

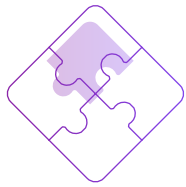


2017

The Developer Ecosystem

EMPLOYMENT TRENDS AND INSIGHTS / UK & IRELAND Q2

Summary



PART 1

The Developer Ecosystem of the UK and Ireland

Tech Hubs in the UK and Ireland

The Most Commonly Used Technologies

The Most in Demand Skills and Emerging Trends in Recruitment



PART 2

Focus: Developer Employment Trends and Insights

The Career of a Developer

What Are Developers Calling Themselves?

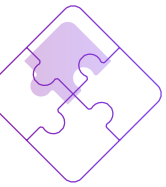
Industry Breakdown

Company Size and Type

Salaries and Salary Expectations in the UK and Ireland

Top Benefits Offered by Employers vs Top Benefits Wanted by Developers





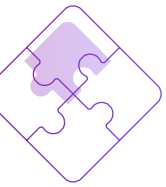
“In a hiring landscape where developers are in constant demand, understanding the talent you want to hire is the single most important thing you can do to attract - and retain - the right developers.”

Jay Hanlon, VP of Community Growth at Stack Overflow

Developers are in huge demand due to a long-term tech skills gap in the UK and Ireland, and tech recruiters face some of the biggest challenges in the recruitment industry.

Stack Overflow is the most powerful developer talent resource and the world's largest online community for programmers to learn, share their knowledge, and level up their careers.





What If You Could Spend a Day in a Developer's Shoes?

You could learn their salary expectations, and the top benefits they care about most when working for a company. While we can't wave a magic wand and provide you with all the things they desire, we can support you with data to help you understand and retain your most valuable developers.

About the Developer Ecosystem: Employment Trends and Insights

Throughout 2017, Stack Overflow will address the challenge of tech hiring and release four new reports that take a close look at the developer ecosystem in the UK and Ireland. Every report will explore a distinct theme within the tech community.

In this second report, Stack Overflow provides an additional focus on employment to help recruiters retain the best developers in their company. Which type of companies do developers currently work for, what are their salaries, expectations and how satisfied are they with their job?

SOME KEY-FINDINGS:



54.6% of developers prioritise jobs offering remote working opportunities



45.3% of developers feel somewhat underpaid



Python, the Microsoft technology stack and Java are the most commonly used frameworks and languages in the UK and Ireland



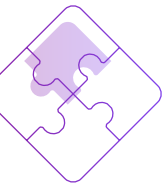
PART 1

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Tech Hubs In The UK and Ireland

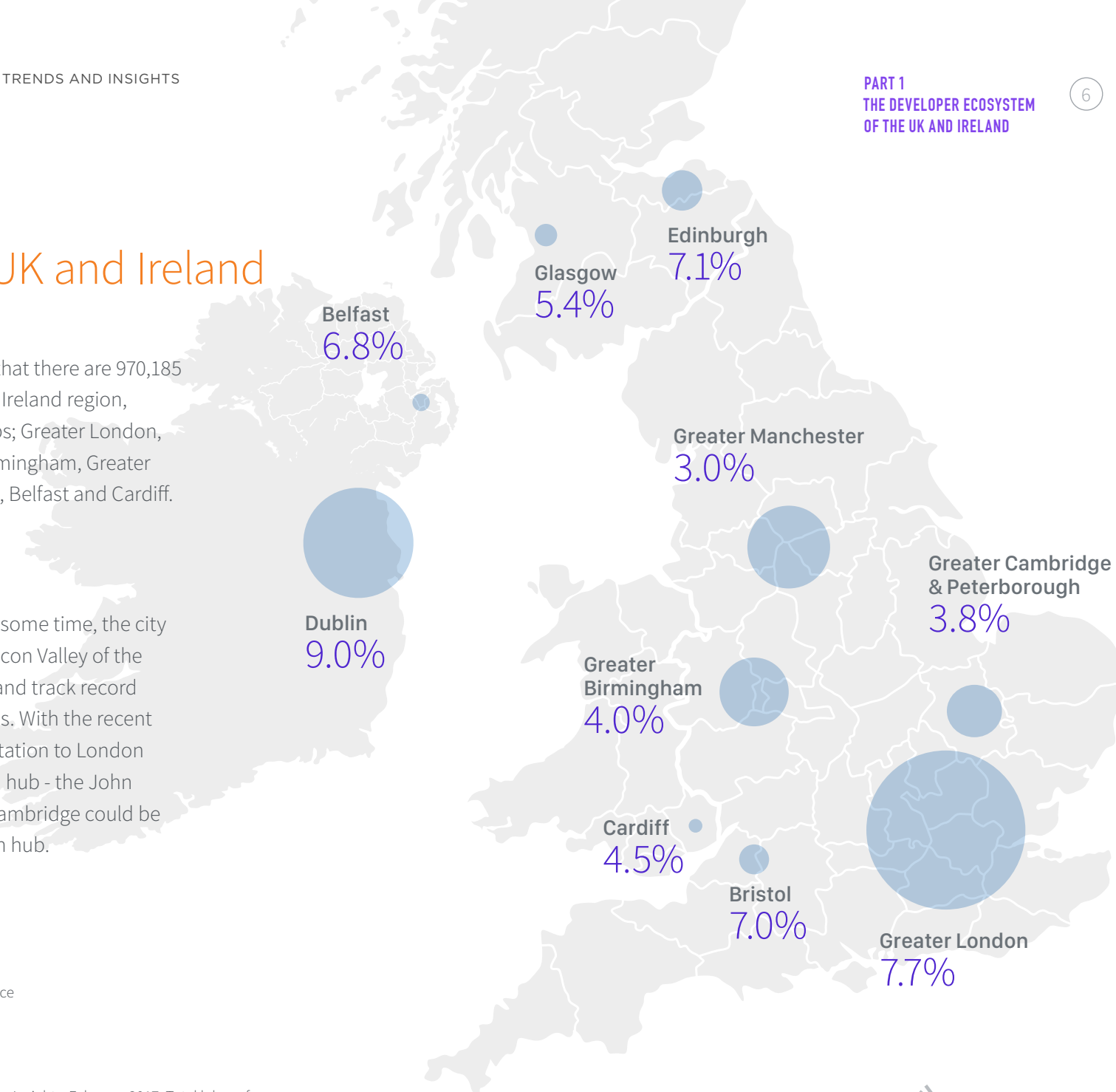
H1 2017

In the first quarter of 2017, we revealed that there are 970,185 developers¹ in the United Kingdom and Ireland region, who mainly live and work in 10 tech hubs; Greater London, Dublin, Greater Manchester, Greater Birmingham, Greater Cambridge, Edinburgh, Bristol, Glasgow, Belfast and Cardiff.

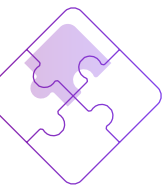
Spotlight on Cambridge:

Cambridge is a leading tech cluster. For some time, the city has been vying for a position as “the Silicon Valley of the UK” thanks to its world class university and track record of success stories within tech companies. With the recent opening of the Cambridge North train station to London in May, and the creation of the new tech hub - the John Bradfield Centre at the Science Park - Cambridge could be heading towards becoming a major tech hub.

- Total Developer Population
- Developer Population as Percentage of Labour Force



1. Developer population data sourced by Stack Overflow Insights, February 2017. Total labour force population data for the UK sourced by the Office for National Statistics and by CSO.ie for Ireland.



The Most Commonly Used Technologies

Q2 2017

Consistent with the results in the [last quarter](#), the most commonly used technologies² and frameworks in the UK and Ireland region are the Microsoft technology stack (.NET), Python and Java. So why are these technologies so pervasive?

Java is still setting the pace in cloud services, software-defined networks (SDN) and big data, and is used in most popular websites such as Google, Facebook, YouTube, Amazon and Twitter. **Python** is a very versatile technology used a lot in Data Science and by a number of applications at Google, YouTube, Facebook and Pinterest.

MOST
COMMONLY USED
TECHNOLOGIES
IN THE UNITED
KINGDOM AND
IRELAND



Python



.NET



Java

Which languages have you done extensive development work in over the past year?

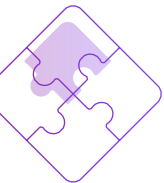
JAVASCRIPT	65.3%
SQL	54.5%
C#	40.3%
PYTHON	30.9%
JAVA	29.2%

Which languages do you want to work in over the next year?

JAVASCRIPT	48.8%
C#	37.4%
SQL	34.2%
PYTHON	33.9%
JAVA	23.0%

Developers are most experienced with JavaScript, SQL, C#, Python and Java and they want to keep using these languages and technologies in 2017.

2. Population to date of developers who use this tech, data sourced by Stack Overflow Insights, May 2017.



The Most In Demand Skills And Emerging Trends In Recruitment

H1 2017

The skills most sought by employers match almost perfectly to the technologies developers want to work with. Good news for the recruiters who are searching for JavaScript, C#, Java or Python developers!

Focus on Python:

A common denominator between sought-after technologies by developers and most in-demand skills from employers is Python. Questions about the Python programming language have become more common over the last few years on [StackOverflow.com](https://stackoverflow.com), and we've seen the same expansion in companies looking for Python developers.

How about emerging trends in technical recruitment?

Between January and April 2017, the fastest growing technical keywords³ in posted jobs are:

AGILE	+4.5%
SCALA	+3.5%
DOCKER	+3.0%
TESTING	+2.7%
JENKINS	+2.3%

Docker is a new way of packaging applications for servers and promises to make the lives of developers and sysadmins easier!

5 MOST IN DEMAND SKILLS³



JavaScript
19%



Java
14%



C#
13%



Python
9%



Amazon
Web Services
7%

3. Percentage of total jobs tagged with the following between March and April 2017, data sourced by Stack Overflow Insights, May 2017.



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Eileen Burbidge, Partner at Passion Capital
Chair, Tech City UK

“If there’s anything I’ve learned as an early stage investor, it’s that it’s all about the team – Every. Single. Time.

The best ideas will still fail commercially if they don’t have the right people working to see them through. Success comes down to execution, and for tech startups this means securing and developing the best technical talent whilst establishing and nurturing a positive culture to retain them. If a founder can rise to that challenge, then they’re well on their way.”



stackoverflow

Joel Spolsky
Founder of Stack Overflow

“Millions and millions of lines of software are running on our behalf in the first 5 minutes of our life”⁴.

4. Tech Talent Week: Developing Our Future by Joel Spolsky, July 2016



Software Is Eating The World

We've said it before and we'll say it again -- the demand for technical talent far exceeds the supply. A majority of UK and Ireland professional developers (98.6%) are employed at least part-time. In this context, employers must gain as much insight as they can into what developers expect from their careers.

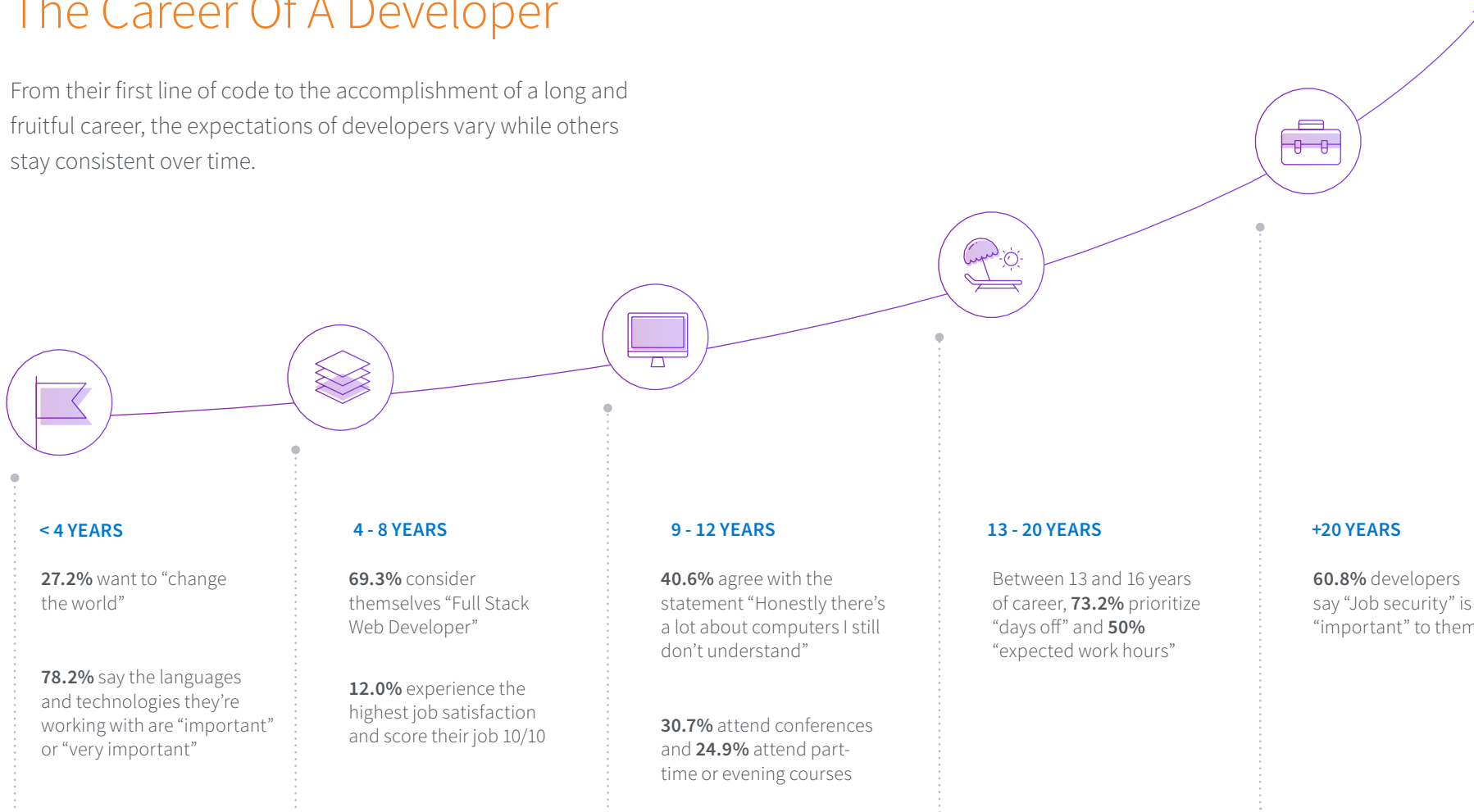
What do developers call themselves? Which companies do they work for and how satisfied are they with their jobs? What salary range should recruiters offer and which benefits really matter to developers? In this chapter, we offer you a comprehensive snapshot of the work life of developers in the UK and Ireland.





The Career Of A Developer

From their first line of code to the accomplishment of a long and fruitful career, the expectations of developers vary while others stay consistent over time.





Findings On Salary, Expectations And Job Satisfaction



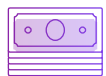
Between 4 and 8 years of career experience, 69.3% developers consider themselves “Full Stack Web Developer”.



Developers with 4 to 8 years of career experience report the highest job satisfaction with 12% rating their job 10/10.



Job security is equally important at every step of their career. 73.5% of developers with less than 4 years of experience, agree or strongly agree with the statement, “Job security is important to me”, compared to 60.8% of those with more than 20 years of experience.



The compensation and benefits offered are always important, but become more important as developers progress in their career. 64.6% developers with less than 4 years of experience find it “important” or “very important”, compared to 84.7% of those with more than 20 years of experience.

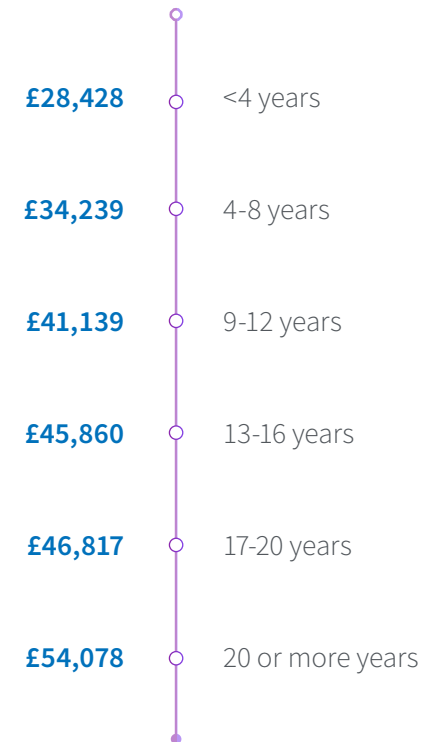


The languages, frameworks and technologies developers are working with are consistently important throughout their career. They are considered “important” or “very important” by 78.2% of respondents with less than 4 years experience, and 76.2% for those with more than 20 years of experience.



The more experience they have, the more they care about remote working options; 37.5% of developers with less than 4 years of experience consider it “important” or “very important”, while 50.8% of those with more than 20 years of experience rated it the same.

AVERAGE SALARY OVER THE YEARS





Spotlight: Developer Expectations



Ines Teles

Full Stack Web Developer and Scrum Master, Co-founder of dwyll.com
Co-organiser of Ladies of Code and Node Girls
Director of Founders & Coders

What matters to you at work?

Beyond the quality of the code and tests: continuous learning, contributing to open source materials/projects and working with community-minded people who build each other up. I'm extremely fortunate to have been able to create an organisation where there is no internal gender divide, so luckily I can take "equality in the workplace" as a given.

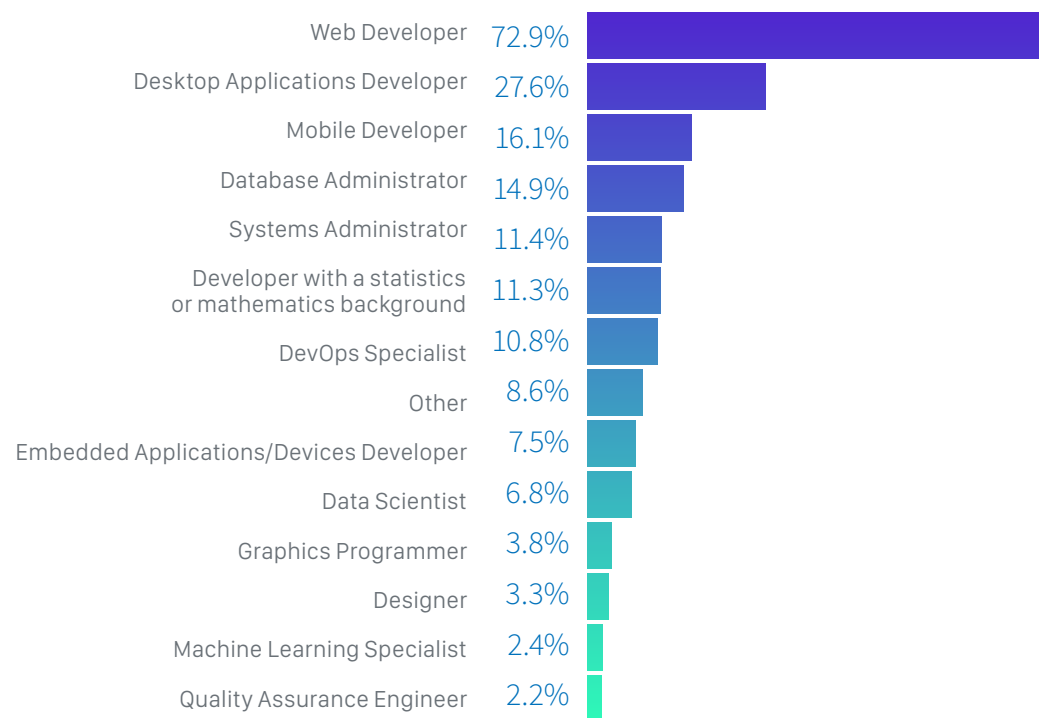
According to you, what are the most sought-after careers for developers?

There is still a very large number of developers who are after the financially solid, slow-paced career, even in the London "bubble". But the majority of the conversations I've been having are around the desire for constantly learning new things whilst building a career foundation. Machine learning, AI and enablement of data science have featured heavily lately!



What Are Developers Calling Themselves?

The term “developer” can be highly subjective depending on who you’re talking to. Some developers are students who work on Open Source projects when they’re not in class. Others are working for Fortune 500 companies with job titles like Senior Engineer. Nevertheless, one thing’s for certain: if you spent part of your life coding, you can call yourself a developer.

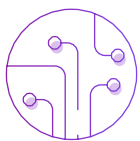




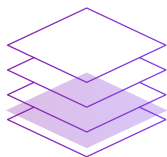
Industry Breakdown

Developers are embedded in every industry, every country, every sector. There's a common misconception that developers work for the most part in software companies. While a substantial number of them work for software and internet/web companies (34%), they are also employed in diverse industries across the economy including finance, media, retail, and education. Finance and media employ a higher than average proportion of developers in the United Kingdom and Ireland.

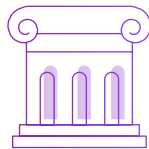
Top 3 sectors for developers



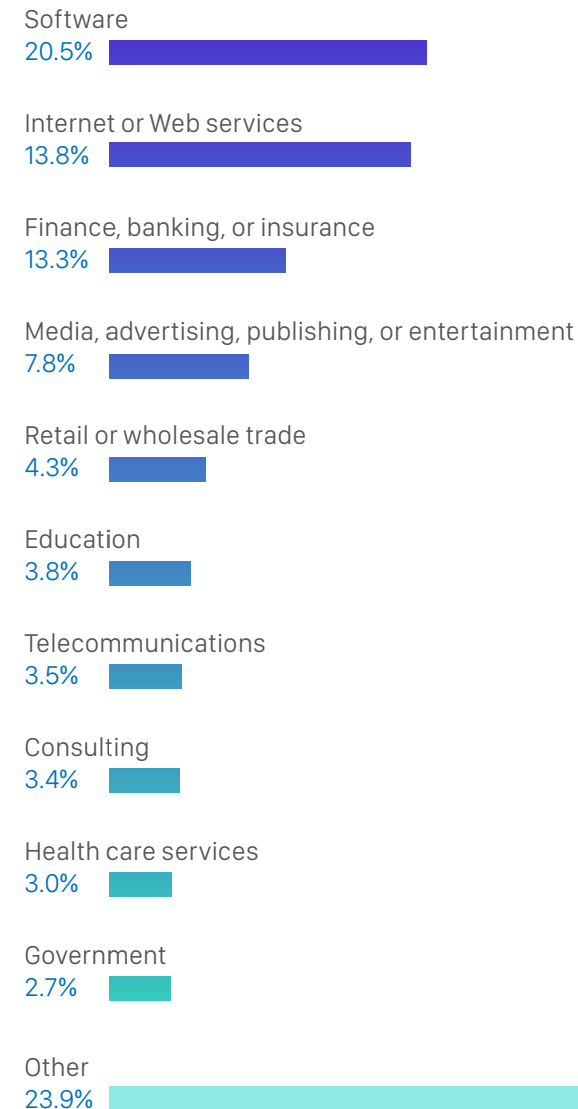
Software



Internet or Web
services



Finance, banking
or insurance

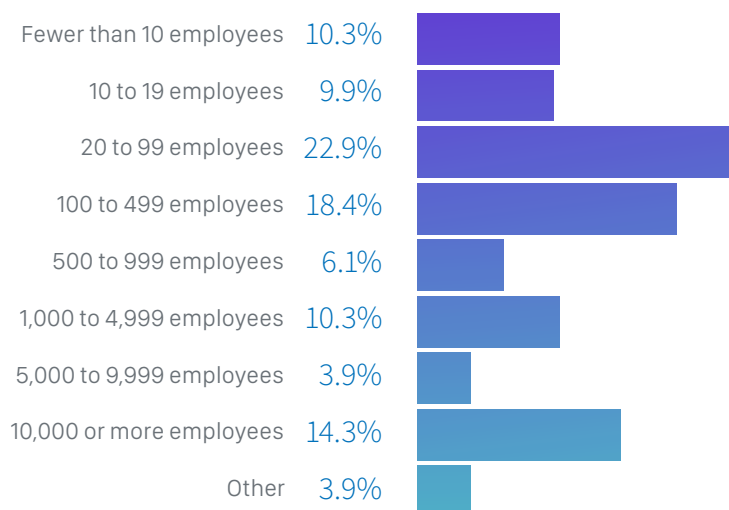




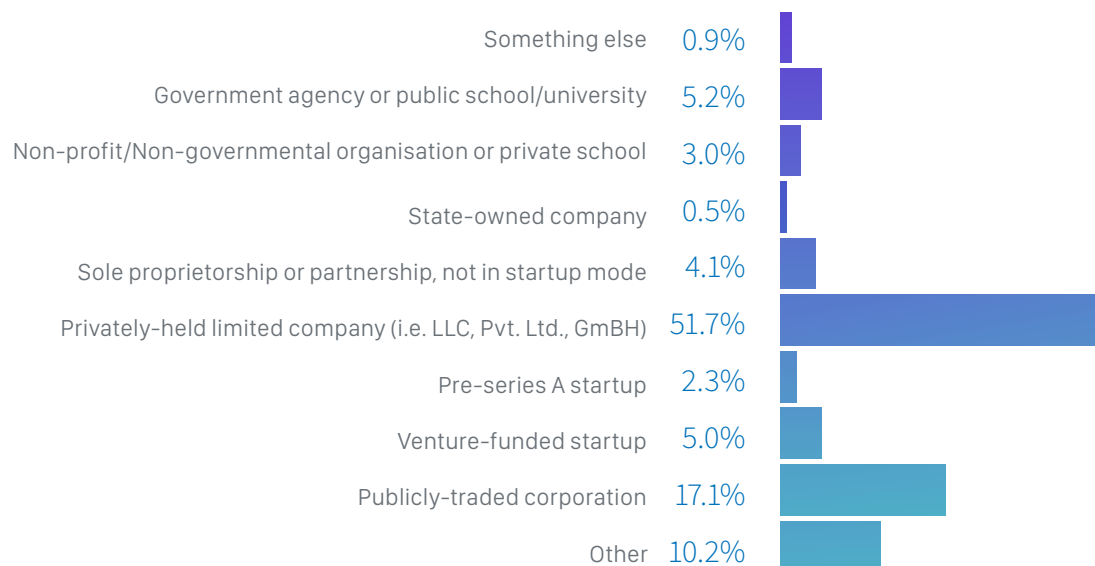
Company Size And Type

Developers work at companies ranging from the smallest startup to the largest and best-known brands. The majority of UK developers (41%) work for a company that has between 20 and 500 employees. You may picture the average developer working at a tech startup, but developers are employed at many different types of companies. In the UK and Ireland, only 7.3% of developers work at a startup, while a majority work at privately-held companies (52%).

Company size



Company type





Salaries In The UK And Ireland Regions

The best paid developers are in Greater London and the Republic of Ireland, where half of the developers earn circa £50,000+. Developers in Greater London have the highest earning potential, where the top 5% earn more than £98,765 a year.

In comparison, more than 50% developers in Northern Ireland, Midlands, Wales and Northern Ireland earn less than £35,000 a year. Developers feel this divide, with 64.2% of them feeling “greatly” or “somewhat underpaid” in Northern Ireland.

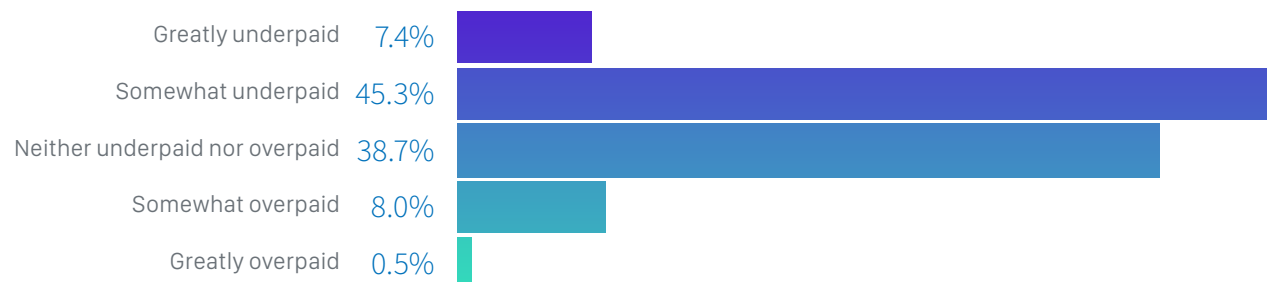
Salary Percentiles		Northern Ireland	Scotland	Wales	Greater London	Midlands	Northern England	Southern England	Republic of Ireland
	95%	£ 50,000	£ 68,000	£ 76,000	£ 98,765	£ 60,000	£ 56,000	£ 77,000	£ 86,022 / € 99,250
	75%	£ 38,000	£ 45,600	£ 40,000	£ 64,000	£ 43,000	£ 43,000	£ 48,000	£ 60,215 / € 69,474
	50%	£ 35,000	£ 38,000	£ 33,000	£ 50,000	£ 34,000	£ 34,000	£ 40,000	£ 49,892 / € 57,564
	25%	£ 27,000	£ 30,000	£ 29,000	£ 37,000	£ 25,000	£ 27,000	£ 30,175	£ 34,409 / € 39,700
	5%	£ 22,500	£ 24,000	£ 21,000	£ 23,500	£ 18,000	£ 18,000	£ 21,000	£ 20,215 / € 23,323



Salary Expectations Compared To Market Value

Developers who work in government and nonprofits in the UK and Ireland feel the most underpaid (64%). In the [Developer Ecosystem: Tech Hiring Edition](#) we revealed that programmers working in this space were the most likely to be actively looking or open to new job opportunities (77%) and were some of the least satisfied with their overall career. In contrast, 11% of UK developers who work in software feel overpaid!

Salary Self Assessment













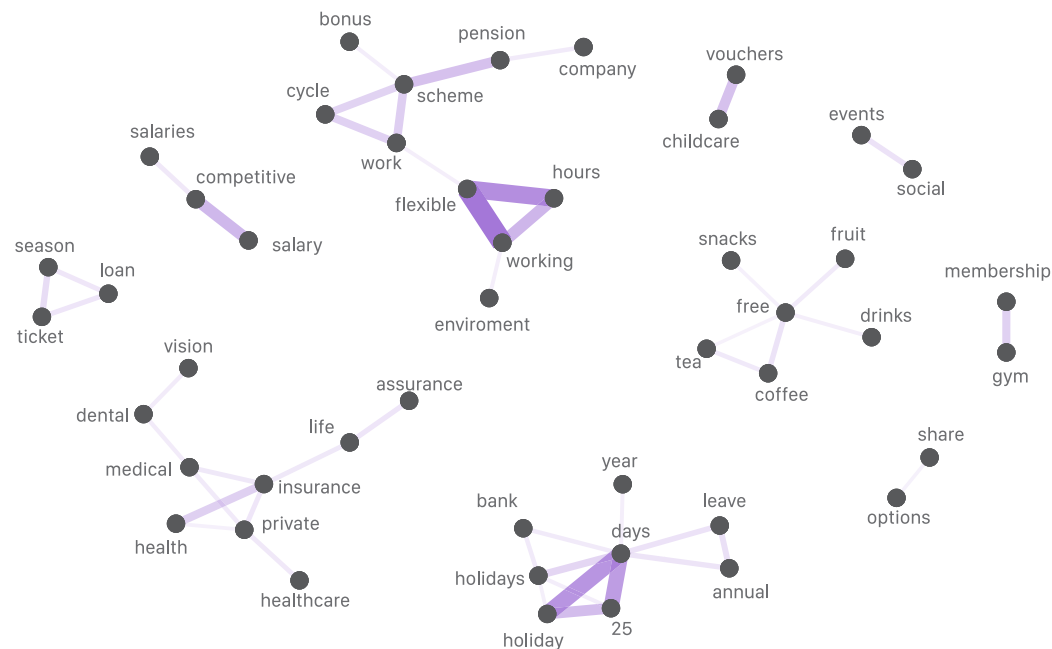
Top Benefits Offered By Employers

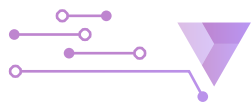
Through this clustering, we can see that the main categories of benefits offered by UK and Ireland companies are:

Top 5 Benefits Offered In UK and Ireland Region

-  Holidays/days off and leave
-  Flexible hours/schedules
-  Competitive salaries
-  Childcare vouchers
-  Pension schemes
-  Various kinds of health/dental/life insurance
-  Cycle-to-work scheme
-  Gym membership

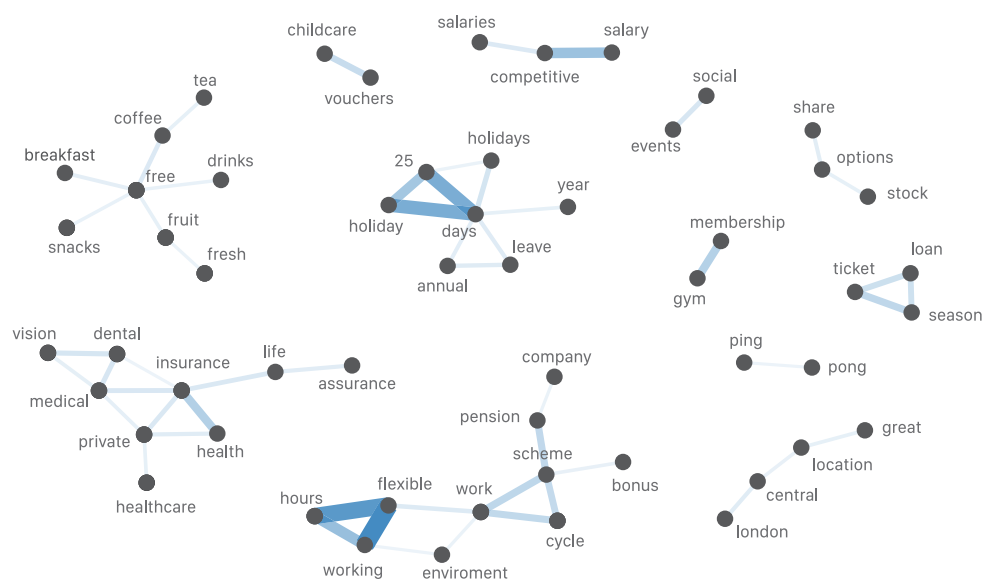
Word network: employer benefit descriptions (UK & Ireland)



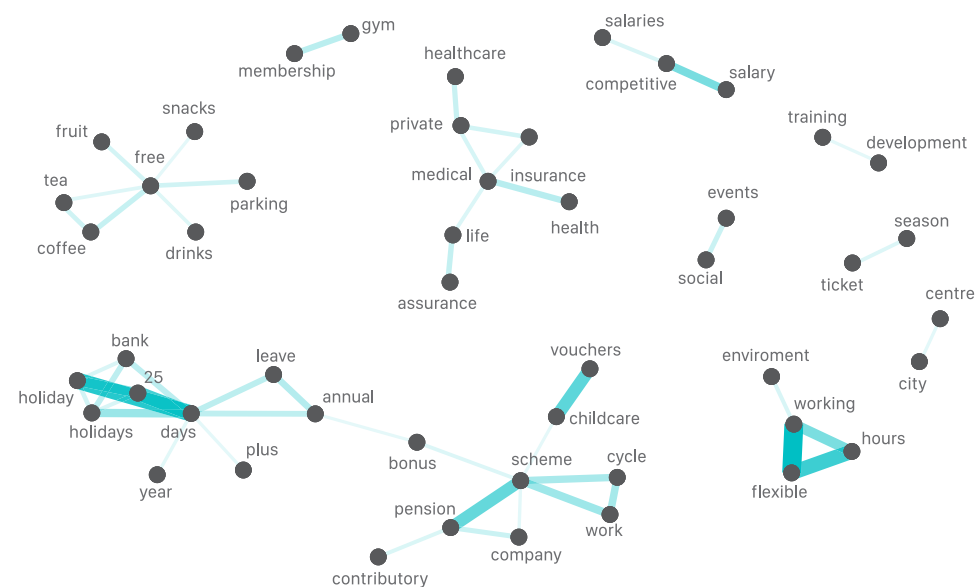


In London, companies place a strong emphasis on flexible working. They also offer season ticket loans more frequently than employers outside of London. Elsewhere in the UK and Ireland, businesses are more likely to offer childcare vouchers in their benefits packages.

Word network: employer benefit descriptions (London)



Word network: employer benefit descriptions (outside of London)





Top Benefits Wanted By Developers

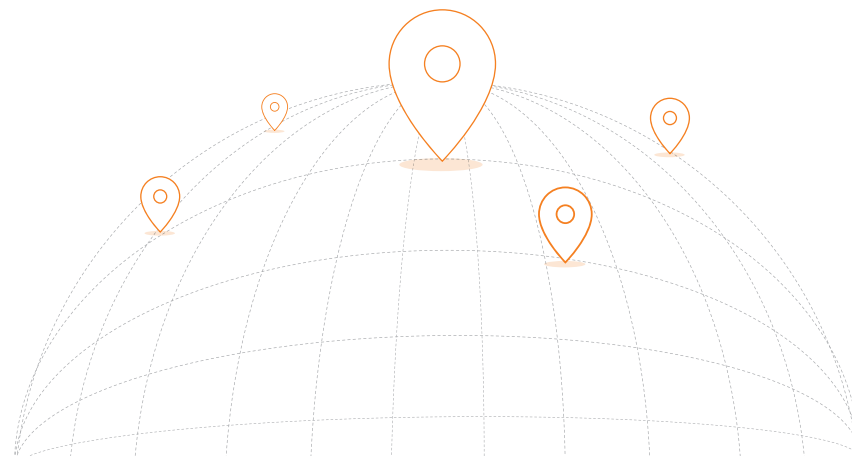
Do the benefits offered by employers match the benefits that matter to developers? Let's consider the top 5 benefits that developers care most about:

VACATIONS / DAYS OFF	67%
REMOTE OPTIONS	54.6%
EXPECTED WORK HOURS	50.1%
EQUIPMENT	45.5%
PROFESSIONAL DEVELOPMENT SPONSORSHIP	38.7%

Developers in the UK and Ireland put flexible working at the top of the list for most wanted benefits, as [remote working](#) slowly makes its way into more traditional or corporate industries. Do not underestimate the importance of equipment and professional development sponsorship to attract and retain the best tech talent. It's worth allocating a budget for your developers to attend conferences and meetups, and to offer them the best equipment.

How often do developers work remotely?

8.7% of the developers in the UK and Ireland are full-time remote and 35.9% of them work remote a few days each month. Engineering Managers can effectively manage a remote team of developers, especially compared to other roles that require in-person meetings and interactions. A number of UK-based companies are already offering remote work to their developers, such as [ThoughtWorks](#), [KCOM](#), [The Scale Factory](#), [PurePoint](#), and more.





Spotlight: How I Hire



David Richardson

Head of Engineering Recruitment at Deliveroo

What are the most important things you've learnt in your career to retain developers in your team?

It's really important to enable people to work on things they're passionate about. This means creating opportunities for people to choose what they work on, but also providing the option for them to switch to something else. This can be challenging as it has to be balanced against a company's needs, but the ideal state is having everyone work on what interests them most. That's how you'll get the best out of people.

What do you highlight to developers about your company and culture when you're interviewing them?

Our technology team is building and evolving our tech into something that is increasingly complex. It's a challenge, but that's where the opportunity lies for ambitious developers. And it's happening at our headquarters here in London! From a culture point of view, there is a real sense of community in the team here at Deliveroo, and people know that we're building something special at scale.

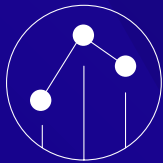
What do you envision for the future of tech recruiting?

The tech sector in London is only going to continue growing and it will hold more and more opportunities for people looking to get into development. Alongside that we're seeing more engineers enter the industry via alternative routes, rather than following the traditional computer science degree pathway. For us, it's about embracing that change, and ensuring our interview process is set up to attract the best talent, no matter what route an individual has followed to get there.



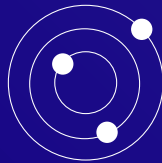
Hiring Developers is Hard. We Make it Easier.

With Stack Overflow Talent, you can:



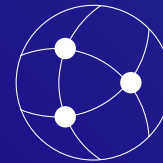
UNDERSTAND

Learn all about developers
and the industry they
work in.



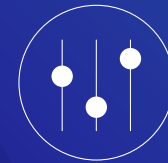
BUILD

Create an employer brand
and message that resonates
with developers.



SOURCE

Find technical talent with our
tools to engage with active
and passive candidates.



MANAGE

Get help optimising
your hiring process.

Talk to an Expert

