# Global Developer Survey

Mobile app development is a hot topic,
but desktop and mobile websites dominate;
HTML5 beats out Native as the top choice
for cross-platform development

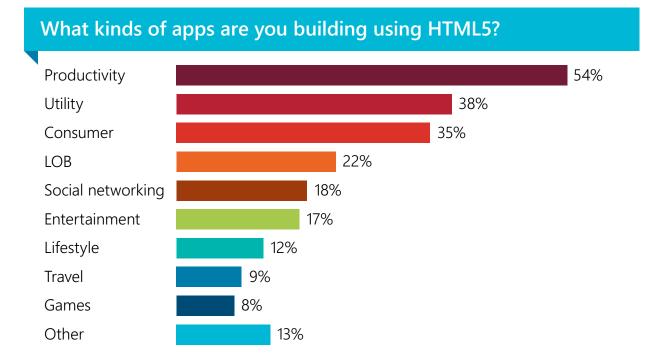SPONSORED
SURVEY

Kendo UI
THE WAY OF HTML5

# Summary

In its second Global Developer Survey, Kendo UI, a division of Telerik, surveyed more than 5,000 software developers and technology executives in the period between January 9th and January 28th of 2013. The main objective to this follow-on survey was to determine usage patterns for HTML5, actual adoption versus hype and platform usage preferences. Respondents were a mix of developers (72%), CIOs/Technology Executives (20%), and others. These individuals work for organizations ranging from start-ups (29%) to enterprises (20%), with a majority of respondents coming from the Small and Medium Business (SMB) world (51%). Much of the world was also represented in the survey, with 31% from North America, 35% from Europe, and 23% from Asia Pacific. The survey was available to both the general public and those who have trialed Kendo UI.
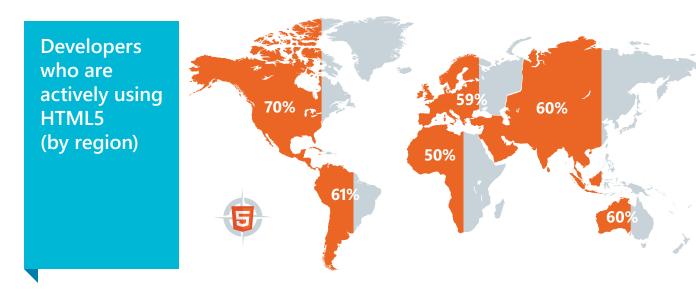
# The key findings reveal

• Fifty percent (50%) of those surveyed developed a variety of apps in 2012 using HTML5, and 9 out of 10 plan to use HTML5 in 2013.

• Productivity apps are the most common apps built using HTML5 (54%), followed by Utility (38%).

• Of those developing mobile apps, 41% are leveraging HTLM5/JavaScript and 36% are using Native code.

• When asked their preferred approach for developing apps that support multiple platforms, only 15% of the more than 5,000 surveyed would use Native-only.

• Company size, from global enterprise to start-up, has no impact on preferred approach for developing apps that support multiple platforms. A pure HTML5 (browser) approach (36%), followed by hybrid app development (32%), was the preference across the board.

• Apple iOS and BlackBerry are considered the more difficult platforms for developers to work with while Windows 8 and Android win for ease-of-use.

• Windows 8 (66%), Chrome OS (47%) are the most interesting new operating systems. BlackBerry 10 (13%) and Tizen OS (8%) are least popular among those surveyed.

• Eighty-seven percent (87%) of those surveyed are primarily focused on using HTML5 to build desktop websites/web apps, followed by mobile websites (53%).

# Developer priorities

This survey attempted to understand which types of apps are being built with HTML5 in 2013. The majority of respondents called out Productivity (54%) followed by Utility (38%). Surprisingly, only 9% and 8% are focusing on Travel and Gaming apps, respectively even though those are the apps receiving the most "hype" across the marketplace.

## What kinds of apps are you building using HTML5?

| App type | Percentage |
|---|---|
| Productivity | 54% |
| Utility | 38% |
| Consumer | 35% |
| LOB | 22% |
| Social networking | 18% |
| Entertainment | 17% |
| Lifestyle | 12% |
| Travel | 9% |
| Games | 8% |
| Other | 13% |

Of note, when broken down by region, South America called out Productivity apps as most important by more than 70%, far and above other regions, while North America found Travel apps of even less importance than the average (less than 6%).

**Developers who are actively using HTML5 (by region)**

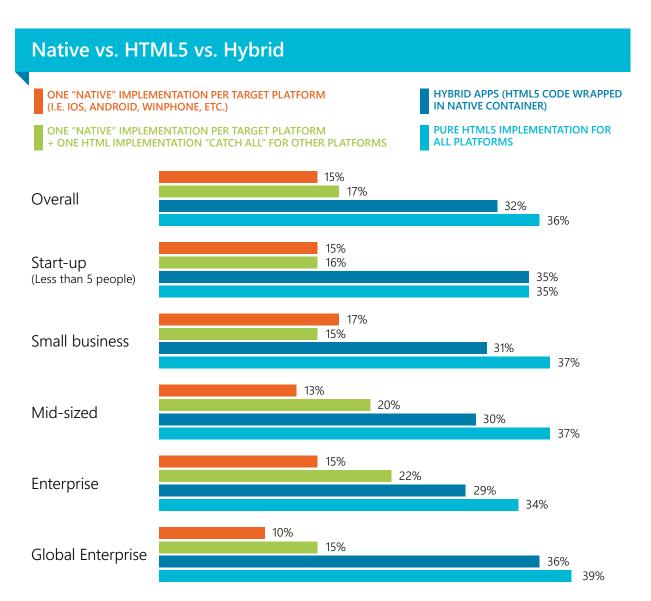

- 70%
- 59%
- 60%
- 50%
- 61%
- 60%

The survey asked developers to rank evolving modern web technologies in order of importance. The goal was to understand which aspects of newest areas in HTML5 are most important to developers. The survey found that "Forms & Validation," technology that helps developers more easily create data entry forms with HTML5, took the lead with 32% of respondents ranking it as either 'most important' (1) or 'second most important' (2) on a scale of one to ten. "Forms & Validation" was followed by "Data" (31%, representing technologies that bring database features to HTML5) and "CSS Flexible Layout" (26%, modern HTML5 UI layout features). Media, such as video and audio, was of least importance (9%) to respondents, further demonstrating the trend towards enterprise HTML5 adoption.

## The most important modern web technologies by ranking

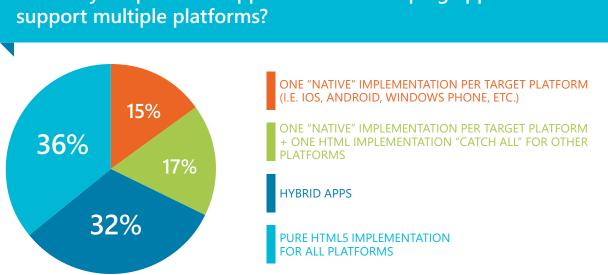| Technology | HIGHEST IMPORTANCE | LOWEST IMPORTANCE |
|---|---|---|
| Forms & validation | 32% | 14% |
| Data (e.g. WebSQL IndexedDB, etc.) | 31% | 10% |
| CSS flexible layout (e.g. flexbox, multi-column, regions, grid) | 26% | 10% |
| Real-time communications (e.g. Web Sockets, WebRTC) | 24% | 16% |
| CSS Transforms, transitions and animations | 17% | 15% |
| Web components (i.e. custom elements & shadow DOM) | 21% | 16% |
| Device APIs (e.g. battery status, notifications, geolocations, etc.) | 13% | 28% |
| ECMAScript 6 (e.g. maps, modules, classes, etc.) | 15% | 29% |
| Offline (i.e. AppCache) | 12% | 31% |
| Media (e.g. video, audio, captioning, streaming, etc.) | 9% | 35% |

# The Native vs. HTML5 debate evolves

There has been much ado about what the best approach is for developing mobile apps: to develop apps using platform-specific Native SDKs, using "pure" HTML5 (deploying via the mobile browser) or to adopt hybrid development (HTML5 + Native container, installed on device). It is well understood that Native development offers the most access to underlying device performance and device capabilities while also being the most costly and time consuming approach to app development for multiple platforms. It is also generally accepted that using HTML5 to develop mobile apps is less costly and more flexible, and as our survey shows, it is a technique that is being widely adopted by organizations large and small. In fact, when asked "what is your preferred approach for developing apps that support multiple platforms," company size had virtually zero impact – HTML5 was the preferred choice across the board.

## Native vs. HTML5 vs. Hybrid

**ONE "NATIVE" IMPLEMENTATION PER TARGET PLATFORM (I.E. IOS, ANDROID, WINPHONE, ETC.)**

**ONE "NATIVE" IMPLEMENTATION PER TARGET PLATFORM + ONE HTML IMPLEMENTATION "CATCH ALL" FOR OTHER PLATFORMS**

**HYBRID APPS (HTML5 CODE WRAPPED IN NATIVE CONTAINER)**

**PURE HTML5 IMPLEMENTATION FOR ALL PLATFORMS**

**Overall**
- 15%
- 17%
- 32%
- 36%

**Start-up** (Less than 5 people)
- 15%
- 16%
- 35%
- 35%

**Small business**
- 17%
- 15%
- 31%
- 37%

**Mid-sized**
- 13%
- 20%
- 30%
- 37%

**Enterprise**
- 15%
- 22%
- 29%
- 34%

**Global Enterprise**
- 10%
- 15%
- 36%
- 39%

There are two commonly discussed patterns for using HTML5 to build apps for mobile devices: "pure" HTML5, browser deployed apps, and "hybrid" apps that use technologies like Cordova to improve access to underlying device APIs. Of the 5,000 survey respondents, 36% noted that they'd use pure HTML5 (browser) implementations for cross-platform development, followed closely by hybrid initiatives (32%). A mere 15% would leverage pure Native development.

**HTML5 patterns for building apps for mobile devices**

**36%**
Mobile web apps

**32%**
Hybrid apps

**15%**
Native apps

It has also been largely assumed that mobile strategies are black and white: Native or HTML5. This survey reveals, however, that there is a growing "middle ground," where organizations target some platforms with Native app implementations, and then additionally create a "catch all" cross-platform mobile app using HTML5 to address all other users. A full 17% of survey respondents indicated they'd pursue this "middle ground" solution, topping the 15% choosing a "Native-only" approach.

**What is your preferred approach for developing apps that support multiple platforms?**

15%

17%

36%

32%

ONE "NATIVE" IMPLEMENTATION PER TARGET PLATFORM (I.E. IOS, ANDROID, WINDOWS PHONE, ETC.)

ONE "NATIVE" IMPLEMENTATION PER TARGET PLATFORM + ONE HTML IMPLEMENTATION "CATCH ALL" FOR OTHER PLATFORMS

HYBRID APPS

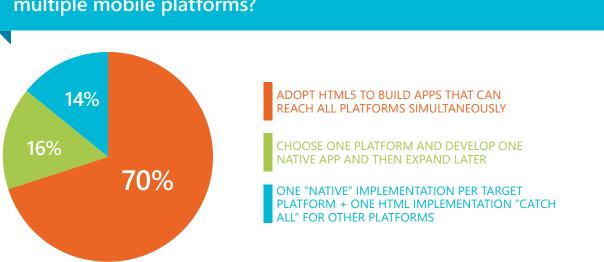PURE HTML5 IMPLEMENTATION FOR ALL PLATFORMS

# Groundhog Day

When adopting a "Native-only" mobile app strategy, it is implied the same app and the same features will have to be built and maintained multiple times (once per target mobile platform). It is no surprise then that the survey found 39% of respondents spend time developing the same app/feature for multiple platforms instead of spending time on developing new apps and features. This redundant behavior is sapping valuable development time away from creating new features that add value to mobile apps, while simultaneously making organizations less nimble and less able to respond to customer feedback.

## 39%
### of developers spend time developing the same app/feature for multiple platforms
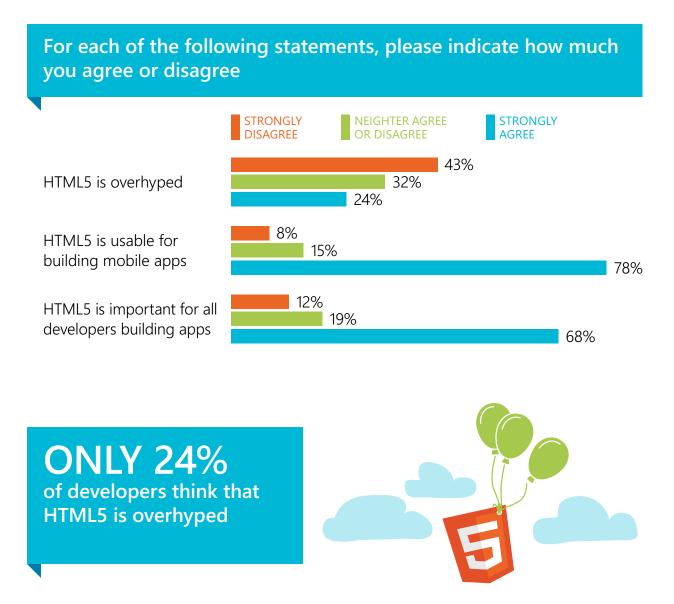
Developers and organizations need a mobile app strategy that will help them "recover" that lost time. They need to be empowered to write and maintain apps and features once for multiple platforms if they are to remain responsive to customer feedback and market demands. When asked, "how will you tackle the challenge of building apps for multiple mobile platforms?" a whopping 70% of respondents noted the adoption of HTML5 as their first choice.

## How will you tackle the challenge of building apps for multiple mobile platforms?

14%

16%

70%

ADOPT HTML5 TO BUILD APPS THAT CAN REACH ALL PLATFORMS SIMULTANEOUSLY

CHOOSE ONE PLATFORM AND DEVELOP ONE NATIVE APP AND THEN EXPAND LATER

ONE "NATIVE" IMPLEMENTATION PER TARGET PLATFORM + ONE HTML IMPLEMENTATION "CATCH ALL" FOR OTHER PLATFORMS

# Hype you can believe in

Building on the original 2012 Kendo UI Global Developer Survey, we once again sought to separate HTML5 hype from reality by asking survey respondents to rank their agreement with several statements about HTML5.

## For each of the following statements, please indicate how much you agree or disagree

- **STRONGLY DISAGREE**
- **NEIGHTER AGREE OR DISAGREE**
- **STRONGLY AGREE**

**HTML5 is overhyped**
- 43%
- 32%
- 24%

**HTML5 is usable for building mobile apps**
- 8%
- 15%
- 78%

**HTML5 is important for all developers building apps**
- 12%
- 19%
- 68%

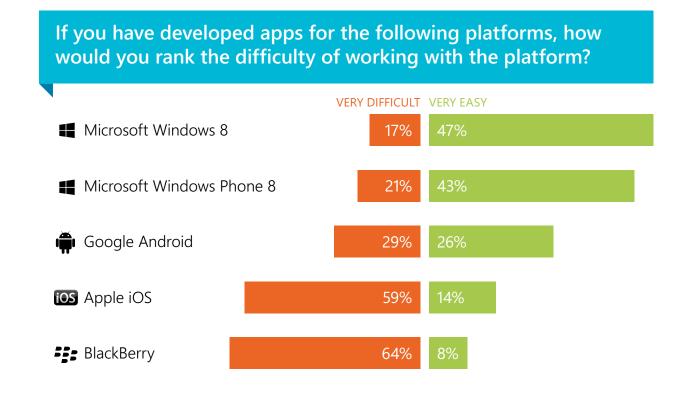## ONLY 24%
### of developers think that HTML5 is overhyped

While a small percentage (24%) think HTML5 has been overhyped, a surprising majority of respondents agree that HTML5 is usable for building mobile apps (78%) and agree that HTML5 is important for all developers building apps (68%). This is consistent with the results published in the "HTML5 Adoption Fact or Fiction" survey conducted by Kendo UI in the Fall 2012, where 82% of developers felt HTML5 will be of significant importance to their jobs within the next 12 months.

# Platform preferences

Apple iOS and Google Android are the two most popular and widely adopted mobile platforms, claiming 90% of the market share in Q3 2012[1], with Microsoft and BlackBerry battling it out for third place. However, what is noteworthy when considering the battle for market and mind share is what developers had to say regarding the ease-of-use for each platform. Far and away, BlackBerry and Apple iOS were considered to be the most difficult platforms for app development (64% voting for BlackBerry and 59% calling out iOS).

Additional follow-up research is required to further understand what makes app development more difficult on iOS and BlackBerry.

## If you have developed apps for the following platforms, how would you rank the difficulty of working with the platform?

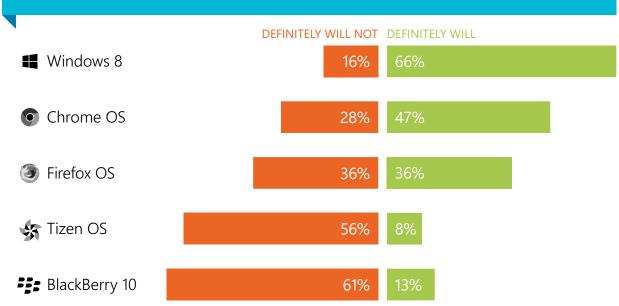| Platform | VERY DIFFICULT | VERY EASY |
| --- | --- | --- |
| Microsoft Windows 8 | 17% | 47% |
| Microsoft Windows Phone 8 | 21% | 43% |
| Google Android | 29% | 26% |
| Apple iOS | 59% | 14% |
| BlackBerry | 64% | 8% |

Meanwhile, Android and Windows Phone 8 earned top marks from respondents as being easy platforms for app development. In fact, Windows Phone 8 and Windows 8 took the crown, with 47% and 43% respectively calling the platforms easy to work with, compared to Android's 26%. While not explicitly determined through the survey, it is assumed that Microsoft's ability to provide superior developer tools and Android's general "openness" and "hackability" helped push them to the top.

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[1] www.businesswire.com/news/home/20121101006891/en/Android-Marks-Fourth-Anniversary-Launch-75.0-Market

The survey also sought understanding of developer interest in the new wave of mobile platforms hitting the market in 2013. This includes entries from Microsoft (Windows 8) and Google (Chrome OS), as well as a new crop of open source, HTML5 centric operating systems (Firefox OS, Tizen). Respondents were asked, "how interested are you in developing for each of the following emerging platforms?"

Perhaps because of Microsoft's marketing efforts or the general popularity of Windows, but Windows 8 came out on top, garnering interest from 66% of respondents. Far more interesting was the high level of interest in Google's Chrome OS (47%) and Mozilla's Firefox OS (36%). Both platforms are still relatively immature, but they've clearly captured the attention of developers.
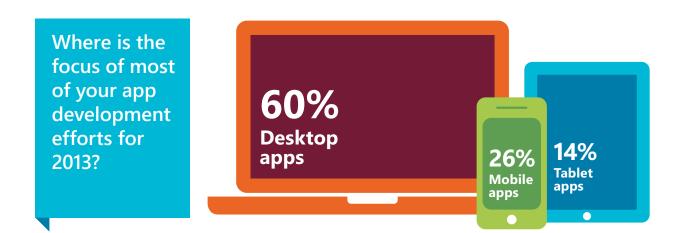
Unfortunately for BlackBerry and the consortium of companies (including Intel and Samsung) backing Tizen OS, developer interest in these platforms is far more tepid. Both will need to significantly improve their pitch in 2013 if they are to attract app developer interest.

## How interested are you in developing for each of the following emerging platforms with HTML5?
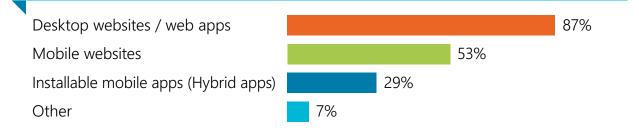
| | DEFINITELY WILL NOT | DEFINITELY WILL |
|---|---|---|
| Windows 8 | 16% | 66% |
| Chrome OS | 28% | 47% |
| Firefox OS | 36% | 36% |
| Tizen OS | 56% | 8% |
| BlackBerry 10 | 61% | 13% |

# Desktop is still leading the charge

While the market (and media) clamors for "the next great mobile app" with many articles, blog posts and social discussions noting that apps are leaving the desktop and mobile websites in the dust, our survey paints a different picture. Reality suggests desktop and mobile websites remain the prevailing platform focus. When 5,000 developers and technology executives were asked, "where is the focus of most of your app development efforts in 2013?" it was a 60/40 split between desktop and mobile technologies. When broken down by geography, the United States and Europe clearly defined desktop and mobile websites as the focus (60% and 65% respectively). APAC was in agreement with 53% of responses pointing to desktop as the priority.

**Where is the focus of most of your app development efforts for 2013?**

**60%**
**Desktop apps**

**26%**
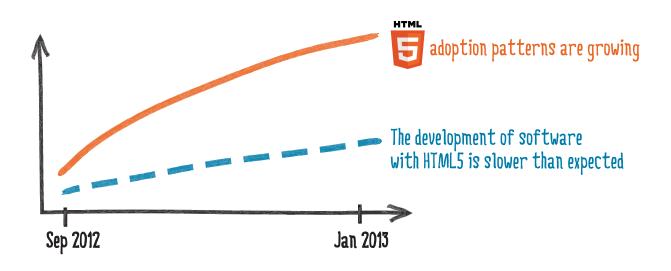**Mobile apps**

**14%**
**Tablet apps**

Moreover, when asked, "what kind of software are you building (or planning to build this year) with HTML5?" an astounding 87% noted desktop websites/web apps, followed by mobile websites (53%) and a distant third was hybrid apps (29%). While the developers and IT executives surveyed agreed on desktop websites/web apps as the priority, there was a discrepancy regarding hybrid apps.

**What kind of software are you building (or planning to build this year) with HTML5?**

| | |
|---|---|
| Desktop websites / web apps | 87% |
| Mobile websites | 53% |
| Installable mobile apps (Hybrid apps) | 29% |
| Other | 7% |

While HTML5 adoption patterns are growing, incrementally, the development of software with HTML5 is slower than expected. In the Fall 2012 installment of the Kendo UI-sponsored "HTML5 Adoption Fact or Fiction" survey, software developers were asked, "are you actively developing software with HTML5 and do you plan to do so before the end of the year?" At the time, 63% noted development was underway and 31% called out plans to do so before the end of the year.[2] When asked the same question in our latest survey, those numbers remain largely unchanged with 62% currently in active development and 33% of respondents planning development initiatives before the end of 2013, suggesting plans to begin projects in 2012 have been pushed in to 2013.



**HTML5** adoption patterns are growing

The development of software with HTML5 is slower than expected

Sep 2012          Jan 2013

# In conclusion

The discussions and debates around HTML5 are far from over. However, the market is becoming more informed and educated on its capabilities as well as more accepting. Whether adopting HTML5 to build mobile apps and websites, or using HTML5 for still important desktop web applications, developers are leveraging this technology to deal with increasingly complex and increasingly diverse software runtimes. Regardless of where and how HTML5 is used, this Kendo UI Global Developer Survey makes it clear that HTML5 will continue to play a key role in the evolution of cross-platform software development.

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[2] To download the full HTML5 adoption survey 2012, go to www.kendoui.com/surveys/html5-adoption-survey-2012

## ABOUT KENDO UI

Kendo UI (www.kendoui.com) is a complete solution for JavaScript and HTML5 developers that provides web and mobile developers with all the necessary components for building HTML5 and JavaScript mobile apps and sites. Based on jQuery, Kendo UI delivers a rich UI for the web, HTML5-powered data visualizations, and tools for building Native mobile apps with HTML5. This leading edge framework delivers everything in a unified, compact package, backed by industry leading professional support.

## ABOUT TELERIK

Telerik (www.telerik.com) is the market-leading provider of end-to-end solutions for application development, automated software testing, agile project management, reporting, and content management across all major Microsoft development platforms. Telerik is trusted by more than 100,000 customers worldwide for its innovation and industry best technical support.

### REPORT INQUIRIES

**Todd Anglin**
Executive Vice President, Cross Platform Tools & Services
Telerik
phone: 888-365-2779
Todd.Anglin@kendoui.com

**Sasha Krsmanovic**
Marketing Director, Cross Platform Tools & Services
Telerik
phone: 888-365-2779
Sasha.Krsmanovic@telerik.com

### MEDIA INQUIRIES

**Erica Burns**
Manager, Media & Customer Relations
Telerik
phone: 888-365-2779 ext. 154
Erica.Burns@telerik.com

**Carmen Hughes**
Ignite PR
phone: 650-227-3280 ext. 101
Carmen@ignitepr.com