- [Overview](#)
- [Developer Profile](#)
- [Technology](#)
- [Work](#)
- [Community](#)

Developer Survey Results

2016

- Back to top

- **Have *you* found help on Stack Overflow?**

  Even if you can't answer now, in just two minutes you can join millions of developers who are ready to help when needed.

  I want to help

- **Open to new opportunities?**

  Stack Overflow Jobs puts the developer first. Your dream job, found on your terms.

  Build something awesome
- Want to hire or reach developers? Partner with us.

Overview

This year, over fifty thousand developers shared where they work, what they build, and who they are. You are about to read the results of the most comprehensive developer survey ever conducted.

Every 8 seconds or so, a developer asks a question on Stack Overflow. This year, 56,033 coders in 173 countries answered the call.

We asked them 45 questions. Key highlights include the following:

Developers love Rust. Even back-end developers know JavaScript. Only 7% of developers identify as "rockstars". Most developers prefer dogs to cats. (But not developers in Germany.)

Surveys aren't perfect. While our large sample size helps offset some biases, it's still biased against devs who don't speak English, or who don't like taking English-language surveys. In some sections we've augmented the results with insights gleaned from the activity of Stack Overflow's 40 million monthly visitors. If you're an employer, we'd be happy to help you reach those developers. If you're a developer (you're probably a developer), we hope you sign up.
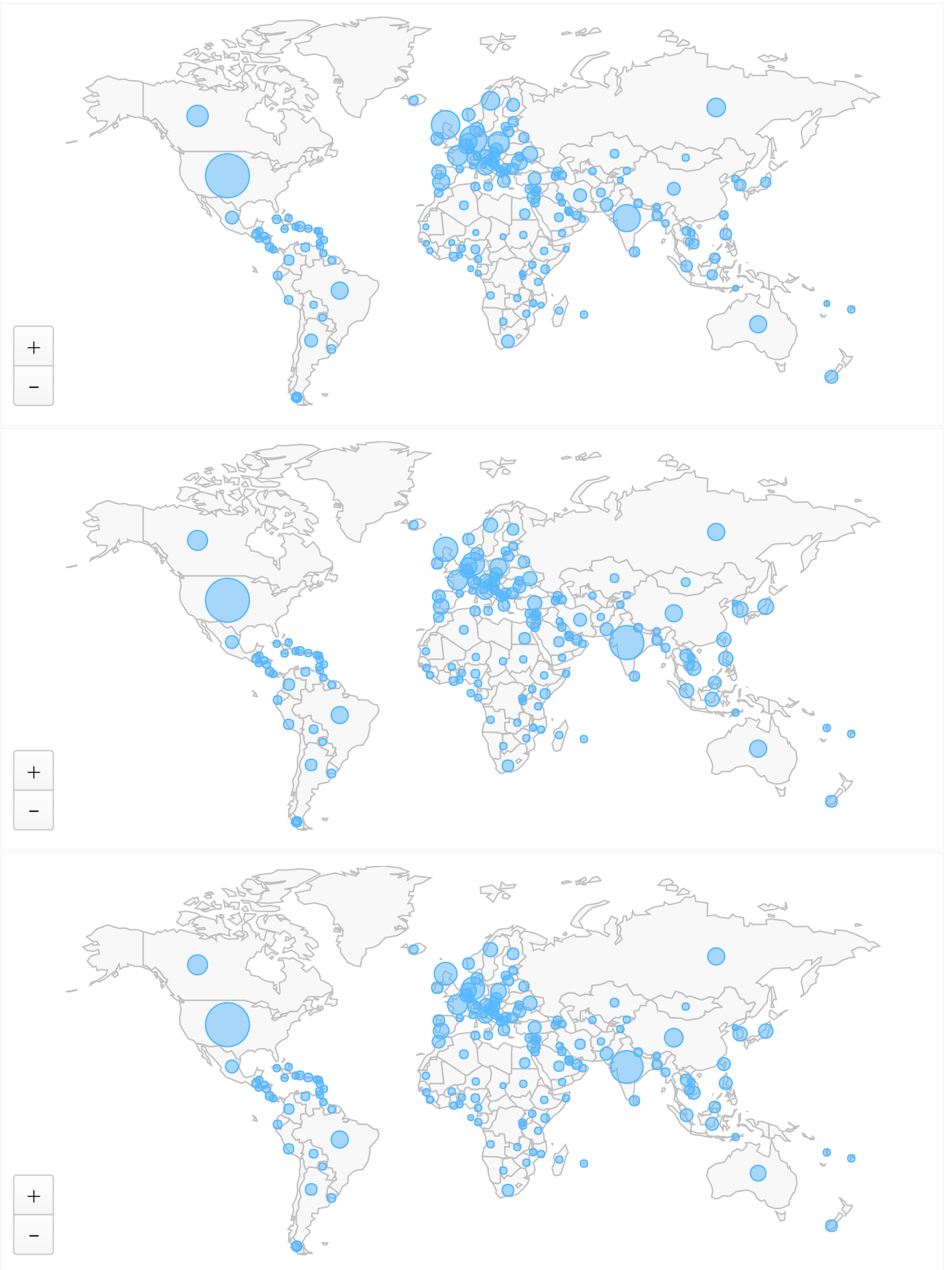
Throughout these results we'll be using the terms "developers", "devs", and "respondents" interchangeably. We'll also be keeping commas outside quotation marks, because that's what developers do.

Developer Profile

Who codes? More people in more places than ever before.

I. Geography

- Survey Respondents
- Monthly Stack Overflow Visits
- Professional Developers

In January, 46 million people visited Stack Overflow to get help or give help to a fellow developer. We estimate 16 million of those people are professional developers.

Our estimate on professional developers comes from the things people read and do when they visit Stack Overflow. We collect data on user activity to help surface jobs we think you might find interesting and questions we think you can answer. You can download and clear this data at any time.

II. Developer Occupations

Full-Stack Web Developer

- 28.0%

Back-End Web Developer

- 12.2%

Student

- 11.4%

Mobile Developer (Android, iOS, WP, and Multi-Platform)

- 8.4%

Desktop Developer

- 6.9%

Front-End Web Developer

- 5.8%

Other

- 5.2%

Enterprise Level Services Developer

- 3.0%

Embedded Application Developer

- 2.6%

DevOps

- 2.2%

Developer with a Statistics or Mathematics Background

- 1.9%

Executive (VP of Engineering, CTO, CIO, etc.)

- 1.8%

Data Scientist

- 1.6%

System Administrator

- 1.5%

Engineering Manager

- 1.4%

Analyst

- 1.2%

Business Intelligence or Data Warehousing Expert

- 0.1%

Machine Learning Developer

- 0.1%

49,525 responses

More respondents consider themselves Full-stack Developers than any other role. On average, Full-stack developers are comfortable coding with 5 to 6 major languages or frameworks (vs. 4 for everyone else). Executives are comfortable using more languages and frameworks than any other developer occupation, which is most likely a result of having more experience.

There are roughly just as many developers who call themselves Mobile Developers as there are Android Mobile Developers (3% for each). About 2.5% of all developers are iOS Mobile Developers. We received 59 responses from Windows Phone Mobile Developers (.1%).

Most Popular Technologies per Dev Type

- Full-Stack
- Front-End
- Back-End
- Mobile
- Math & Data
- Students

JavaScript

- 85.3%

SQL

- 58.9%

C#

- 37.3%

PHP

- 35.3%

Angular

- 32.2%

Java

- 30.7%

SQL Server

- 28.0%

Node.js

- 27.1%

Python

- 18.2%

LAMP

- 15.6%

JavaScript

- 90.5%

Angular

- 35.8%

PHP

- 35.2%

Node.js

- 31.8%

SQL

- 25.4%

WordPress

- 24.1%

Java

- 16.8%

C#

- 16.0%

React

- 13.4%

Other

- 13.2%

JavaScript

- 54.5%

SQL

- 53.3%

Java

- 41.6%

PHP

- 31.5%

C#

- 26.8%

Python

- 21.4%

SQL Server

- 18.3%

Angular

- 15.4%

Node.js

- 13.3%

MongoDB

- 11.9%

Android

- 61.9%

Java

- 54.2%

iOS

- 47.5%

Objective-C

- 39.2%

Swift

- 31.7%

JavaScript

- 28.9%

SQL

- 25.3%

C#

- 22.1%

C++

- 17.7%

PHP

- 16.6%

Python

- 55.5%

SQL

- 38.7%

Java

- 33.6%

C++

- 33.5%

JavaScript

- 28.6%

R

- 26.7%

C

- 22.9%

C#

- 20.2%

Matlab

- 15.2%

Other

- 13.6%

Java

- 51.1%

JavaScript

- 39.1%

C++

- 38.3%

Python

- 38.2%

C

- 32.8%

SQL

- 30.9%

C#

- 25.0%

PHP

- 24.4%

Android

- 22.8%

Arduino / Raspberry Pi

- 14.6%

JavaScript is the most commonly used programming language on earth. Even Back-End developers are more likely to use it than any other language.

III. Programmers, Engineers, and Developers

Developer

- 71.6%

Programmer

- 60.3%

Engineer

- 41.8%

Sr. Developer

- 28.3%

Full-Stack Developer

- 26.8%

Other

- 12.0%

Hacker

- 11.4%

Expert

- 11.2%

Ninja

- 9.8%

Manager

- 9.2%

Rockstar

- 7.4%

Guru

- 5.0%

Full-Stack Overflow Developer

- 4.2%

 55,735 responses

This year we asked respondents if they are Engineers, Experts, Hackers or any of the other descriptors we've frequently seen in job listings, business cards, and Twitter bios.

95% of developers identify as either a Developer, Programmer, Engineer, Senior Developer or Full-Stack Developer. Embedded Application Developers are most likely to identify as Engineers. Graphics Programmers are most likely to identify as Programmers.

But Developer is the runaway choice here. It's our top choice, too.

Rockstars & Ninjas

- Self Identify as Rockstar
- Self Identify as Ninja

Growth Hacker

- 19.2%

Executive (VP of Eng., CTO, CIO, etc.)

- 16.0%

Graphics Programmer

- 10.6%

55,735 responses
Growth Hacker

- 24.2%

Mobile Developer - Windows Phone

- 16.9%

Student

- 13.6%

10% of respondents self-identified as Ninjas. Real ninjas don't tell you they're ninjas. They just sneak up on you and slit your throat, which we're pretty sure constitutes a "hostile workplace environment".

IV. Age

< 20

- 7.1%

20-24

- 23.6%

25-29

- 28.4%

30-34

- 18.1%

35-39

- 10.2%

40-49

- 8.9%

50-59

- 3.0%

>60

- 0.8%

55,338 responses

The average developer is 29.6 years old. The median is 27.

Average Age per Country

United States

- 32.0

Italy

- 31.6

Australia

- 31.5

Spain

- 31.4

Sweden

- 31.1

United Kingdom

- 31.0

Canada

- 30.5

Germany

- 29.8

Netherlands

- 29.5

France

- 29.1

Brazil

- 27.7

Poland

- 26.7

Russian Federation

- 26.6

India

- 25.5

Among countries with more than 1,000 responses

The average developer in India is 6 years younger than the average developer in the United States. Looking for the future of developer growth? Look no further than India, Russia, Poland, and Brazil.

V. Experience

< 1 Year

- 5.8%

1 - 2 Years

- 12.4%

2 - 5 Years

- 32.1%

6 - 10 Years

- 23.2%

11+ Years

- 26.5%

49,521 responses

The average developer has about 6.5 years IT or programming experience. This isn't necessarily *professional* experience (the average student tells us they have 3.4 years experience). Developers gain experience by building things, even if they're doing it unpaid or part-time. We've found this experience distribution to closely match that of more than 230,000 developers who make their CVs available on Stack Overflow.

Worldwide, the median Front-End Web Developer has 3.5 years experience. The median Full-Stack Developer has 8 years experience. And the median Engineering Manager has 13 years experience.

Star Wars vs. Star Trek

< 20

- 66.9%
- 19.3%

20-24

- 68.4%
- 17.6%

25-29

- 65.7%
- 24.6%

30-34

- 59.0%
- 33.3%

35-39

- 57.5%
- 39.0%

40-49

- 54.4%
- 38.1%

50-59

- 31.4%
- 52.5%

> 60

- 29.3%
- 47.0%

◼ Star Wars
◼ Star Trek

 42,503 responses

We asked developers if they preferred Star Wars or Star Trek. Clearly, sci-fi mega-franchise of choice varies by age. Devs in their 40s prefer Star Wars. Devs in their 50s are Trekkies. Firefly was the top write-in, followed by Stargate, Doctor Who, and Babylon 5.

VI. Gender

Men

- 92.8%

Women

- 5.8%

Other

- 0.5%

Prefer not to Disclose

- 1.0%

55,128 responses

Our survey results demonstrate a dramatic disparity in tech among men and women. In fact, we know women make up a more significant proportion of the developer workforce than this suggests. According to Quantcast, about 12% of Stack Overflow's readers are women. (We don't actively track gender internally.) We also know this survey underrepresents people in countries where developers have an increased likelihood of being women such as Asian countries like South Korea, India, and China.

Developer Occupations & Women

Designer

- 12.4%

Quality Assurance

- 11.6%

Front-End Web Developer

- 10.6%

Mobile Developer - Android

- 8.7%

Data Scientist

- 8.6%

Product Manager

- 8.0%

Student

- 6.9%

Growth Hacker

- 6.4%

Machine Learning Developer

- 6.1%

Business Intelligence or
Data Warehousing Expert

- 6.1%

Database Administrator

- 6.0%

Analyst

- 5.9%

Mobile Developer - iOS

- 5.9%

Back-End Web Developer

- 5.8%

Mobile Developer

- 5.5%

Developer with a statistics or mathematics background

- 5.5%

Graphics Programmer

- 5.3%

Full-stack Web Developer

- 4.9%

Desktop Developer

- 4.5%

DevOps

- 4.0%

Enterprise Level Services Developer

- 3.3%

Engineering Manager

- 3.2%

System Administrator

- 3.1%

Embedded Application Developer

- 3.1%

Executive
(VP of Eng., CTO, CIO, etc.)

- 2.1%

Mobile Developer - Windows Phone

- 0.0%

Women are more likely to be Designers than any other developer type. They are far more likely to be Machine Learning Developers than men. Additionally, women are more likely to be Quality Assurance developers. Men and women appear to be about equally as likely to be either an Executive or Engineering Manager.

Experience by Gender

- Experience - Global
- Experience - North America
- Experience - South Asia

< 1 Year

- 10.2%
- 4.2%

1 - 2 Years

- 17.8%
- 10.5%

2 - 5 Years

- 35.4%
- 30.4%

6 - 10 Years

- 19.4%
- 25.0%

11+ Years

- 17.3%
- 30.0%

🟦 Women
🟦 Men

43,099 responses. Students not included.

< 1 Year

- 6.9%
- 2.2%

1 - 2 Years

- 12.7%
- 7.4%

2 - 5 Years

- 34.0%
- 26.8%

6 - 10 Years

- 20.3%
- 24.7%

11+ Years

- 26.2%
- 38.8%

🟦 Women
🟦 Men

< 1 Year

- 21.9%
- 14.0%

1 - 2 Years

- 30.7%
- 22.9%

2 - 5 Years

- 36.1%
- 42.8%

6 - 10 Years

- 9.7%
- 14.8%

11+ Years

- 1.6%
- 5.5%

■ Women
■ Men

Experience varies regionally. And it varies by gender, too.

Gender Distribution per Age Cohort

- Women
- Men

20-24

- 7.2%

25-29

- 6.5%

30-34

- 4.9%

35-39

- 4.2%

40-49

- 4.5%

50-59

- 5.8%

> 60

- 7.1%

2,979 responses from employment-aged women
20-24

- 92.8%

25-29

- 93.5%

30-34

- 95.1%

35-39

- 95.8%

40-49

- 95.5%

50-59

- 94.2%

> 60

- 92.9%

While women make up about 6% of total respondents, they make up an even smaller percentage of respondents in their 30s and 40s. The gender disparity in tech is shamefully imbalanced across the age spectrum.

We can't claim to know the answer to bridging the gender gap in tech, but we think sharing data with the public is a productive step in advancing more dialogue across the industry. That's why in about a month we'll be releasing a full dataset of survey results for you to analyze yourself. Follow us on Twitter to stay updated.

VII. Diversity

Who Values Diversity?

Product Manager

- 85.7%

Engineering Manager

- 79.3%

Quality Assurance

- 77.1%

Data Scientist

- 76.7%

Front-End Web Developer

- 76.6%

Mobile Developer - iOS

- 76.4%

Mobile Developer - Android

- 75.9%

42,156 responses

Overall, about 73% of developers tell us they think diversity is at least somewhat important in the workplace. 41% of developers say diversity is *very* important. And developers who most often influence hiring decisions are more likely to believe in the value of diversity than other developer types.

We received some feedback this year that in addition to gender and diversity in general, we should have asked about ethnicity. It's definitely something we'll consider. What else should we ask about next year? Tell us.

VIII. Education

Self-Taught

- 69.1%

On the Job Training

- 43.9%

B.S. in Computer Science (or Related Field)

- 34.8%

Online Course

- 25.5%

Masters Degree in Computer Science (or Related Field)

- 19.7%

Some College Coursework in Computer Science (or Related Field)

- 19.2%

B.A. in Computer Science or Related Field

- 8.5%

Industry Certification Program

- 7.2%

Full-Time Intensive Program (e.g. Bootcamp)

- 6.5%

Part-Time Program (e.g. Night School)

- 4.1%

Other

- 3.7%

PhD in Computer Science (or Related Field)

- 2.1%

Mentorship Program

- 1.2%

40,183 responses from non-student developers

69% of all developers tell us they are at least partly self-taught. (13% of respondents across the globe tell us they are *only* self-taught.) 43% of developers have either a BA or BS in computer science or a related field. 2% of developers have a PhD.

Education Varies By Developer Type

- Online Course
- Industry Certification
- Masters Degree
- Doctorate

Machine Learning Developer

- 34.0%

Data Scientist

- 32.3%

Quality Assurance

- 30.9%

Analyst

- 29.7%

Business Intelligence or Data Warehousing Expert

- 29.6%

Enterprise Level Services Developer

- 12.8%

Database Administrator

- 12.0%

Business Intelligence or Data Warehousing Expert

- 12.0%

DevOps

- 9.9%

Product Manager

- 8.7%

Machine Learning Developer

- 36.4%

Developer with a Statistics or Mathematics Background

- 28.2%

Product Manager

- 24.6%

Embedded Application Developer

- 24.5%

Data Scientist

- 24.5%

Machine Learning Developer

- 15.1%

Data Scientist

- 11.8%

Developer with a Statistics or Mathematics Background

- 9.2%

Graphics Programmer

- 4.4%

Other

- 4.1%

Machine Learning Developers are most likely to have taken an online class (Graphics programmers are least likely to do so). Enterprise Level Services Developers are most likely to have completed an Industry certification program (iOS Mobile Developer are least likely). Machine Learning Developers are also most likely to have completed a Masters or PhD in CS.

Technology

The tools and trends of the trade.

I. Most Popular Technologies

- 2016
- 2015
- 2014
- 2013

JavaScript

- 55.4%

SQL (or SQL Server)

- 49.1%

Java

- 36.3%

C#

- 30.9%

PHP

- 25.9%

Python

- 24.9%

C++

- 19.4%

C

- 15.5%

Node.js

- 17.2%

AngularJS

- 17.9%

Ruby

- 8.9%

Objective-C

- 6.5%

49,397 responses
JavaScript

- 54.4%

SQL (or SQL Server)

- 48.0%

Java

- 37.4%

C#

- 31.6%

PHP

- 29.7%

Python

- 23.8%

C++

- 20.6%

C

- 16.4%

Node.js

- 13.3%

AngularJS

- 13.3%

Ruby

- 8.0%

Objective-C

- 7.8%

21,982 responses
JavaScript

- 58.9%

SQL (or SQL Server)

- 57.1%

Java

- 37.6%

C#

- 37.6%

PHP

- 28.9%

Python

- 23.4%

C++

- 21.1%

C

- 17.9%

Node.js

- 9.8%

AngularJS

- N/A

Ruby

- 9.9%

Objective-C

- 11.9%

6,537 responses
JavaScript

- 56.6%

SQL (or SQL Server)

- 59.6%

Java

- 42.5%

C#

- 44.7%

PHP

- 34.8%

Python

- 21.9%

C++

- 27.6%

C

- 26.9%

Node.js

- 7.5%

AngularJS

- N/A

Ruby

- 10.4%

Objective-C

- 11.0%

8,042 responses

More people use JavaScript than use any other programming language. PHP appears to be falling out of favor as Node and Angular emerge.

Most Popular Technologies - Other

- Used
- Wanted

Delphi

- 0.78%

TypeScript

- 0.47%

Bash

- 0.45%

Groovy

- 0.34%

Lua

- 0.32%

PowerShell

- 0.29%

Drupal

- 0.18%

Elixir

- 0.14%

Fortran

- 0.14%

Erlang

- 0.13%

PL/SQL

- 0.13%

Elasticsearch

- 0.13%

HTML, CSS

- 0.12%

ColdFusion

- 0.12%

Kotlin

- 0.12%

Smalltalk

- 0.12%

ABAP

- 0.11%

HTML

- 0.11%

PostgreSQL

- 0.09%

Django

- 0.09%

6,474 respondents told us they use an "other" language or technology
TypeScript

- 0.66%

Elixir

- 0.51%

Delphi

- 0.48%

Kotlin

- 0.36%

Erlang

- 0.26%

Lua

- 0.21%

D

- 0.17%

Groovy

- 0.16%

Elm

- 0.15%

Julia

- 0.13%

Smalltalk

- 0.11%

Lisp

- 0.11%

PowerShell

- 0.10%

OCaml

- 0.10%

Bash

- 0.08%

Xamarin

- 0.08%

Unity

- 0.07%

Meteor

- 0.07%

aurelia

- 0.06%

Drupal

- 0.06%

4,532 respondents told us they want to use an "other" language or technology

Delphi was the most commonly used write-in language or technology, and Typescript is the write-in that more developers want to use. (Hey, we see you OCaml.)

II. Most Loved, Dreaded, and Wanted

- Loved
- Dreaded
- Wanted

Rust

- 79.1%

Swift

- 72.1%

F#

- 70.7%

Scala

- 69.4%

Go

- 68.7%

Clojure

- 66.7%

React

- 66.0%

Haskell

- 64.7%

Python

- 62.5%

C#

- 62.0%

Node.js

- 59.6%

% of developers who are developing with the language or tech and have expressed interest in continuing to develop with it
Visual Basic

- 79.5%

WordPress

- 74.3%

Matlab

- 72.8%

Sharepoint

- 72.1%

CoffeeScript

- 71.0%

LAMP

- 68.7%

Cordova

- 66.9%

Salesforce

- 65.4%

Other

- 61.5%

Perl

- 61.3%

SQL Server & SQL

- 60.3%

Objective-C

- 60.2%

% of developers who are developing with the language or tech but have not expressed interest in continuing to do so
Android

- 15.8%

Node.js

- 14.8%

AngularJS

- 13.4%

Python

- 13.3%

JavaScript

- 11.9%

React

- 9.2%

Swift

- 8.7%

MongoDB

- 8.1%

Arduino / Raspberry Pi

- 8.0%

C++

- 8.0%

iOS

- 8.0%

% of developers who are not developing with the language or tech but have expressed interest in developing with it

For the second year in a row Rust, Swift and Go make the top 5 most loved programming languages. VB tops the list of the most dreaded technologies – developers wouldn't miss it if it went extinct. Developers who don't currently develop with Android, Node and Angular want to do so.

III. Top Tech on Stack Overflow

JavaScript

- 62,588

Java

- 55,134

Android

- 43,251

Python

- 42,918

C#

- 41,624

PHP

- 32,247

JQuery

- 25,241

C++

- 24,959

HTML

- 24,656

iOS

- 23,599

CSS

- 19,912

C

- 14,022

Git

- 13,981

MySQL

- 13,822

AngularJS

- 13,230

SQL

- 11,988

.NET

- 11,594

Arrays

- 11,313

Swift

- 10,745

Objective-C

- 10,395

Node.js

- 10,189

Ruby on Rails

- 9,388

R

- 9,128

String

- 9,049

Ruby

- 8,309

JSON

- 8,039

SQL Server

- 7,745

Linux

- 7,712

ASP.NET

- 6,989

Regex

- 6,791

Feedback counts include real votes plus vote attempts by anonymous users and users with low rep. Feedback counts for January 2016 shown above.

50,000 survey respondents is big. 40 million respondents is bigger. Every month, 40 million people visit Stack Overflow. In January, those visitors submitted 2.2 million feedback events (1.7 million votes plus 540 thousand anonymous votes). In June 2015, JavaScript overtook Java as most popular tag on Stack Overflow. In December, Swift overtook Objective-C. You can do your own analysis on feedback events at our public data explorer.

IV. Trending Tech on Stack Overflow

- Winners
- Losers

React

- 311.3%

Spark

- 163.5%

Swift

- 74.6%

Cassandra

- 40.6%

Raspberry Pi

- 36.8%

Node.js

- 26.8%

Cloud

- 26.0%

Python

- 19.9%

Wordpress

- 18.5%

AngularJS

- 14.9%

Javascript

- 13.0%

MongoDB

- 10.6%

R

- 8.8%

Redis

- 5.8%

Hadoop

- 5.2%

iOS

- 3.1%

VBA

- 2.5%

Android

- 2.0%

Clojure

- 2.0%

Go

- 1.9%

Percents shown are change in share of Stack Overflow votes between January 2015 and January 2016.
Java

- -1.1%

C#

- -1.7%

F#

- -2.8%

SQL Server

- -2.8%

Sharepoint

- -3.6%

PHP

- -3.8%

C

- -3.9%

Rust

- -5.9%

Ruby

- -6.6%

Scala

- -6.8%

Count

- -7.0%

Cordova

- -7.7%

Sql

- -8.2%

C++

- -8.9%

Perl

- -9.2%

Salesforce

- -12.9%

Objective C

- -18.5%

MATLAB

- -19.9%

Dart

- -27.4%

CoffeeScript

- -37.4%

Haskell

- -39.6%

Windows Phone

- -65.2%

Percents shown are change in share of Stack Overflow votes between January 2015 and January 2016.

Newer web-development technologies like React, Node.js, and AngularJS are growing in use. So is Swift, which is stealing market share from Objective C. Developers appear to be dropping CoffeeScript, Haskell, and Windows Phone. And though the survey showed many developers want out of Visual Basic and Wordpress, those technologies don't seem to be shrinking quite yet.

V. Top Paying Tech

- Top Paying Tech in US
- Top Paying Tech Worldwide

Spark

- $125,000

Scala

- $125,000

Cassandra

- $115,000

F#

- $115,000

Hadoop

- $115,000

Cloud (AWS, GAE, Azure, etc.)

- $105,000

Redis

- $105,000

Go

- $105,000

Clojure

- $105,000

React

- $105,000

Perl

- $105,000

Minimum 100 responses, among all US developers
F#

- 131.7%

Dart

- 131.1%

Cassandra

- 130.9%

Spark

- 130.5%

Hadoop

- 128.5%

Clojure

- 123.9%

Scala

- 122.3%

Salesforce

- 119.5%

Redis

- 115.7%

Go

- 115.7%

Cloud (AWS, GAE, Azure, etc.)

- 115.0%

Among 41,117 developers in top 30 countries by respondent count. Percents shown are developer salaries as a percent of the average developer salary in a respondent's country.

Make it rain! Cloud technology pays big bucks. So does tech frequently used in finance. Spark, Scala,

Cassandra, and F# top the list of the top paying technologies. (This year's list looks a lot like last year's list.)

Have you considered looking for a Spark job?

Top Paying Tech per Occupation

- Full-Stack
- Front-End
- Mathematics
- Mobile

Cloud

- $105,000

React

- $105,000

Redis

- $105,000

C#

- $95,000

JavaScript

- $95,000

Ruby

- $95,000

SQL

- $85,000

SQL Server

- $85,000

Node.js

- $85,000

Python

- $85,000

MongoDB

- $85,000

Other

- $85,000

PHP

- $75,000

LAMP

- $75,000

WordPress

- $75,000

Among 3,095 Full-Stack developers in the US who use JavaScript
React

- $105,000

Node.js

- $95,000

Angular

- $85,000

LAMP

- $85,000

MongoDB

- $85,000

PHP

- $75,000

SQL

- $75,000

Java

- $75,000

C#

- $75,000

Other

- $75,000

Python

- $75,000

Ruby

- $75,000

SQL Server

- $75,000

WordPress

- $65,000

Among 604 Front-End Developers in the US who use JavaScript
Scala

- $140,000

Spark

- $130,000

Hadoop

- $125,000

C++

- $115,000

Cloud

- $115,000

Java

- $105,000

R

- $105,000

Matlab

- $105,000

Perl

- $105,000

Python

- $100,000

C

- $100,000

SQL

- $95,000

Other

- $95,000

Node.js

- $95,000

C#

- $85,000

SQL Server

- $80,000

PHP

- $65,000

Among 578 Math developers in the US (Data scientists, Machine learning developers, Devs with stats and math background)
Objective-C

- $100,000

iOS

- $95,000

Android

- $95,000

Swift

- $95,000

SQL

- $95,000

C++

- $95,000

C

- $95,000

Java

- $85,000

JavaScript

- $85,000

C#

- $85,000

Python

- $85,000

Among 715 mobile developers in the US

Full-Stack Developers who know JavaScript and develop for the Cloud, or work with React or Redis are paid better than their peers.

Front-End Developers who know JavaScript and React, Node, or Angular get paid more than other Front-End Developers.

Developers with mathematics backgrounds (including Data Scientists and Machine Learning Developers) who know Scala, Spark or Hadoop get paid more than their peers. Python and R pay about the same, though there are twice as many Math Developers who know Python.

Mobile Developers who know the iOS ecosystem seem to earn about $10,000 more on average than Android Developers.

VI. Correlated Technologies

- 2 Tech
- 3 Tech
- 4 Tech

JavaScript, SQL

- 30.7%

JavaScript, PHP

- 20.1%

Java, JavaScript

- 19.7%

C#, JavaScript

- 19.1%

Java, SQL

- 18.2%

PHP, SQL

- 17.1%

C#, SQL

- 17.0%

AngularJS, JavaScript

- 16.1%

JavaScript, Node.js

- 15.8%

C#, SQL Server

- 14.4%

49,396 respondents who told us they use at least 1 programming language or technology
JavaScript, PHP, SQL

- 14.0%

Java, JavaScript, SQL

- 12.2%

C#, JavaScript, SQL

- 12.2%

C#, SQL, SQL Server

- 10.6%

C#, JavaScript, SQL Server

- 10.6%

JavaScript, SQL, SQL Server

- 10.4%

AngularJS, JavaScript, SQL

- 8.9%

JavaScript, Node.js, SQL

- 8.3%

AngularJS, JavaScript, Node.js

- 7.6%

JavaScript, Python, SQL

- 7.2%

49,396 respondents who told us they use at least 1 programming language or technology
C#, JavaScript, SQL, SQL Server

- 8.0%

JavaScript, LAMP, PHP, SQL

- 5.5%

Java, JavaScript, PHP, SQL

- 5.1%

Android, Java, JavaScript, SQL

- 4.4%

AngularJS, JavaScript,
Node.js, SQL

- 4.3%

JavaScript, Node.js, PHP, SQL

- 4.3%

JavaScript, PHP, SQL, WordPress

- 4.2%

C#, Java, JavaScript, SQL

- 4.1%

AngularJS, C#, JavaScript, SQL

- 3.8%

AngularJS, Java, JavaScript, SQL

- 3.8%

49,396 respondents who told us they use at least 1 programming language or technology

The average developer regularly uses between 4 and 5 major programming languages, frameworks and technologies. The most common 2-technology combination is JavaScript & SQL. The most common 3-tech combination is JavaScript, PHP, and SQL.

Top Tech Stacks per Occupation

- Full-Stack
- Front-End
- Back-End
- Data Scientists

JavaScript, PHP, SQL

- 23.0%

C#, JavaScript, SQL

- 21.7%

C#, JavaScript, SQL Server

- 20.6%

JavaScript, SQL, SQL Server

- 19.2%

AngularJS, JavaScript, SQL

- 18.1%

Java, JavaScript, SQL

- 17.2%

C#, SQL, SQL Server

- 17.2%

JavaScript, Node.js, SQL

- 15.1%

AngularJS, JavaScript, Node.js

- 14.4%

JavaScript, LAMP, PHP

- 13.2%

Among 13,841 Full-Stack Developers;
AngularJS, JavaScript, Node.js

- 16.6%

JavaScript, PHP, WordPress

- 16.5%

JavaScript, PHP, SQL

- 14.3%

AngularJS, JavaScript, PHP

- 11.4%

JavaScript, Node.js, PHP

- 10.2%

JavaScript, Node.js, React

- 9.7%

AngularJS, JavaScript, SQL

- 9.0%

JavaScript, mongodb, Node.js

- 8.0%

JavaScript, SQL, WordPress

- 7.9%

JavaScript, Node.js, SQL

- 7.8%

Among 2,849 Front-End Developers
JavaScript, PHP, SQL

- 15.8%

Java, JavaScript, SQL

- 13.5%

C#, JavaScript, SQL

- 11.0%

C#, JavaScript, SQL Server

- 9.9%

C#, SQL, SQL Server

- 9.7%

JavaScript, SQL, SQL Server

- 9.6%

AngularJS, JavaScript, SQL

- 8.2%

LAMP, PHP, SQL

- 7.2%

JavaScript, LAMP, PHP

- 7.2%

JavaScript, Python, SQL

- 6.9%

Among 6,040 Back-End Developers
Python, R, SQL

- 14.2%

Java, Python, SQL

- 11.4%

JavaScript, Python, SQL

- 11.0%

Java, R, SQL

- 8.8%

Java, Python, R

- 8.4%

Java, JavaScript, SQL

- 8.1%

JavaScript, Python, R

- 7.9%

JavaScript, R, SQL

- 7.8%

Hadoop, Python, SQL

- 7.5%

Java, JavaScript, Python

- 7.5%

Among 798 Data Scientists

See the stacks? More Full-Stack Developers work with PHP than with any other Back-End language (closely followed by C# and Java).

JavaScript is so pervasive that it's in all top 3-tech combinations used by Back-End Developers. This suggests a lot of these Back-End Developers are probably Full-Stack Developers in disguise. Our internal stats suggest about 60% of professional developers actually work with a Full-Stack.

63% of Data Scientists use Python, 44% use R, and 27% use both (14% use Python, R, and SQL).

VII. Development Environments

Notepad++

- 35.6%

Visual Studio

- 35.6%

Sublime Text

- 31.0%

Vim

- 26.1%

Eclipse

- 22.7%

IntelliJ

- 17.0%

Android Studio

- 13.0%

Other

- 12.9%

Atom

- 12.5%

Xcode

- 10.3%

NetBeans

- 8.1%

PhpStorm

- 7.4%

Visual Studio Code

- 7.2%

PyCharm

- 6.8%

Emacs

- 5.2%

IPython / Jupyter

- 3.5%

RStudio

- 2.0%

Xamarin

- 2.0%

RubyMine

- 1.7%

TextMate

- 1.6%

Coda

- 0.9%

Komodo

- 0.8%

Zend

- 0.5%

Lighttable

- 0.3%

46,613 responses

Last year we asked you about text editors. This year we expanded the question to include IDEs, text editors, and other coding tools. The average developer uses between 2 and 3 of these development environments. The top write-ins were WebStorm (1.6%), brackets (.8%), QT Creator (.7%) and Delphi (.4%).

Development Environments per Occupation

- Full-Stack
- Data Scientist
- Student

Visual Studio

- 38.6%

Sublime Text

- 37.1%

Notepad++

- 35.8%

Vim

- 25.0%

Eclipse

- 19.0%

Vim

- 35.2%

Notepad++

- 30.8%

RStudio

- 30.1%

IPython / Jupyter

- 29.7%

Sublime Text

- 27.6%

Notepad++

- 35.2%

Visual Studio

- 33.9%

Sublime Text

- 30.2%

Eclipse

- 29.4%

Vim

- 25.9%

Data Scientists use Vim & Notepad++. Full-Stack Developers use Visual Studio and Sublime. Students

use Notepad++ and Visual Studio.

VIII. Desktop Operating System

- [2016](#)
- [2015](#)
- [2014](#)
- [2013](#)

Mac OS X

- 26.2%

Windows 7

- 22.5%

Linux

- 21.7%

Windows 10

- 20.8%

Windows 8

- 8.4%

Windows XP

- 0.4%

Windows Vista

- 0.1%

Mac OS X

- 21.5%

Windows 7

- 33.8%

Linux

- 20.5%

Other

- 3.5%

Windows 8

- 19.5%

Windows XP

- 1.0%

Windows Vista

- 0.2%

Mac OS X

- 20.3%

Windows 7

- 45.6%

Linux

- 20.9%

Other

- 0.5%

Windows 8

- 6.4%

Windows XP

- 5.9%

Windows Vista

- N/A

Mac OS X

- 18.7%

Windows 7

- 48.0%

Linux

- 19.9%

Other

- 1.0%

Windows 8

- N/A

Windows XP

- 10.8%

Windows Vista

- 1.6%

Last year, Mac edged ahead of the Linuxes as the number 2 operating system among developers. This year it became clear that trend is real. If OS adoption rates hold steady, by next year's survey fewer than 50% of developers may be using Windows.

Speaking of the Linuxes, Ubuntu is tops among them with 12.3% of the entire OS market for developers. Fedora, Mint, and Debian accounted for 1.4%, 1.7%, and 1.9% of all responses, respectively.

Work

Developers want to learn on the job, work-life balance, and money. But mostly developers just want to code.

I. Employment Status

Employed Full-Time

- 67.8%

I'm a Student

- 12.6%

Freelance / Contractor

- 7.1%

Self-Employed

- 4.3%

Employed Part-Time

- 3.5%

Other (Please Specify)

- 1.8%

Unemployed

- 1.8%

Prefer not to Disclose

- 0.8%

Retired

- 0.2%

49,577 total respondents

The vast majority of developers have jobs. 91% of developers in the workforce are "gainfully employed" (employed full-time, self-employed, or freelance).

II. Looking for a Job

- Global
- United Kingdom
- United States
- India

I am actively looking for a new job

- 14.8%

I am not interested in new job opportunities

- 22.1%

I'm not actively looking, but I am open to new opportunities

- 63.1%

Among 39,434 non-student developers worldwide
I am actively looking for a new job

- 12.9%

I am not interested in new job opportunities

- 26.9%

I'm not actively looking, but I am open to new opportunities

- 60.2%

Among 3,834 non-student developers in the UK
I am actively looking for a new job

- 14.4%

I am not interested in new job opportunities

- 25.3%

I'm not actively looking, but I am open to new opportunities

- 60.4%

Among 11,495 non-student developers in the US
I am actively looking for a new job

- 29.2%

I am not interested in new job opportunities

- 10.1%

I'm not actively looking, but I am open to new opportunities

- 60.7%

Among 2,661 non-student developers in India

Only 15% of developers are actively looking for a job. But 78% of developers are interested in hearing about new job opportunities.

If you're an employer, we want to know what you're doing to make sure you [reach the devs who aren't actively job searching](#).

Who's Looking for a New Job?

- [Looking](#)
- [Not Looking](#)

Student

- 25.9%

Analyst

- 20.1%

Quality Assurance

- 17.8%

Developer with a Statistics or Mathematics Background

- 16.3%

Mobile Developer - Android

- 16.3%

Front-End Web Developer

- 14.3%

Designer

- 14.1%

Embedded Application Developer

- 13.0%

Among 12,380 respondents in the US
Designer

- 49.4%

Executive (VP of Eng., CTO, CIO, etc.)

- 45.5%

Machine Learning Developer

- 35.2%

Other

- 35.2%

Graphics Programmer

- 34.7%

Mobile Developer - Android

- 34.5%

Back-End Web Developer

- 33.5%

Mobile Developer

- 33.1%

Among 12,380 respondents in the US

In the United States, Students, Analysts and Quality Assurance Developers are most likely to be actively looking for a new job. Designers, Execs and Machine Learning Developers are least likely to want to

hear from employers.

III. Job Discovery

- United States
- Germany
- India

A Friend Referred Me

- 28.3%

Other Website

- 17.2%

External Recruiter

- 13.8%

I Knew I Wanted to Work Here. I Sought Out the Opportunity Directly.

- 9.8%

In-House Recruiter

- 9.5%

Career Fair

- 6.3%

Self-Employed (I Created my Own Job)

- 6.0%

Other

- 5.6%

Stack Overflow

- 2.8%

Twitter

- 0.4%

Facebook

- 0.3%

Among 9,878 gainfully employed (employed full-time, self-employed, or freelance) developers in the US
A Friend Referred Me

- 24.7%

Other Website

- 16.5%

External Recruiter

- 10.0%

I Knew I Wanted to Work Here. I Sought Out the Opportunity Directly.

- 13.1%

In-House Recruiter

- 8.1%

Career Fair

- 3.6%

Self-Employed (I Created my Own Job)

- 10.0%

Other

- 10.8%

Stack Overflow

- 2.3%

Twitter

- 0.4%

Facebook

- 0.4%

Among 2,216 gainfully employed developers in Germany
A Friend Referred Me

- 23.6%

Other Website

- 16.1%

External Recruiter

- 11.3%

I Knew I Wanted to Work Here. I Sought Out the Opportunity Directly.

- 5.7%

In-House Recruiter

- 24.5%

Career Fair

- 7.2%

Self-Employed (I Created my Own Job)

- 5.2%

Other

- 3.4%

Stack Overflow

- 1.5%

Twitter

- 0.1%

Facebook

- 1.0%

Among 2,686 gainfully employed developers in India

In most countries, referrals from friends are the most common way developers find new jobs. Not in India though.

IV. Job Priorities

- Global
- United States
- Germany
- India

Salary

- 62.7%

Work-Life Balance

- 50.4%

Company Culture

- 41.8%

Quality Colleagues

- 39.9%

Flexible Work Hours

- 37.1%

Building Something that's Significant

- 35.9%

Building Something that's Innovative

- 31.2%

Office Location

- 30.3%

Tech Stack

- 29.1%

Opportunity for Advancement

- 28.7%

Remote Working Options

- 24.5%

Ability to Make or Influence Important Decisions

- 20.1%

Company Reputation

- 17.1%

Health Insurance

- 10.4%

Industry

- 9.1%

Company Size

- 7.8%

Job Title

- 7.3%

Company Financials & Market Position

- 6.4%

Equity

- 6.2%

Company Stage

- 4.2%

Other

- 3.0%

43,878 respondents worldwide
Salary

- 60.6%

Work-Life Balance

- 52.2%

Company Culture

- 43.4%

Quality Colleagues

- 39.5%

Flexible Work Hours

- 30.4%

Building Something that's Significant

- 36.0%

Building Something that's Innovative

- 26.5%

Office Location

- 28.0%

Tech Stack

- 27.5%

Opportunity for Advancement

- 23.7%

Remote Working Options

- 24.8%

Ability to Make or Influence Important Decisions

- 20.1%

Company Reputation

- 14.2%

Health Insurance

- 17.0%

Industry

- 8.8%

Company Size

- 7.0%

Job Title

- 5.1%

Company Financials & Market Position

- 6.1%

Equity

- 6.4%

Company Stage

- 3.9%

Other

- 3.9%

11,363 respondents in the US
Salary

- 53.7%

Work-Life Balance

- 54.9%

Company Culture

- 45.7%

Quality Colleagues

- 44.6%

Flexible Work Hours

- 44.5%

Building Something that's Significant

- 33.8%

Building Something that's Innovative

- 30.4%

Office Location

- 33.2%

Tech Stack

- 27.9%

Opportunity for Advancement

- 25.0%

Remote Working Options

- 22.2%

Ability to Make or Influence Important Decisions

- 20.8%

Company Reputation

- 13.5%

Health Insurance

- 7.5%

Industry

- 7.7%

Company Size

- 7.9%

Job Title

- 3.6%

Company Financials & Market Position

- 5.3%

Equity

- 4.4%

Company Stage

- 2.6%

Other

- 3.1%

3,066 respondents in Germany
Salary

- 71.6%

Work-Life Balance

- 51.8%

Company Culture

- 45.0%

Quality Colleagues

- 32.8%

Flexible Work Hours

- 43.4%

Building Something that's Significant

- 32.5%

Building Something that's Innovative

- 43.2%

Office Location

- 29.4%

Tech Stack

- 28.7%

Opportunity for Advancement

- 40.5%

Remote Working Options

- 24.2%

Ability to Make or Influence Important Decisions

- 20.4%

Company Reputation

- 27.2%

Health Insurance

- 8.7%

Industry

- 11.4%

Company Size

- 12.4%

Job Title

- 25.1%

Company Financials & Market Position

- 13.1%

Equity

- 7.9%

Company Stage

- 8.8%

Other

- 1.4%

2,927 respondents in India

Salary is the one thing most developers say they care about when evaluating a new job opportunity. But it isn't necessarily the thing they care about most. 37% of developers didn't even include salary on their list of priorities.

Interestingly, German developers seem to be less concerned with salary than developers from other countries. US and French developers are less likely to prioritize opportunity for advancement, British developers are more concerned with location, and Indian developers are more likely to prioritize flexible work hours, building something innovative, working remote, and job title.

Job Priorities per Occupation

- [Full-Stack](#)
- [Executive](#)
- [Machine Learning](#)
- [Quality Assurance](#)
- [Student](#)

Salary

- 65.6%

Work-Life Balance

- 52.8%

Company Culture

- 44.2%

Quality of Colleagues

- 41.3%

Flexible Work Hours

- 39.2%

Building Something that's Significant

- 35.8%

Building Something that's Innovative

- 31.0%

Office Location

- 30.5%

Tech Stack

- 39.3%

Opportunity for Advancement

- 29.5%

Remote Working Options

- 29.7%

Ability to Make or Influence Important Decisions

- 21.2%

Company Reputation

- 16.7%

Health Insurance

- 11.1%

Industry

- 8.1%

Company Size

- 8.5%

Job Title

- 6.6%

Company Financials & Market Position

- 6.5%

Equity

- 6.2%

Company Stage

- 4.5%

Other

- 2.2%

Salary

- 56.4%

Work-Life Balance

- 37.8%

Company Culture

- 47.5%

Quality of Colleagues

- 39.6%

Flexible Work Hours

- 29.1%

Building Something that's Significant

- 44.5%

Building Something that's Innovative

- 39.8%

Office Location

- 25.5%

Tech Stack

- 29.0%

Opportunity for Advancement

- 21.7%

Remote Working Options

- 26.0%

Ability to Make or Influence Important Decisions

- 43.6%

Company Reputation

- 15.4%

Health Insurance

- 8.2%

Industry

- 10.7%

Company Size

- 7.8%

Job Title

- 8.7%

Company Financials & Market Position

- 11.3%

Equity

- 19.3%

Company Stage

- 7.7%

Other

- 3.5%

Salary

- 54.3%

Work-Life Balance

- 44.5%

Company Culture

- 36.2%

Quality of Colleagues

- 40.1%

Flexible Work Hours

- 36.5%

Building Something that's Significant

- 44.5%

Building Something that's Innovative

- 46.9%

Office Location

- 28.5%

Tech Stack

- 21.1%

Opportunity for Advancement

- 30.9%

Remote Working Options

- 22.6%

Ability to Make or Influence Important Decisions

- 23.4%

Company Reputation

- 18.1%

Health Insurance

- 8.6%

Industry

- 10.4%

Company Size

- 6.8%

Job Title

- 9.5%

Company Financials & Market Position

- 5.9%

Equity

- 8.9%

Company Stage

- 3.6%

Other

- 4.2%

Salary

- 68.4%

Work-Life Balance

- 55.9%

Company Culture

- 48.3%

Quality of Colleagues

- 44.1%

Flexible Work Hours

- 37.4%

Building Something that's Significant

- 32.5%

Building Something that's Innovative

- 21.3%

Office Location

- 35.0%

Tech Stack

- 19.1%

Opportunity for Advancement

- 33.7%

Remote Working Options

- 18.8%

Ability to Make or Influence Important Decisions

- 14.6%

Company Reputation

- 21.0%

Health Insurance

- 10.9%

Industry

- 11.2%

Company Size

- 8.2%

Job Title

- 9.1%

Company Financials & Market Position

- 6.7%

Equity

- 4.0%

Company Stage

- 4.9%

Other

- 2.1%

Salary

- 50.3%

Work-Life Balance

- 44.6%

Company Culture

- 36.1%

Quality of Colleagues

- 35.1%

Flexible Work Hours

- 35.8%

Building Something that's Significant

- 36.6%

Building Something that's Innovative

- 34.2%

Office Location

- 26.6%

Tech Stack

- 17.2%

Opportunity for Advancement

- 30.8%

Remote Working Options

- 15.6%

Ability to Make or Influence Important Decisions

- 14.5%

Company Reputation

- 18.1%

Health Insurance

- 8.5%

Industry

- 9.0%

Company Size

- 7.4%

Job Title

- 7.8%

Company Financials & Market Position

- 4.0%

Equity

- 5.5%

Company Stage

- 3.1%

Other

- 4.9%

Different developer types prioritize different things. Full-Stack developers are more likely than anyone else to prioritize the tech that's in the stack. Machine learning developers want to build something innovative. Quality assurance developers are more concerned with quality of colleagues and company culture than any other developer type.

Executives care less about work-life balance. They care more about building something that's important, the ability to influence decisions, and more than any other developer type: equity.

Machine Learning Developers want to build something innovative.

Quality Assurance Developers are more concerned with quality of colleagues and company culture than any other developer type.

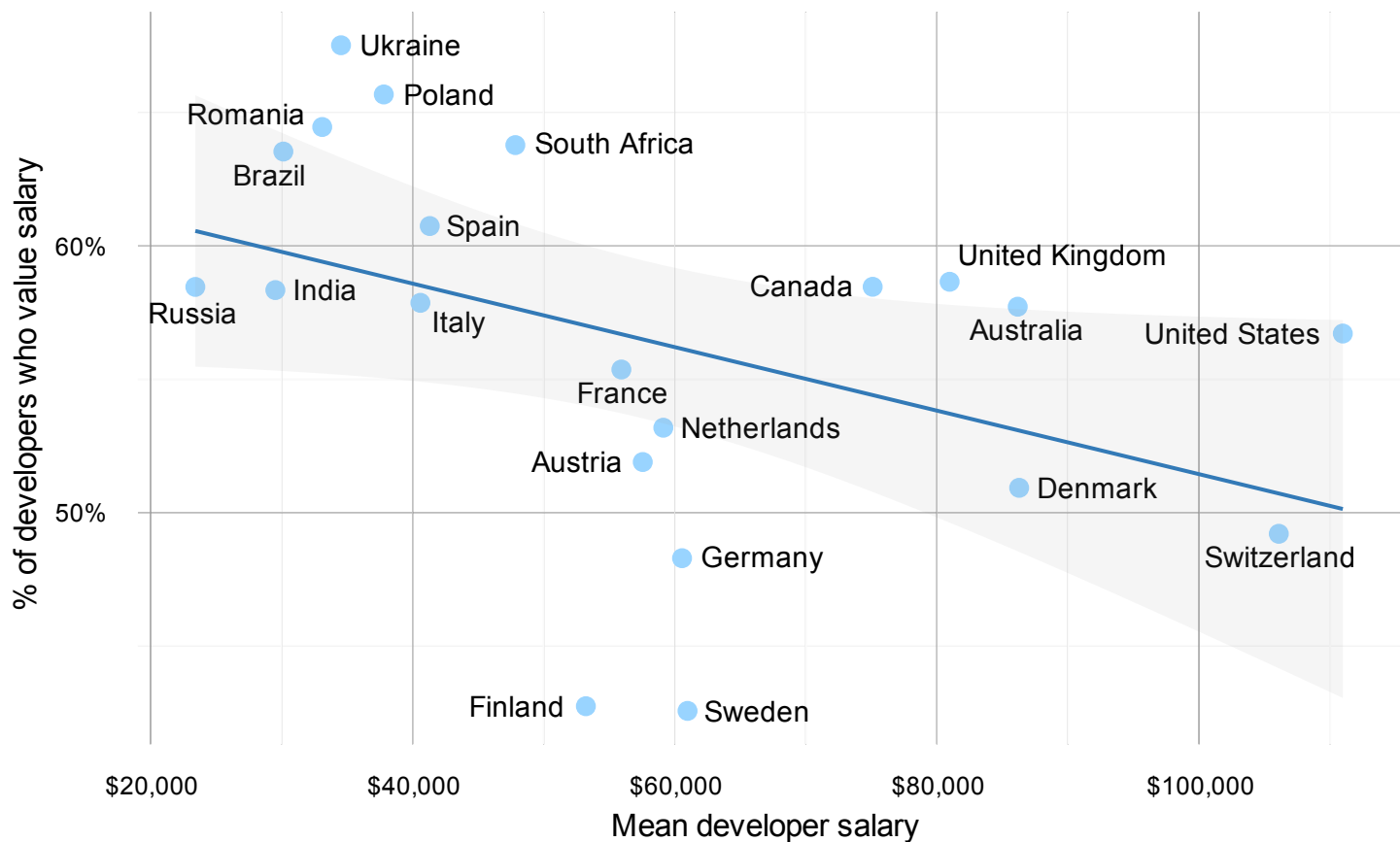**Priorities Change with Experience**
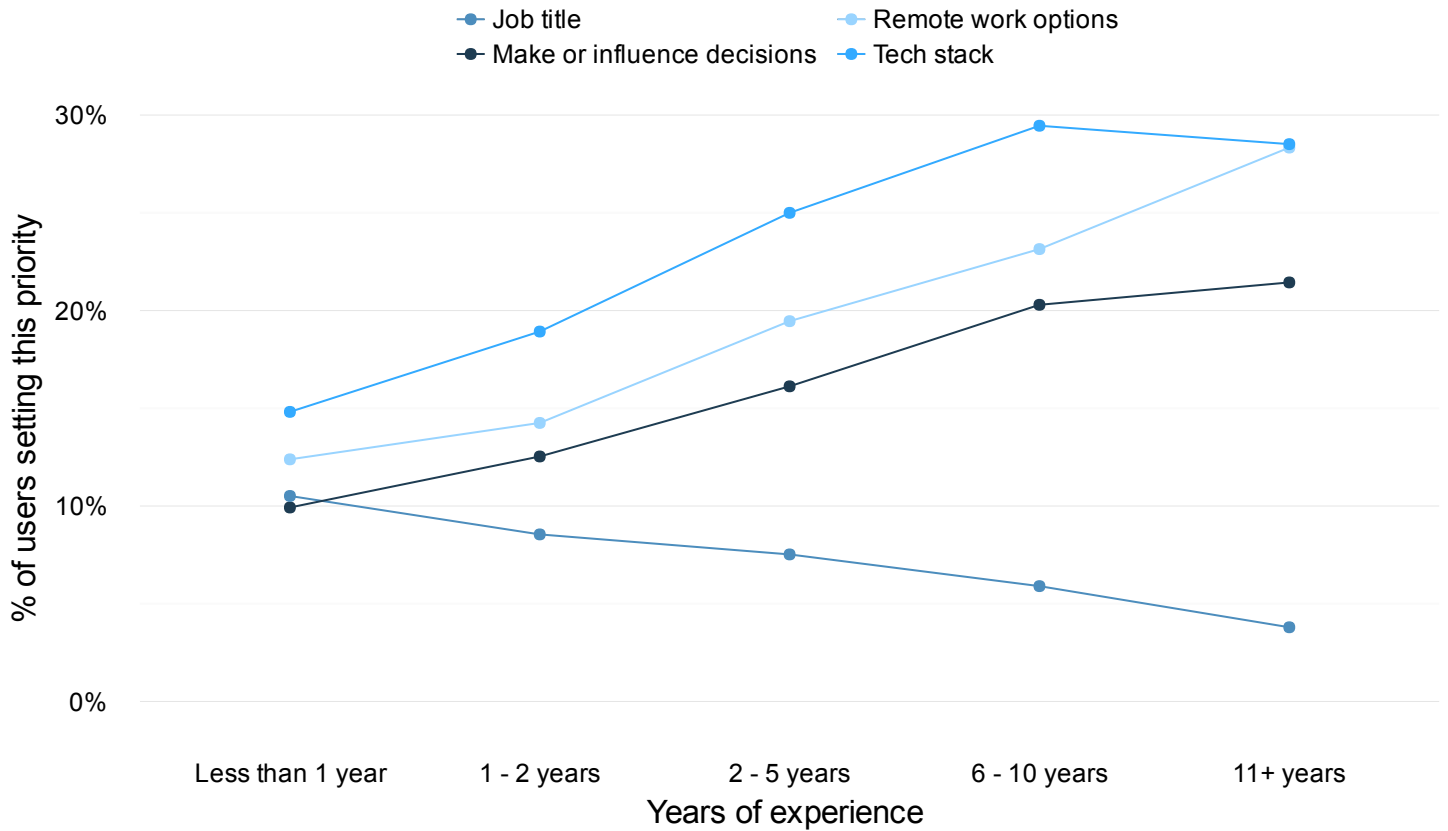
49,521 responders with at least 1 job priority

As developers gain experience, decision-making and technology stack become a bigger priority, as does working remote. (Have we told you lately how much we love remote?) But more experienced developers care less about job title.

Money Matters More in Certain Countries

Among developers with more than 5 years experience, and countries with at least 200 responses.

Developers tend to value salary in countries where the mean developer salary is relatively low. Developers in Nordic countries are less interested in money than this trend implies.

V. Devs Love to Learn

- Global
- United States
- India

Learning New Technologies

- 70.1%

Building Something New

- 64.3%

Having Control Over Product Decisions

- 44.1%

Improving an Existing Application

- 40.2%

Believing in the Company Mission

- 36.8%

Working on a Variety of Projects

- 30.4%

Getting Promoted

- 30.1%

Working From Home

- 24.9%

Having My Own Office

- 17.7%

Ending the Workday at the Same Time Every Day

- 15.3%

Learning New Technologies

- 65.6%

Building Something New

- 58.9%

Having Control Over Product Decisions

- 44.9%

Improving an Existing Application

- 38.3%

Believing in the Company Mission

- 40.2%

Working on a Variety of Projects

- 30.3%

Getting Promoted

- 26.6%

Working From Home

- 27.1%

Having My Own Office

- 19.8%

Ending the Workday at the Same Time Every Day

- 17.1%

Learning New Technologies

- 84.7%

Building Something New

- 83.9%

Having Control Over Product Decisions

- 41.8%

Improving an Existing Application

- 62.5%

Believing in the Company Mission

- 46.4%

Working on a Variety of Projects

- 47.1%

Getting Promoted

- 58.7%

Working From Home

- 29.6%

Having My Own Office

- 27.7%

Ending the Workday at the Same Time Every Day

- 23.3%

Once developers are situated in a job, they want to learn things and build. Getting promoted is a higher priority for developers in India than it is for developers in other countries.

VI. Challenges At Work

Unrealistic Expectations

- 34.9%

Poor Documentation

- 34.7%

Unspecific Requirements

- 33.5%

Inefficient Development Processes

- 30.3%

Fragile Code Base

- 29.6%

Changing Requirements

- 28.1%

Outdated Technologies

- 24.8%

Limited Resources

- 22.9%

Poor Team Dynamics

- 22.3%

Non-Technical Management

- 22.1%

Interacting with Stupid People

- 20.4%

Poor Scheduling

- 18.2%

Corporate Policies

- 17.4%

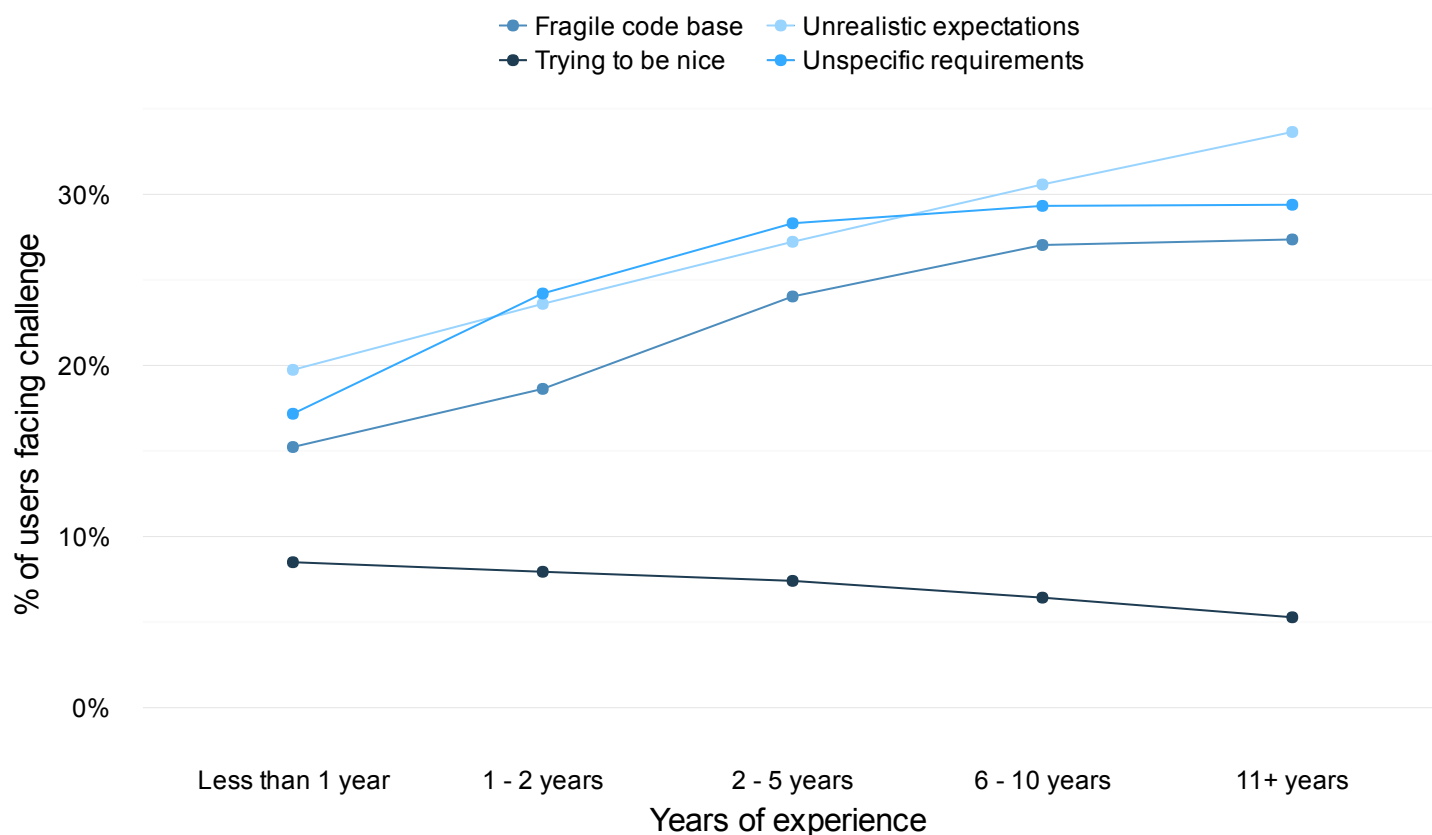Interacting with Non-Technical People

- 14.9%

Poor Infrastructure

- 11.9%

Trying to be Nice

- 8.2%

Unrealistic expectations, poor documentation, and unspecific requirements are the most common workplace gripes for developers. Sound familiar?

Challenges Change with Experience

49,521 responders with at least 1 challenge and an experience range

Experienced developers face different challenges than junior developers. More experienced developers tend to be more bothered by unrealistic expectations, unspecific requirements, and fragile code. Also, experienced developers have less of an issue "trying to be nice".

VII. Salary

Salary per Developer Occupations

- United States
- United Kingdom

Executive (VP of Eng., CTO, CIO, etc.)

- $150,314

Engineering Manager

- $143,122

Enterprise Level Services Developer

- $121,908

Mobile Developer - iOS

- $115,460

Data Scientist

- $115,244

Developer with a Statistics or Mathematics Background

- $111,656

Embedded Application Developer

- $110,899

Other

- $110,442

DevOps

- $109,641

Back-End Web Developer

- $108,580

Mobile Developer

- $104,648

Desktop Developer

- $100,806

Full-Stack Web Developer

- $100,273

Front-End Web Developer

- $97,016

System Administrator

- $79,684

Among developers with 5+ years experience
Executive (VP of Eng., CTO, CIO, etc.)

- £79,059

Engineering Manager

- £79,059

Enterprise Level Services Developer

- £70,100

Mobile Developer - iOS

- £61,895

Data Scientist

- £51,000

Developer with a Statistics or Mathematics Background

- £61,587

Embedded Application Developer

- £45,695

Other

- £55,514

DevOps

- £59,085

Back-End Web Developer

- £52,891

Mobile Developer

- £55,738

Desktop Developer

- £45,560

Full-Stack Web Developer

- £45,560

Front-End Web Developer

- £46,383

System Administrator

- £43,540

Among developers with 5+ years experience

Average salary among developers with 5+ years experience is one way to compare compensation for different developer types. But quarters and pounds stretch further in some countries than others...

Purchasing Power per Country

Country	Salary (mean)	Salary (median)	Local Big Mac Price	Big Macs per Year (mean)
South Africa	$45,383	$35,000	$1.77	25,713
United States	$106,120	$105,000	$4.93	21,530
Ukraine	$33,023	$35,000	$1.54	21,444
Australia	$80,093	$75,000	$3.74	21,426
China	$54,667	$45,000	$2.72	20,072
Denmark	$81,778	$85,000	$4.32	18,930
New Zealand	$70,727	$65,000	$3.91	18,089
Ireland	$76,747	$75,000	$4.25	18,058
United Kingdom	$75,654	$65,000	$4.22	17,925
Israel	$74,400	$75,000	$4.29	17,447

Among developers with 5+ years experience. Based on The Economist's Jan 2016 Big Mac Index.

The Big Mac Index is a good way to compare purchasing power for developers living in different countries. In South Africa beef is cheap (other consumer goods are, too), and the average developer there can afford more than 25,000 Big Macs per year. Developers with 5+ years experience in the US and Ukraine eat pretty well, too.

Salaries and Rent per City

City	Apartment Price	Salary (median)	Pct. of Salary spent on Rent
Montreal, Canada	$712	$65,000	13%
Berlin, Germany	$740	$55,000	16%
Pune, India	$201	$15,000	16%
Bangalore, India	$205	$15,000	16%

Austin, TX, United States	$1,454	$105,000	17%
Seattle, WA, United States	$1,764	$125,000	17%
Portland, OR, United States	$1,401	$95,000	18%
Bucharest, Romania	$372	$25,000	18%
Kiev, Ukraine	$380	$25,000	18%
Los Angeles, CA, United States	$1,780	$115,000	19%

Among developers with 5+ years experience. Apartment Price = price in USD of 1-bedroom apartment in city center. Data from Numbeo.

The rent is too damn high in Moscow (the average developer would have to spend more than 50% of their income on rent if they lived in the city center). Developers are better off living in Montreal, Berlin, Pune, and Bangalore – the last of which delivers more Stack Overflow traffic than any other city. Austin, Texas is the top city in the US for devs who don't want to spend all their money on rent.

But if you don't pay your own rent, then consider moving to California. 7 of the top 10 cities by average developer salary are all in California. Palo Alto is number 1, with average developers earning $153,000 per year. The top paying city outside the United States is Zürich, where median pay for developers with 5+ years experience is $105,000.

Salary per Company Size

1 - 4 Employees

- 93.0%

5 - 9 Employees

- 85.7%

10 - 19 Employees

- 87.7%

20 - 99 Employees

- 92.5%

100 - 499 Employees

- 98.7%

500 - 999 Employees

- 98.1%

1,000 - 4,999 Employees

- 102.7%

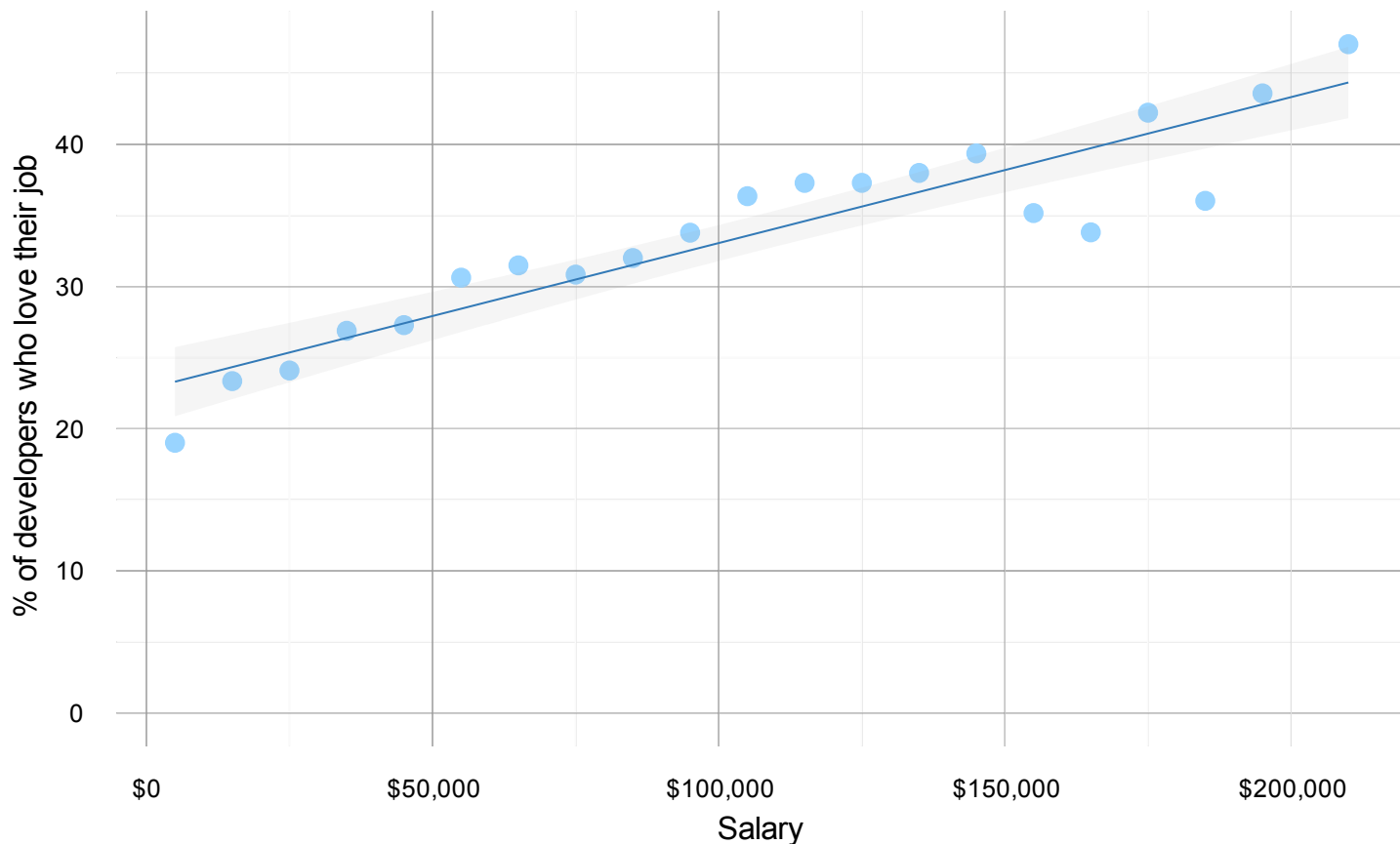5,000 - 9,999 Employees

- 105.6%

10,000+ Employees

- 111.9%

Relative Mean Salary calculated as salary vs. salaries for all other developers within a developer's country

Average salary increases as companies get bigger, though tiny companies seem to pay pretty well, too.

Money Buys Happiness Buys Money

46,122 respondents who provided a salary

Overall, there is a strong correlation between compensation and job satisfaction. Does money buy happiness? Maybe in some places. But it's also likely highly paid developers have more choices and they can work where they know they'll be happy.

Salary per Employment Status

Employed Full-Time

- $98,949

Freelance / Contractor

- $92,311

Self-Employed

- $82,293

Employed Part-Time

- $41,629

Other

- $55,000

Unemployed

- $47,389

Retired

- $45,454

Full-time employees make up the bulk of the developer workforce (about 85%), and they get paid better on average than developers who are freelance or self-employed. But self-employed developers are most likely to love their job. What's the difference between Self-employed and Freelance / Contract? About $10,000.

Salary by Gender

- Age
- Experience
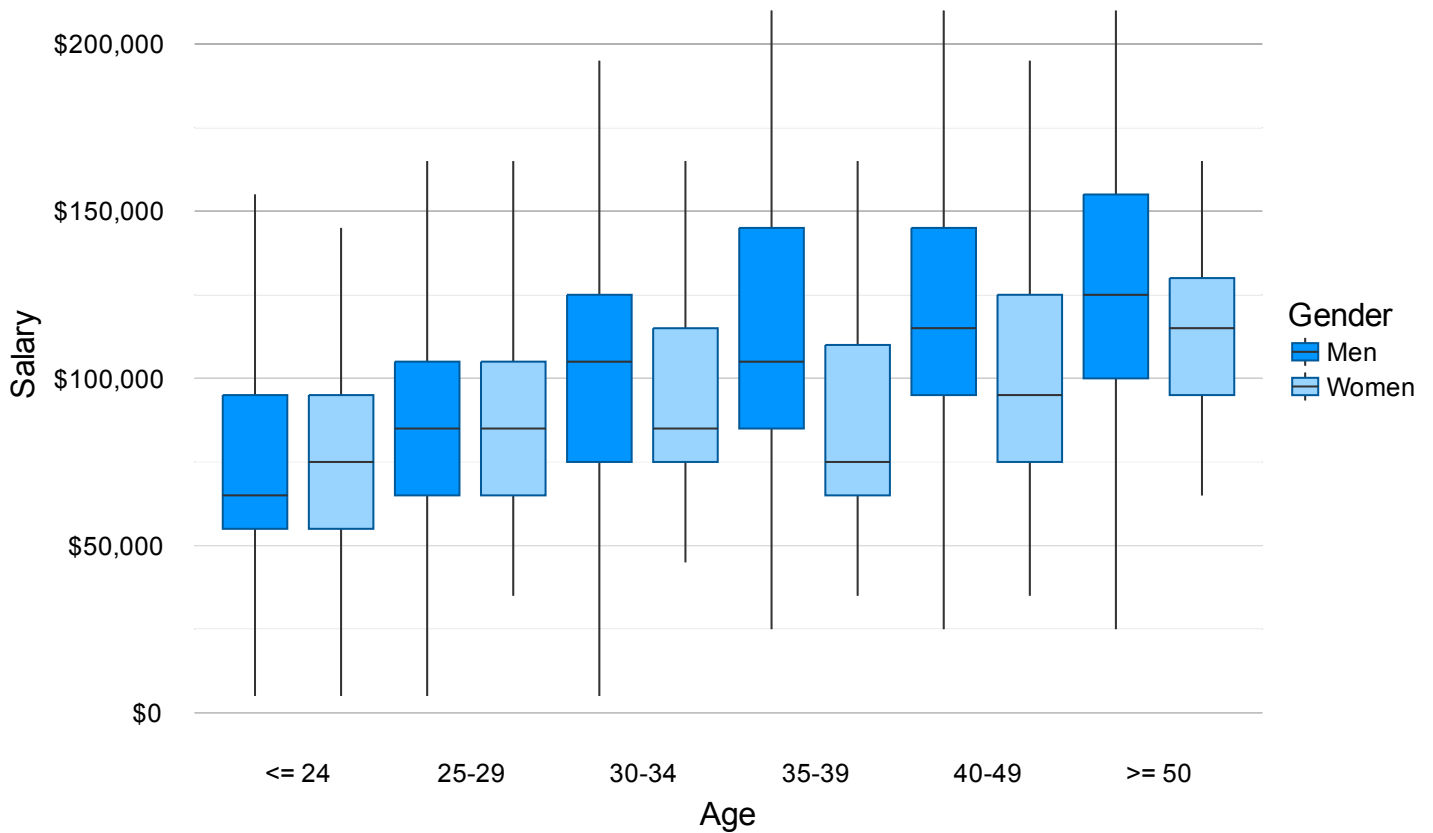
8.764 responses from full-time developers who provided age, salary, and gender in the United States.
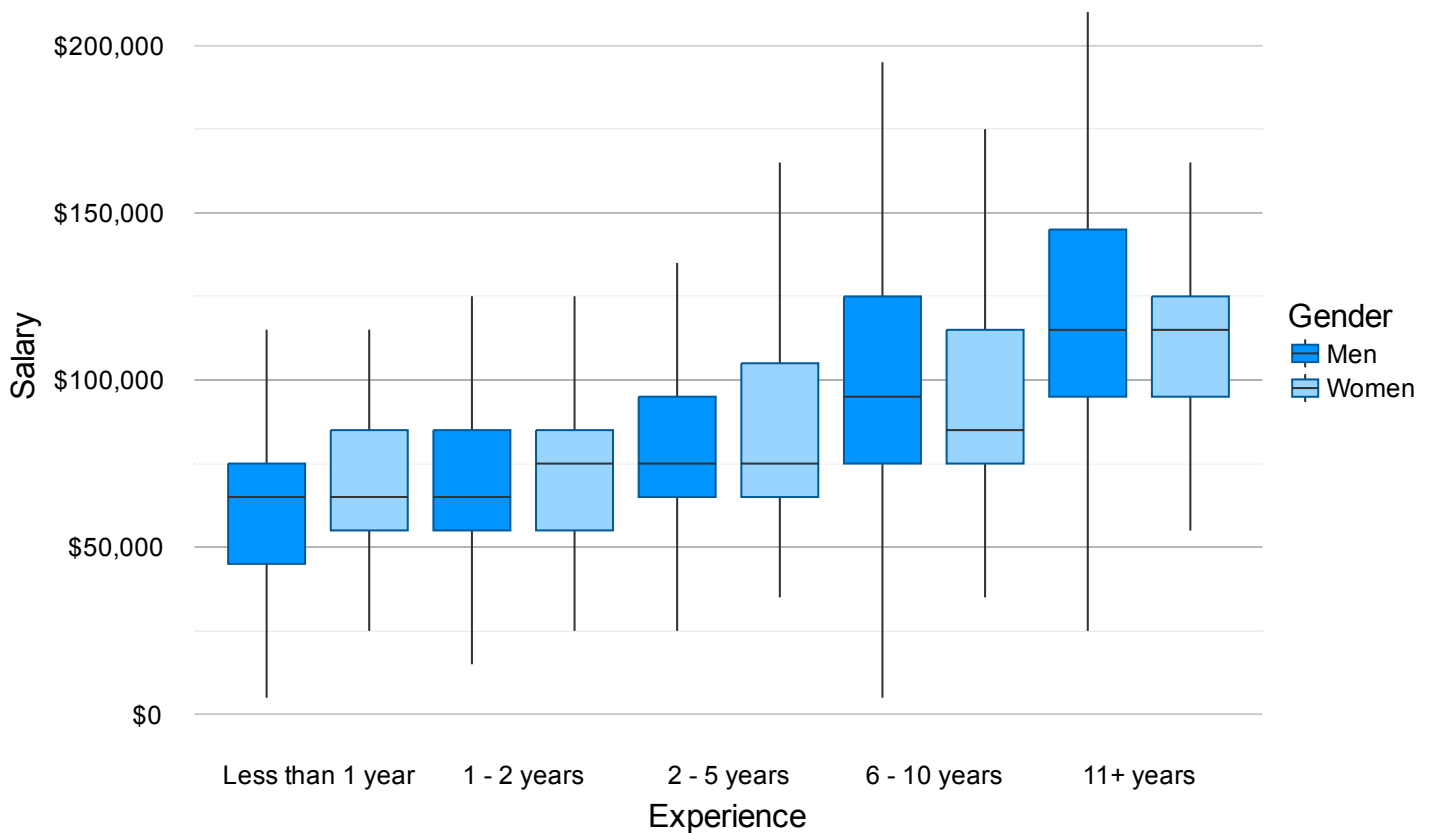
8,765 responses from full-time developers who provided experience, salary, and gender in the United States.

There is no detectable gender pay gap for young developers in the US, but there does appear to be a significant pay gap among developers 30+, suggesting developers who are men of that age make up to

$20,000 more on average. The gap is less apparent when looking across years of experience.

Salary by Education

- Global
- United States

Mentorship Program

- 125.0%

Masters Degree in Computer Science
(or Related Field)

- 121.2%

Full-Time, Intensive Program
(e.g. "Boot-Camp")

- 120.7%

Industry Certification Program

- 120.0%

PhD in Computer Science
(or Related Field)

- 118.6%

B.S. in Computer Science
(or Related Field)

- 112.1%

Online Class

- 111.6%

On-the-Job Training

- 111.6%

Learned On My Own

- 110.1%

Part-Time Program
(e.g. Night School)

- 109.2%

B.A. in Computer Science
(or Related Field)

- 108.7%

Some College Coursework in Computer Science
(or Related Field)

- 104.5%

Other

- 100.9%

Among 20,001 developers with 5+ years experience. Percents shown are developer salaries as a percent of the average developer salary in a respondent's country

PhD in Computer Science (or Related Field)

- $122,219

Masters Degree in Computer Science (or Related Field)

- $118,803

Full-Time, Intensive Program (e.g. "Boot-Camp")

- $112,493

Mentorship Program

- $111,548

B.S. in Computer Science (or Related Field)

- $109,609

Industry Certification Program

- $109,386

B.A. in Computer Science (or Related Field)

- $106,678

On-the-Job Training

- $106,385

Learned On My Own

- $103,801

Online Class

- $102,742

Part-Time Program (e.g. Night School)

- $101,986

Some College Coursework in Computer Science (or Related Field)

- $100,272

Other

- $95,267

Median salaries for 6,435 devs with 5+ years experience who live in the US

Worldwide, participating in mentorship programs correlates with higher than average pay. Masters degrees and PhDs pay pretty well, too. Stay in school, kids.

VIII. Companies

Industry

- Industry
- Job Satisfaction by Industry

Software Products

- 22.7%

Other (Please Specify)

- 9.4%

Web Services

- 9.1%

Finance / Banking

- 8.6%

Consulting

- 7.1%

Internet

- 6.8%

Media / Advertising

- 5.1%

Healthcare

- 4.5%

Education

- 3.8%

Telecommunications

- 3.6%

Consumer Products

- 3.4%

Government

- 3.1%

Manufacturing

- 2.7%

Retail

- 2.6%

Gaming

- 2.4%

Automotive

- 2.0%

Defense

- 1.1%

Foundation / Non-Profit

- 1.0%

Aerospace

- 1.0%

39,785 responses
Software Products

- 35.9%

Other (Please Specify)

- 34.6%

Web Services

- 37.6%

Finance / Banking

- 26.6%

Consulting

- 33.9%

Internet

- 38.6%

Media / Advertising

- 30.2%

Healthcare

- 32.4%

Education

- 38.4%

Telecommunications

- 26.0%

Consumer Products

- 32.5%

Government

- 26.3%

Manufacturing

- 29.5%

Retail

- 28.3%

Gaming

- 43.5%

Automotive

- 28.5%

Defense

- 29.1%

Foundation / Non-Profit

- 37.1%

Aerospace

- 29.4%

39,785 responses

More developers work in Software Products than any other industry. But code is everywhere, including a few thousand "other" industries (of which Insurance, Research, Travel, and Energy were tops).

Developers who work in Gaming are more likely to love their job than anyone else. Developers in Manufacturing and Finance tell us they are most likely to work with legacy code. Developers in Defense are likely to love their boss. Their boss is probably listening.

Company Size

1 - 4 Employees

- 9.5%

5 - 9 Employees

- 7.8%

10 - 19 Employees

- 10.2%

20 - 99 Employees

- 22.0%

100 - 499 Employees

- 17.4%

500 - 999 Employees

- 5.9%

1,000 - 4,999 Employees

- 9.2%

5,000 - 9,999 Employees

- 3.5%

10,000+ Employees

- 12.0%

I am not part of a company

- 2.6%

39,139 responses

The developer workforce is split in half between developers who work for companies with fewer than 100 employees and companies with more than 100 employees. About 25% of developers work at companies with more than 1,000 employees.

IX. Teams

- Team Size by Developer Type
- Lone Wolves

Engineering Manager

- 9.7

Quality Assurance

- 9.3

Product Manager

- 8.7

Enterprise Level Services Developer

- 8.3

Analyst

- 8

Database Administrator

- 7.9

Executive (VP of Eng., CTO, CIO, etc.)

- 7.7

Other

- 7.6

Business Intelligence or Data Warehousing Expert

- 7.6

Embedded Application Developer

- 7.4

39,693 responses
Other

- 6.5%

System Administrator

- 6.4%

Designer

- 6.3%

Graphics Programmer

- 5.4%

Mobile Developer

- 4.4%

Developer with a Statistics or Mathematics Background

- 4.4%

Data Scientist

- 4.4%

Front-End Web Developer

- 4.2%

Desktop Developer

- 4.1%

Mobile Developer - iOS

- 4.0%

39,693 responses. Chart shows percentage of people in that occupation who work on their own.

The lone-wolf developer is a myth, or at least extremely rare. 96% of developers say they work on a team. Developers who aren't a traditional developer type are most likely to be lone wolves (Quality Assurance developers are least likely to work alone).

Women on Teams

- Top Percentage
- Bottom Percentage

Analyst

- 29.4%

Data Scientist

- 28.8%

Designer

- 27.5%

Database Administrator

- 25.5%

Quality Assurance

- 25.1%

45,561 responses, men only

Embedded Application Developer

- 14.2%

Desktop Developer

- 16.9%

DevOps

- 17.2%

System Administrator

- 17.3%

Back-End Web Developer

- 18.2%

45,561 responses, men only

We asked respondents for the size of their team and how many women are on their team. The above chart shows responses from men. Analysts and Data scientists are most likely to work with a high percentage of women on their team. Embedded application developers and Desktop developers are least likely to work with a high percentage of women on their team. (Not shown: Quality assurance developers have the highest median count of women per team at 2.)

X. Remote

Full-Time Remote

- 12.1%

Part-Time Remote

- 17.6%

I Rarely Work Remotely

- 48.4%

Never

- 22.0%

39,271 responses (no students)

About 12% of developers work remote full-time. 30% work remote part-time or full-time.

Remote Developers are More Experienced

< 1 Year

- 20.5%

1 - 2 Years

- 19.8%

2 - 5 Years

- 23.4%

6 - 10 Years

- 29.5%

11+ Years

- 40.0%

Developers with 11+ years experience are nearly twice as likely to work remote as developers with less than 5 years experience.

Global Remote

Argentina

- 46.5%

Mexico

- 35.2%

United States

- 33.7%

Russia

- 33.0%

Finland

- 32.9%

Ukraine

- 30.8%

Netherlands

- 30.2%

Poland

- 29.5%

Spain

- 29.4%

South Africa

- 28.6%

Brazil

- 28.3%

Canada

- 28.0%

India

- 27.1%

Australia

- 26.9%

Italy

- 26.4%

Switzerland

- 26.4%

Denmark

- 26.2%

United Kingdom

- 25.3%

Germany

- 24.9%

Sweden

- 24.3%

Romania

- 24.3%

France

- 23.5%

Among countries with 200 or more responses

Developers in Argentina are far more likely to work remote than developers in any other country.

Remote Developers Love Their Jobs

Full-Time Remote

- 44.5%

Part-Time Remote

- 35.7%

Rarely Work Remotely

- 31.9%

Never Remote

- 24.5%

Percent of developers who say they love their job

Remote developers are more likely to love their job than other developers. Do you work from home? Do you want to? We've got [plenty of job opportunities](#) for you to check out if so.

XI. Checking-in Code

Multiple Times a Day

- 57.0%

Once a Day

- 10.6%

A Couple Times a Week

- 17.7%

A Few Times a Month

- 5.9%

I Never Check-in or Commit Code

- 3.3%

I Don't "Check-in or Commit Code", but I do put Code into Production Somewhat Frequently

- 4.2%

Other (Please Specify)

- 1.4%

46,599 responses

57% of developers tell us they check-in or commit code multiple times per day.

Developers Who Code are Happy Developers

I Never Check-in or Commit Code

- 65.4%

A Few Times a Month

- 66.0%

A Couple Times a Week

- 71.3%

Once a Day

- 72.7%

Multiple Times a Day

- 76.5%

Percent of developers who love their job. 37,588 responses

Overall, there's a strong correlation between job satisfaction and pushing code into production. 65% of developers who never check in code are satisfied at their jobs vs. 77% satisfaction rate among developers who commit code multiple times per day. Developers want to code! (Or maybe happy developers just commit more than everyone else.)

Community

These are the developers who help other developers build.

I. Visit Frequency

Multiple times a day

- 56.5%

Once a day

- 21.8%

Once a week

- 14.8%

Once a month

- 3.0%

Very rarely

- 3.0%

I have never been on Stack Overflow. I just love taking surveys.

- 0.8%

46,165 responses

Over half of developers say they visit Stack Overflow multiple times a day, and 78% of developers tell us they visit Stack Overflow daily.

II. Motivation

Get help for my job

- 76.0%

Because I love to learn

- 61.9%

Give help to others

- 46.1%

Receive help on my personal projects

- 41.3%

Because I can't do my job without It

- 19.1%

Communicate with others like me

- 17.9%

Maintain an Online Presence

- 12.5%

Demonstrate that I'm Good at what I do

- 11.7%

Discover New Job Opportunities

- 9.4%

Other

- 3.0%

I don't really use Stack Overflow. I just take surveys.

- 2.5%

42,134 responses

The vast majority of developers use Stack Overflow to get help for their job. Most also use Stack Overflow because they love to learn.

III. Asking and Answering

- All Time
- 2015
- Survey Respondents

Questions

- 12,752,425

Answers

- 18,974,395

Questions

- 2,697,101

Answers

- 3,232,912

Questions

- 383,445

Answers

- 2,804,051

12.3 million questions have been asked, and 18.4 million answers submitted since Stack Overflow was founded in 2009. In 2015, 2.7 million questions were asked on Stack Overflow. 3.2 million answers were submitted.

More than 27,000 respondents gave us their user profile information. We looked it up: they've asked 383,445 questions and submitted 2,804,051 answers. Those questions and answers have helped millions of developers. You might be one of them.

Reputation

- Respondents
- Active Last Month on Stack Overflow

1

- 19.6%

2 to 10

- 4.1%

11 to 100

- 19.9%

101 to 200

- 9.8%

201 to 400

- 6.6%

401 to 700

- 8.4%

701 to 1,000

- 4.8%

1,001 to 2,000

- 8.6%

2,001 to 5,000

- 8.6%

5,001 to 10,000

- 4.2%

10,001 to 50,000

- 4.4%

50,001+

- 1.0%

1

- 43.1%

2 to 10

- 8.8%

11 to 100

- 23.8%

101 to 200

- 7.1%

201 to 400

- 4.1%

401 to 700

- 4.3%

701 to 1,000

- 2.0%

1,001 to 2,000

- 3.0%

2,001 to 5,000

- 2.3%

5,001 to 10,000
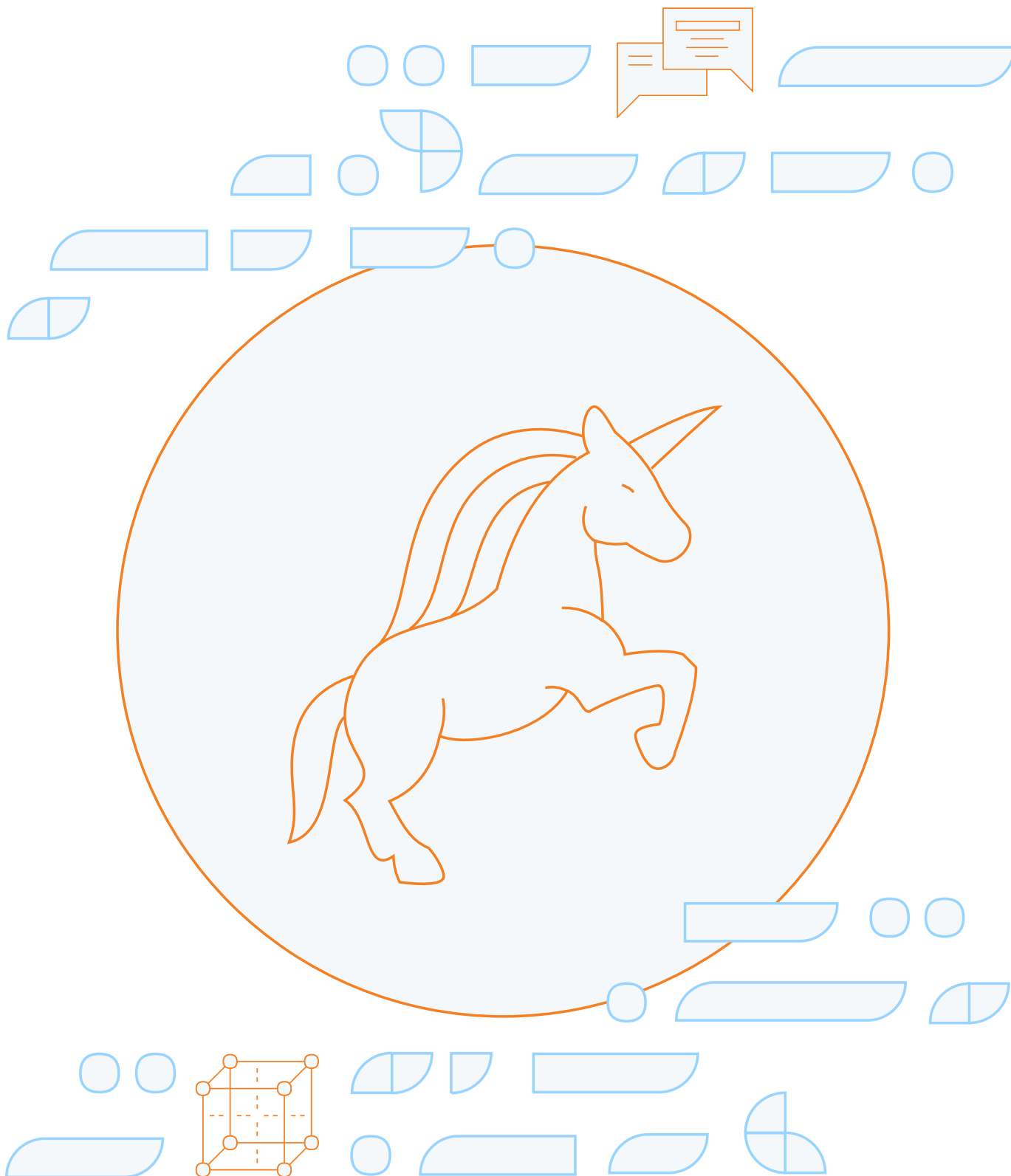
- 0.8%

10,001 to 50,000

- 0.6%

50,001+

- 0.1%

Stack Overflow reputation for 27,938 users who provided their user IDs

Rep isn't just fake internet points – it's a proxy for how many people you've helped.

If you're part of the 96% of developers who get help here at least once a month and want to pay it forward, start by [signing up](#).

Take two minutes; become a helper.

Every 7 seconds, one of millions of generous devs just like you answers a stranger's question here. If you

haven't had a chance to give back yet, now's your moment. Just by signing up, you'll show your peers you're ready to help when you can.

[I want to help](#)
Share

Built with ♥ using [c#](#) [jQuery](#) [font-awesome](#) [bootstrap](#) [unicorn tears](#)