

codility

2018 Developer Report

Insights for Attracting, Recruiting, and Retaining Software Developers

Based on the survey responses of **2,089 developers** from around the world in 2018.

Prologue

Dear Readers,

I launched Codility in 2009 with the goal of reclaiming software engineers' time spent in futile job interviews. What began as an exercise in process optimization eventually became a journey towards understanding the subtleties of human behaviors underlying the bond between an employer and an employee.

Having performed over 6.5 million assessments and working daily with our 1,200 customers, we at Codility clearly see why the understanding of employees' choices is crucial for recruiters and for employers in general.

To this end, we have surveyed 2,089 software developers asking about their expectations, frustrations, and objectives pertaining to their recruitment and employment. We are excited to share the insights we have gathered with you.

I hope this report sheds some light on the software developer community and helps you in planning and achieving your goals in recruiting software developers and maintaining great working relationships with them.

If you would like to discuss the findings with our Research Team, please email us at research@codility.com.



Greg Jakacki

Founder & CEO

codility

Conclusions

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METHODOLOGY:

Online survey — respondents collected both from Codility's developer community as well as social media and email outreach.

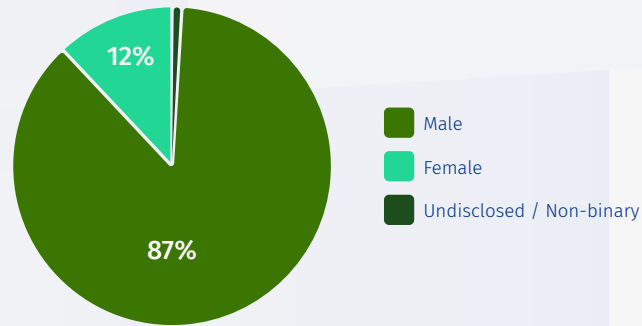
The sample obtained was compared against StackOverflow's Developer Survey 2018 data on core demographic variables like gender, age, and years of professional experience to verify how well it represents the developer community. The key demographic indicators between the compared samples were similar.

The sample may not be representative for the entire international population of developers.

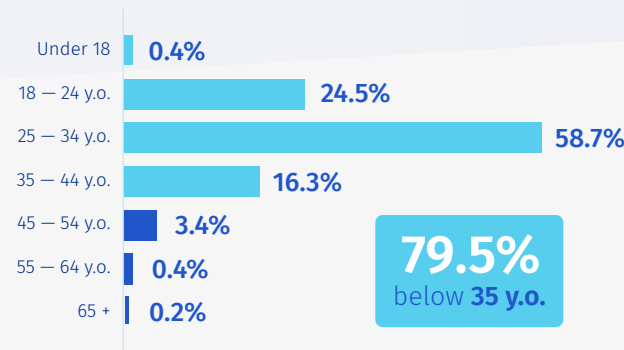
Developers Are Young in Age but Not in Title

Looking at survey respondents from a bird's eye view, we see that the majority were under 35 years old, male, and held the job title of Senior Developer.

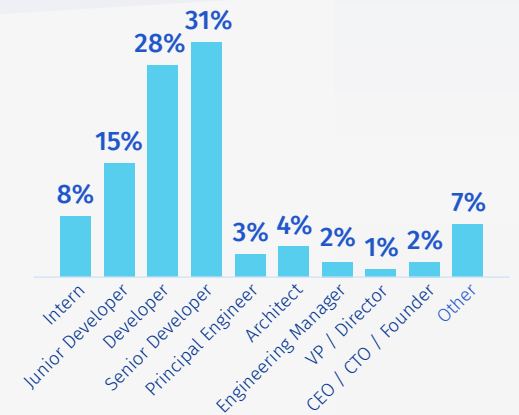
▶ GENDER



▶ AGE



▶ CURRENT ROLE*



When is a developer senior?

Being a senior developer turns out to be a wide concept. The majority of developers who identify as senior have 5 years of professional coding experience or more.

However, there is a group of developers who identify as senior, but have less than 5 years professional coding experience. Many of these seniors work in smaller companies of up to 50 employees, where developers are less than 15% of the entire staff.

For the purposes of this report, insights separating respondents by seniority are based on their self-identified seniority status.

▶ HOW LONG HAVE YOU BEEN CODING PROFESSIONALLY?*



*Data has been rounded to whole numbers.

Most Female Developers Are Not Involved in Recruiting

37% of female developers stated that they are involved in the recruiting processes for other developers in their company, compared to 50% of male developers.

This may be due to there being less senior female developer respondents than male. Only 21% of female respondents self-identified as being senior developers.

Approximately 81% of female developers have 6 years or less of professional coding experience.

Conclusions:

There is a limited presence of women in the programming population and the majority of those female developers are considered to be junior developers.

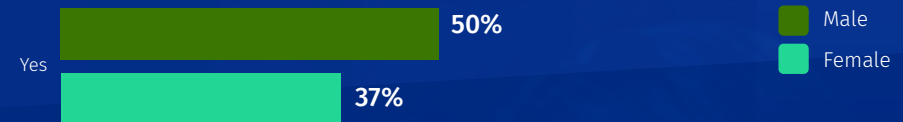
Less women involved at senior levels of an engineering organization means less women involved in recruiting other developers. This presents a challenge when pushing for diversity in engineering teams.

Recommendations:

If building diversity in your engineering team is a focus, review how your company currently involves female developers in:

- Recruiting and interviewing other developers
- Conducting performance appraisals
- Making promotion decisions

▶ DO YOU HELP TO RECRUIT OTHER DEVELOPERS IN YOUR COMPANY?



▶ HOW LONG HAVE YOU BEEN CODING PROFESSIONALLY?



Developers Are Proactive Job Seekers

62% of respondents said that they initiated their last job move by actively searching for jobs themselves. That is more than four times those that said the job opportunity was referred to them by a friend or colleague.

Women seem to be more active in their job search than men.* This might be due to lower job satisfaction rates amongst women than men (page 8) or because the fewer years of professional coding experience a developer has the more likely they are to switch jobs (page 9).

Conclusions:

Developers are on the hunt for great employers and the best hiring teams will focus on making their opportunities as attractive as possible.

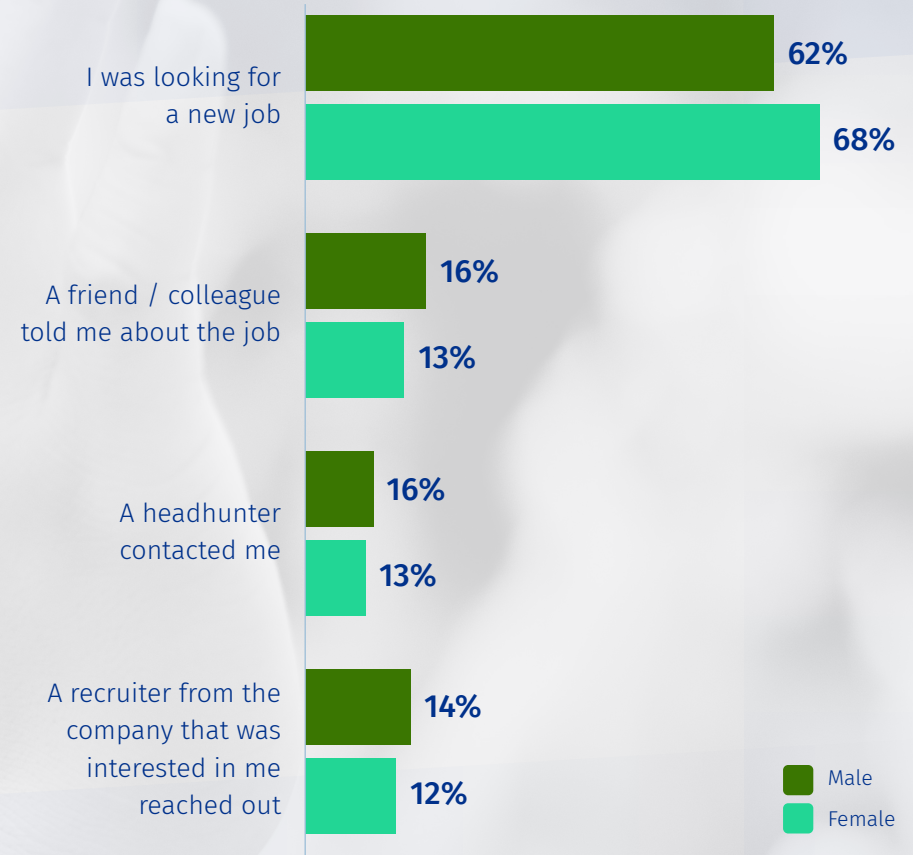
Recommendations:

Recruiting teams that think like marketers and invest in employer branding and inbound recruiting tactics may see greater improvements in the performance of their top-of-funnel hiring metrics than those that invest more in outbound sourcing tactics.

* When it comes to actively looking for job, the difference between male and female respondents is at the edge of statistical significance. This difference however fits other findings: the fact, that more women work in Junior positions - and Juniors switch jobs more often, the fact that female developers seem to be less satisfied with their current job or note discrepancy between job description at the recruitment stage and the actual work more often than men

► THINKING OF YOUR LAST JOB TRANSFER: WHO INITIATED THE PROCESS?

Multiple Choice Question



Personal Development Is More Appealing Than Salary

Developers are ambitious — the possibility of professional development was one of the most important factors for choosing an employer for 52% of overall respondents.

Salary was the second most frequently cited reason for choosing their current company, followed by the opportunity to work on interesting projects in third place.

Conclusions:

There are some distinct differences between juniors and seniors on why they chose the company they are working for today.

- **Senior developers** were more likely to be looking at salary, interesting projects, and the possibility of professional development than juniors.
- **Junior developers** were looking for a team or leader from whom they can learn.

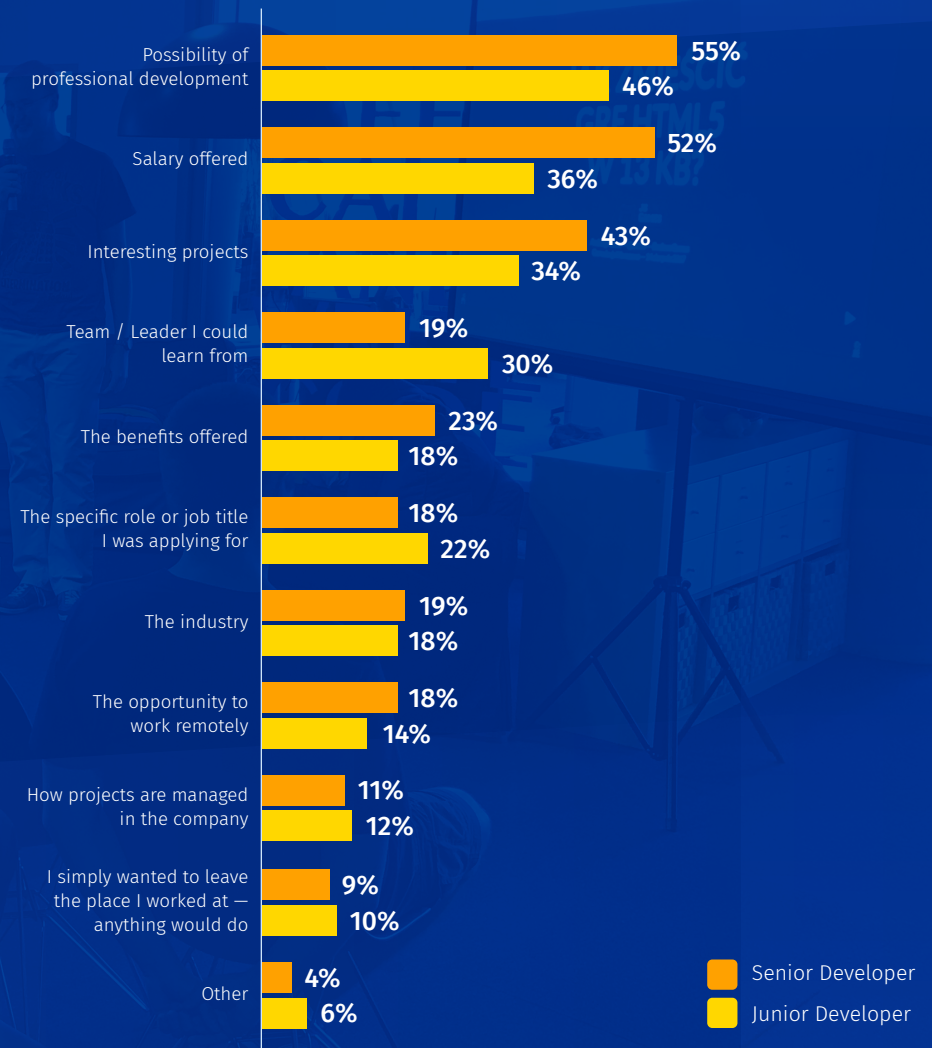
Recommendations:

Employers need to appeal to both short-term and long-term professional goals of new hires and ensure employees get to work on projects that interest them.

When preparing employer branding and careers pages, teams should consider customizing content to attract both senior and junior developers, providing information and testimonials that speak to their interests directly.

▶ WHAT WERE THE MOST IMPORTANT REASONS FOR CHOOSING THE COMPANY YOU ARE WORKING FOR TODAY?

Multiple Choice Question



Majority of Developers' Jobs Are Not What They Expected

Over half of respondents reported that the job they were hired for was not accurately portrayed to some extent compared to its reality.

Employees at companies with workforces made up of over 75% developers reported the highest levels of accuracy and lowest levels of inaccuracy. Whereas employees at companies made up of less than 5% of developers reported the highest levels of complete inaccuracy.

Women reported an even larger discrepancy with over two thirds saying their job was somewhat misrepresented.

Conclusions:

The more developer-heavy an organization, the better it will be at setting expectations around developer roles, and this will have a real impact on the employee's experience.

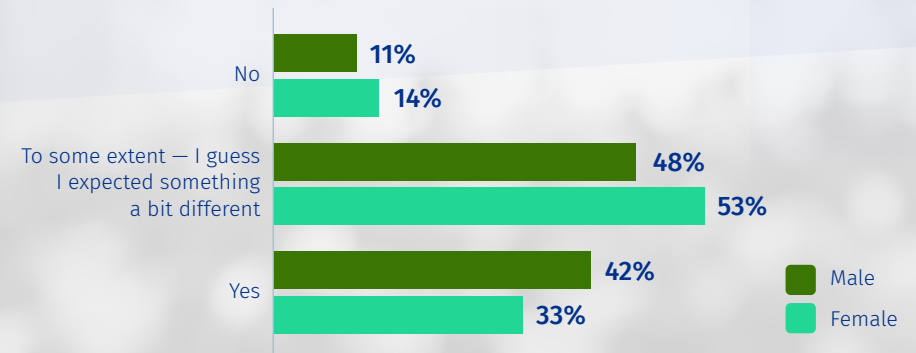
Employers must do a better job of expectation-setting during the tech hiring process, particularly for female candidates.

Recommendations:

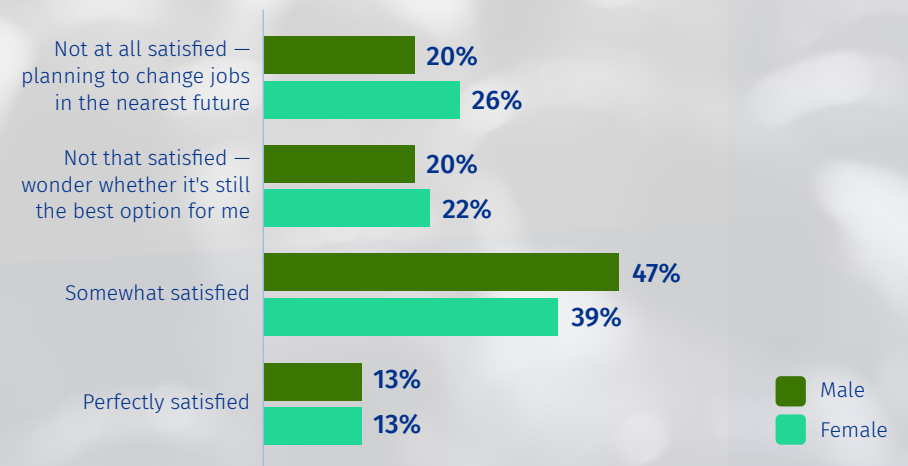
Connect your recruiting and engineering teams to ensure the entire hiring team has a clear understanding of the day-to-day expectations of open roles and career paths.

Companies with mainly non-technical staff members may need to do extra to ensure their hiring teams have a working understanding of technical roles. Involving technical leadership in the key touchpoints of recruiting and onboarding processes will help provide a space for candidates and new employees to ask questions and align expectations.

► WAS THE JOB YOU WERE HIRED FOR ACCURATELY PORTRAYED COMPARED TO ITS REALITY ONCE IT STARTED?



► HOW SATISFIED ARE YOU WITH YOUR CURRENT JOB?



Loyalty Grows with Experience

While there is not a difference between genders, there is a significant difference in retention based on seniority.

When comparing respondents that changed jobs within the last year with those who have stayed with their current employer for longer than 4 years, we see that those more likely to stay are senior developers.

67% of overall respondents have moved jobs within the last two years with just 17% of overall respondents having stayed put for more than four years.

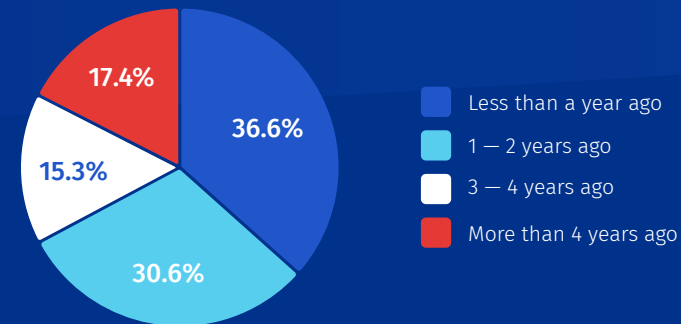
Juniors are far more likely to switch jobs than seniors — 60% of them have switched jobs in the last year compared to only 25% of seniors.

Recommendations:

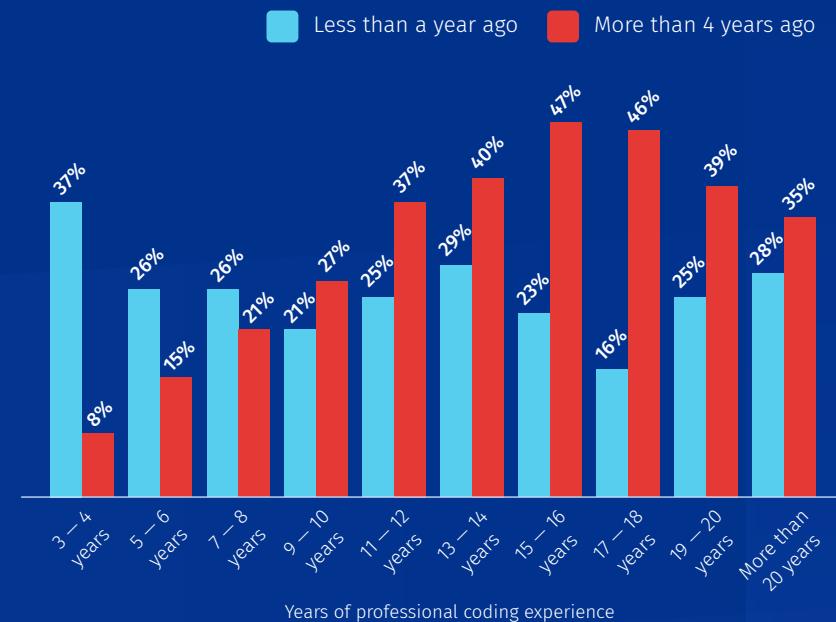
Companies should put extra focus on retaining younger and newer members of their technical teams. Take a look at what juniors and seniors value in career opportunities on page 7.

*Data has been rounded to whole numbers. The graph represents data for developers with minimum 3 years experience to avoid the paradox of reporting recent job switching among the respondents who have just started their professional coding (i.e. have less than a year of professional experience).

▶ WHEN WAS THE LAST TIME YOU SWITCHED COMPANIES?



▶ WHEN WAS THE LAST TIME YOU SWITCHED COMPANIES, GROUPED BY YEARS OF EXPERIENCE*



Candidates Crave Relevant Assessments and Feedback

The data shows that there is more work to be done to deliver an optimal candidate experience.

Candidates are still being “ghosted,” given irrelevant assessments, and pushed through inefficient recruiting processes. There were not significant differences in responses between men and women or between seniority levels; these frustrations are somewhat universal.

Recommendations:

To improve the hiring process, hiring teams need to:

- Prioritize providing feedback to candidates because humanizing the process is how you will build meaningful relationships with people applying for your jobs and create a positive employer brand.
- Ensure assessments accurately evaluate the skills needed for the job by removing all the noise and bias that might exist in each recruiting stage.
- Streamline steps in the recruiting process to not only remove frustrations for candidates, but also accelerate time-to-hire to scale your engineering organization rapidly.

▶ WHAT IS MOST FRUSTRATING FOR YOU IN THE RECRUITMENT PROCESS?

Multiple Choice Question



Human Interaction Is Still the Core of Tech Recruiting

The market still relies substantially on traditional evaluation methods such as onsite interviews.

The recruitment methods used for selecting seniors and juniors are similar, with the main difference being senior developers participating much more often in onsite meetings. However, we recommend that these recruitment methods are tailored to seniority (see page 12).

49% of developers reported being involved in their company's hiring of other programmers.

Recommendations:

Hiring teams should make sure to optimize developer participation in recruitment processes to ensure they aren't spending too much time away from their core work.

Taking into consideration the top frustrations with the tech recruiting process, consider building different processes for candidates based on seniority level. If you have a strategic and high-value hire, place more emphasis on human interaction, especially with your technical leaders.

For senior developer hiring, it is especially important to nail down the tech interview as it allows candidates to showcase their programming skills and demonstrate why they are truly seniors by presenting the way they think and communicate. In addition, this process should also give them a chance to meet their potential team and verify their cultural fit to the new company.

▶ MOST COMMON SELECTION METHODS USED BASED ON THE PERCENTAGE OF RESPONDENTS WHO ENCOUNTERED THEM DURING THEIR LAST RECRUITMENT PROCESS:

Multiple Choice Question



Senior Developers Require a Specific Approach

When it comes to hiring senior developers, some companies are forgetting to tailor the hiring experience.

We asked senior developers, “What would be an ideal recruitment process from your perspective?” Their free-form answers provided four key trends about what senior developers value as part of the recruiting experience:

1. Getting to Know the Technical Team

“An experimental day at work to interact with possible teammates would give me the opportunity to get to know the team and day-to-day activities.”

2. Collaborative Programming Sessions

“Face-to-face discussions showing how the developer thinks when given a problem or task. Being able to think and discuss the issues is more important than banging out an algorithm in half an hour.”

3. Solving High-Level Problems

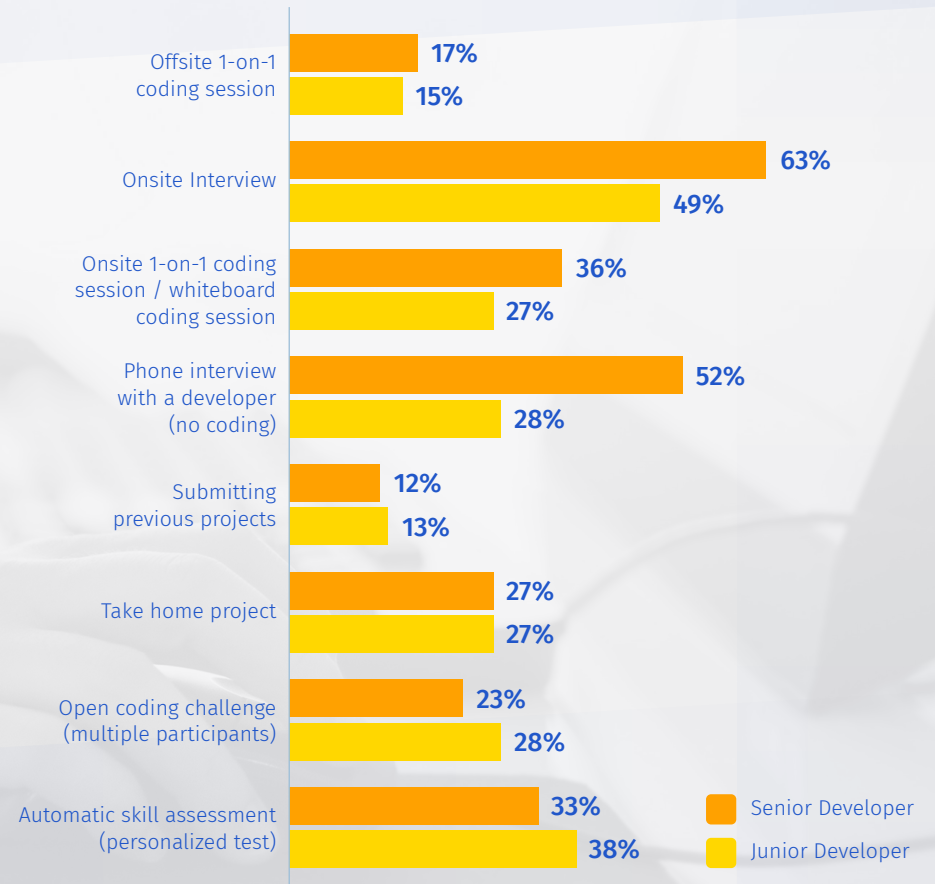
“A technical challenge that is related to a specific industry use case rather than purely algorithmical questions that are abstract.”

4. Solving Real-Life Problems of the Company

“A 1-on-1 or small group discussion covering topics and challenges which the current development team are dealing with.”

▶ WHAT CANDIDATE SELECTION METHODS WERE USED DURING THE LAST RECRUITMENT PROCESS YOU HAVE PARTICIPATED IN?

Multiple Choice Question



Conclusions

We hope the 2018 Codility Developer Report gives you a better sense of what the developer community looks like and how developers feel about current tech recruiting practices.

The key conclusions we found were:

Most developers find their next job through their own proactive search.

Experienced developers switch jobs much less frequently than junior developers.

Senior and junior developers are attracted to new companies by different factors.

Overall, developers value professional development opportunities more than salary.

The distinction between senior and junior developers is hazy and is affected by company size.

However, 5 years of professional programming experience seems to be the common transition point to senior developer status.

Most companies are not tailoring the hiring experience based on the seniority of the candidate.

In the tech recruitment process, senior developers value human interaction, collaboration, and solving relevant problems.

The majority of developers are at least somewhat surprised by their roles once they start.

Developer-heavy organizations are better at setting expectations for engineering hires while less technical companies struggle.

Female developers are not as involved in tech recruiting processes at their companies as male developers.

The majority of female developers have less than 6 years of experience and consider themselves to be junior developers.

Developer candidates' frustrations with tech recruiting processes are universal.

Their top frustrations are lack of feedback, irrelevant assessments, and sluggish interview steps.

To meet tech hiring goals and build stronger working relationships with developers, businesses need to continuously refactor and evolve recruitment processes.

If you'd like to discuss this report further with us, please contact us at research@codility.com.

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