

# THE INFLUENCE AND DANGERS OF TECHNOLOGY TRIBES

From the State of the Developer Nation  
Q3 2017 report

<http://vmob.me/DE3Q17>



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## About SlashData™

SlashData™ is the leading analyst company in the developer economy, tracking global software developer trends via the largest, most comprehensive developer research program worldwide. Developer Economics is SlashData's flagship research program reaching more than 30,000 software developers annually in over 150 countries.

Our surveys track the changing landscape of mobile, IoT, desktop, cloud, web, AR, VR, games, machine learning developers and data scientists. We explore trends across all types of developers from students, to hobbyists, to enterprise, as well as developer experiences across platforms, revenues, apps, dev tools, APIs, segments and regions.

Our mantra: We help the world understand developers – and developers understand the world.

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### Methodology

## Download the report



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Stijn has a Master's degree in engineering and an MBA. He has over 10 years' experience as an engineer, product manager, strategist and business analyst.

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## About this report

SlashData Developer Economics is the leading research programme on mobile, desktop, IoT, cloud, web, game, augmented and virtual reality, and machine learning developers as well as data scientists, tracking the developer experience across platforms, revenues, apps, languages, tools, APIs, segments and regions.

The 13th Developer Economics global survey wave ran from April to June 2017 and reached more than 21,200 developers in 157 countries. This research report delves into key developer trends for 2017.

This is the third chapter from the research report which delves into key developer trends for 2017. The full research report, available to [download here](#), focuses on five major themes – each with its own visualisation, showing how the data lends insight into the developer community.

1. Developers have become key stakeholders in recent years when it comes to making technology decisions in companies. Our data show just how far their influence reaches.
2. Game developers are often the first to exploit new technologies; their choices influence which hardware platforms become king of the hill in the future. We take a closer look at where they are placing their bets today.
3. [We all know that developers can get quite tribal about the languages and technologies they use. Flame wars galore on the internet. But how much is that reflected in their actual platform choices?](#)
4. Internet of Things technology can add a lot of complexity to what used to be much simpler objects. What makes it so challenging? We look at which parts

of IoT are most likely to cause trouble: the hardware, the software, or the data?

5. [The world of backend and cloud technology continues to be a fast-moving, ever-changing space. We investigate how the focus of developers shifts between technologies and levels of abstraction.](#)

We hope you'll enjoy this report and find the insights useful! If you have any questions or comments, or are looking for additional data, you can get in touch with Sofia Aliferi, Marketing Manager for SlashData at [sofia@slashdata.co](mailto:sofia@slashdata.co). You can download this free report at [www.DeveloperEconomics.com/go](http://www.DeveloperEconomics.com/go).

Mark, Stijn, Lawrence, Christina, Christos, Matos, Alex, Eitan, Andreas, Emilia, Kosmas, David, Vanessa, Sarah, Andrea, Sofia, Eva, Mostafa, Moschoula, Sam, and Chris at SlashData.

## Thank you

We'd like to thank everyone who helped us reach 21,200+ respondents for our survey, and create this report. Our Research Partners – Intel and Microsoft, our Media Partners, who are too many to name here. Also, a special thanks to Meetups which participated in our survey including: IoT Meetup Korea, Meet.mobile Wroclaw, Autobot13 Algeria, Artificial Intelligence Hong Kong, API Athens, Amsterdam PHP, Beijing Python, Bucharest JS, Budapest Python, Cocoa Shanghai, DevOps Melbourne, Harbour Front Hong Kong, Hong Kong JS, JS Lovers Meetup, Latvian Developer Network, Munich Frontend, The Web Meetup Australia, and Greece JS.



### 3 THE INFLUENCE AND DANGERS OF TECHNOLOGY TRIBES

Humans are a tribal species by nature. Despite their strong preferences for the logical and rational, developers frequently behave in tribal ways. In most cases the arguments that divide developers into tribes have little influence on the rest of their careers. Whether a developer prefers tabs or spaces (66% choose the former by the way) doesn't have much correlation with important choices like which platforms to develop for, or even what programming language to use. However, when a strong preference for one of the giant corporations that control technology platforms develops, that can have a deeper impact on choices.

Developers tend to work on projects with others on the same platform, and seek information from a wider community doing the same. This creates a natural grouping of people with the same preferences and opinions. This is the kind of 'filter bubble' effect that is polarising political debate around the world, intensifying tribal behaviour. Anyone working in a technology monoculture, using the same platform vendor for everything, should be very wary of this psychological tendency and seek outside influences.

How significant is the impact of these preferences? Our data shows it is linked to the areas of development that are pursued professionally, as well as the platforms and languages selected. Across all developers who expressed a preference, Microsoft is preferred to Apple by 58% to 42%. However, in many cases that preference manifests as a tribal membership of the Microsoft or Apple ecosystems. A significant fraction of developers within the Microsoft ecosystem have been effectively

left behind as the primary computing paradigm shifted from desktop to mobile. 52% of professional mobile developers prefer Apple, and a massive 66% of desktop professionals prefer Microsoft. Similarly, Google is significantly preferred to Amazon overall (75% to 25%), but 32% of professional backend developers prefer Amazon. Of course some may be very rationally sticking with the skills they know, not wanting to climb the learning curve for completely different languages and API sets. Even so, if we look at platform choices it's clear that preferences run deeper than that.

Unfortunately being in favour of one company often ends up meaning being against one or more others, leading to choices that may not make rational sense in markets where the preferred platform vendor doesn't have a strong position. We use mobile platforms as an example here but some similar trends can be found in other areas. Mobile professionals who prefer Apple to Microsoft are much more likely to target iOS

(80%) than those with the opposite preference (only 58%). Those who prefer Microsoft are more than twice as likely to target Windows 8/10 as the Apple fans (34% versus 14%). There's some rational basis for platform exclusivity, particularly with Apple's human-curated App Store, but it makes sense for most apps to target both Android and iOS. Targeting Android is least common amongst those that prefer Apple, 76% do versus 88% who prefer Microsoft.

Probably the strongest evidence of irrational bias is available in the primary platform data. Perhaps unsurprisingly, developers that prefer Apple to Microsoft are significantly more likely to prioritise iOS (48% versus a 25% average for mobile professionals), although note that there's no relative preference between Apple and Google involved here. More concerning is that just 12% of those who prefer Microsoft prioritise iOS, the same percentage that prioritise Windows 8/10. Meanwhile, those who prefer Microsoft to Apple are more likely to choose Android as a primary platform (58%) than even those who prefer Google to Amazon (54%), with both groups being far above average for mobile professionals (45%).

Interestingly, Amazon does not seem to command the same loyalty as these other platform companies, at least in mobile. There's evidence that in some cases preferring Amazon to Google is more about not liking Google than liking Amazon. Those who prefer Amazon are more likely to target (74%) and prioritise (37%) iOS than average, and less likely to prioritise Android (38%). At the same time, they are not significantly more likely to target or prioritise Amazon Fire OS. Indeed developers who prefer Amazon to Google are three times as likely to target Windows 8/10 mobile devices than Amazon Fire OS, despite the relatively good traction Amazon has with Kindle Fire tablet sales and the level of compatibility between Android and Amazon Fire OS.

Of course targeting a platform, or even favouring it as a primary platform, is one thing, while going "all in" and picking a platform's native language as your primary language is another

entirely. Here we see yet more bias. 90% of mobile professionals who consider Swift their primary language prefer Apple to Microsoft (for Objective-C it's 87%). Going the other way, 78% of those who consider C# their primary language prefer Microsoft to Apple. There's probably some dilution due to Unity here, which originated on Apple platforms. Developers who prioritise Java or C/C++ are much closer to the average (47% to 53% in Microsoft's favour). Java developers are also more likely to prefer Google to Amazon (84%) than average amongst mobile professionals, so for most them, Amazon Fire OS is more likely to be an annoying compatibility headache for their Android apps than a preferred platform.

Microsoft beat Apple in the desktop OS wars. The majority of today's mobile developers were not working in the industry when that happened, yet they've joined tribes that appear to retain a grudge. Perhaps the data reflects a philosophical

### *66% of developers prefer tabs over spaces*

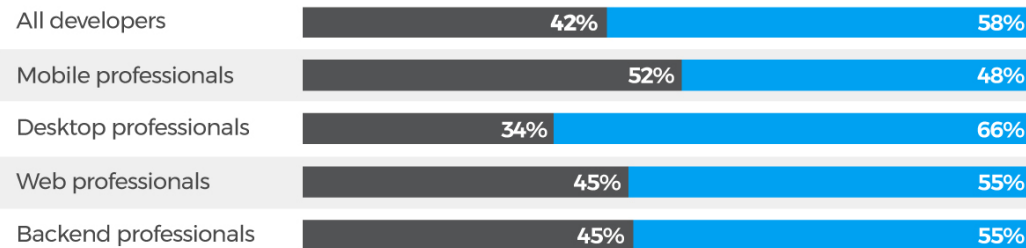
preference for more open platforms versus more closed and curated ones. Given Google's control over the Android ecosystem and Google Play, and Microsoft's efforts to shift to an app store model, there seems little difference here in practice, certainly not enough to justify the differences in platform preference we see. There's also a warning here for Amazon. Their lead in cloud services with AWS is strong, but they've won relatively little love from developers. If Google can catch up on features and gain credibility with enterprise IT buyers then developers may well be more than happy to switch platforms.

Whatever the future holds for these and future platforms, tribal preferences are likely to play a role. Developers with strong preferences for technologies or vendors could probably all benefit from seeking opinions outside their usual communities.

# TECHNOLOGY TRIBES HAVE A MASSIVE INFLUENCE ON PLATFORM SELECTION

% of professional developers (n = 8,617)

## Which do you prefer, Apple or Microsoft?



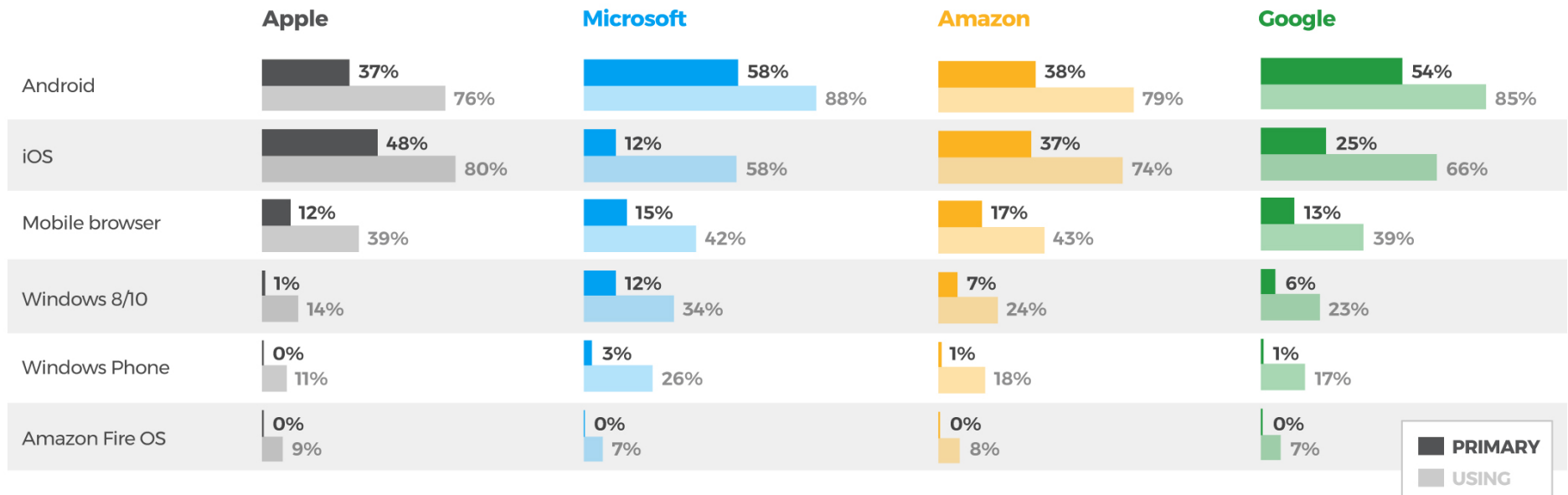
■ APPLE ■ MICROSOFT

## Which do you prefer, Amazon or Google?



■ AMAZON ■ GOOGLE

## Mobile platforms targeted by professionals based on service preference



## PARTNERS

SlashData is very lucky to be supported by the entire developer community: from the largest internet and software companies to the smallest local Meetups. Partnering with these organisations ensures that there is a representative sample across participating developers, so that something valuable is delivered back to the community. Some of them are listed below. You can read more about our media partnerships [here](#).





## METHODOLOGY

Developer Economics 13th edition reached an impressive 21,200+ respondents from 157 countries around the world. As such, the Developer Economics series continues to be the most global independent research on mobile, desktop, IoT, cloud, web, game, AR/VR, machine learning developers and data scientists combined ever conducted. The report is based on a large-scale online developer survey designed, produced and carried out by SlashData over a period of nine weeks between April and June 2017.

Respondents to the online survey came from 157 countries, including major app, machine learning and IoT development hotspots such as the US, China, India, Israel, UK and Russia and stretching all the way to Kenya, Brazil and Jordan. The geographic reach of this survey is truly reflective of the global scale of the developer economy. The online survey was translated into seven languages in addition to English (simplified Chinese, Japanese, Korean, Portuguese, Russian, Spanish, and Vietnamese) and promoted by 82 leading community and media partners within the software development industry.

To eliminate the effect of regional sampling biases, we weighted the regional distribution across eight regions by a factor that was determined by the regional distribution and growth trends identified in our Developer Economy research. Each of the separate branches: mobile, desktop, IoT, cloud, web, games, augmented and virtual reality, data science and machine learning were weighted independently and then combined.

To minimise other important sampling biases across our outreach channels, we weighted the responses to derive a representative distribution for platforms, segments and types of IoT project. Using ensemble modeling methods, we derived a weighted distribution based on data from independent, representative channels, excluding the channels of our research partners to eliminate sampling bias due to respondents recruited via these channels. Again, this was performed separately for each of mobile, IoT, desktop, cloud, web, games, augmented and virtual reality, data science and machine learning.

For more information on our methodology please visit <https://www.slashdata.co/methodology>.

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distilling market noise into market sense

