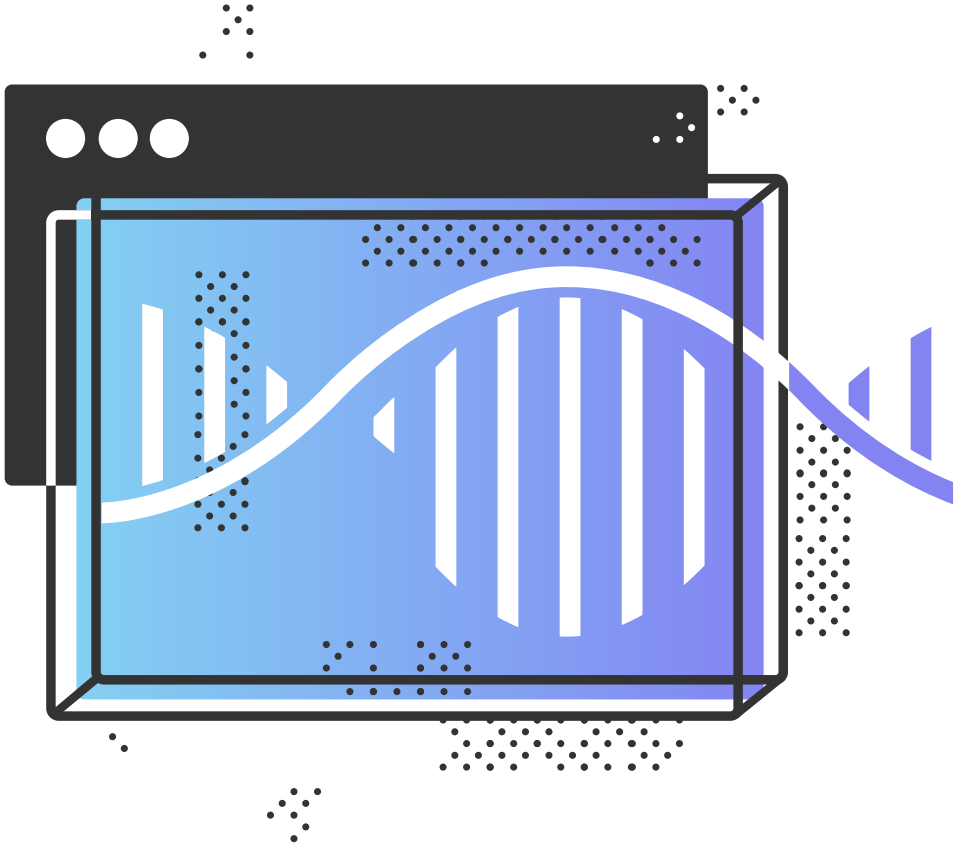
MDN Web Developer Needs Assessment 2020



MDN web docs

moz://a

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Introduction

Introduction

Welcome to the second edition of the MDN Web Developers Needs Assessment (DNA) — a global, annual study of developer needs on the web. MDN Web DNA aspires to be the voice of developers and designers working on the web.

On single-vendor platforms, only one organization has to research developer needs and decide how to address them in the future. It's not that straightforward on the web, where multiple organizations need to be involved in feature decisions, from browser vendors to standards bodies and industry. As a result, change can be slow to come, which means that pain points may take a long time to address.

Like the community, this assessment is not owned by a single organization. It is not tailored to fit the priorities of participating browser vendors, or to mirror other existing assessments. These findings are published under the umbrella of the MDN Product Advisory Board, and the survey used for data collection was designed with input from more than 30 stakeholders representing board member organizations including browser vendors, the W3C, and industry.

This report would not exist without the input of our respondents from 2019 and 2020 who, this year, took an average of twenty-one minutes to complete the survey. Between last year and this year, the community has contributed more than 10,000 hours to provide an understanding of the pain points, wants, and needs of people working to build the web.

The input provided by survey participants is already influencing how browser vendors prioritize feature development to address the needs of developers on the web. By producing this report annually, it will be possible to track changing needs and pain points over time, enabling all stakeholders to see the impact of their efforts on the

2019 vs 2020

Between our first iteration of the MDN Web DNA and the second iteration in 2020, we changed our approach to data analysis. In the first iteration, the team relied on reporting features available in our survey platform. This year, the team hired an experienced data scientist to conduct analysis and employ data science best practices. You can read more about our approach to analysis in the methodology section.

Another difference between the first iteration and second iteration is the response rate to the survey. This year, there were fewer participants and all we can do is speculate as to why. We suspect that one reason we saw a drop in participation is because we added more new questions this year than we removed, which increased the mean time it took to complete the survey by six minutes, up to 21 minutes from fifteen minutes. Another reason might be that 2020 is an unprecedented year with the global, coronavirus pandemic. How much that affected our response rates, we'll never know.

In 2020, we increased our efforts to recruit more diverse participants by reaching out to different organizations and nonprofits whose missions are to amplify the voices of and provide resources to marginalized communities of web developers. Even with these recruiting efforts, the percentage of respondents who identify as women or those who chose not to identify their genders was down between this year and last.

Because the nature of this study is an open call for participants, year over year comparisons are not apples to apples. However, there were no significant changes in the overall makeup of participants.

Throughout the report we specify where there were changes in the survey questions.

Survey Responses

Respondent Overview

Target
Our target audience for the second iteration of this study was the same as the first, people who spend at least some of their time writing code for the Web. Inherent in this target audience is a selection bias of those who are working on the Web today. The voice of those who have abandoned the platform, whether because of dissatisfaction or other reasons, is left to future iterations of this study. Similarly, those who cannot or do not choose the Web platform are not a part of this study.

Recruited
When the survey launched, it was announced on MDN as well as through tweets and other social network posts of the MDN community. The initial responses are the most diverse as participants were drawn in through the various social network promotions. As time progressed, the banner on MDN remained and was the prominent recruiting vehicle. The active publicity on MDN created another selection bias towards those who use MDN. However, MDN serves a large percentage of the developer community.

Actual
After fielding the survey for three weeks, we have 6,645 cleaned, completed responses — cleaned meaning the response met the criteria of our data model. How that compares to 2019 is below. Because the nature of this study is an open call for participants, year over year comparisons are not apples to apples. However, there were no significant changes in the overall makeup of participants.

2019	2020	Delta
Total: 76,188	Total: 30,844	55,344 Fewer in 2020
Eligible, Complete: 26,854	Eligible, Complete: 6,645	20,209 Fewer in 2020
Completion Rate: 37.4%	Completion Rate: 21.2%	Completion Rate Dropped by 15.2%
Partial: 49,334	Partial: 22,840	Partial Increased by 16.4% *(as % of Total Responses)*
Disqualified: 5,430	Disqualified: 1,359	Disqualified Decreased by 3% *(as % of Total Responses)*

Responses By Gender

A goal from the onset of this project was to have a broad, global representation of the developer community. Despite increased attempts to get the survey in front of representative audiences, 87% of the respondents identify as men which is similar to last year (87.1%). Our representation of respondents who identify as female is down from 8.2% in 2019 to 6.8% in 2020. More respondents saw neither option as suitable up to 1.8% from 1.1% in 2019. More people declined to state their gender, 4.3% compared to 3.6% last year.

To put the breakdown by gender into perspective, the US Bureau of Labor Statistics[1] estimates that women's participation in the software developer workforce is more like 20%, though it's not immediately obvious what constitutes their definition of the software developer workforce compared to the audience for this study. When filtering our results by respondents from the United States who selected woman, we have a representation of 10.8% which is a small decline from 2019 where our representation was 10.9%

This discrepancy in genders is another bias in the first version of the MDN Web DNA, and unfortunately, is a common problem with many developer surveys. The difference in representation could be a result of how we fielded the survey. Our methods may have contributed to a less representative audience by utilizing outlets that unintentionally exclude or dissuade women and other minority groups from participation. For 2020, we added a new, optional question which asked respondents whether they identify as a minority within their country and 16.1% do identify as a minority. Only 1% of respondents chose not to respond.

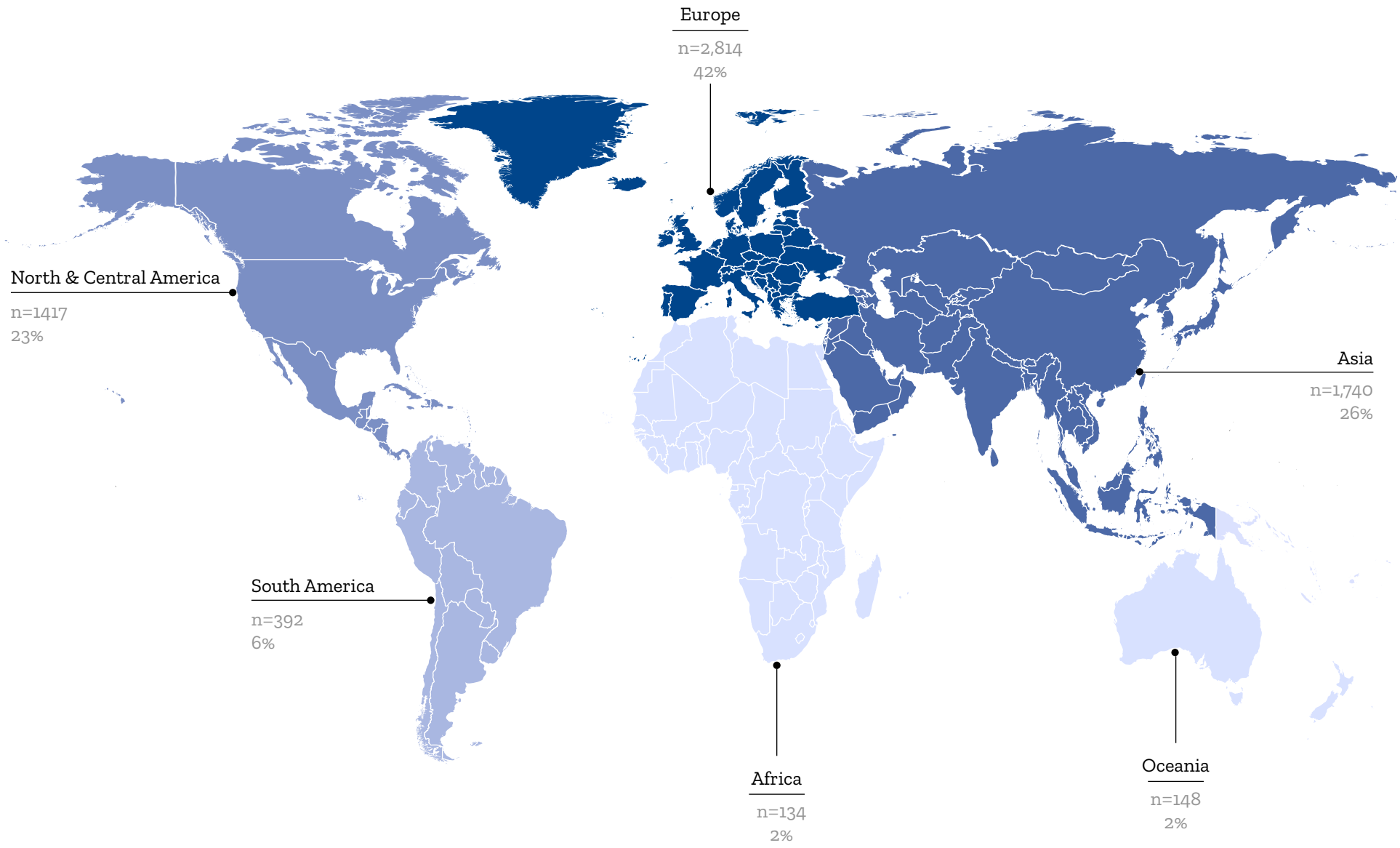
We did attempt to gather more diversity by sending it to specific women-groups. In future iterations, we will continue to aim for fair representation and ways to mitigate or account for the bias.

The answers to choose from were carefully considered and vetted by Mozilla's legal team. The four choices offered were intentional. We launched the survey globally and had optional questions that asked for personally identifiable information. The degree of legal recognition provided to people who do not identify with a gender consistent with the gender assigned at birth varies widely throughout the world. We did not want to have data on gender that could put people in harm's way. Of completed responses, 50.4% answered the optional question, which asked for personally identifiable information.

n = 6645

1 https://www.bls.gov/opub/reports/womens-databook/2017/home.html

Responses By Region



Responses By Country

The survey was localized from English into seven languages listed alphabetically:

- Chinese (simplified)
- French
- Japanese
- Korean
- Portuguese (Brazil)
- Russian
- Spanish

Last year, we had eight languages. We opted not to translate the survey into Arabic for this year because it accounted for less than 1% of the survey responses last year.

These languages are a combination of stakeholder input as well as what is most accessed on MDN. The translations offered likely influenced who participated in the study.

The survey includes responses from 137 countries, down from 2019's 173 countries. 37 countries have 30 or more respondents each.

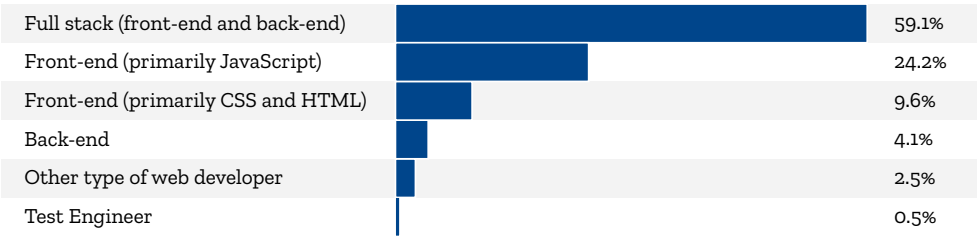
The countries with the most significant participation, measured by 300 responses or more are:

- United States - 16.6%
- Germany 7.4%
- Russia - 7%
- China - 6.4%
- France - 5.9%
- United Kingdom - 5%
- India - 4.5%
- Canada - 3.1%

Responses By Type of Developer

Like 2019, participants were asked, "Which best describes the type of web developer you are?" However this year, respondents were only allowed to select one option whereas last year they could select all that apply. We also included a new type of developer in this year's survey, Test Engineer, but it was not a popular choice, with only .5% of respondents selecting it as their option.

Most respondents identified as Full Stack or Front-end. The latter had two variations to pick: primarily JavaScript or primarily CSS and HTML. Full stack had the most representation at 59.1%, up from 57.1% last year. Back end had the least representation at 4.1, down from 11.7% last year%.



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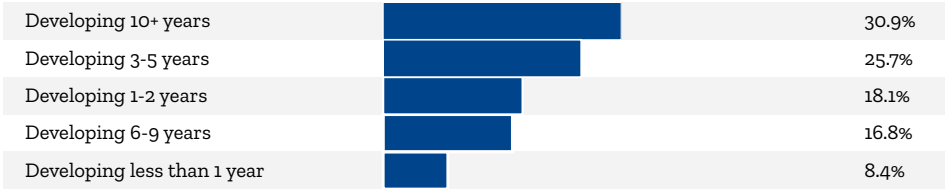
Responses By Experience Level

This year, the respondents were fairly even across developers who have less than or equal to five years of experience developing for the web and those that have six years or more, at 52.2%, and 47.8% respectively. In 2019, the breakdown wasn't as close. We had more developers with five years of experience or less than we did for those with six years or more, 60.2%, and 39.8% respectively.

The largest group in this year's study were developers with ten or more years of experience, at 30.9% of the respondents. Whereas in 2019, the largest group were developers with 3-5 years of experience, at 28.4% of respondents.



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