

JRebel

COVID-19

Developer Impact Report

Executive Summary

The COVID-19 Developer Impact Report by JRebel looks at how development professionals and companies have been impacted by the COVID-19 pandemic. It focuses specifically on the shift to remote work, changes in staffing practices, direct impact to hours worked, and perceived productivity changes.

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Foreword

To the reader,

Although software developers aren't on the front lines fighting the pandemic, our recent survey shows we're working longer hours from home, struggling to maintain good work habits, and eating more comfort foods to help us cope.

The results also indicate that while we're saving time by avoiding traffic jams, that extra time often goes into checking "just one more email."

On a positive note, the new normal has proved to be a good opportunity for many respondents to re-discover nature and outdoor activities. Some developers are also finding more time to spend with their families — and discovering the benefits of noise-cancelling headphones when there's too much of a good thing.

I encourage you to look through the results and see what you can take away to help you as this situation continues to unfold. In particular, you'll find some good advice in the Staying Productive and Staying Relaxed sections.

At the end of the report, I make some predictions about the permanent changes COVID-19 is bringing to business and work environments that I think you'll find useful.

Enjoy the survey results and stay safe!

A handwritten signature in black ink that reads "Rod Cope". The signature is fluid and cursive, with a horizontal line underneath the name.

Rod Cope
CTO at Perforce Software

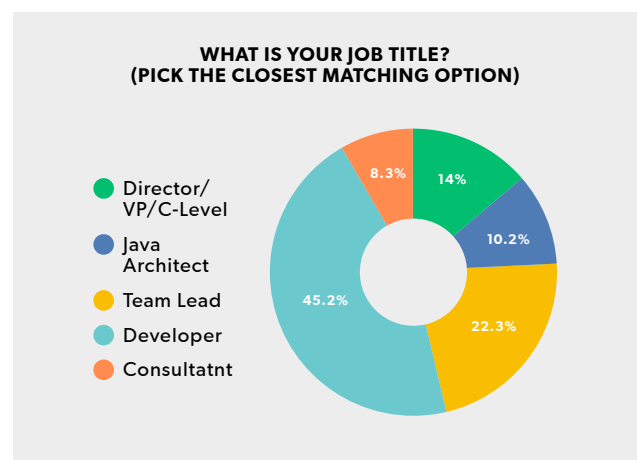
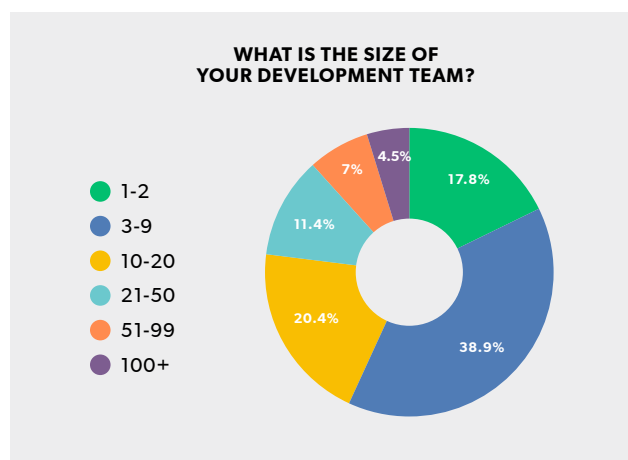
About the Report

The COVID-19 Developer Impact Report is based on the results of a survey of development professionals around the world. The survey, which ran from May through July of 2020, aimed to gather insight into how development professionals and their companies have been impacted by COVID-19.

In the end, the survey drew 157 responses, with respondents holding a variety of development-related job roles and team sizes.

Survey Respondents

Of the 157 respondents to the survey, most were working in technical roles. Developers represented 45% of respondents, with an additional 22% leading development teams. Directors, VPs, and C-suite executives represented 14% of respondents, with Java architects and consultants rounding out the rest of the respondents at 10% and 8%, respectively.



Respondents to this survey worked with relatively small development teams. 17% of respondents worked in one or two-person development teams, while a further 38% of respondents worked in teams of three to nine people. 20% of respondents reported working in teams sized between 10 and 20 developers, while larger development teams of 21 to 50, 51 to 99, and 100+ made up 11%, 7%, and 4% of respondents, respectively.

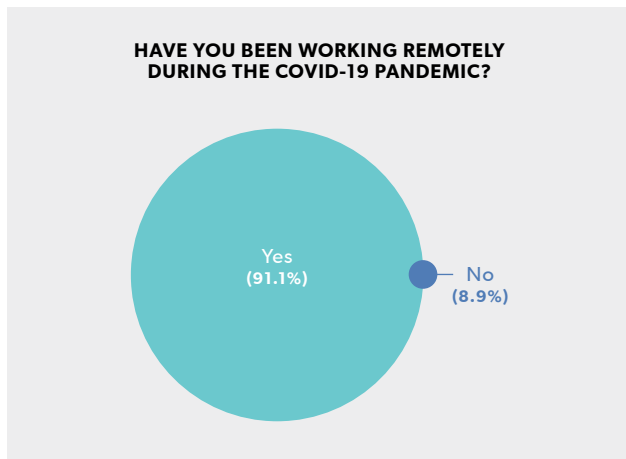
Are small development teams the new norm?

What Rod Says: It seems to be heading in that direction. In the long term, we are likely to see more development teams of 3-12 people than in other categories.

Remote Work

Developers are considered early adopters in many ways. It makes sense — they deal with many types of emerging technologies, and are often the first to leverage those technologies to accomplish their tasks.

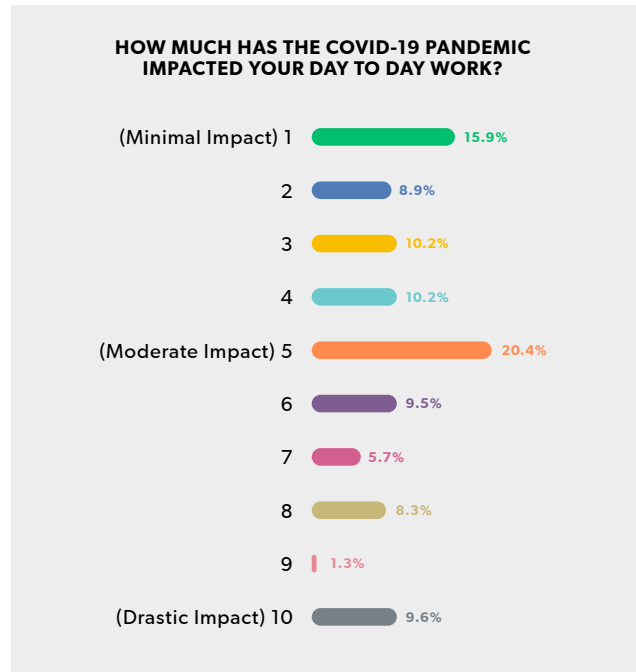
So it also makes sense that 91% of development professionals in this survey reported working from home during the COVID-19 pandemic.



Not only have the technologies for remote work become good enough to enable working from home for such a large swath of developers, this widespread usage (and collected usage data) may help to accelerate improvement of those technologies.

Developer Impact

But just because many developers are working remotely during the era of COVID-19 doesn't mean that they're not impacted in tangible ways. Our survey found that 54% of developers have been at least moderately impacted by the COVID-19 pandemic.



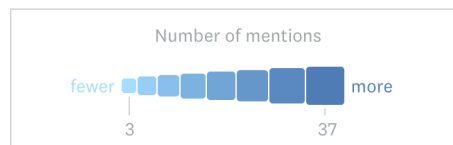
Of those developers moderately impacted and above, 17% reported a drastic impact from COVID-19 on their work.

How COVID-19 Is Affecting Development Teams

In terms of how that impact has manifested itself, many of our respondents reported issues with communication, decreasing sales, lower productivity, and a litany of problems unique to remote work.

HOW HAS THE COVID-19 PANDEMIC IMPACTED YOUR DAY-TO-DAY WORK?

office Zoom day home work remotely remotely changed little team
need remote home office communication face face
work home many work much time hours meetings
less now busy problems yes customers lot company use make
impact



"It is difficult to maintain the routine of working at home with the whole family in quarantine."

"It changed the rhythm, no public transport anymore so 2 more free hours per day. My team was already mainly working remotely."

"It put a really quick stop to in-office work for a team that was not initially prepared to work remotely. Dev environments were lost. Full workstation setups had to be completely rebuilt, in some situations the company had to provide new machines to employees to be able to work from home."

"As a development team, it's caused us to have to rely 100% on online interactions with each other. Weekly team meetings and sprints are now done through Microsoft Teams. It's caused some complications on trying to accomplish peer coding sessions, but overall as a team we've adapted well and each member has been flexible to make remote working possible and successful for us."

"Significantly increased communication time. Some of our clients changed release plans and sprints. Work at home is problematic because of children."

"Actually I feel that in some way it has favored me and many of my colleagues because now we do not have to go to the workplace to do our work, it is pleasant to work from home and we take advantage of that time to be more productive or dedicate it to some activity like learning something new, etc."

"Although the work continues, it is a little stressful to see that family or friends are becoming infected with this disease, which means that many times we do not focus on work."

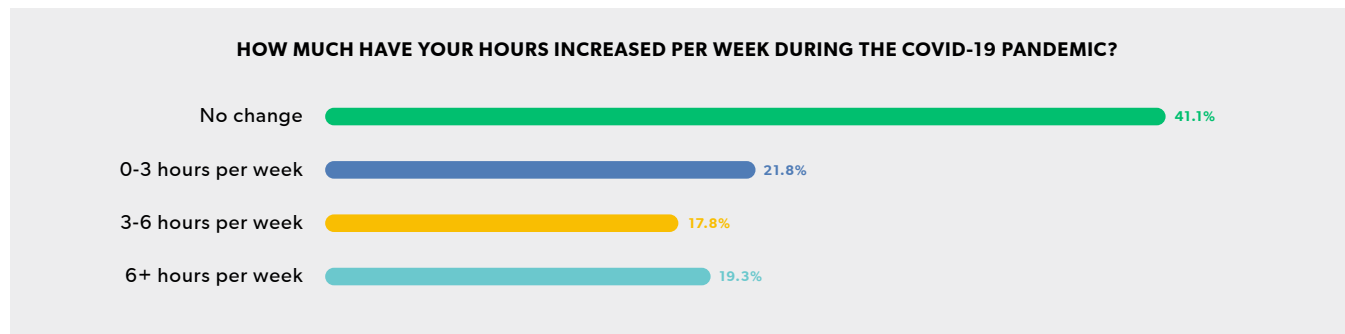
"Job stress, need to work more time, uncertain future, health tensions, etc."

"I am more nervous so my productivity suffers."

Increased Hours

Due to these issues, many development professionals reported an increase in the number of hours worked per week. In fact, over 58% of respondents reported an increase in the number of hours they work every week.

For those on a 40 hour per week schedule, a six hour per week increase would mean a 13% increase in the number of hours worked per week.



Of those who experienced an increase in the number of hours worked, over 36% reported an increase of between zero and three hours per week. 30% reported an increase of three to six hours per week, with over 32% reporting an increase of over six hours per week.

Working from home is a double-edged sword. On one side, working instead of commuting helps workers to contribute more to projects and make faster progress. But on the other, that means less downtime, and no buffer between stopping work for the day and arriving home to unplug or spend time with the family.

What Rod Says: **Because work and email are only ever a few steps away, it's harder than ever to avoid doing that one last task.**

Business Impact

With so much uncertainty surrounding the long-term effects of COVID-19 from a business perspective, it's no surprise that many of the companies represented in our responses have slowed or frozen hiring.

Our survey found that over 55% of respondents' businesses experienced a decrease or freeze in hiring during the COVID-19 pandemic.

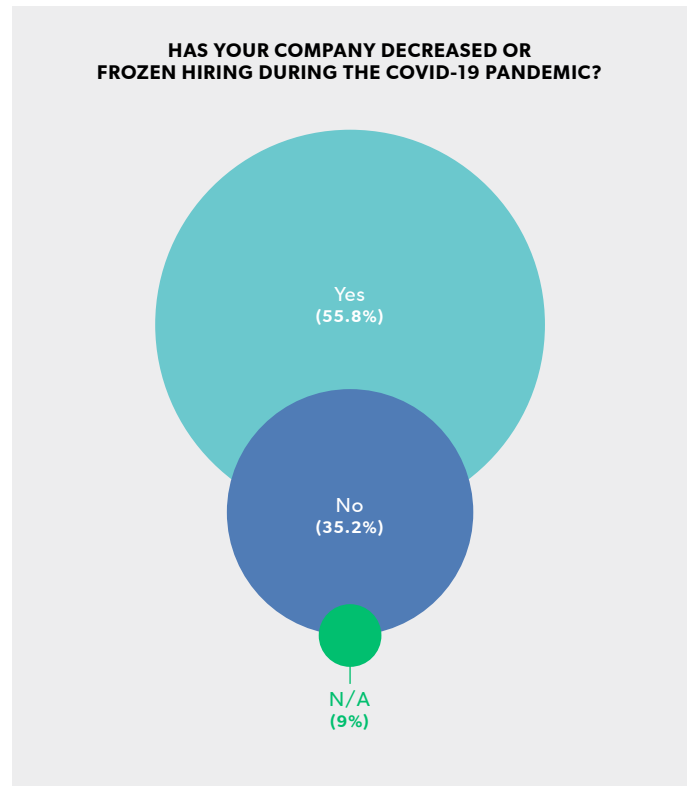
HIRING

With so much uncertainty surrounding the long-term effects of COVID-19 from a business perspective, it's no surprise that many of the companies represented in our responses have slowed or frozen hiring.

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What Rod Says: **COVID-19 almost certainly means a long term or permanent change in the way we think about work. It might drive the "gig economy" forward faster than ever as people consider new work-from-home opportunities, start small online businesses, and continue to digitize the global economy.**

Additionally, temporary hiring freezes and layoffs today could mean more contract and gig work in the future. It also means that rapidly growing tech-oriented companies that could not hire fast enough can now hire developers during this brief window — at least before companies realize they need more software creation capacity.

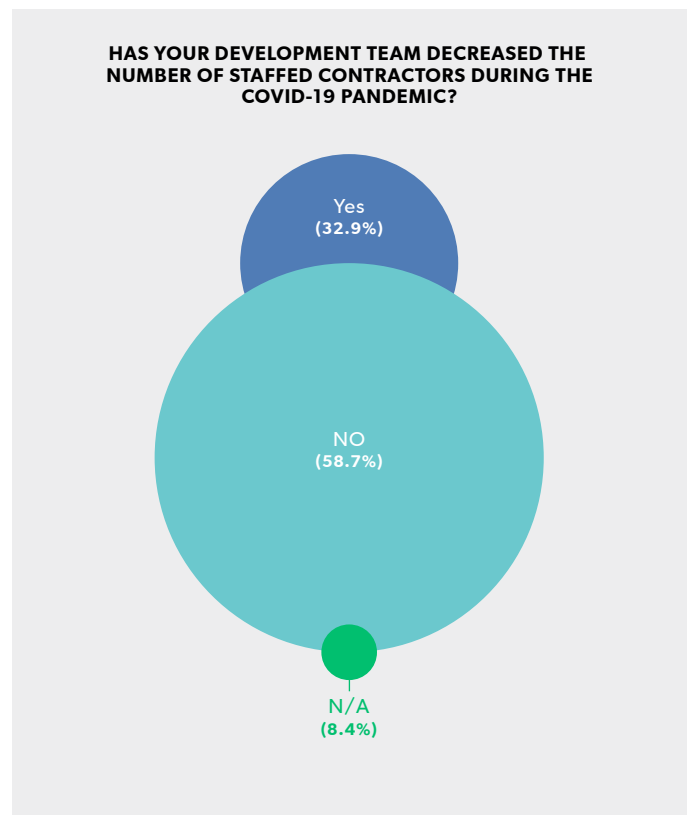


CONTRACTING STAFF

Development teams often rely on contractors to help supplement their efforts. But does that remain the case during times of economic uncertainty?

Our survey found that nearly 36% of applicable respondents' businesses had decreased the number of staffed contractors during the COVID-19 pandemic.

What Rod Says: **Nearly all companies cut back on contractors during a financial crisis as a method to preserve their full-time employees. In the current climate of companies rushing toward digital transformation, it's not surprising to see fewer cuts than usual in this area.**



Productivity

With so many changes to the way development teams operate, and the stress and uncertainty that accompany a disease pandemic, it's no surprise that development teams have experienced changes in development productivity.

How those changes manifest themselves, in quality of work, increased hours, or morale, has become a topic of great concern for many businesses. But regardless of how businesses address these issues, many of the development professionals we surveyed found ways to keep themselves as focused, productive, and happy as possible.

STAYING PRODUCTIVE

So what are some of the ways that development professionals are keeping themselves productive? Our survey found that many focused on keeping a structured routine, while others focused on ways to reduce and eliminate distractions.

new closed working home list Focus exercises productive need
room always task plans time distractions keep Take
work Stay focused day stay music Focus task try discipline
daily schedule make N hourstime work

- "I try to keep the same hours and habits that I have at work."
- "Discipline and focus on working hours."
- "Noise-cancelling headphones and bursts of 'deep work'."
- "Work regularly every day, formulate time period plans, and complete work requirements."

Others took different approaches, by looking at productivity as a reflection of health. Those respondents found that focusing on eating well and finding time to exercise was just as important as eliminating potential distractions.

- "I've been trying to make a routine, wake up early, do some exercises."
- "Well-structured days with physical exercise as often as possible."
- "Eat well and exercise well"
- "Regular balance of isolated outdoor activities (Fishing, kayaking, etc.) when not working."
- "Maintaining normal sleep cycle/schedules. Keeping the idea of a timed work environment (9-5) helps keep you in work-mode."
- "By concentrating, exercising, thinking positive."

For those with families, many of the strategies involved adjusting their work schedules to accommodate their children, while others sought out more technological solutions.

- "I adapted my hours to the family hours."
- "I use noise canceling headphones while the kids are at home 😴"

STAYING RELAXED

Another point of adaptation for development professionals has been in changing how they unwind and mentally recharge at the end of the day. Our survey found many pursuing familiar indoor activities, like Netflix, video games, YouTube, or reading.

Others took socially-distanced solace in the outdoors, engaging in activities like kayaking, walking, running, hiking, and dog walking.

Others have suddenly found themselves spending a lot more hours with their family and children, taking family lunches, playing, and taking more time to talk with each other.

WHAT IS YOUR GO-TO RELAXING ACTIVITY DURING THE COVID-19 PANDEMIC?

Sports Watch Playing kids sleep Playing relaxing exercise
Walking dog Work outside Running video walk yoga
home none games Fishing Reading TV Watching TV take
Netflix youtube

COMFORT FOODS

For many of us, food can play an important role in coping with stress from work and life.

Development professionals were no different, reporting regular enjoyment of many familiar (and surprising) comfort foods.

WHAT IS YOUR GO-TO COMFORT FOOD WHILE WORKING FROM HOME?

home made food Cereals healthy food yes cooked drink rice
Snacks home hamburger Pizza N food comfort Coffee
nearest Fruits spaghetti eat chicken tea None sandwich vegetables

Outlook and Projections

With the disruptions and changes from COVID-19 impacting how companies pursue and engage in application and software development, and the changing ways in which development professionals accomplish these development goals, it's more important than ever for companies to remain agile and adaptable.

While that's a daunting proposition, especially considering the unknown variables that will continue to impact business recovery on a collective and sector by sector basis, being able to adapt at a company and person-by-person basis is crucial to business competitiveness and survival.

So what projections and assumptions can executives, directors, and managers make on the trends we're seeing today, and what can development teams expect in the near and distant future?

BUSINESS OUTLOOK

What Rod Says: Business agility is paramount. Digital ecosystems, Agile Development, DevOps, AI, and other successful transformations will give companies the ability to pivot and quickly take advantage of new business opportunities during ever-decreasing time-to-market windows.

Business will continue to thrive in companies that focus on user experience and flexibility. Teams will become smaller, more decentralized, and more autonomous over time as the pressure to reduce overhead and go faster intensifies, thanks to small new competitors springing up at an increasing pace. These competitors will leverage new technologies and depend on the cloud, open source, virtual reality, and AI-as-a-service, which gives each of them access to the same production tools as the largest companies in the world.

More than ever, competition will be based on providing the best overall user experience.

REMOTE WORK OUTLOOK

What Rod Says: The prevalence of remote work will increase dramatically and stay that way for the foreseeable future.

The basic tools like video conferencing are already "good enough" and continue to improve. Virtual reality hardware and software will also soon be "good enough" thanks to 5G bandwidth becoming available everywhere, and will be further driven by fast global satellite Internet coverage coming online in the next few years.

We'll need to travel less and less to have useful "face-to-face" conversations, get in virtual meeting rooms together, talk at the virtual water cooler, attend industry conferences, and the like.

Working at home will become the new norm for software teams, with special justification required for permanent shared physical workspaces and significant travel.

OTHER PROJECTIONS

What Rod Says: COVID-19 won't be the last pandemic, but AI-powered medicine will make future global outbreaks far less disruptive.

Expect gene editing and other techniques to provide immunity to many common diseases and make others quicker and easier to treat.

Until that time, we'll have to get used to the new normal of wearing masks, not shaking hands, and spending more time concerned with staying healthy than we ever have in the past.

The rise of telework, telemedicine, and ubiquitous fast Internet access couldn't have come at a better time.

About JRebel

JRebel skips redeploys in Java, saving the average dev team over a month of coding time per year.

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XRebel helps developers to understand and improve how distributed Java applications perform.

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