized much of the voodoo that has notoriously plagued cross browser development. The algorithm used to parse HTML itself, for instance, is now outlined in the specification and has been implemented in the latest version of all major web browsers.

Furthermore, competition in the browser market has led to the creation of robust debugging tools directly in the browser. Regardless of whether you're an Internet Explorer, Firefox, Chrome or Safari user, you can now quickly inspect the DOM, step through JavaScript, and dig into the network stack.

While HTML5 does not remove the need to test your code in multiple environments, it does remove common pain points to make the development process as seamless as possible.

Conclusion

Java developers take note. Browser technologies are rapidly improving to meet the growing demands of end-users and businesses alike. Harness the full capabilities of modern web development by combining the reach and richness of HTML5 with the power of the server.

ABOUT KENDO UI

Kendo UI (www.kendoui.com) provides a complete solution for Java developers interested in modern web development. It empowers developers familiar with the Java JSP framework to build HTML5 web applications without the hassle of JavaScript. Developers get a simple and consistent programming interface with 40+ polished UI widgets for the web, an MVVM framework, customizable themes, templates, and more. This leading edge framework delivers everything in a unified, compact package, backed by industry leading professional support.

ABOUT TELERIK

Telerik is a market-leading provider of end-to-end solutions for application development, software testing, agile project management, reporting, and content management. Telerik's award-winning software development products enable enterprises and organizations of every size to generate tangible productivity gains, reduce time-to-market, and deliver on time and under budget. With tens of thousands of users in more than 90 countries around the world, Telerik's customers include numerous Fortune 2000 companies, academic institutions, governments, and non-profit organizations. For additional information about Telerik, please visit www.telerik.com or follow @telerik on Twitter.

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