

# 2019 VIETNAM DEVELOPER REPORT

Q2-2019

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# Introduction

Vietnam's Information Technology (IT) industry is facing two separate waves: the first wave comes from the increasing amount of foreign investment funds into Vietnam's market, leading to a rising number of new startups (owned either by individuals or organizations) which are established and invested; the second one is the escalating demands for human resources in Fintech-related fields such as AI, Data Science, Big Data, Cyber Security. In addition this is the mandatory tendency to **Digital Transformation** - every Tech company is great needs for IT human resources recruitment, which leads to the peaking demand to hire these developers. At a recent event, Minister of Communications and Information Mr. Nguyen Manh Hung claimed that Vietnam would need more than 50,000 Information Technology companies to accelerate Vietnam digital transformation. Vietnam will claim its strategy about national digital transformation in order to reach a digital economy and society. Also, the Tech startup movement as well as the increasingly available startup projects from large companies shall all contribute considerably to the present rising demands for Information Technology human resources, the level of scarcity and the programmers themselves knowing their true values shall make it more complicated and challenging for businesses to retain their talents.



**NGUYEN HUU BINH**

CEO - TopDev

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Vietnam IT human resources  
recruitment demand in the future

# Source

**45.578** participated IT candidates

**1.151** participated IT Recruiters

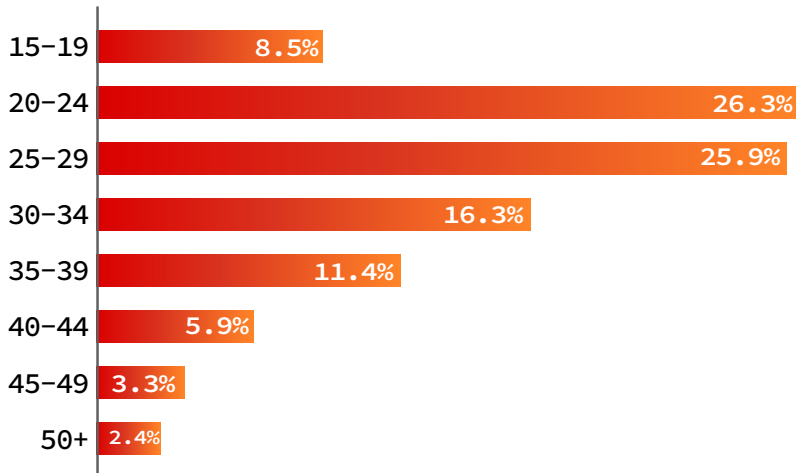
**150.000+** analyzed job data

- The attention and potential of Vietnam's market has brought in many IT companies in the same region to make tremendous efforts to hire or construct the product development team here in Vietnam, the creative startup trend in this technology sector is getting stronger especially after some big investments for Tech startups. The transformation wave of traditional businesses (Digital Transformation) like tourism, agriculture, real estate... is moving towards DX and e-commerce. At Vietnam ICT Summit 2019, Minister of Communications and Information Mr. Nguyen Manh Hung claimed that Vietnam would need more than 50,000 Information Technology companies to accelerate Vietnam digital transformation.

- **Source**  
From January 1st 2019 to July 25th 2019, we have been collecting surveys from all majored partners, customers, candidates and recruiters in IT sector. Besides, TopDev's recruitment data in the last 4 years also contributes to the Report's accuracy and objectivity.

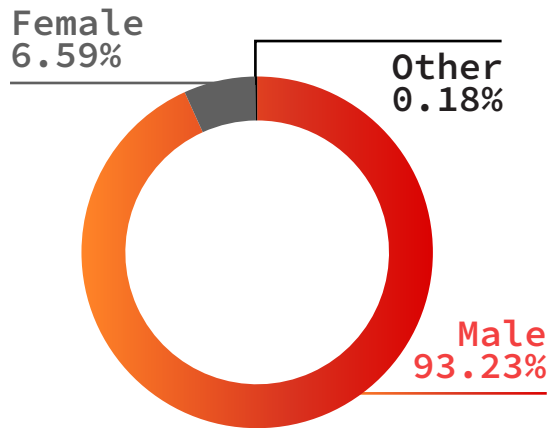
# DEVELOPER PERSONAS

# Age of Developers



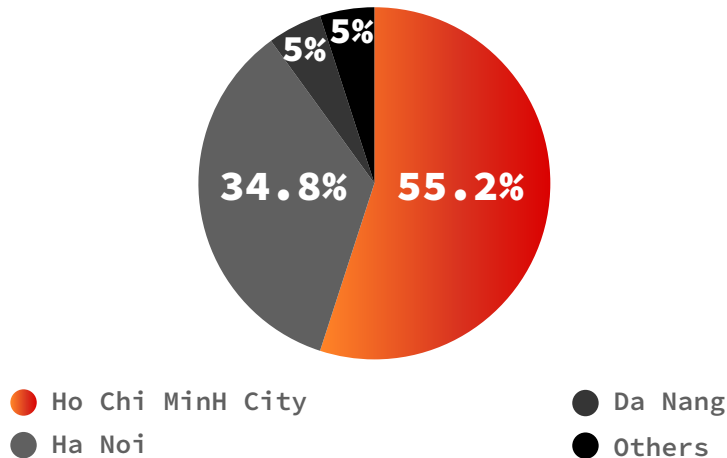
The majority of this survey is people aged from 20-34 years old. There are lots of programmers who has started coding at a very young age. About 8.5% of the candidates stated that they had begun to code before the age of 20. At the present, young programmers in Vietnam occupies the majority of 52,2% of the total pool at the age of 20-29 years old.

## Genders



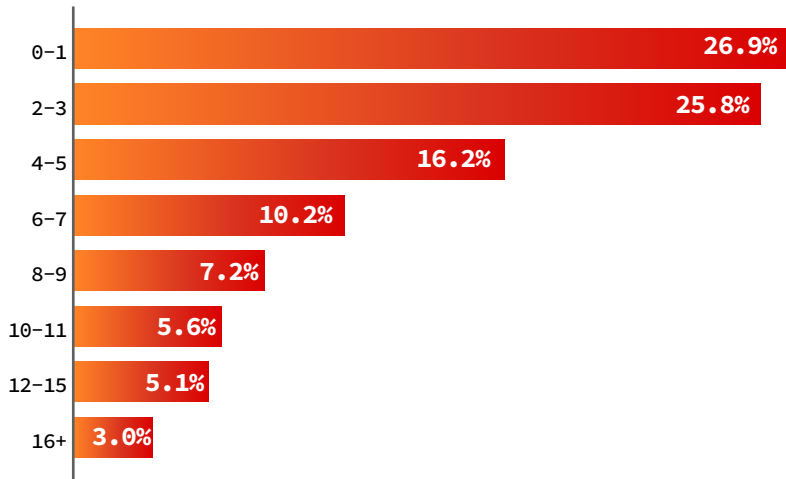
Over 90% of the responses shows that the majority of programmers or those working in IT sector is male while female only accounts for 6%. However, the number of female developers has been increasing rapidly, especially female developers with two years experience.

## Location



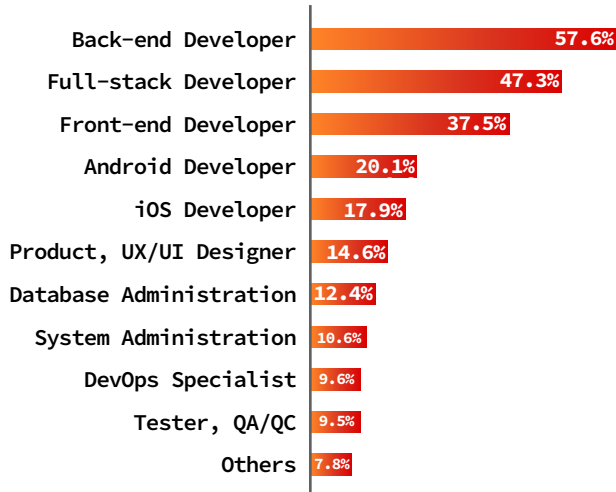
At the moment the majority of programmers are from Ho Chi Minh City and Hanoi, while only 5% of programmers live in Da Nang

## Years of Experience



The number of programmers who have more than 5 years of experience account for about 31%, meanwhile, those who have less than 3 years of experience represent 53%.

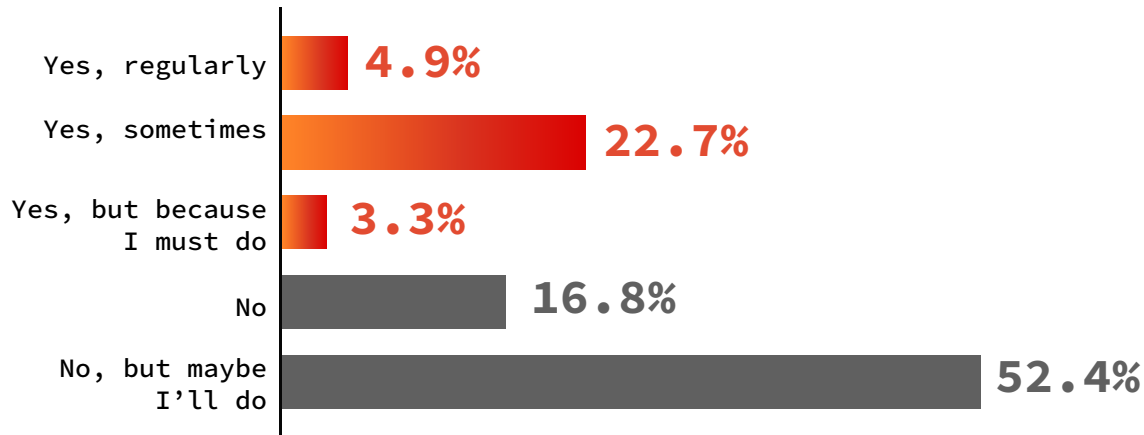
## Current Positions



Nearly 60% of the respondents claimed to be Back-end Developers, the number of Full-stack Developers ranks second with 48%. The domination of Web Technologies has helped increase the number of Web Developers in general.



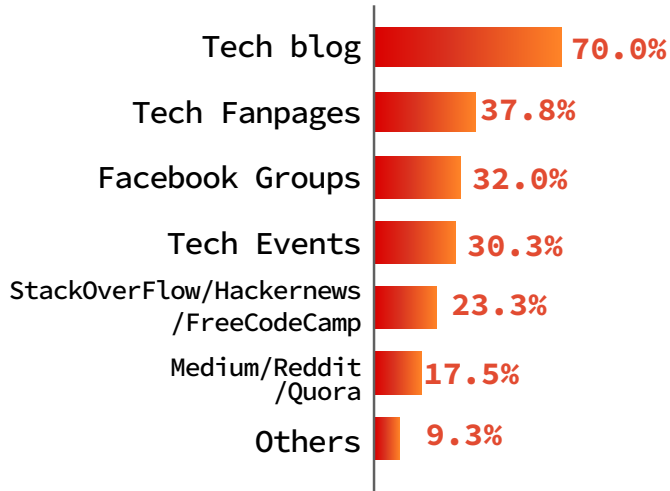
# Do you contribute to Open Source?



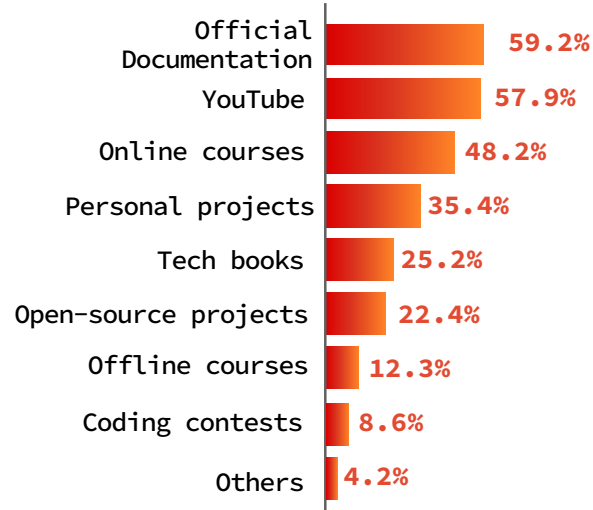
According to the survey, nearly a quarter of developers state that they did participate in open source project. 100% of developer claim that they use open source projects frequently.

Approximately 70% of developers work with open source of Javascript, PHP and Python.

## How do you update your tech news?

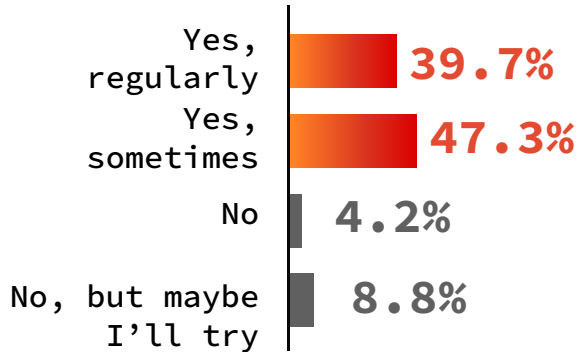


## How do you learn new programming languages?



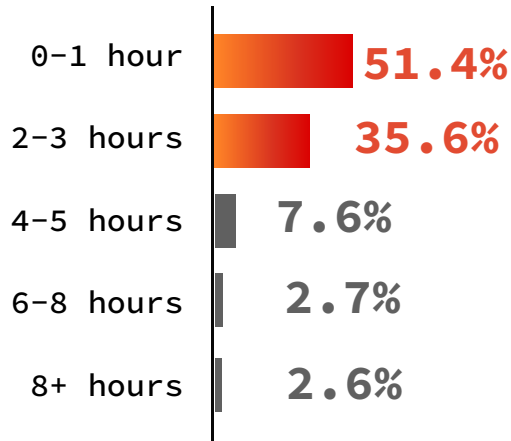
70% of programmers claimed that they mainly update their knowledge through blogs rather than other media channels. Unlike international programmers - updating knowledge through Twitter, Vietnamese programmers shall choose programming fanpages as well as Facebook communities of those expertising in tech. In order to start learning a new language, programmers can also start via official documentation to update themselves.

## Do you code outside of work?



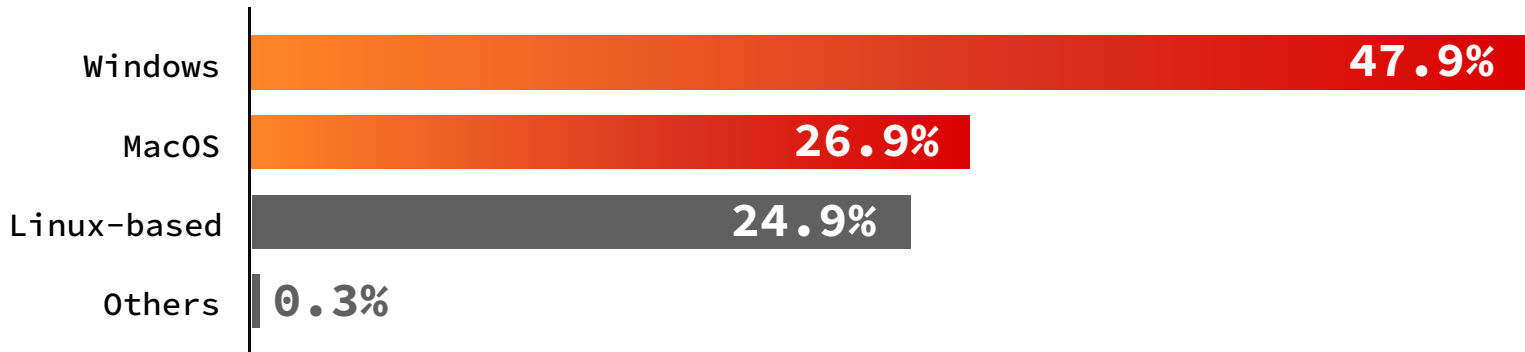
For the vast majority of programmers, coding isn't just something they do at work. 88% of our respondents said they code outside of work.

## How many hours per day do you spend coding outside of work?



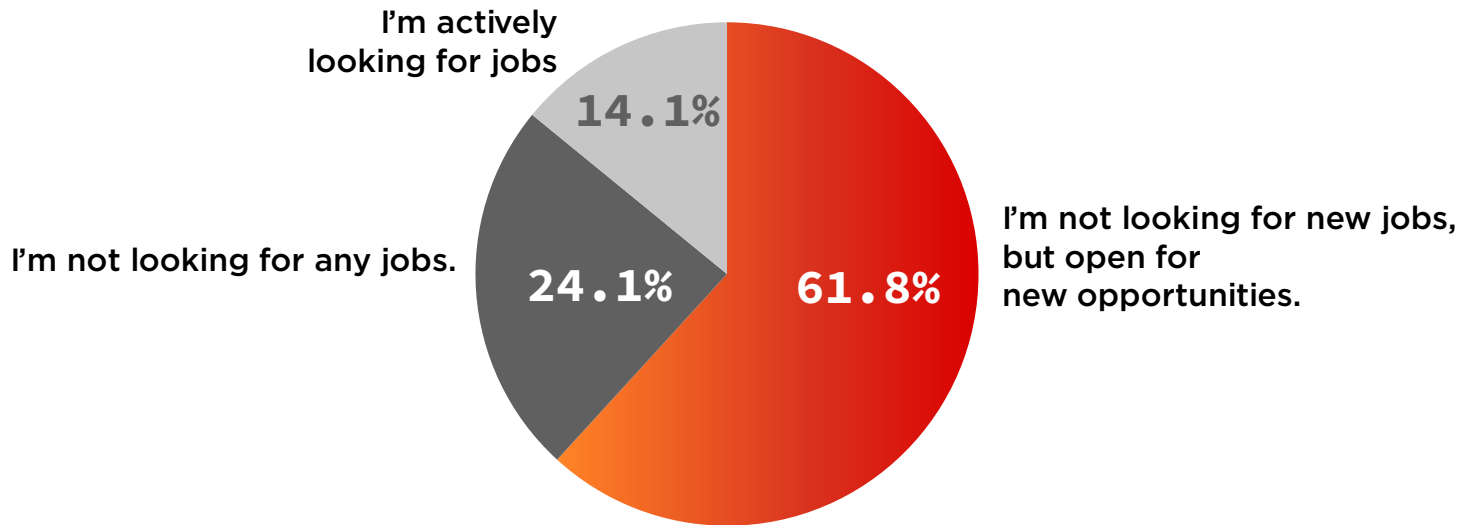
About 51.4% of programmers spend 1 hour for personal projects. Nearly 43.2% of programmers spend 2-5 hours for personal projects.

# Favorite Operating Systems



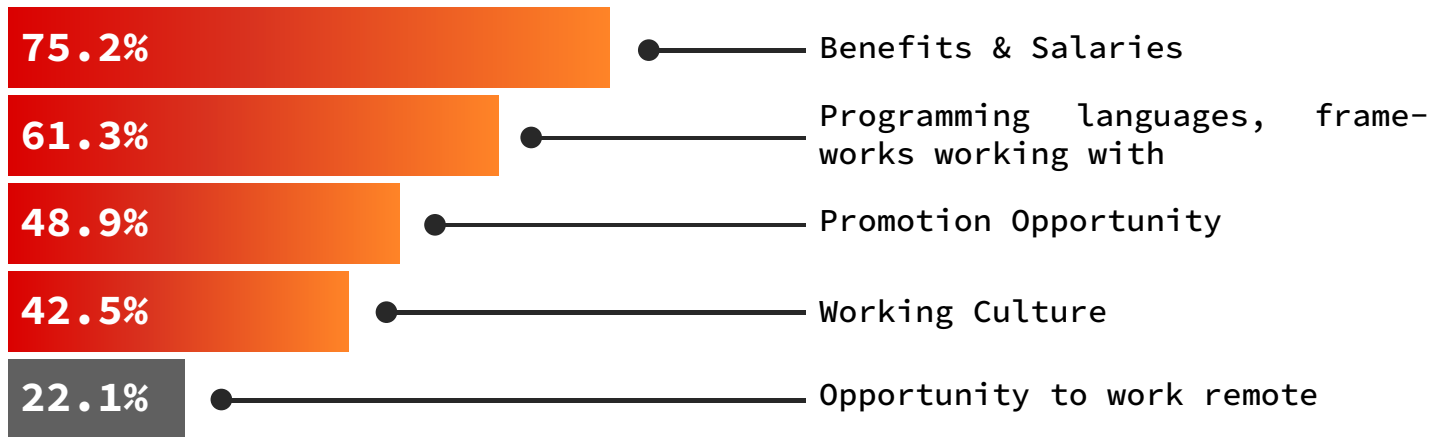
Following the movement of the market, most programmers still use Windows, 26% using MacOS, the rest is for Linux

# Job-searching Status & Behaviour



About  $\frac{3}{4}$  developers are willing to switch their working environment whenever suitable

# What makes the new job appealing to developers?



There are 3 important factors that the recruiters should consider to attract programmers: compensation, attractive technology and promotion opportunities at work.

# DEVELOPER @WORKPLACE

# Satisfaction with current job?

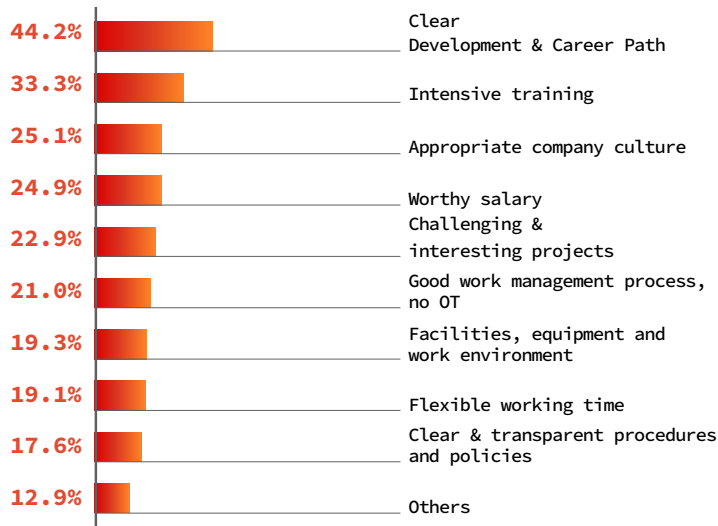


3.5/5

At the moment, most developers are quite satisfied with the current job.

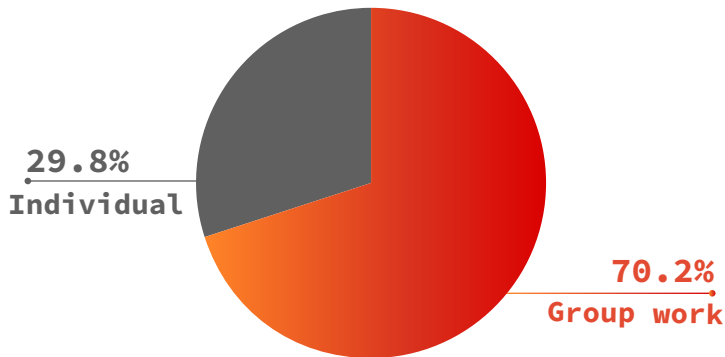
44% of respondents shared that having a clear career development roadmap will encourage them to devote more at work. Besides, 33% stated that together with trained professionals will make them more coherent with the current company. So salary is not the most important factor to retain people in this industry.

# What makes you more satisfied at work?



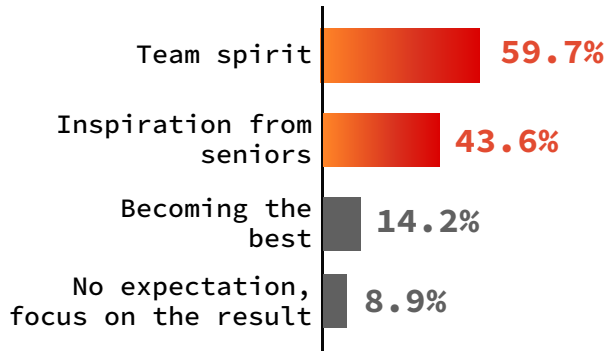


## Individual or group work?



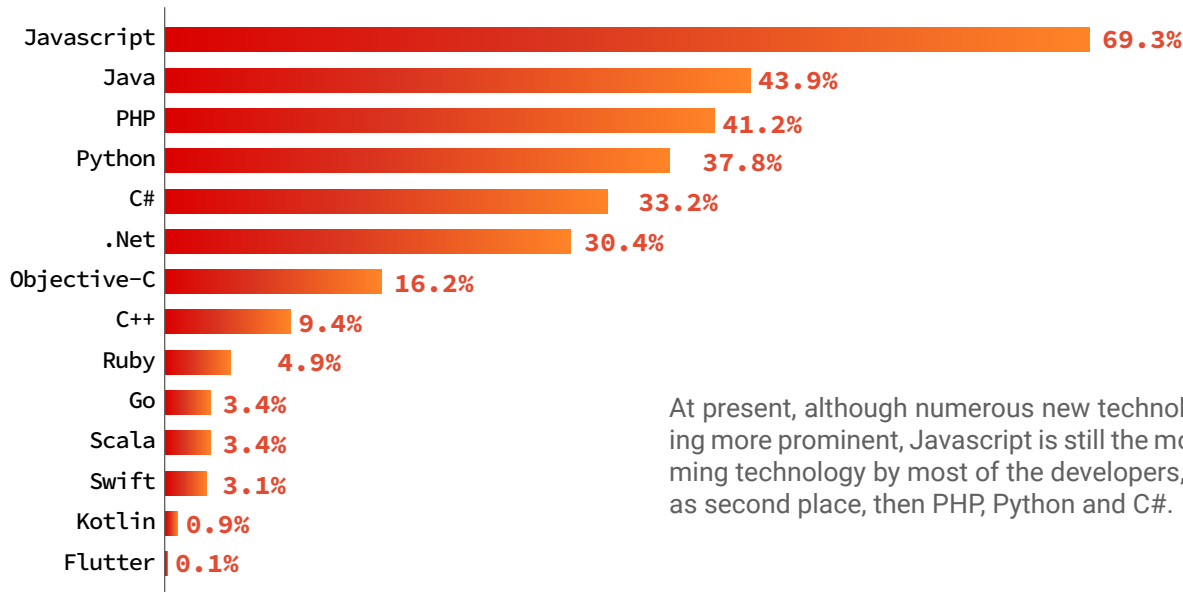
Most Developers prefer working in groups. Working in groups helps solving their tasks faster and more effectively.

## What do you expect at a team/ group?



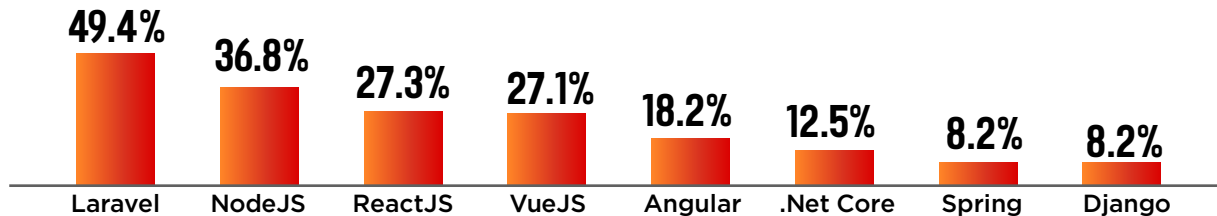
More than 59% of the members show that solidarity is the most crucial factor to facilitate the teamwork more efficiently.

# Which programming technologies do you use for work?



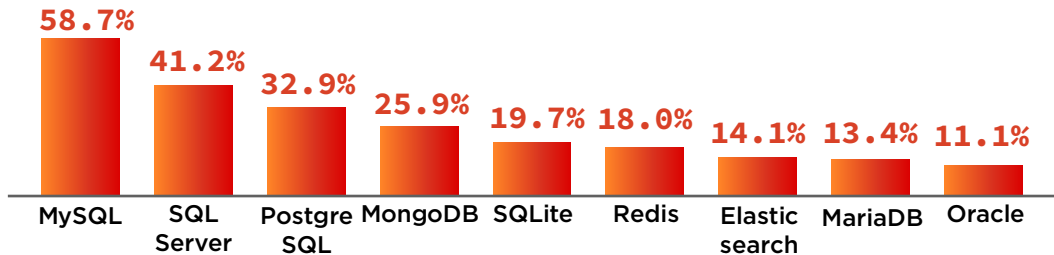
At present, although numerous new technologies are becoming more prominent, Javascript is still the most used programming technology by most of the developers, followed by Java as second place, then PHP, Python and C#.

# Framework, libraries, tools



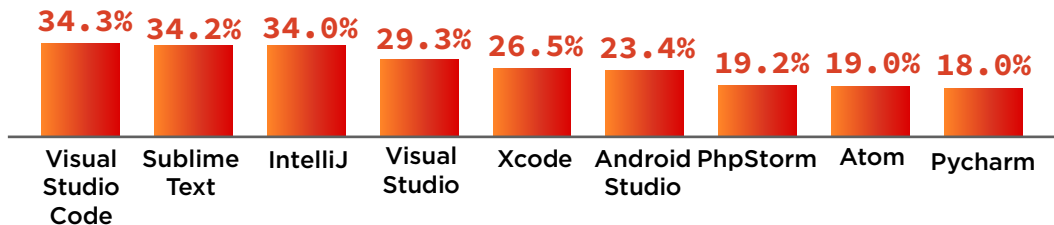
Among all the popular frameworks in Vietnam, Laravel currently tops off the list, followed by VueJS and .Net. Core. which also increasingly attracts more developers.

## Most-used Database



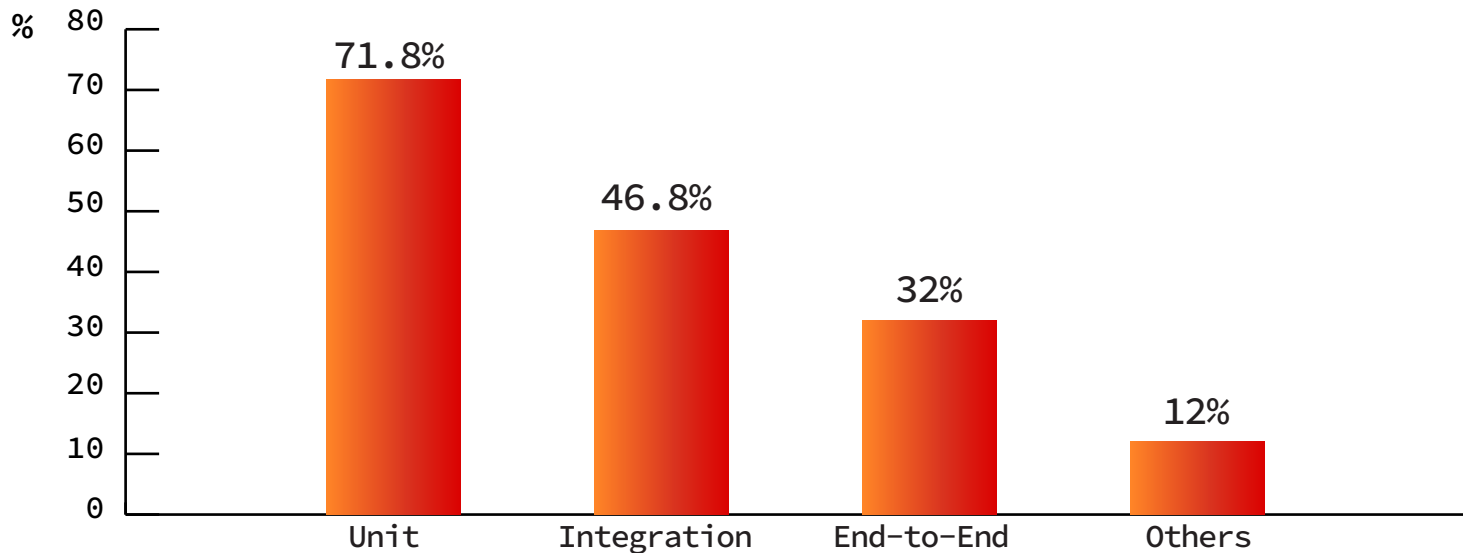
MySQL and SQL Server still remain the top position and are used by most of the programmers.

## Top frequently-used IDE & Text Editor



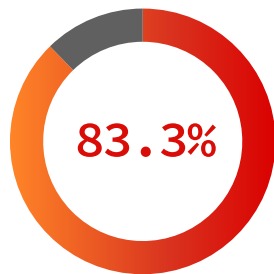
Besides, after many years, Visual Studio Code still ranks first-placed as the most frequently-used IDE by programmers. Regarding to DevOps and System Admin, Vim is the most preferable choice.

# Which testing types are you applying?

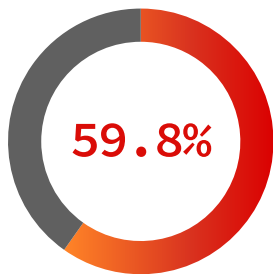


Nowadays, Unit testing still becomes the majority amongst other types. However, there is a big proportion of programmers who don't take testing type seriously in their projects.

## The proportion of mobile developers



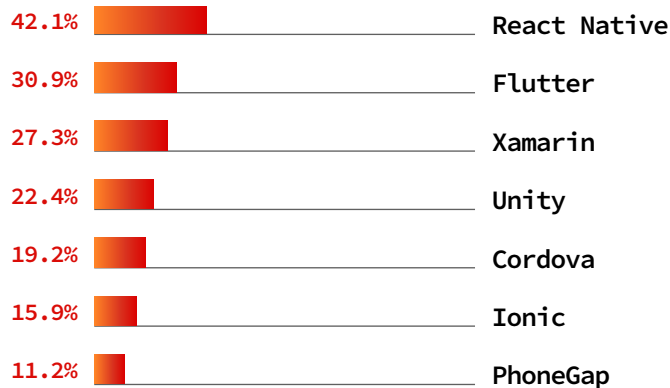
Android



iOS

2/3 of mobile programmers are developing mobile applications based on its platform (using native tools).

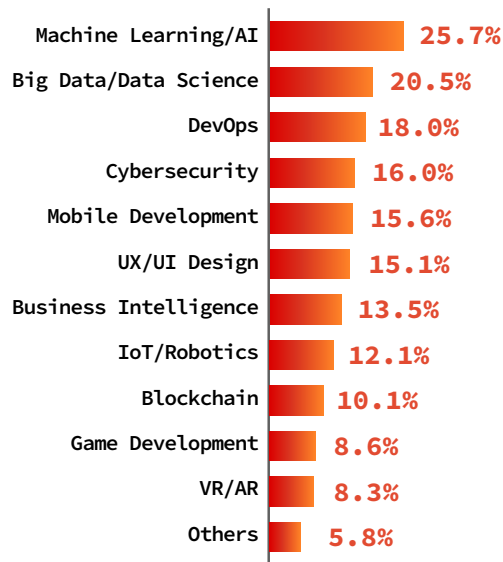
## Top frequently-used Cross-platform



Cross-platform is also a popular choice nowadays. React Native is voted as one of indispensable technologies for the development of cross-platform application.

# TECHNOLOGY TRENDS & SALARY

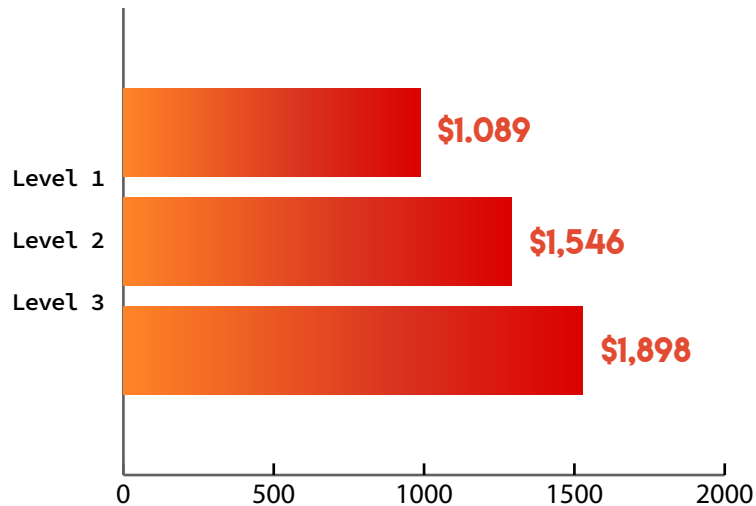
# Which technology is drawing the most attention from developers?



As indicated in 2018 report by TopDev, AI and Machine Learning trend still remain the leading position. About 25% of programmers want to gain knowledge strive to learn of this technology in 2019. Also, DevOps is one of the trends that back-end engineers & system admins looking forward to.



# DevOps



Level 1: Fluently use basic features

Level 2: Proficiently use

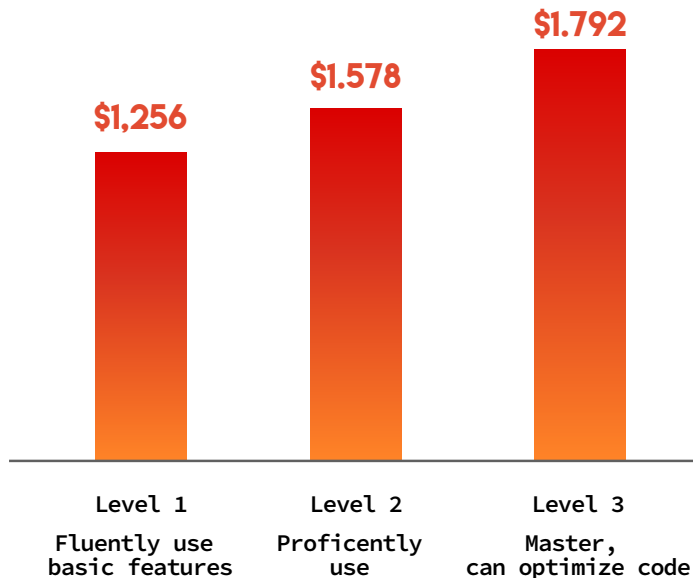
Level 3: Master, can optimize code

2019 is an extremely important year for the developers communities, a **DevOps** empire and the application of Agile model up to 97% is significantly formed in tech communities.

DevOps is a working culture bringing two stages of development-operation closer in a bid to shorten the product development life cycle. DevOps requires the engineers to improve themselves with infrastructure construction skill and configuration, testing, construction and release. In the next few years, DevOps will become an essential position that numerous companies are looking for, especially those with large systems.

The salary level for this position can be up to **450 millions VND/year**.

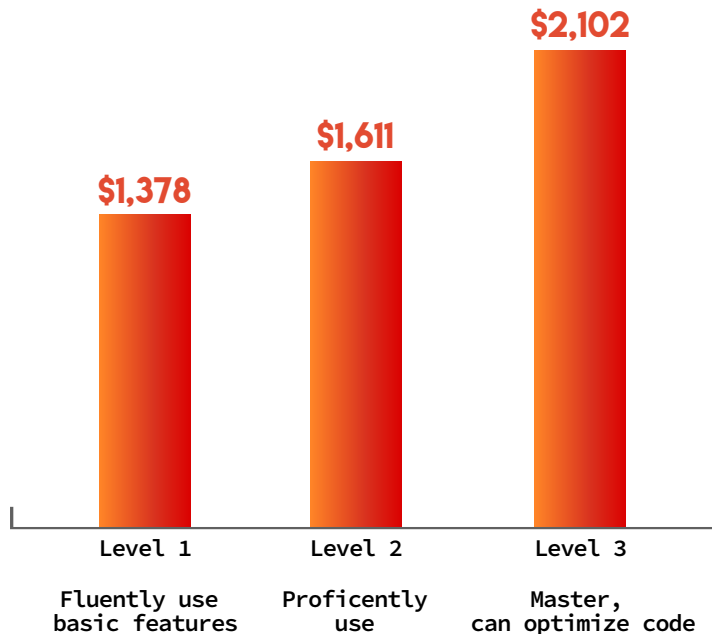
# Data Science



In the last 3 years, “Data Science” term is no longer strange to the Vietnamese technology communities. Big companies like FPT, VNG or Vintech also have important positions for highly-skilled IT engineers. Nowadays, in South East Asia countries, especially Vietnam, finance, real estate, healthcare, marketing and other occupations have also made numerous and outstanding moves to evolve in using data effectively.

According to Intel, applying business intelligence, especially using AI Machine Learning is very promising for the escalating development of Data Science. According to a recent report, Big Data is in growing demand, at a rate that Software AG, Oracle, IBM, Microsoft, SAP, EMC, HP and Dell spend more than 15 billions USD for companies expertising in management and data analysis. Big Data industry worths hundreds of billions of USD and is growing at a 10% rate each year - a doubled pace on the software industry in general. The salary of Data Scientist in Vietnam now can be up to 470 millions VND/ year.

# Machine Learning / Artificial Intelligence

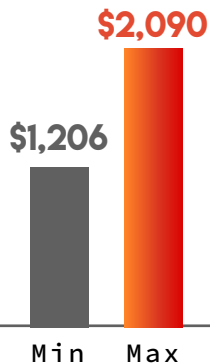


**Artificial Intelligence - AI** had reached a certain maturity in Vietnam market. With a long period of development, recent projects from small/ big companies in Vietnam have demonstrated the readiness for the revolutions of AI in subsequent years.

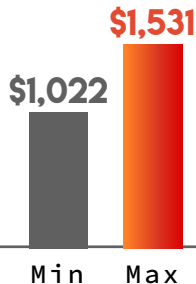
With the development of platforms (OpenAI, OpenCV, TensorFlow, Caffe...), the problem of the algorithm is no longer too difficult, the only big thing is that whether there is enough data (either large, or quality) for AI to show effects. About 73% of technology companies tend to apply AI into their products. This also pushes the demand for AI engineers to an alarming rate. The salary for a skillful AI engineer can be up to 500 millions VND a year.

In Vietnam this level for AI Engineer can now reach **520 millions VND/ year**.

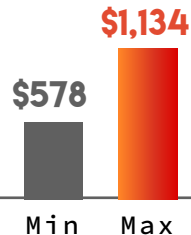
## Project Manager



## Product Manager

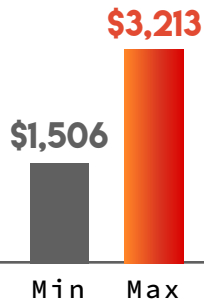


## Business Analyst

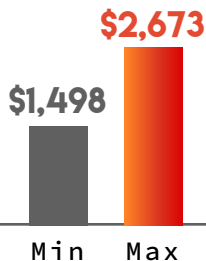


Project Manager (PM) is the person who ensures the project to be finished on time, and each person in the project to accomplish the right tasks. They need to understand the strong and weak points of each individual in order to assign tasks. They are the one who turn the expectation of BA/PO into reality through working with other members. PM sometimes takes over the responsibility of BA/PO (traditional PM), even System Architect + UX Designer are under PM's duties.

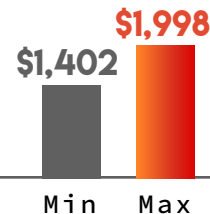
## Solution Architect



## Technical Leader



## BrSE



With a booming software industry in recent years, Solution Architect is an essential direction that programmers need to head towards. Solution Architect is a person who can draw a roadmap to build the software that meets the functional and non-functional requirements of that software. Solution Architect also needs the coding prototype to demonstrate the feasibility of the solution, implement the core processors, complex processing, make available frames for the system so that the programmers can work based on that. In order to do this, it is compulsory for a Solution Architect specialist to have a wide knowledge in several technology sectors. This is also a position which is highly-paid in many years.

# SALARY OF DEVELOPERS

Based on the information provided by the IT candidates together with the data available from job posts, we analyzed and determined a full skillset which receives the highest wage in the Vietnam market.

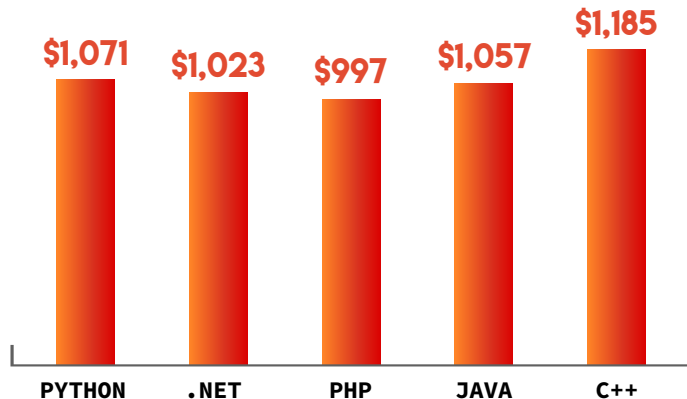
**\$1,322**

The average salary that most employers are willing to pay for developers with experience

**15%-18%**

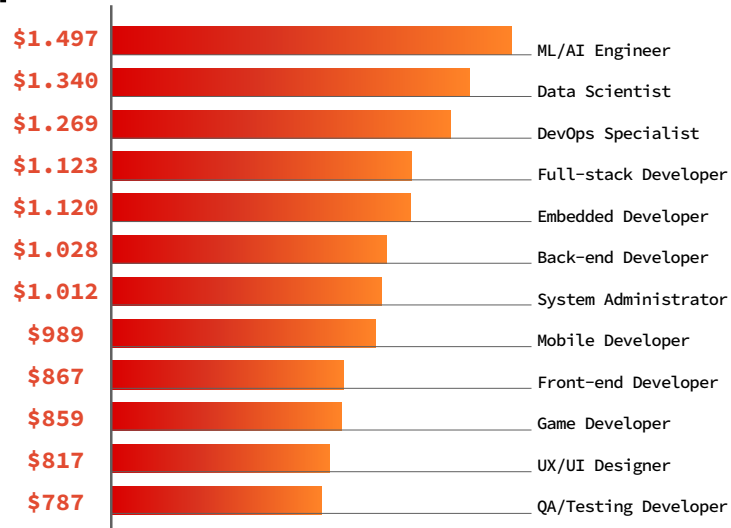
The salary increasing rate of the first 6 months of 2019

## Top 5 programming languages with the highest salary



C++ is the highest paid, \$1,185 averagely, followed by Python and Java.

## How are the positions paid?



The scarcest and highest-paid positions are ML/AI engineer, Data Scientist and DevOps. At the moment, these positions are difficult to recruit since these technologies haven't fully grown in Vietnam. However, a full-stack developer position is still easy to recruit and is now in the top positions at the highest salary, which hasn't changed through the years.

# Salaries according to years of experience



**\$331 – \$519**

**FRESHER**

(Under 2 years of EXP)



**\$523 – \$1,154**

**EXPERIENCED**

(2-4 years of EXP)

Managerial  
orientation



**\$1,350 – \$2,150**

**MANAGEMENT LEVEL**

(From 5 years of EXP)



**> \$2,100**

**DIRECTOR & HIGHER**

(From 10 years of EXP)

After 1 year, the salary of developer usually increases dramatically.

Recruiters also face many obstacles to recruit the top positions from management level to higher because of the high demand and strict requirements.

Technical  
orientation



**\$1,550 – \$2,350**

**MANAGEMENT LEVEL**

(From 5 years of EXP)



**> \$2,500**

**DIRECTOR & HIGHER**

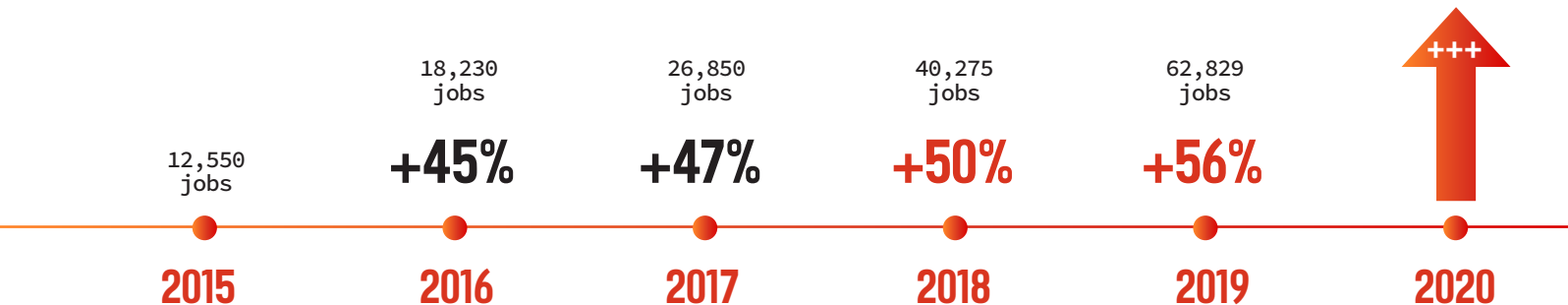
(From 10 years of EXP)





# VIETNAM IT HUMAN RESOURCES MARKET

# IT Recruitment Demands

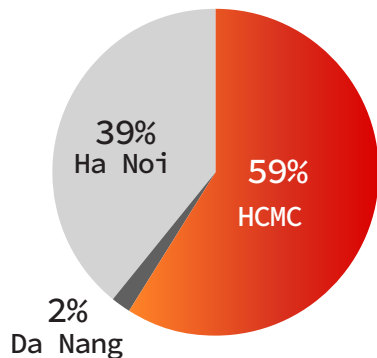


## MASSIVE GROWTH

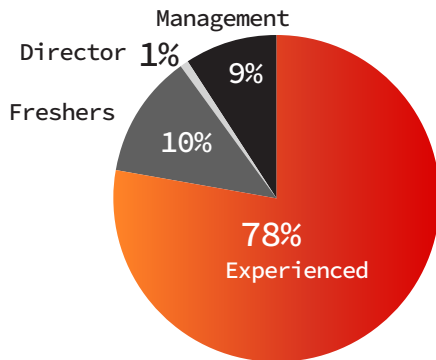
IT recruitment demand will surge in 2019. The reasons behind this upsurge demand can be listed: Vietnam has drawn enough attention to bring in IT companies in the same region to hire or construct the product development team; the creative startup wave in technology sector is becoming stronger, especially after big investments for technology startups; the transformation wave of traditional businesses in sectors like tourism, agriculture, real estate.. all shift to digital transformation and e-commerce.

# IT Human Resources Demand Statistic

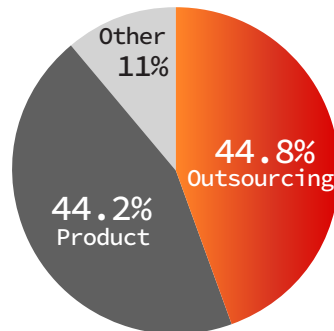
## Based on Locations



## Based on Levels



## Based on Company Types



## NEARLY 80% IT POSITIONS REQUIRE EXPERIENCED CANDIDATES

15 years ago, the IT industry has been positioned by many large outsourcing companies. However, this movement is transforming into making products and innovative services to create greater values. Therefore, the need for recruiting qualified personnel is in urgent needs. According to the data of TopDev from more than 250 customers, the recruiters are eyeing for senior programmers or those who have at least 2 years of experience.

# Vietnam IT personnel Forecast in 2019–2021



The shortage of IT personnel is always the most difficult problem for the IT market. Although the salary and bonuses have been increasing remarkably in this industry, many experts predict that in 2019 Vietnam will still have a shortage of 70,000 to 90,000 developers/engineers. According to the Ministry of Education and Training, the whole country has 235 universities, among these are 153 Information Technology institutions, about 50,000 Information Technology students graduate from schools each year, 30% of them having instant jobs while 70% have to serve additional trainings. High-quality IT human resources is becoming a main point for Education sector and other Information Technology businesses to meet the jobs requirements.

**topdev.vn****Accelerate your IT careers**IT  
JobsIT  
EducationIT  
Community

- IT recruitment platform in Vietnam with more than 300,000 Developer Profiles
- The pioneering and one-of-a-kind unit in the IT sector in Vietnam helps building and developing Recruitment Brand – Employer Brand for hundreds of local & international companies
- The prestigious unit specializes in conducting surveys, analyzing and releasing quarterly/annual reports about IT market and IT human resources in Vietnam
- The Organizers of the 2 largest scale technology events in Vietnam: Vietnam Mobile Day and Vietnam Web Summit

TopDev is also owning the largest developers community in Vietnam with **more than 372.400 Follower**.

**372.400****IT Followers****300.000****Developer  
Profiles****1.800.052****Social Engagement  
per month****4.735.926****Online Reach  
per month**

## Contact

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