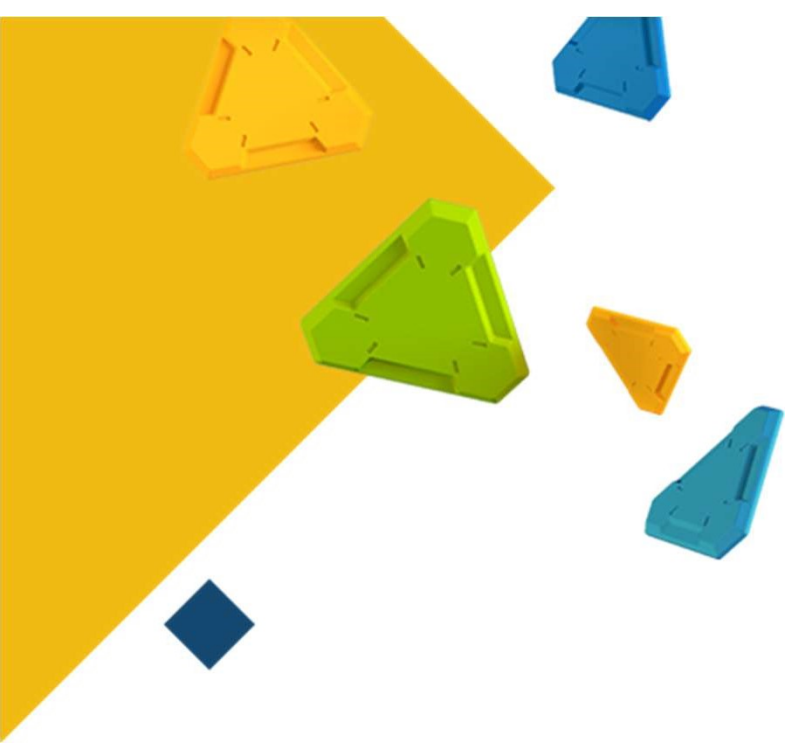# CODINGAME'S TECH RECRUITING SURVEY REPORT 2019

CodinGame
FOR WORK

It's not easy being an **HR professional** navigating through tech waters. There's so much to know and to understand.

This year we surveyed **over 9000 tech and HR professionals**. We've sifted through the results to bring you this report: everything you need to know to **source, screen and retain developers in 2019**.

The next pages are jam-packed with **priceless insights** from our vast panel of developers. Get a real feel for who developers are and what they want – and make sure your sourcing, screening and retention processes mirror that.

Please note: throughout this report you will find graphs in blue and in yellow. Yellow graphs represent the answers from our HR panel. Blue graphs represent the answers from our panel of developers.

Developer panel ●
HR panel ●

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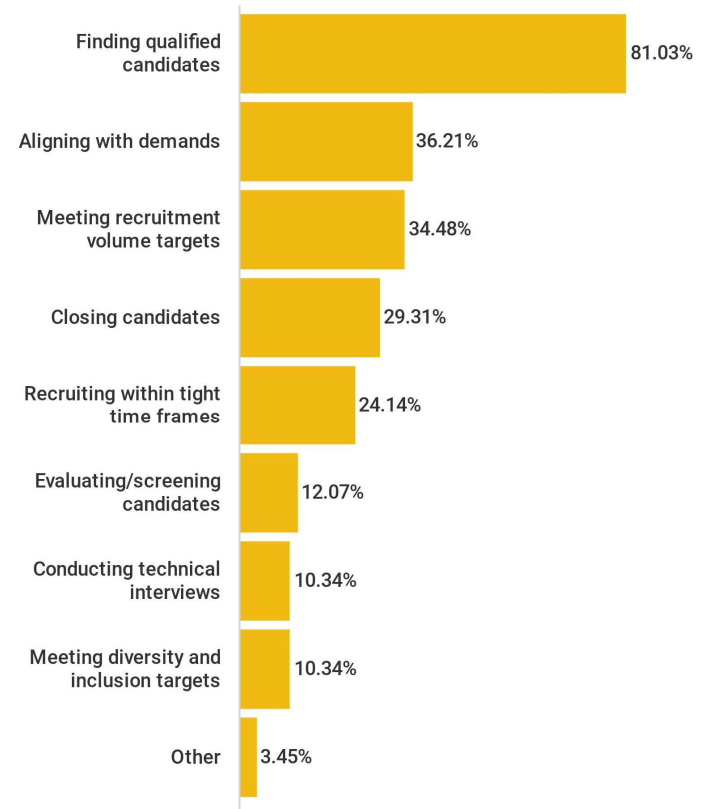## INDEX

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SOURCE

QUALIFIED TECH CANDIDATES: FEW AND FAR BETWEEN

For a lot of HR professionals, **tech recruiters** especially, *sourcing* (actively finding and identifying potential candidates) developers is a huge and important part of their job.

In fact, according to our respondents, it's the single **most difficult thing about the recruitment process**. Over 80% of the HR professionals we surveyed said that "finding qualified candidates" was their main challenge when recruiting developers.

● *HR panel*

What are your main challenges when recruiting developers?

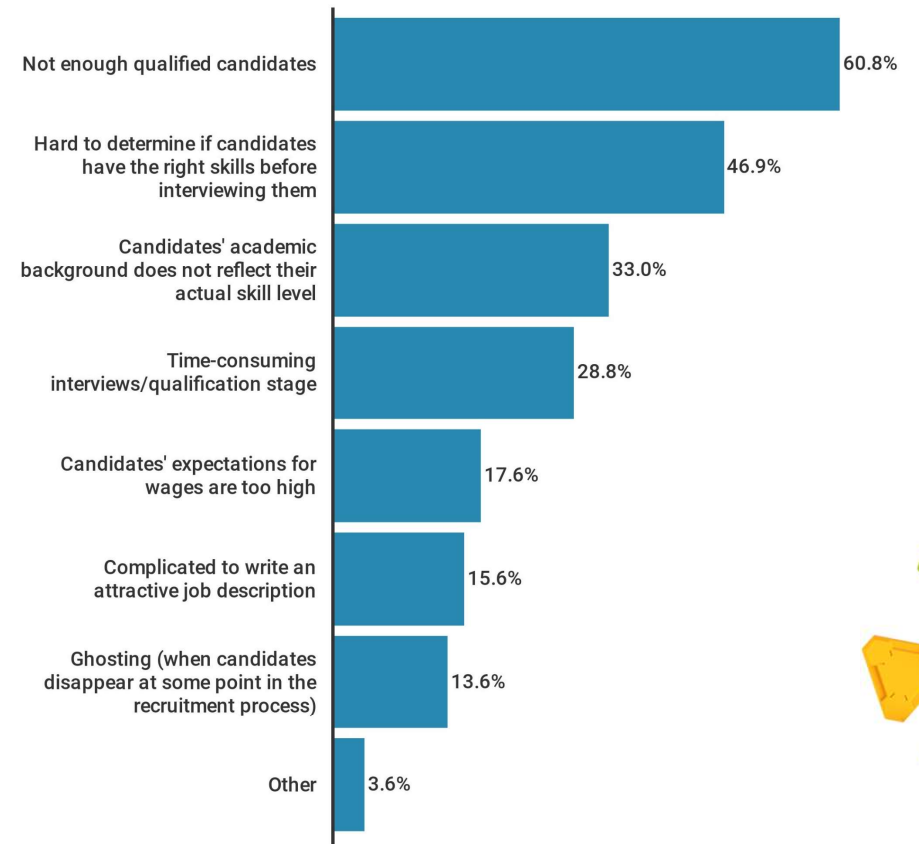| Challenge	%
Finding qualified candidates	81.03%
Aligning with demands	36.21%
Meeting recruitment volume targets	34.48%
Closing candidates	29.31%
Recruiting within tight time frames	24.14%
Evaluating/screening candidates	12.07%
Conducting technical interviews	10.34%
Meeting diversity and inclusion targets	10.34%
Other	3.45%

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WHAT DO DEVELOPERS HAVE TO SAY ABOUT IT?

Tech teams are well aware of the struggle to find **tech talent**.

When we asked developers what they thought the biggest challenges were for companies recruiting developers they answered "**Not enough qualified candidates**" (60.8%) and "Hard to determine if candidates have the right skills before interviewing them" (46.9%).

What are the main challenges your company encounters when recruiting developers?

Not enough qualified candidates — 60.8%
Hard to determine if candidates have the right skills before interviewing them — 46.9%
Candidates' academic background does not reflect their actual skill level — 33.0%
Time-consuming interviews/qualification stage — 28.8%
Candidates' expectations for wages are too high — 17.6%
Complicated to write an attractive job description — 15.6%
Ghosting (when candidates disappear at some point in the recruitment process) — 13.6%
Other — 3.6%

● *Developer panel*

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OFFER AND DEMAND: A CLOSER LOOK AT **PROGRAMMING LANGUAGES**

Why is it so difficult for recruiters to find the **tech candidates** they're looking for?

We wondered if one of the reasons might be the difference between the programming languages *companies look for* and the languages *developers know*.

OFFER AND DEMAND: A CLOSER LOOK AT PROGRAMMING LANGUAGES

Thankfully, it seems that developers have the top languages covered.

What's more, **Scala**, released in 2004, is one of the top 10 sought-after languages, yet only 5% of developers know how to code in Scala.

Kotlin and Swift are also relatively recent languages that recruiters are looking for but that developers are still to specialize in.

● Best-known   ● Most sought-after

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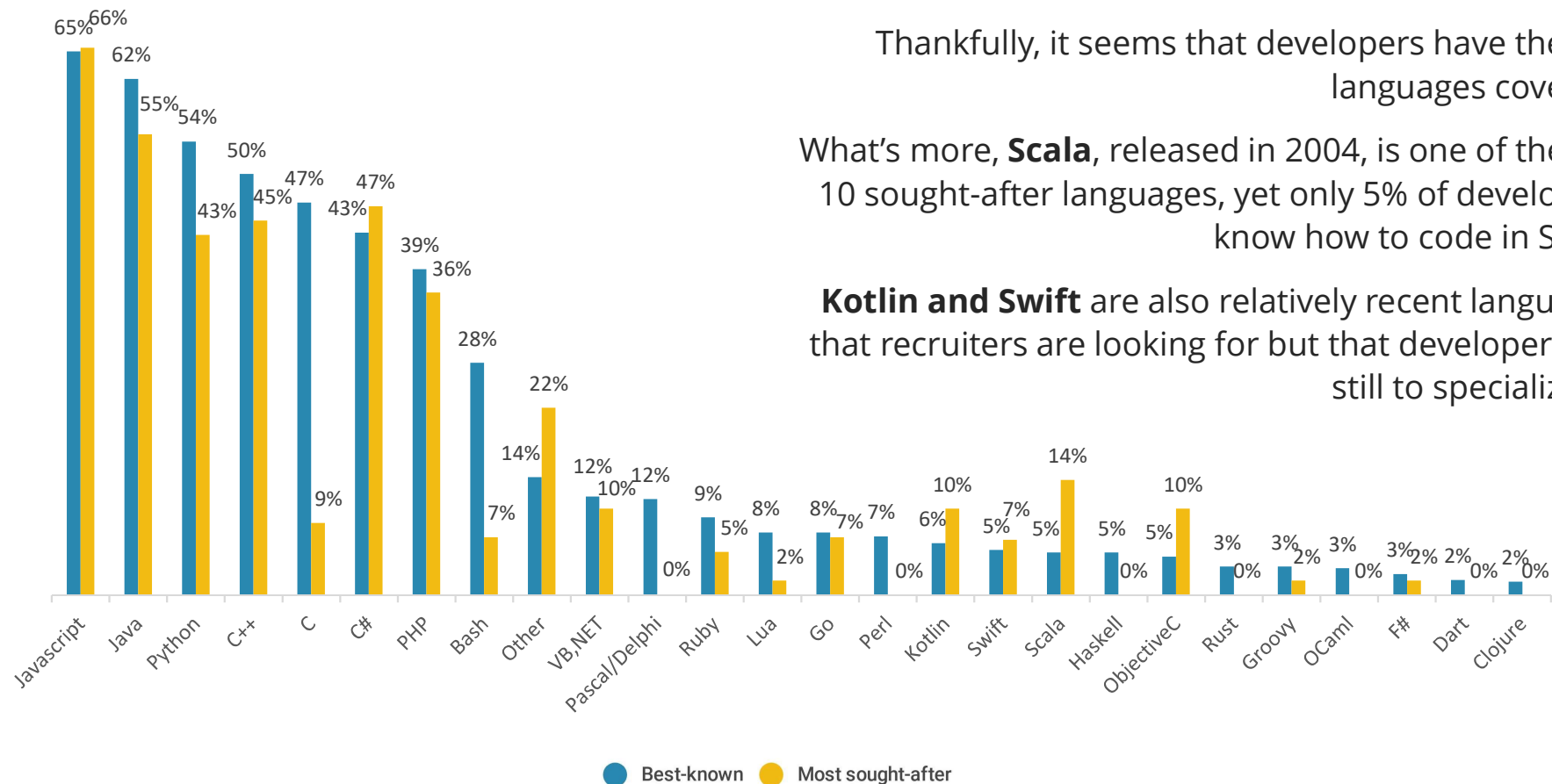
THE ROAD TO COMPUTER PROGRAMMING

Have the developers you're looking for **always been developers**?

Becoming a developer was top of the list for 69.5% of our respondents. However, over 30% of developers **took a detour before becoming a programmer**.

30.5% of our respondents said that they did something else before working in computer programming (architecture, graphic design, accountancy, sales, healthcare, etc.).

● *Developer panel*

Is computer programming your first career?

No 30.50%

Yes 69.50%

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FOR WORK
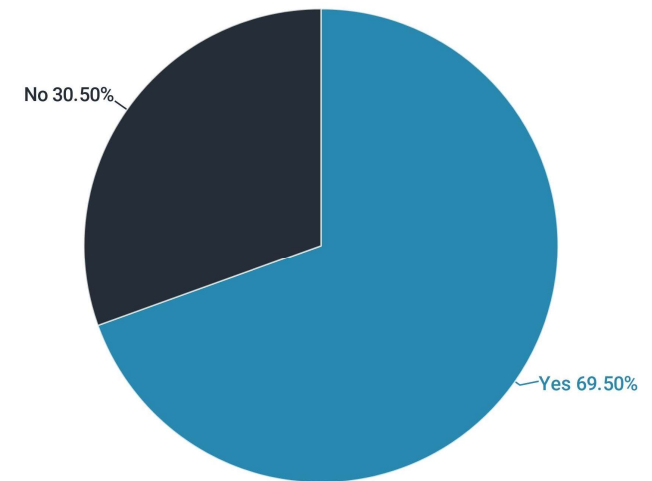
Which positions do you think you'll struggle to recruit in 2019?

A NEEDLE IN A FULL-STACK

HR professionals and developers agree that it's increasingly difficult to find qualified tech candidates.

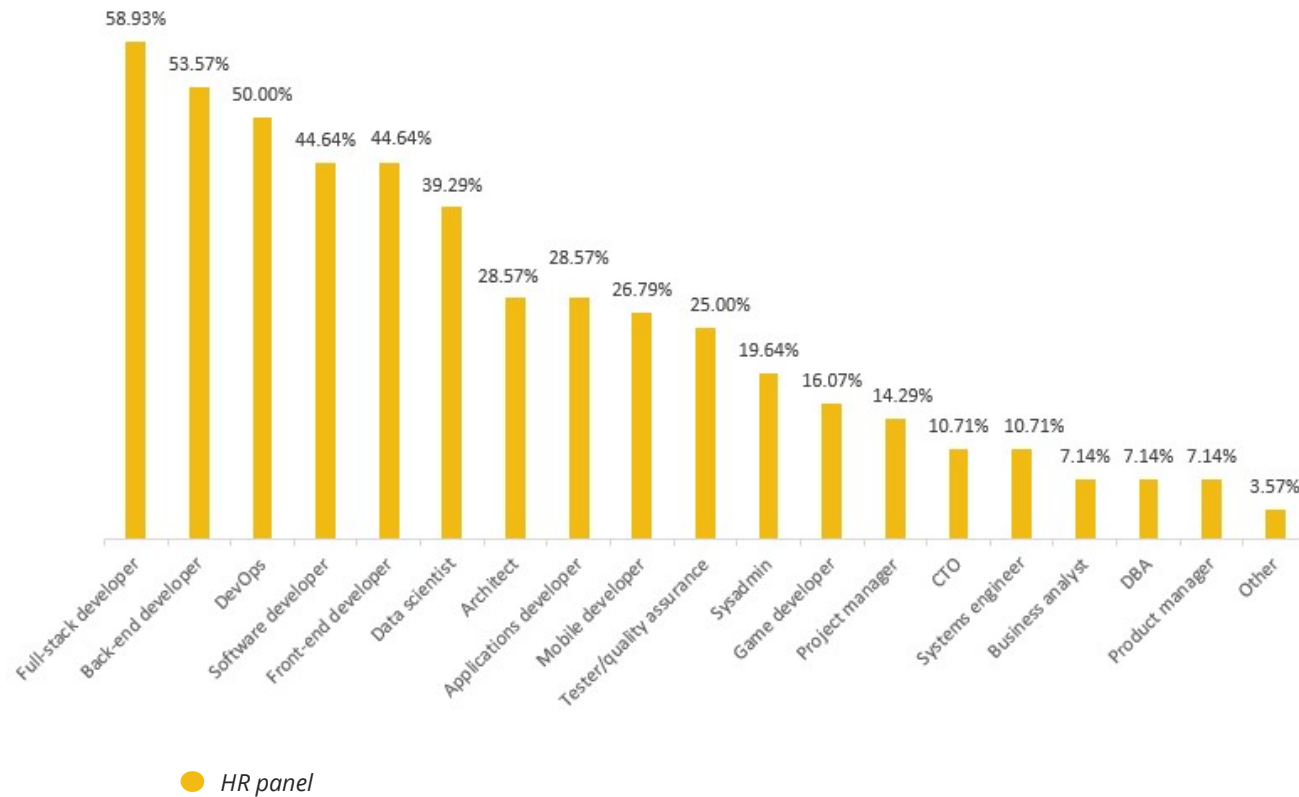Our panel of HR professionals told us they think **full-stack developers, back-end developers and DevOps** are the three tech profiles they'll struggle most to find in 2019.

Position	Percentage
Full-stack developer	58.93%
Back-end developer	53.57%
DevOps	50.00%
Software developer	44.64%
Front-end developer	44.64%
Data scientist	39.29%
Architect	28.57%
Applications developer	28.57%
Mobile developer	26.79%
Tester/quality assurance	25.00%
Sysadmin	19.64%
Game developer	16.07%
Project manager	14.29%
CTO	10.71%
Systems engineer	10.71%
Business analyst	7.14%
DBA	7.14%
Product manager	7.14%
Other	3.57%

● *HR panel*

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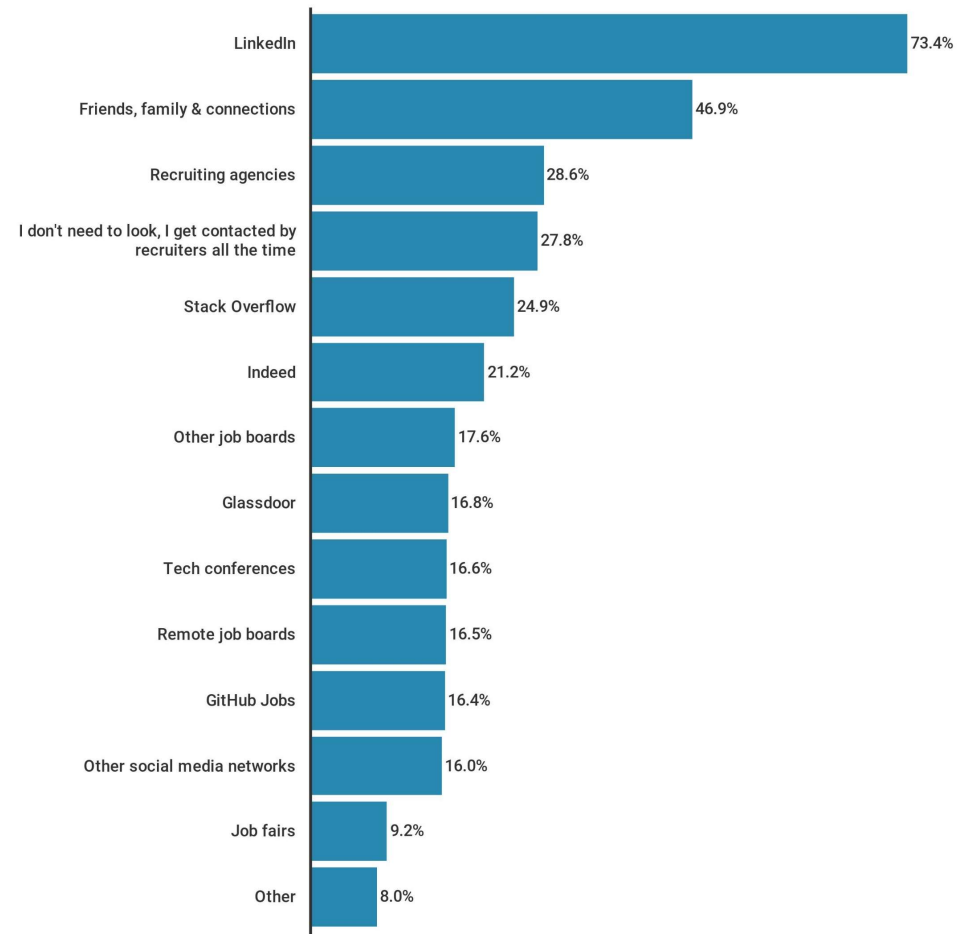
WHERE TO LOOK FOR TECH CANDIDATES

Where should HR professionals go to source these valuable tech candidates?

Close to **74% of developers say they'd turn to LinkedIn to look for job opportunities** and 41.22% say LinkedIn is the best way for recruiters to contact them.

So if you were thinking that LinkedIn was outdated in tech recruitment – think again!

● *Developer panel*

If you were on the hunt for a new job opportunity, where would you look?

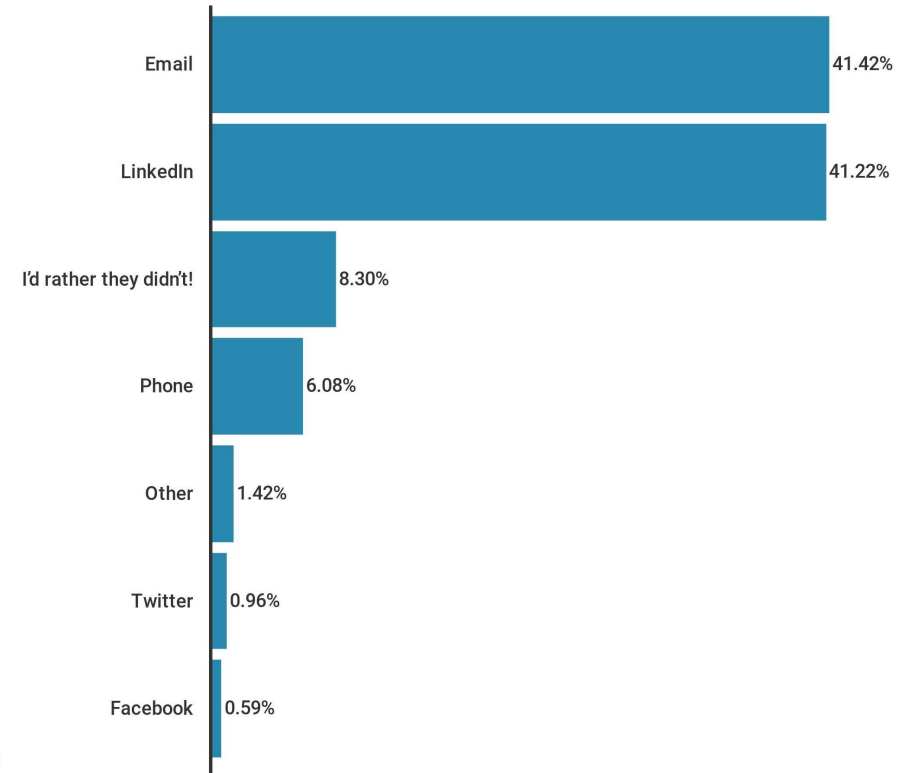|	
LinkedIn	73.4%
Friends, family & connections	46.9%
Recruiting agencies	28.6%
I don't need to look, I get contacted by recruiters all the time	27.8%
Stack Overflow	24.9%
Indeed	21.2%
Other job boards	17.6%
Glassdoor	16.8%
Tech conferences	16.6%
Remote job boards	16.5%
GitHub Jobs	16.4%
Other social media networks	16.0%
Job fairs	9.2%
Other	8.0%

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DON'T JUMP TO SOCIAL MEDIA CONCLUSIONS!

However, don't jump to conclusions! Does this mean that social media networks in general are the best way to contact developers? *No!*

A tiny 0.59% of developers said **Facebook** was the best way to contact them and only 0.96% chose **Twitter**.

Email is developers favorite way to communicate with recruiters.

How would you rather recruiters contact you about a job opportunity?

Contact method	Percentage
Email	41.42%
LinkedIn	41.22%
I'd rather they didn't!	8.30%
Phone	6.08%
Other	1.42%
Twitter	0.96%
Facebook	0.59%

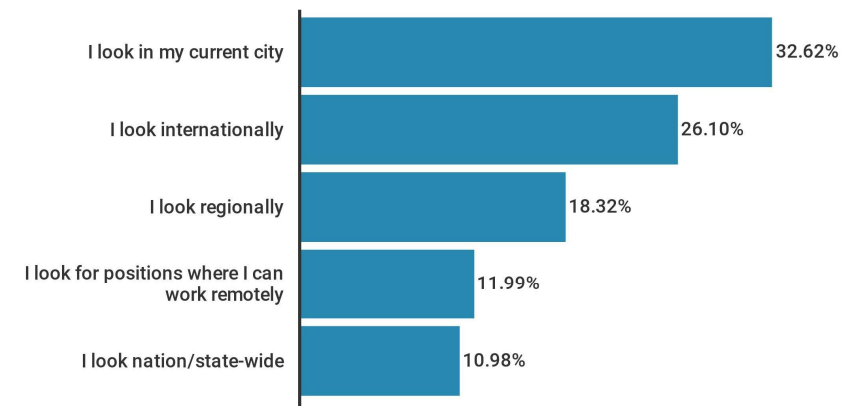● *Developer panel*

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FOR WORK

THERE'S NO PLACE LIKE HOME

We also asked developers where they'd look for a new job opportunity, **geographically**.

It turns out, despite 26.1% being willing to look internationally, over half of developers look for new jobs within **their current city or region**.

Geographically, where do you look for new job opportunites?

I look in my current city	32.62%
I look internationally	26.10%
I look regionally	18.32%
I look for positions where I can work remotely	11.99%
I look nation/state-wide	10.98%

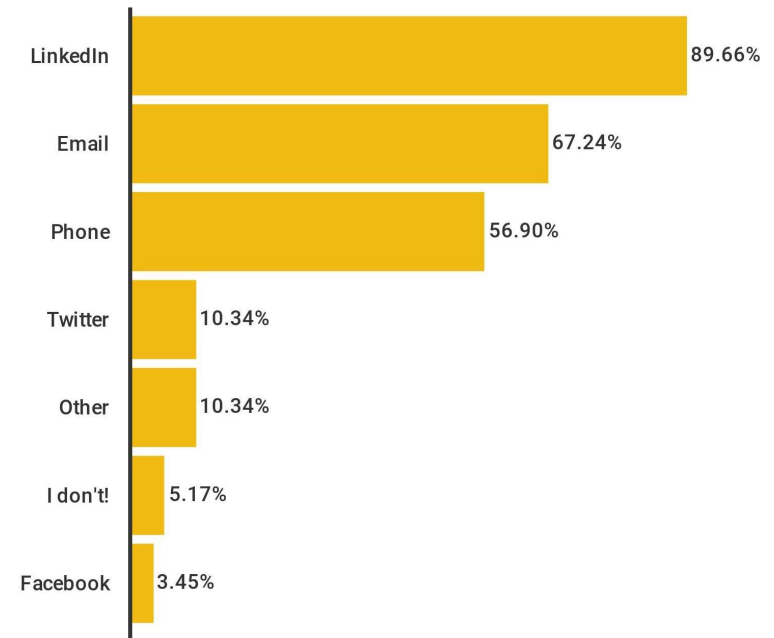● *Developer panel*

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FOR WORK

HOLD THE PHONE

Thankfully, most recruiters don't waste their time contacting candidates via Facebook or Twitter. They understand that developers prefer to be contacted by **email** or on **LinkedIn**.

However, despite only 6.08% of developers choosing telephone when asked "How would you rather recruiters contact you about a job opportunity?", **over half of HR professionals (56.9%) are still reaching for the phone**.

How do you contact developers about job opportunities?

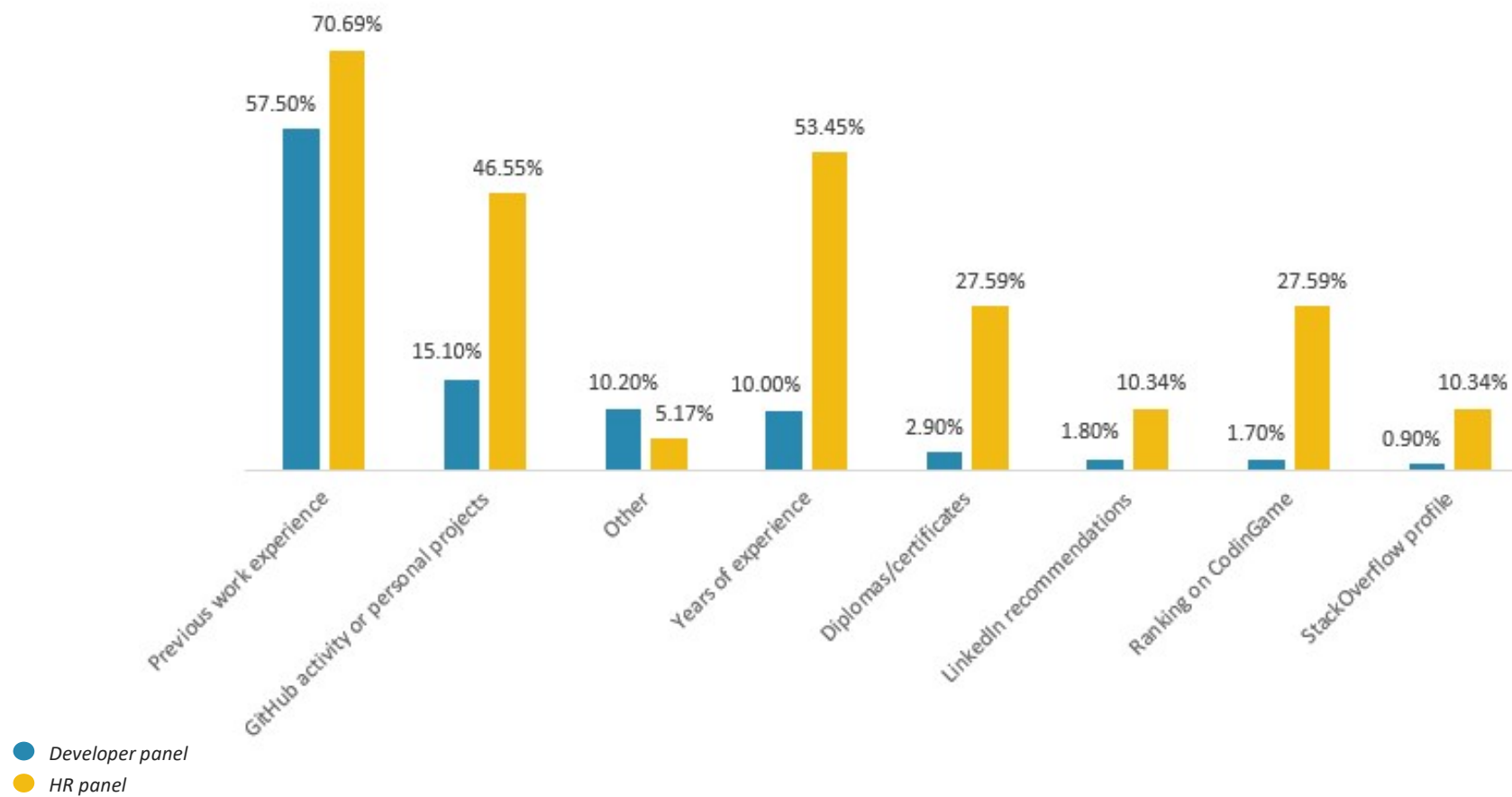|	
LinkedIn	89.66%
Email	67.24%
Phone	56.90%
Twitter	10.34%
Other	10.34%
I don't!	5.17%
Facebook	3.45%

● *HR panel*

SCREEN

FIRST THINGS **FIRST**

Once tech recruiters have successfully identified and engaged with potential candidates, they then have to screen (or **evaluate and filter**) them.

So, what's the first thing hiring bodies look at when assessing a developer's application?

Both recruiters and developers who take part in their company's recruiting process consider that "**past professional projects**" is the most important thing to look at when considering a candidate's application. However, recruiters then favor **years of experience** whereas developers look at **personal coding projects**.

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What matters most to you when considering a developer's application?

Category	Developer panel	HR panel
Previous work experience	57.50%	70.69%
GitHub activity or personal projects	15.10%	46.55%
Other	10.20%	5.17%
Years of experience	10.00%	53.45%
Diplomas/certificates	2.90%	27.59%
LinkedIn recommendations	1.80%	10.34%
Ranking on CodinGame	1.70%	27.59%
StackOverflow profile	0.90%	10.34%

● Developer panel
● HR panel

TECHNICAL TESTING IS THE WAY TO GO

Which kinds of technical assessment tests do you think are acceptable as part of the tech recruitment process?
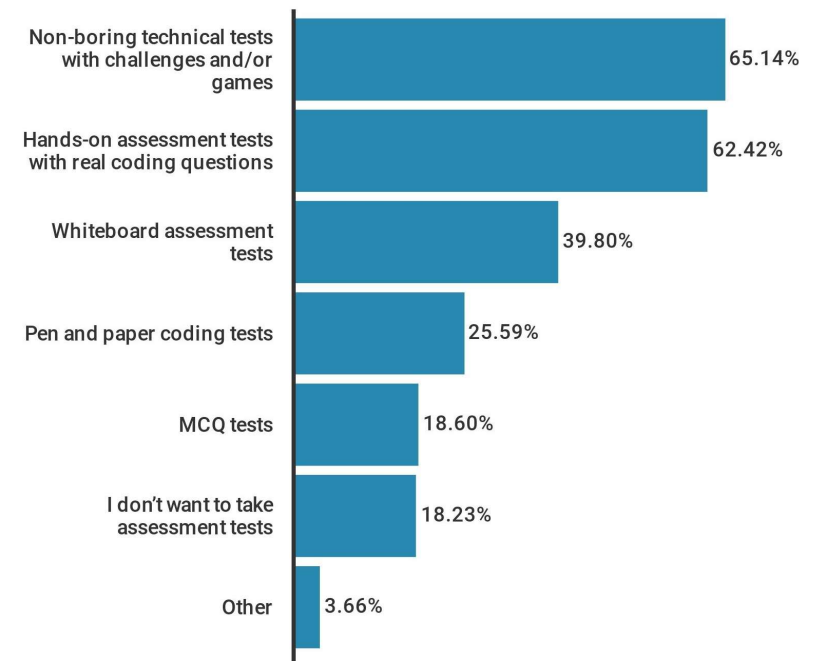
How can you make sure a developer candidate fits the technical bill?

Developers consider that "Non-boring technical tests with challenges and/or games" (65.14%) and "Hands-on assessment tests with real coding questions" (62.42%) are the two most acceptable ways to **assess technical skills** as part of the **tech recruitment process**.

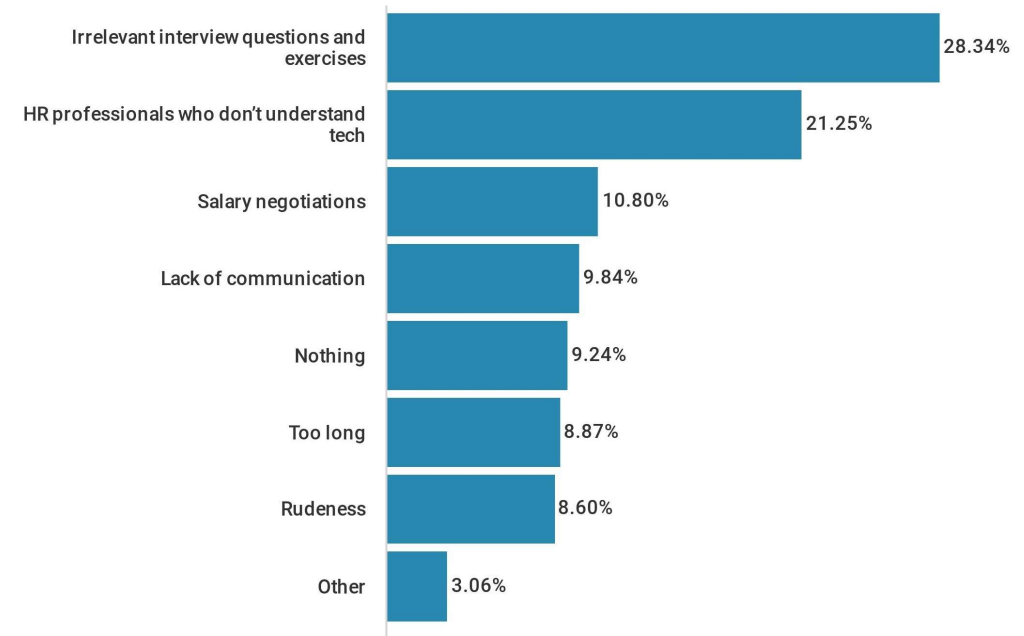|	
Non-boring technical tests with challenges and/or games	65.14%
Hands-on assessment tests with real coding questions	62.42%
Whiteboard assessment tests	39.80%
Pen and paper coding tests	25.59%
MCQ tests	18.60%
I don't want to take assessment tests	18.23%
Other	3.66%

● *Developer panel*

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FOR WORK

THE **INTERVIEW PROCESS** WILL SEE YOU NOW

The **interview process** is an important part of recruitment. It's also a tricky business, especially in tech recruitment.

Be careful, don't get your tech interview wrong! "Irrelevant interview questions and exercises" and "HR professionals who don't understand tech" is **what developers say annoys them most about the recruitment process** - so much so that they'd give up and choose another company.

● *Developer panel*

What do you hate most about the recruitment process?

Category	Percentage
Irrelevant interview questions and exercises	28.34%
HR professionals who don't understand tech	21.25%
Salary negotiations	10.80%
Lack of communication	9.84%
Nothing	9.24%
Too long	8.87%
Rudeness	8.60%
Other	3.06%

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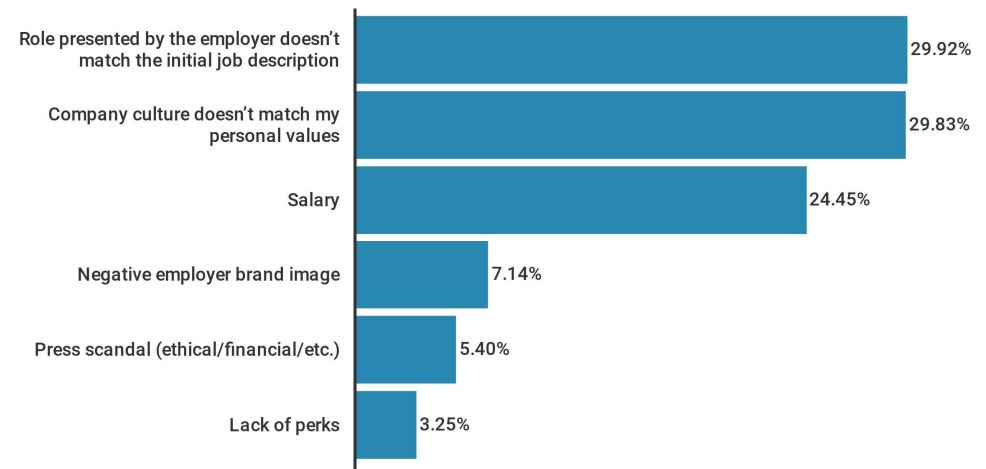
AN **OFFER** THEY CAN'T REFUSE

What also irritates developers and makes them want to look elsewhere is when the "Role presented by the employer doesn't match the **initial job description**".

Programmers pay special attention to **company culture**. 29.83% of respondents say that they'd decline a job offer is the company culture didn't match their personal values.

Make sure your company communication is **authentic and honest** from the get-go.

What is the main, non-negotiable, reason you'd decline a job offer?

Reason	Percentage
Role presented by the employer doesn't match the initial job description	29.92%
Company culture doesn't match my personal values	29.83%
Salary	24.45%
Negative employer brand image	7.14%
Press scandal (ethical/financial/etc.)	5.40%
Lack of perks	3.25%

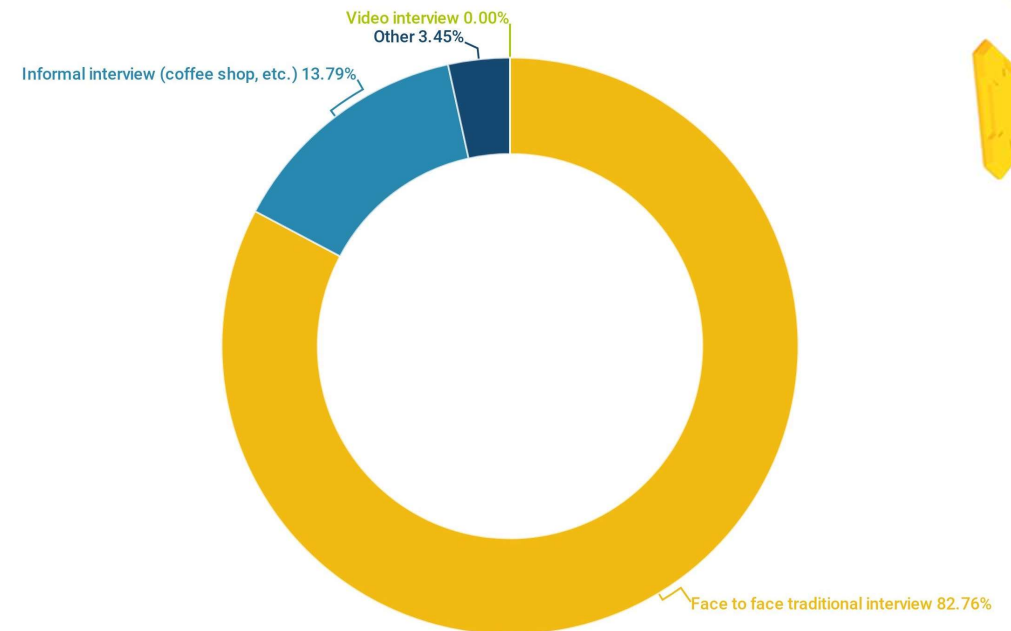● *Developer panel*

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INTERVIEW FORMATS

Although different types of interviews are sprouting up all over the place, **face to face interviews** are still recruiters' favorite interview format.

A whopping 82.76% of our HR panel respondents chose face to face interviews as their preferred interview.

What is your preferred interview format?

Video interview 0.00%
Other 3.45%

Informal interview (coffee shop, etc.) 13.79%

Face to face traditional interview 82.76%

*HR panel*

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# INTERVIEWS: A LITTLE TECH TEAM HELP GOES A LONG WAY

To avoid getting your tech interview wrong and irritating candidates, why not include **your current tech team**?

Despite the fact that the vast majority of developers (90.3%) who are included in their company's tech recruitment are happy to be part of the process, over half of hiring companies (53.13%) try to get by recruiting developers **without the help of their tech team**.

● *Developer panel*

Does your company ask you to take part in their tech recruiting process?

No 53.13%   Yes 46.87%
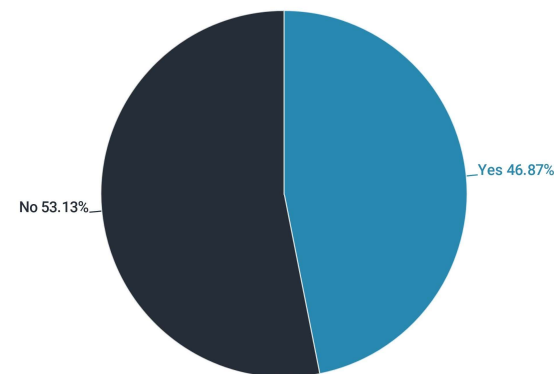
Are you happy to be part of the process?

No 9.70%   Yes 90.30%

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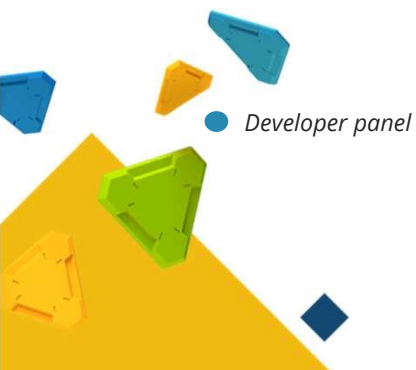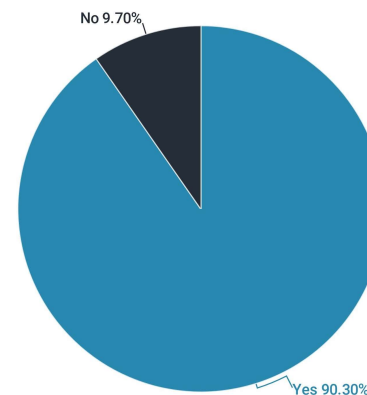
RETAIN

DON'T LEAVE ME!

After finding (**source**), evaluating (**screen**) and hiring a developer – you need to make them want to stay (**retain**).

If you don't give your tech team a good reason to stay, they will definitely leave you.

Developers are **confident that they'll find a job elsewhere** if they wish to change. 72.26% of our developer panel answered between 7 and 10 to the question "On a scale of 0 to 10, how easy do you think it is to change jobs as a developer?".

On a scale of 0 to 10, how easy do you think it is to change jobs as a developer?

● *Developer panel*

IT'S A THREE YEAR THING
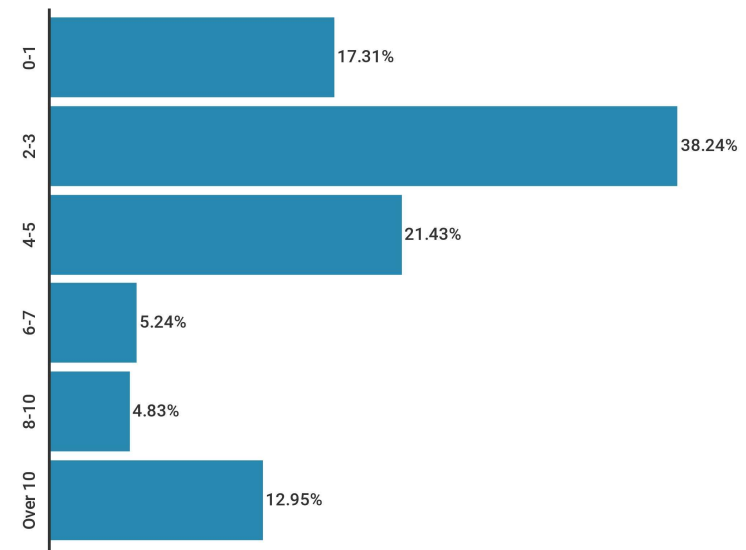
Since it's pretty easy, **developers tend to move around**.

In fact, 55.55% of developers say they tend to change jobs **within three years** of being with a company.

How many years do you tend to stay in the same job?

Range	Percentage
0-1	17.31%
2-3	38.24%
4-5	21.43%
6-7	5.24%
8-10	4.83%
Over 10	12.95%

● *Developer panel*

IS THE GRASS GREENER IN ANOTHER COMPANY?

Why do developers get around?

Because they're looking for a **higher salary** (60.34%), better **advancement opportunities** (48.86) – or just because they fancy a change (38.88%)!

Why change jobs?

Reason	Percentage
To get a higher salary	60.34%
For better advancement opportunities	48.86%
For a change	38.88%
To escape boredom	35.64%
To work for a company with better values	32.89%
To get away from a bad manager	23.33%
To relocate	22.67%
To change field	22.39%
To get away from toxic colleagues	16.83%
For better tools	14.41%
In search of recognition	13.91%
I've never changed jobs	13.04%
Other	6.31%

Developer panel

CodinGame
FOR WORK

WHAT MATTERS MOST

So what **matters most to developers**?

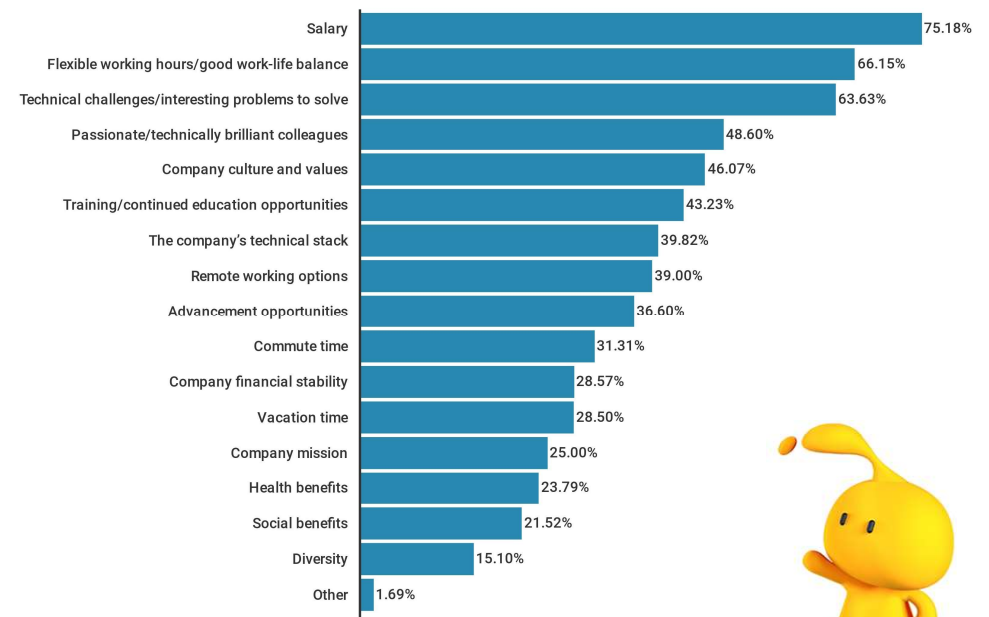Their top three: **Salary** (75.18%), **Flexible working hours/good work-life balance** (66.15%) and **Technical challenges/interesting problems to solve** (63.63%).

If you want to keep your best developers, you need to make sure that what you're offering in these three areas is up to their standards.

● *Developer panel*

When considering a job offer, what matters most to you?

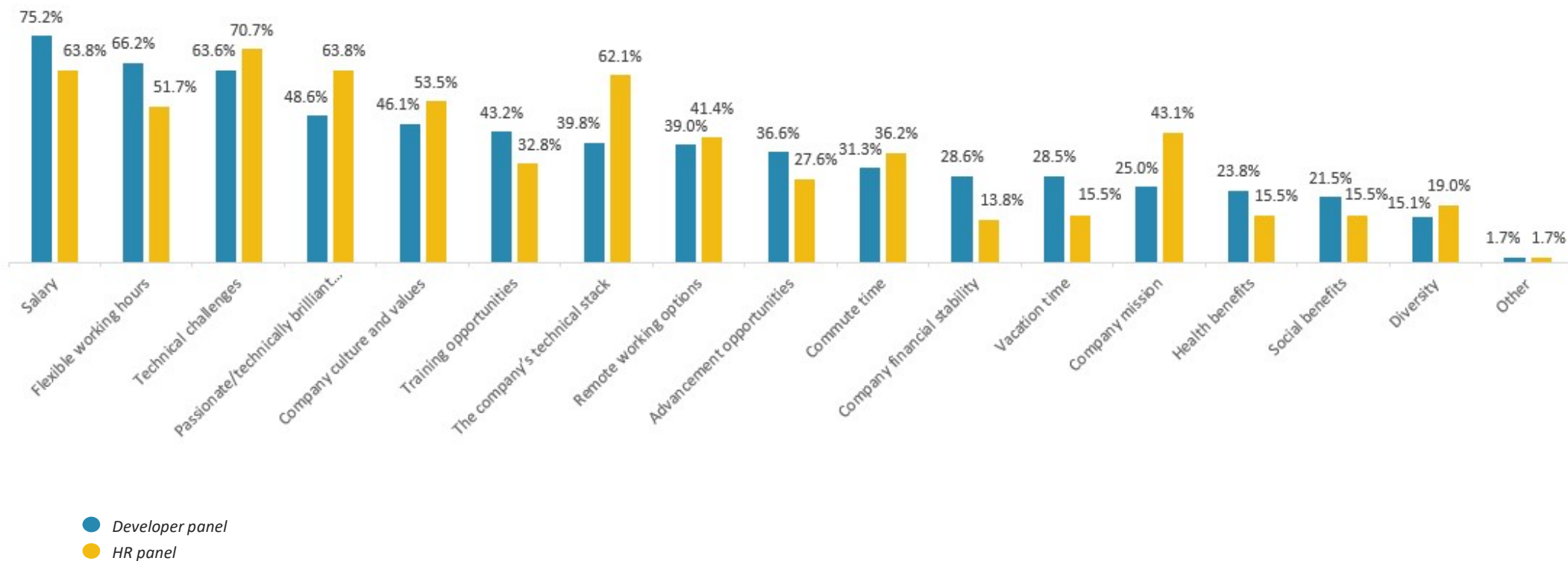|	
Salary	75.18%
Flexible working hours/good work-life balance	66.15%
Technical challenges/interesting problems to solve	63.63%
Passionate/technically brilliant colleagues	48.60%
Company culture and values	46.07%
Training/continued education opportunities	43.23%
The company's technical stack	39.82%
Remote working options	39.00%
Advancement opportunities	36.60%
Commute time	31.31%
Company financial stability	28.57%
Vacation time	28.50%
Company mission	25.00%
Health benefits	23.79%
Social benefits	21.52%
Diversity	15.10%
Other	1.69%

DON'T UNDERESTIMATE THE IMPORTANCE OF BALANCE

HR professionals understand how important **salary** and **technical challenges** are to developers, they class them in the top two of what matters most.

However, they seem to underestimate how important a **good work-life balance and flexible working hours** are to candidates: this slips to sixth place.

What matters most to developers when considering a job offer?

	Developer panel	HR panel
Salary	75.2%	63.8%
Flexible working hours	66.2%	51.7%
Technical challenges	63.6%	70.7%
Passionate/technically brilliant...	48.6%	63.8%
Company culture and values	46.1%	53.5%
Training opportunities	43.2%	32.8%
The company's technical stack	39.8%	62.1%
Remote working options	39.0%	41.4%
Advancement opportunities	36.6%	27.6%
Commute time	31.3%	36.2%
Company financial stability	28.6%	13.8%
Vacation time	28.5%	15.5%
Company mission	25.0%	43.1%
Health benefits	23.8%	15.5%
Social benefits	21.5%	15.5%
Diversity	15.1%	19.0%
Other	1.7%	1.7%

● *Developer panel*
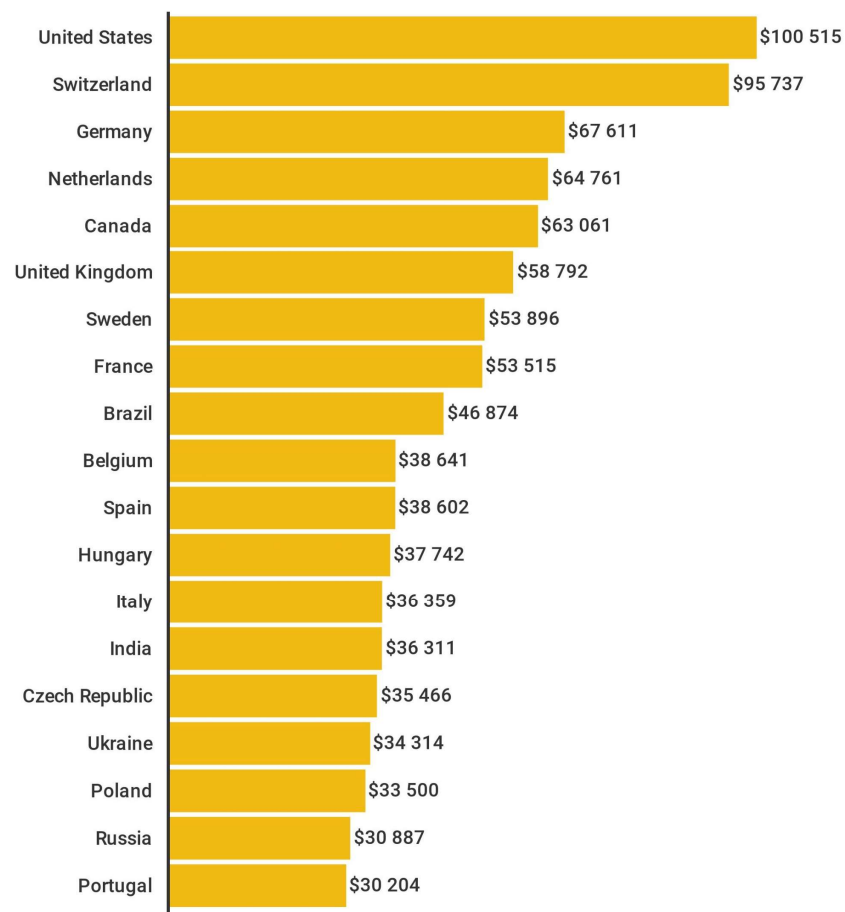● *HR panel*

SHOW ME THE MONEY

HR professionals and developers agree that **salary** is an important issue in tech recruitment.

We took a closer look at the **average salaries per country and per industry**.
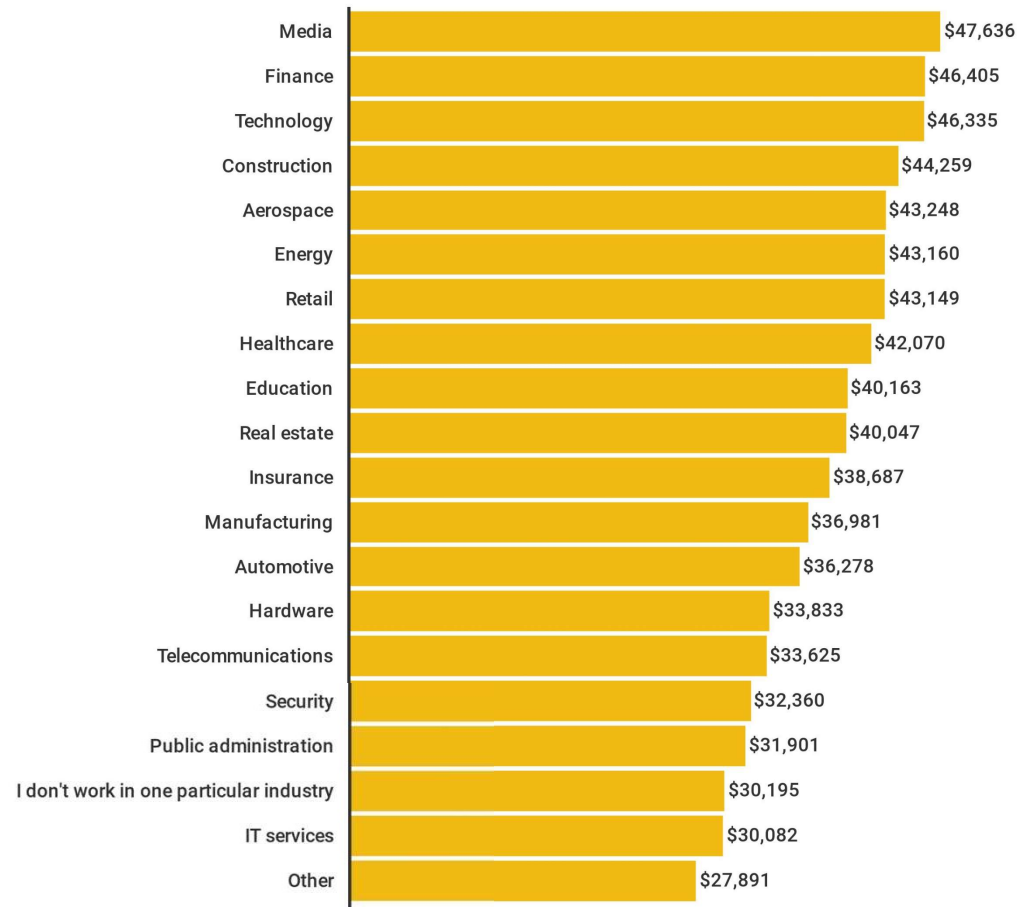
Where do you stand?

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Average annual developer salary per country (US$)

Country	Salary
United States	$100 515
Switzerland	$95 737
Germany	$67 611
Netherlands	$64 761
Canada	$63 061
United Kingdom	$58 792
Sweden	$53 896
France	$53 515
Brazil	$46 874
Belgium	$38 641
Spain	$38 602
Hungary	$37 742
Italy	$36 359
India	$36 311
Czech Republic	$35 466
Ukraine	$34 314
Poland	$33 500
Russia	$30 887
Portugal	$30 204

The average annual salary for a developer in the United States is 100,515 US$

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Average annual developer salary per industry (US$)

Industry	Salary
Media	$47,636
Finance	$46,405
Technology	$46,335
Construction	$44,259
Aerospace	$43,248
Energy	$43,160
Retail	$43,149
Healthcare	$42,070
Education	$40,163
Real estate	$40,047
Insurance	$38,687
Manufacturing	$36,981
Automotive	$36,278
Hardware	$33,833
Telecommunications	$33,625
Security	$32,360
Public administration	$31,901
I don't work in one particular industry	$30,195
IT services	$30,082
Other	$27,891

Some of the highest earning developers work in the Media industry

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FOR WORK
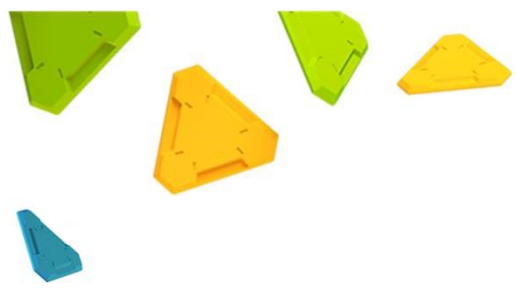
DAY IN DAY OUT

On a scale of 0 to 10, how would you rate the collaboration and communication with your management?

★★★★★★★☆☆☆

● *Developer panel*

If you want your tech team to stick around, you also need to pay attention to **work relations**.
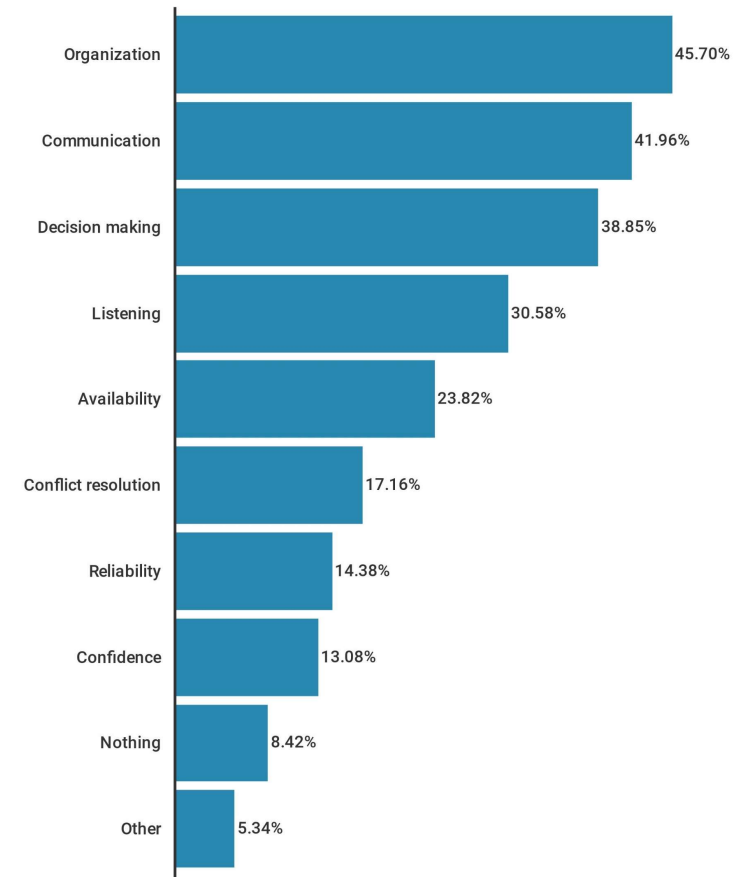
When it comes to their day to day activities and team relations, developers are largely happy at work. They're also generally satisfied with their **management**, rating the collaboration and communication with their manager/management at 6.74/10 on average.

However, **organization**, **communication** and **decision making** are the three top things programmers would like their management to work on to improve their relations further.

What do you think your manager needs to work on?

Organization	45.70%
Communication	41.96%
Decision making	38.85%
Listening	30.58%
Availability	23.82%
Conflict resolution	17.16%
Reliability	14.38%
Confidence	13.08%
Nothing	8.42%
Other	5.34%

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ORGANIZED WORK IS HAPPY WORK

Developers crave **clarity** and **structure**.

They cite "Rework, changes, unplanned work, unplanned problems" (30.85%) and "Unclear direction" (24.05%) as their two **biggest challenges at work**.

However, team relations is the least of their worries (4.24%) - proof that developers really do get on as part of a team!

● *Developer panel*

What's your biggest challenge at work?

Challenge	Percentage
Rework, changes, unplanned work, unplanned problems	30.85%
Unclear direction	24.05%
Unrealistic deadlines	12.78%
Inadequate technical knowledge or experience	12.42%
Work tools	5.78%
Other	5.42%
Management relations	4.47%
Team relations	4.24%

CodinGame FOR WORK
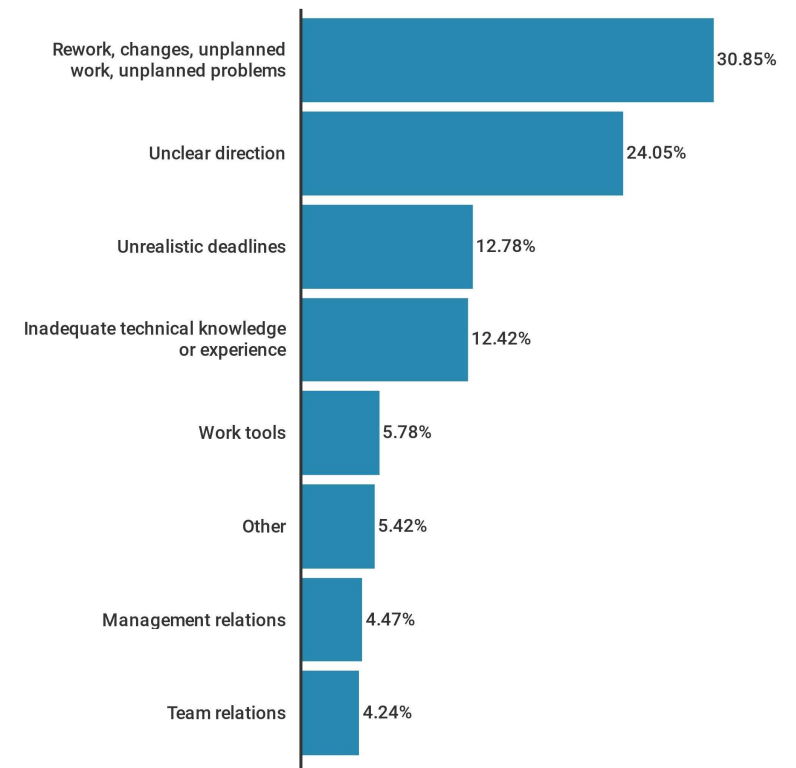
METHODOLOGY

*At the end of **2018** and the beginning of **2019** CodinGame surveyed 9034 **developers** and 103 **HR in Tech professionals**.*

*Respondents came from **over 25 countries**, such as: France, The United States, Russia, Germany, India, United Kingdom, Poland, Canada, Brazil, Ukraine and Spain.*

ABOUT US
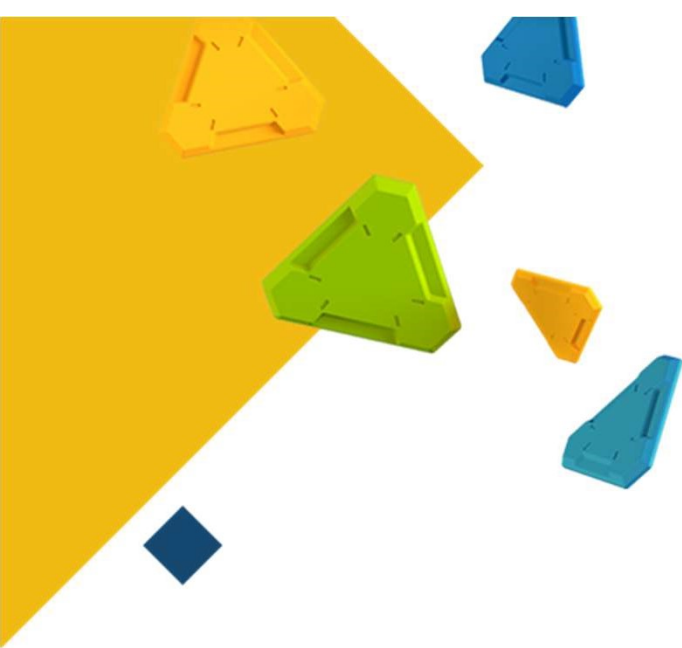
Founded in 2014 by Frédéric Desmoulins, Nicolas Antoniazzi and Aude Barral, CodinGame are a growing French startup. Every day, they work with talented developers and the companies looking to hire them.

Over 1.3 million fans of code from around the world sharpen their programming skills, for free, by playing games and solving puzzles on CodinGame's developer platform.

Companies looking to hire and retain skilled programmers (Bank of America, Nintendo, ebay, Adobe, Warner Bros, etc.) turn to **CodinGame for Work** to **streamline their recruitment process**, **uncover hidden gems** and **delight their tech teams**.

Everybody wins: developers land their dream jobs and **companies expand and strengthen their tech teams**. How? Thanks to reliable, relevant, unbiased **online technical testing** and through addictive, fun **hackathons and contests**.

CONTACT THE CODINGAME TEAM

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📘 facebook.com/CodinGame/

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