

### STATE OF THE DEVELOPER LANDSCAPE IN UGANDA

Initiative of

In Partnership with





### Foreword

Dear Community,

Uganda just like any other country in the most recent years has seen a rise in it's tech industry. A report published by Statista revealed that the Global developer population is expected to reach 28.7 million by 2024, an increase of 3.2 million from the number seen in 2020.

According to the 2020 Google Developer survey, Africa is home to 700,000 developers, with Uganda at 11,003, Kenya - 58,175, Nigeria's - 83,609 and South Africa-118,541. There is a direct correlation between the quantity and quality of developers and the ability to build investable startups and internet companies.

The African internet economy itself is one of the most overlooked investment opportunities of the past decade with the potential for a profound impact on development. Mobile Internet is transforming lives across the continent due to improved connectivity combined with a dynamic, young urban population.

Our annual developer report shares insights of Uganda's developer landscape (DevScape) and what we need to do to unlock the potential we all know is present. This DevScape report also explores the current state of the environment and shares our hope for the software developer landscape in Uganda which seeks to explore the strides made in the local developer ecosystem. It also seeks to foster discussions around how to close the gaps especially in job placement and talent development.

At The Innovation Village, we offer a launchpad for leading entrepreneurs and innovators working to solve pressing industry challenges using technology. At the centre of our vision is the need to grow a highly skilled developer community.

I hope the insights shared here will benefit the ecosystem, stakeholders and all concerned as we work towards building Uganda, "to be the best place to be an entrepreneur". May the hustle be with you.



CK. Japheth
Team Lead
The Innovation Village





Renita Nabisubi,
Digital Economy Lead
Mastercard Foundation

### Message from the Mastercard Foundation

The digital space in Uganda is young yet growing fast. Today, digital technology is undoubtedly playing a key role in creating work opportunities for young people by removing geographical barriers. In the rollout of its Young Africa Works strategy, the Mastercard Foundation has identified the digital sector amongst its priority sectors in Uganda with the goal of attracting more young people.

The DevScape report is therefore timely as it presents a clear picture of the gaps that exist in the digital space in Uganda including gender, geographic, wages and salaries, skills, resources, and in the field of software development. Bridging these gaps, whilst upscaling the digital arena, will catalyse the start of a digital economic upsurge in the country and increase dignified and fulfilling work opportunities for young women and men.

The Mastercard Foundation works with visionary organizations to enable young people in Africa and in Indigenous communities in Canada to access dignified and fulfilling work. It is one of the world's largest, private foundations in the world with a mission to advance learning and promote financial inclusion to create an inclusive and equitable world. The Foundation was created by Mastercard in 2006 as an independent organization with its own Board of Directors and management.

For more information on the Foundation, please visit: www.mastercardfdn.org

# Table of content

Foreword by CK Japheth	2
Table of content	3
Background	7
About the Innovation Village	7
Introduction	8
Definition of terms	8
Acronyms	10
Key Results	11
Developer Profile	12
Geography	12
Age	13
Mental Well-being	13
Gender	14
Developer engineering journey	14
Coding as a Hobby	14
Developer Type	15
Learning how to Code	15
Experience	16
Years since Learning to Code	16
Years of Professional Coding	17
Education	17
Educational Attainment	17
Undergraduate Major	18
Formal Education Importance	18
Online Certifications	19
Technology	19
Most Popular Languages	19
Most used frameworks/libraries/CMS	20
Most loved frameworks/libraries/CMS	2
Most dreaded frameworks / libraries / CMS	2
Most used database systems	2
Most loved database systems	2

Most dreaded database systems	23
Most used platforms	23
Most loved platforms	24
Most dreaded platforms	24
Most admired platforms	24
Most used collaboration tools	24
How tools are chosen	25
How often do developers learn a new technology	25
What developers do when they get stuck	26
Those purple links, again!	27
Technology Purchases Influence	27
Work	28
Employment	28
Salary	29
Company Size	29
Company Category	30
Where do the developers work?	30
Working Overtime	30
Capacity Building	31
DevOps	31
How do you feel about your job now?	31
Number of hours worked per week	31
Are you actively looking for another job?	31
Why are you looking for a job?	32
Start-up Community	32
Affiliation to Hubs	33
How beneficial is your affiliation to these hubs?	34
What is missing in the Hubs?	34
Conclusion	35
Contributors	35
References	35





1,288





RATE

**91.7**%

22 Minutes

The 2021 DevScape report compiled by The Innovation Village explores the current state and likely prospects of the software developer landscape in Uganda.

We set out to understand the developer ecosystem in Uganda to start conversations aimed at bridging the gaps therein. We wanted to know the number of developers, their level of experience, tech stack, how they learn, and what kind of jobs they are doing.

The 2021 annual developer survey is the first of its kind in Uganda that seeks to not only create a platform where developers can be showcased but also to foster discussions around how to close the gaps especially in job placement and talent development.

In our effort to reach as many developers as possible, we used several channels to create awareness about the survey. These included but were not limited to social media, Tech Hubs, emails, word of mouth. The 2021 DevScape survey reached 1288 developers and was delivered digitally and available to the public via the Innovation Village website.

Even though this was the inaugural survey, we saw a completion rate of over 91% with an average completion time of 22 minutes. This validates the importance and relevance of this survey in the developer ecosystem in Uganda.

Working with the data at hand, we broke down our analysis by demographics where applicable. It is also important to note that this survey was taken in the middle of the COVID-19 pandemic. So, as you read the report, please keep the timing of the survey in mind when reviewing information such as job and salary data.

Uganda's developer population is young and growing, and the growth of the technology ecosystem, talent pool, and innovation hubs goes hand in hand with the rise of local developer talent. Software development and IT are spreading their influence and affect how various sectors are solving problems. This report contains insights into the landscape of the developer community in Uganda.





The Innovation Village is an ecosystem builder at the heart of an interconnected network of entrepreneurs, academia, private sector, government, investors, and innovators deepening the application of technology in powering socio-economic prosperity. It is Uganda's fastest-growing start-up engine and a destination entrepreneurs call home. We deliberately grow innovation by putting in place a platform that challenges assumptions, ignites thought and questions the status quo. As a launchpad for innovators, we bring together partners, start-ups, investors, and researchers to act as one force for good.

We promote an innovation culture that embraces experimentation, constantly evaluates, and recognizes failure as a lesson. People join our community to transform their ideas into solutions to resolve some of the world's most pressing challenges. We create an environment where start-ups and entrepreneurs grow in confidence and capability, scaling from an idea to a fully-fledged business.

### Introduction

At the Innovation Village, we are focused on building a technology ecosystem that speaks to the demand and need of technology talent globally. For many years, we have been working with entrepreneurs to help them solve their most pressing needs so that they can focus on what they do best – innovating.

As times have changed, we have noticed that there are increasingly more tech start-ups than the rest. Naturally, the demand for tech talent has risen tremendously. Moreover, this demand has been global, and we have seen several global brands coming to Uganda for the limited talent. This is the same ordeal across Africa.

As the pacesetters, we have decided to close this gap. We believe the first step is to get to know what the ecosystem has to offer and especially what the developers are looking for. This is the rationale of this survey. This is the first of many more thought leadership reports on the tech start-up ecosystem.

### **Back-end Developer**

The back-end of a website consists of a server, an application, and a database. A back-end developer builds and maintains the technology that powers those components which, together, enable the user-facing side of the website to even exist in the first place. - Udacity

### **CMS**

A content management system (CMS) is computer software used to manage the creation and modification of digital content. A CMS is typically used for enterprise content management and web content management. -Wikipedia

### **Coding Bootcamp**

Coding boot camps are structured and intensive educational programs designed to help attendees gain key programming and technical problem-solving skills through short but highly focused instructional sessions.

### **Data Scientist**

A Data Scientist employs advanced data techniques such as clustering, neural networks, decision trees, and the like for deriving business insights. - Simplilearn

### Developer database systems

In the developer world, a database is an organized collection of data stored and accessed electronically from a computer system. The database system enables the developer to define, create, maintain, and control access to the database.

### **DevOps Engineer**

A DevOps engineer introduces processes, tools, and methodologies to balance needs throughout the software development life cycle - from coding and deployment to maintenance and updates. - RedHat

### **Front-end Developer**

A front-end developer has one general responsibility: to ensure that website visitors can easily interact with the page. They do this through the combination of design, technology, and programming. – UC Berkeley

### **Full-stack Developer**

A Full-stack developer is a developer who can develop both client (frontend) and server (backend) software. In addition, they are comfortable working with databases. - W3schools

### **Hackathon**

An event, typically lasting several days, in which many people meet to engage in collaborative problem solving through computer programming. – Dictionary

### **Mobile Developer**

A mobile developer is a software developer who specialises in creating software for mobile devices and technologies such as Google's Android, Apple's iOS, and Microsoft's Windows Phone platforms.

### **Open-source Software**

Open-source software is computer software in which source code is released under a free license. The copyright holder grants users the rights to study, change, and distribute the software to anyone and for any purpose. – Wikipedia

**QA** Engineer

### **QA Engineer**

A QA engineer is an engineer responsible for making sure all developed features of an application meet the company and industry quality standards.

### **Software Engineer/Developer**

A software engineer or developer is a person who applies the principles of software engineering to the design, development, maintenance, testing and evaluation of computer software/application. - Wikipedia

### Start-up

A start-up is a company or project initiated by an entrepreneur or entrepreneurs to seek, effectively develop, and validate a scalable business model. - Wikipedia

### Web Framework

A web framework (WF) is a software framework that is designed to support the development of web applications including web services, web resources, and web APIs. – Wikipedia

## Acronyms

### CI/CD:

Continuous Integration / Continuous Delivery

### CMS:

Content Management System

### CSS:

Cascading Style Sheets

### **DBA**:

Database Administrator

### Dev:

Developer

### GDG:

Google Developer Groups

### HTML:

Hypertext Markup Language

### MSME:

Micro, Small and Medium Enterprises

### NGO:

Non-Governmental Organization

### PaaS:

Platform as a Service

### OA:

Quality Assurance

### SVN:

Apache Subversion

### S/W:

Software

### Gender

There is still a wide gap between **male** and **female** developers with females making up only **23.4**% of all the developers in Uganda. Even more, female developers tend to be front-end engineers with very few of them either backend or full-stack engineers.

### Affiliation to hubs

There is almost an even split between respondents that are affiliated to local hubs and those that are not. The majority of those that have no affiliation to any hub say that it is not clear what the hubs do hence they don't see a need to affiliate with any.

### Most dreaded technologies

NET and jQuery are the most dreaded technologies. Perhaps this is not surprising because no one is pushing these technologies.

### Job satisfaction

Half of the respondents feel overworked. They say that they put in 1-2 days every week as overtime. This correlates with the fact that nearly 42% are actively looking for another job.

### Mental well-being

While a majority of the respondents reported that they don't have any mental illness, we noted that almost 6% say they have an anxiety disorder. We believe that this is important information for anyone looking to hire these people so that they can know how to support them.

### Developer age

The average developer in Uganda is **27 years old** and **65%** of all respondents say they wrote their first line of code less than 5 years ago. So, if you are looking for a developer, chances are you will not find someone with more than 5 years of working experience.

### The number of developers is rising

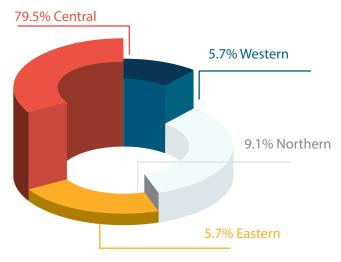
The number of developers in the tech industry has been steadily increasing with a steep rise in the last **5 years**. **65.4**% of respondents wrote their first code less than 5 years ago compared to only **1.4**% who wrote their first code over 20 years ago.



### Geography

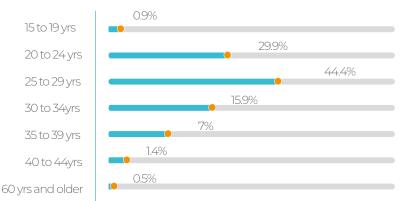
Over 97% of the respondents said they live in Uganda. A few are Ugandans who live abroad mainly within the East African region.

However, within Uganda, most developers are found in the central region where the capital city Kampala is located. 79.5% of respondents indicated they were based in the central region followed by the Northern region with 9.1% and then the eastern and western regions both with around 6%.



### Age

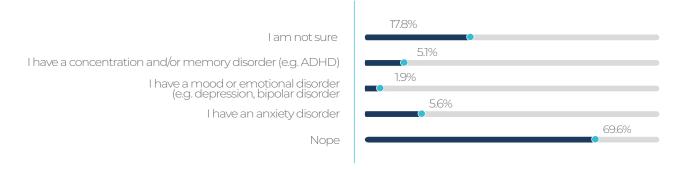
It appears that the tech world is a young man's sport. The average developer is less than **30** years old. Let that sink in a bit. Surprised? You shouldn't be. Uganda has a predominantly young population. Worldometers reports that an average Ugandan is **16** years old.



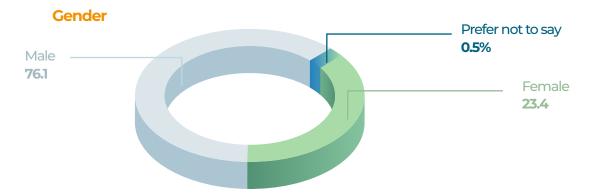
44.4% of respondents are between the ages of 25 to 29 while 29.9% are between the ages of 20 to 24. Therefore, a whopping 74.3% of developers are below the age of 30 according to this survey.

### **Mental Well-being**

### DO YOU RELATE WITH ANY OF THESE



Since this survey was conducted during the COVID-19 pandemic, we sought to check on the mental well-being of the respondents. We asked the respondents if they relate to any mental disorder to create awareness about this critical aspect of humanity. What we found was that almost 2 in 10 respondents are not sure of their mental state while almost 13 in every 100 respondents have some sort of mental disorder.



We sought to get an idea of the distribution of developers based on their gender. In the past, there has been a very wide divide of even up to 90% males and only 10% females. There has been a lot of effort put in to encourage females to aspire to become developers, however, it is evident that the tech industry remains male-dominated. The results show that 23% of the developers are female. While this number is still low, we believe that this is a step in the right direction.



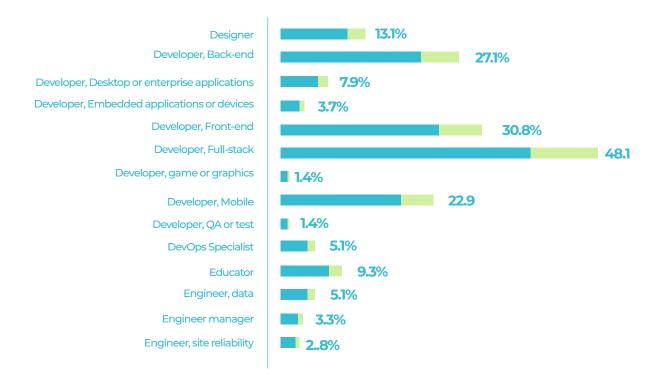
A developer needs to have technical expertise with certain aspects of computing. Some positions will require a degree in a relevant field such as computer science, information technology, engineering, programming, or other related studies.

### **Coding as a Hobby**

Most developers (63.1%) code in a professional capacity while 30.4% of the respondents code for fun.



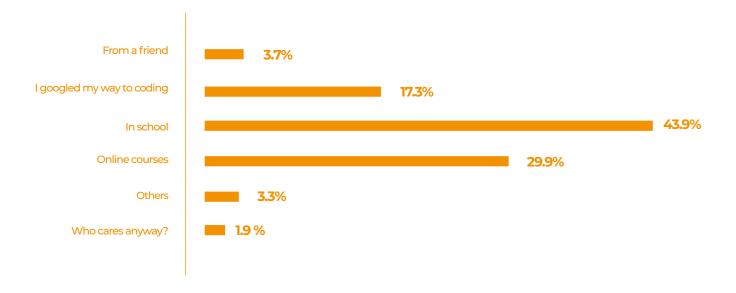
### **Developer Type**



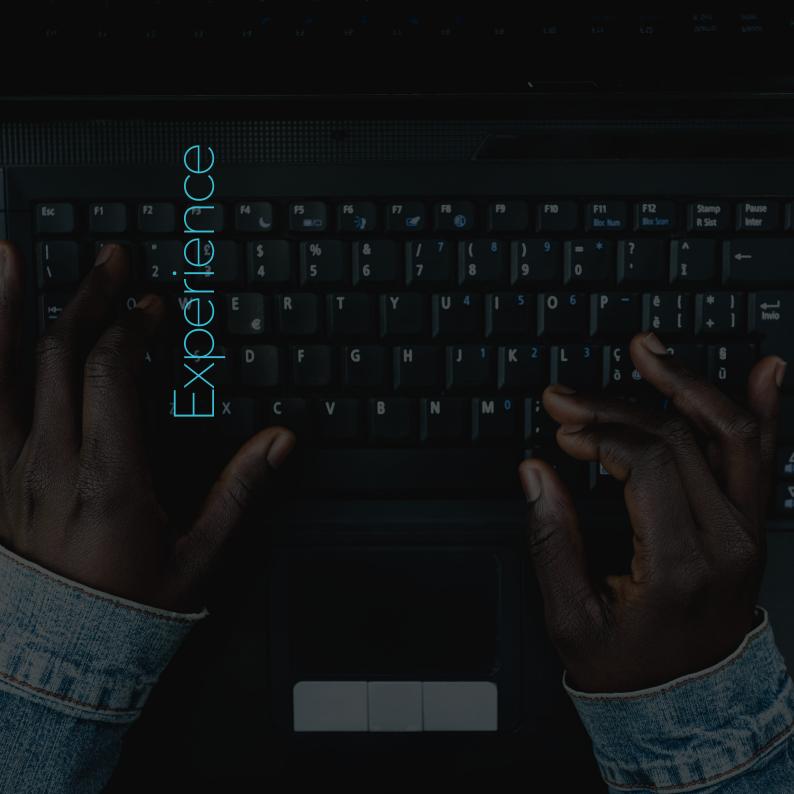
The percentage distribution in the area of specialization for developers can be seen in the illustration. Our community is majorly full-stack developers (48.1%) which means that they can do both front-end and back-end development. Full-stack developers have always carried the highest number compared to the other stacks. This is not surprising because of the nature of our ecosystem where a developer takes on so many roles before specializing. Globally, the demand for such developers is on the rise.

### **Learning how to Code**

Knowledge of computer programming is a prerequisite for becoming a software engineer. However, the industry is constantly evolving and requires the developer to keep adapting to new technologies and standards. The engineering journey for many developers begins in school or university with 43.9% of respondents stating that they learned how to code in school.

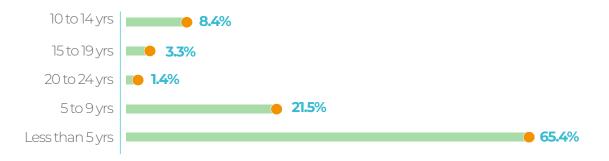


For its ever-changing nature, there are various ways to get into the profession. Today, thanks to the internet, there is a big pool of online learning resources (both free and paid for) that make it possible for those interested in embarking on a software engineering journey to start learning. 29.9% of respondents stated that they learned how to code from online courses. Other learning avenues for developers in Uganda include boot camps, hackathons, and developer groups also play a role in instilling interest and providing a foundation for software engineers.

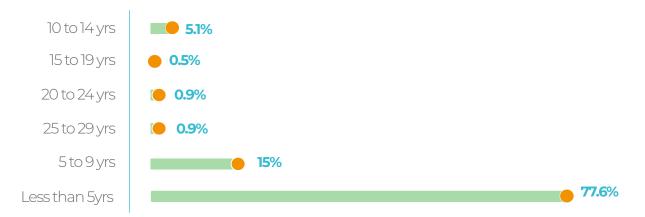


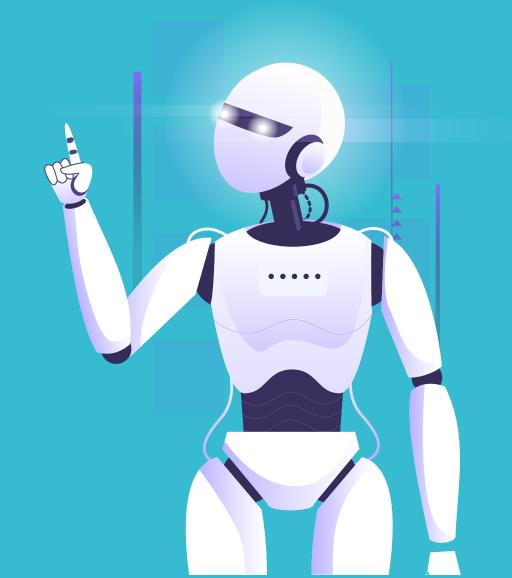
### **Years since Learning to Code**

We wanted to know when the respondents wrote their first line of code so that we analyze their growth rate. Over 65% of respondents wrote their Hello, World! program less than 5 years ago.

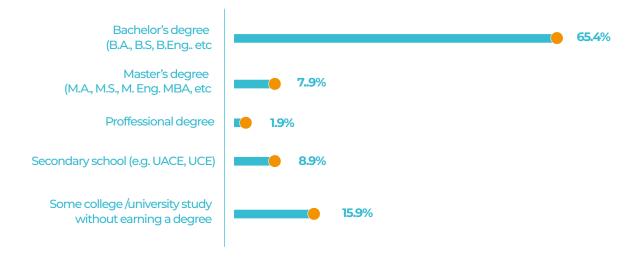


From the infographic, it is clear that the number of developers in the tech industry has been steadily increasing with a steep rise in the last 5 years. For example, 65.4% of respondents wrote their first code less than 5 years ago compared to only 1.4% who wrote their first code over 20 years ago. This is consistent with the demographics from the survey which found that 74.3% of developers are below the age of 30.





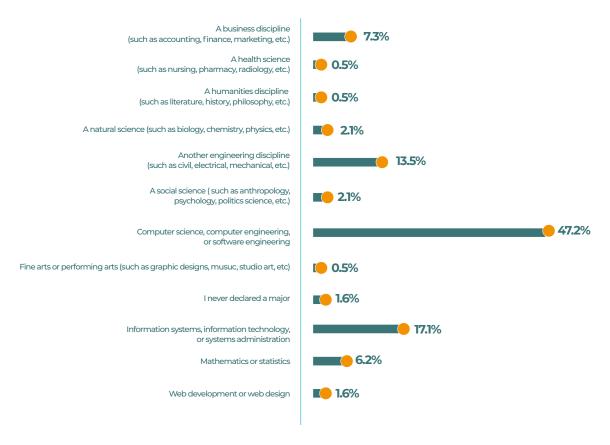
### **Educational Attainment**



All respondents reported that they had some level of education. It is interesting to note that while 65.4% of developers have achieved a bachelor's degree, up to 15.9% of developers dropped out of college or university, and 8.9% with secondary school as their highest level of education. This is evidence that some developers are self-taught whether through online courses, boot camps, or developer groups. This also proves that through hard work and consistency, one can become just as good or even better than a software engineer with formal education. Meanwhile, 7.9% of respondents hold master's degrees and are likely to be senior developers.

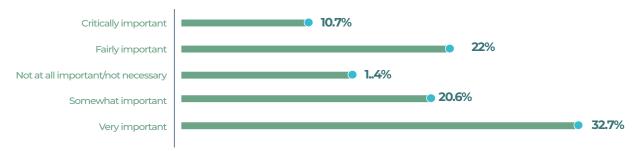
### **Undergraduate Major**

Computer science, computer engineering, and software engineering are the most popular disciplines. 47.2% of all respondents did one of these courses at the undergraduate level. Others majored in information systems, information technology, system administration, or other engineering disciplines.



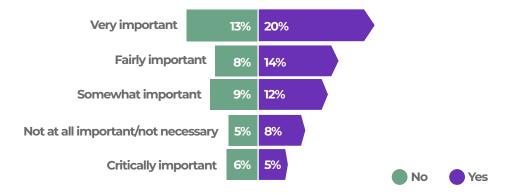
When we did more analysis of the data, we found that the common disciplines are synonymous with respondents that have less than 5 years of coding experience. The more experienced respondents reported that they did other engineering disciplines like Civil, Electrical, Mechanical, and Telecommunications Engineering at the undergraduate level.

### **Formal Education Importance**



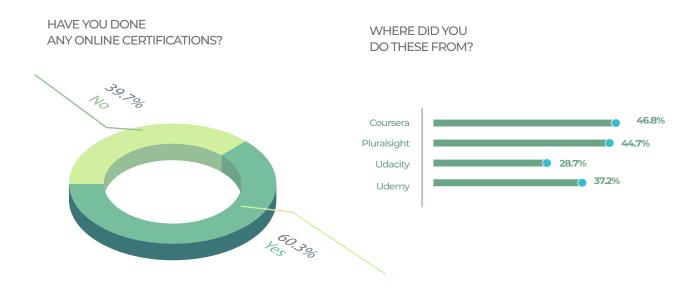
We asked respondents if their education is important in their current roles. The majority of developers appreciate the training they received during their education, that is 33% overall say education is very important, and 11% say it is critically important for their current role whereas 14% say that it is neither important nor necessary. Trends show that 14% either googled their way into coding or did at least one online course.

What is the importance of education in your current role vs have you done any online certifications?



The infographic shows that of the 33% of developers who found their education to be very important, 20% have also done further online certifications to respondents' keep up to date with the latest technologies as the industry evolves. 8% of developers found their education not important in their current role but have done online certifications.

### **Online Certifications**

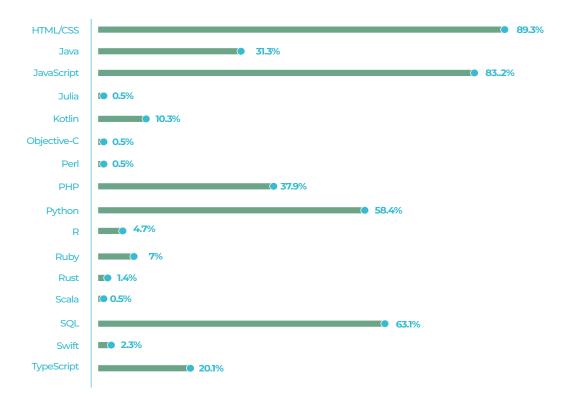


We asked respondents if they have done any online courses. Up to 60% of developers have an online certification. As expected, over 46% of the respondents did their online certifications on Coursera. This is mostly because it provides more free courses and is relatively cheaper than the rest for the paid-for content.

## Technology



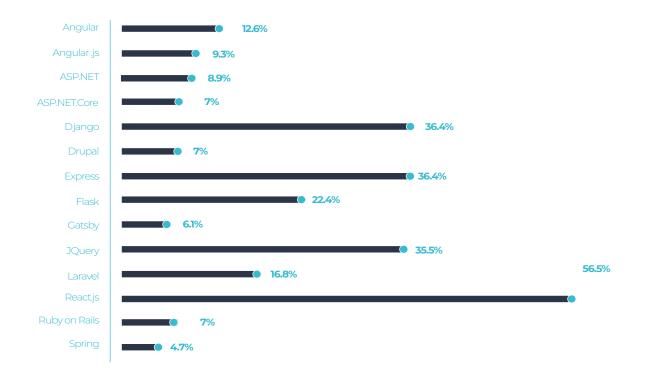
### **Most Popular Languages**



HTML is one of the most accessible languages in the world of programming. It is used to describe web pages with ordinary text but does not have the same functionality as other programming languages in this list. JavaScript is the most used language globally. Most web browsers utilize it, and it is one of the easiest languages to learn. SQL allows programmers to query and manipulate databases. As a domain-specific language, it is designed mainly for managing data. Python is a general-purpose programming language that empowers developers to use several different programming styles. As one of the more easy-to-learn and use languages, Python is ideal for beginners and experienced coders alike. PHP is a widely used, open-source scripting language for managing dynamic content, databases, session tracking, and web development.

### Most used frameworks / libraries / CMS

A framework is a collection of useful programs that make the developer's work in each language much easier. Frameworks provide a standard way to build and deploy web applications on the World Wide Web. Developers in Uganda are choosing various frameworks for their applications.

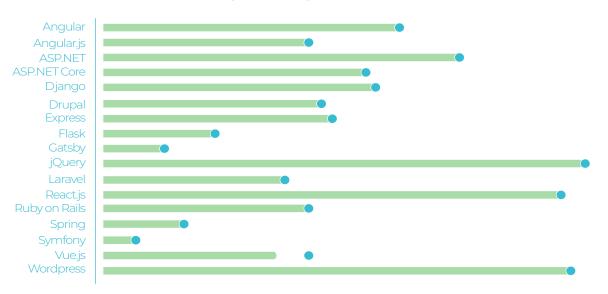


Our data shows that most (56.5%) developers use React.js - a free and open-source front-end JavaScript library. This is followed by WordPress, a content management system written in PHP with 41.1%, Django, a Python-based web framework with 36.4%, and Express for backend development with 36.4%.

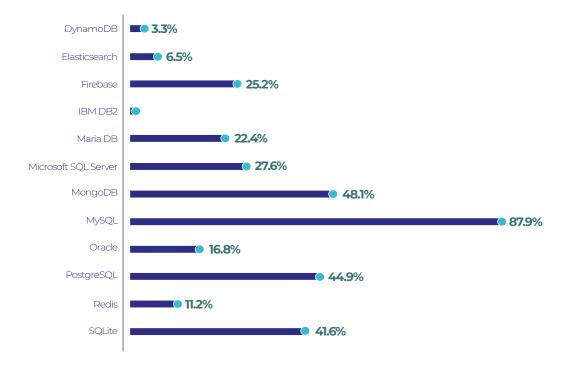
### Most loved frameworks / libraries / CMS



### Most dreaded frameworks / libraries / CMS



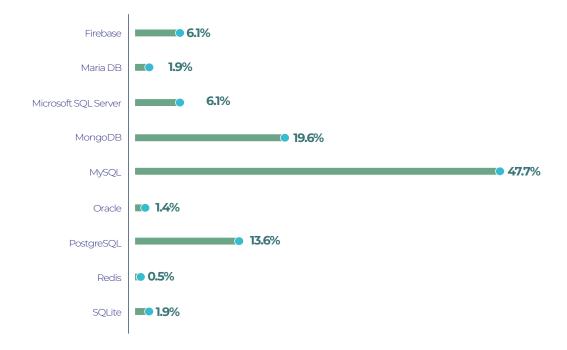
### Most used database systems



Most developers in our community use MySQL with 87.9% indicating it is the database system they are most familiar with. MySQL works with an operating system to implement a relational database in a computer's storage system. MongoDB (48.1%), Microsoft SQL server (27.6%), Oracle (16.8%) are the other systems used by developers.

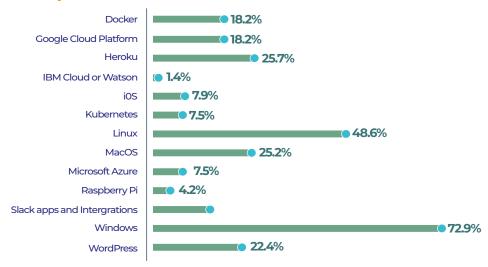
Microsoft SQL is a software product with the primary function of storing and retrieving data as requested by other software applications. Oracle is regularly used for running online transaction processing, data warehousing, and mixed database workloads.

### Most loved database systems



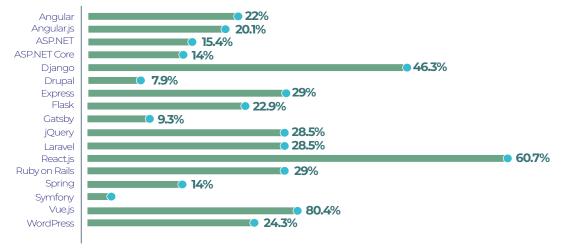
Developers were also asked which database systems they loved most. MySQL topped this poll with 47.7% of developers saying they loved it. The rise of web applications developed by start-ups has contributed to the popularity of MySQL. It is a free open-source solution with a large online support community and freelance developers that are continually adding to its functionality and utility.

### Most used platforms



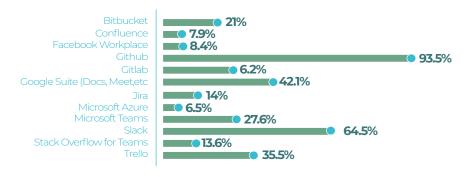
The data shows that Windows with 72.9% is the most commonly used platform followed by Linux with 48.6% and then Android with 25.7%. About 25% of developers are using the Mac platform for development.

### Most admired platforms

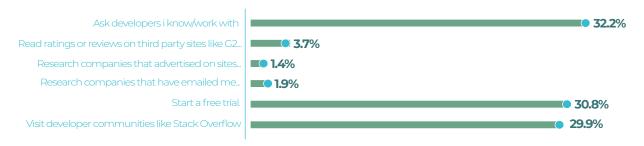


t is important to note that Linux is more admired by developers than Windows. Linux is more powerful, secure, and versatile for developers than Windows which offers great ease of use. Linux is also lightweight, which makes it faster than Windows.

### Most used collaboration tools

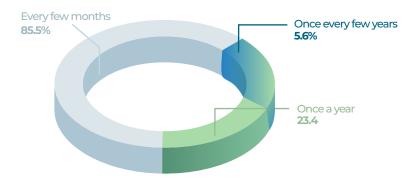


### How tools are chosen



### How often do developers learn a new technology?

As expected, over 85% of the respondents say that they are hungry for knowledge. This is very good for the ecosystem since technology keeps changing all the time. For any ecosystem to grow, the key stakeholders need to be willing and able to learn all the time.



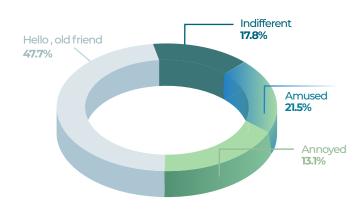
This presents a very huge opportunity to tap into this willingness to learn at all levels including government and the private sector. Education institutions can tap into this to introduce courses that speak to this hunger for knowledge.

### What do developers do when they get stuck



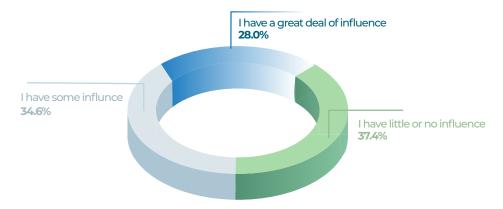
Have you ever heard of Stack Overflow? If not, then you should pick interest in it because 8 in 10 of your developers run to it whenever you give them a coding challenge that they can't solve. Even more, if you have been wondering who consumes your bandwidth, you may want to know that 72% of your development team opts to watch video tutorials when they get stuck. The good news is that only 2 in 100 developers get into panic mode when they get stuck.

### Those purple links, again!



We asked respondents how they feel when they search for a coding solution online and the first result link is purple because they already visited the link. As you can imagine, 13% of them say that they get annoyed. This is probably because they have tried everything but have failed to get the solution. Even worse, purple links may mean that that is the solution you are looking for, but you have just failed to figure it out. It's annoying!

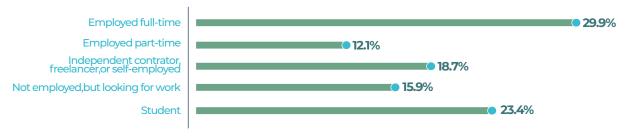
# **Technology Purchases Influence**



The biggest number of developers say that they have little or no influence when it comes to the purchase of technology tools in their organizations. As a result, a number of them reported that they are forced to use tools that would otherwise not have been their preferred options.



#### **Employment Status**



Only **30%** of the respondents are in full-time employment. This is surprising because we also know that there is a huge demand for developers. This could be because of the lack of experience that employers are looking for. However, **18.7%** of developers in the survey indicated that they are freelancers or gig workers. In recent times, the pandemic has created a new reality for the future of work where developers can make money from temporary work engagements commonly known as gigs. This enables MSMEs to inexpensively hire missing digital capabilities to perform specific tasks or work on projects as they adapt to the new normal.

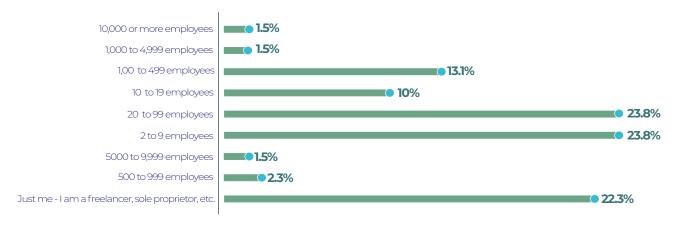
### **Salary**



The above salary figures are in Uganda Shillings.

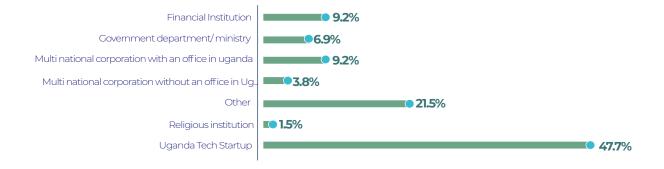
Much as some developers code as a hobby, most are professionals in the industry and are working to earn a living. The data from the DevScape survey concerning remuneration in the industry is informative. Developers in Uganda are still grossly underpaid compared to their counterparts in other markets. This perhaps explains the increase in the number of engineers working remotely for overseas companies. The result is that it is difficult to find a mid to senior-level engineer willing to work for a local company. The majority are junior developers with less experience i.e., who wrote their first line of code less than 5 years ago or are affiliated with local tech start-ups who have less capital to spend on remuneration.

#### **Company Size**



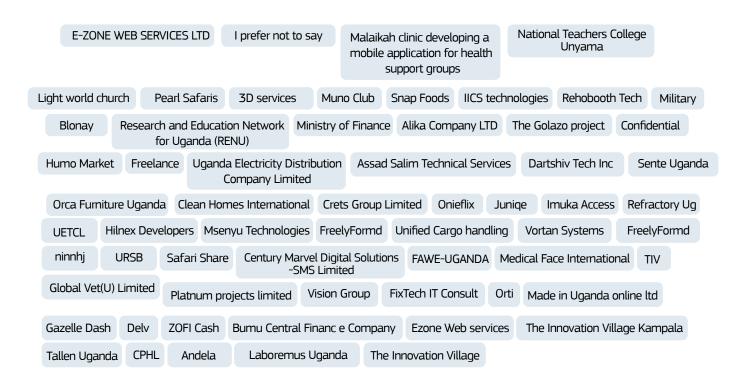
According to our data, most developers work at companies with less than 20 employees. This could indicate that the typical profile of companies where developers work are start-ups or small businesses. This means that they lack experience working on reasonably sized teams and projects. According to the UIA, micro-enterprises are businesses that employ at most 4 persons while small businesses employ between 5 and 49 persons.

## **Company Category**

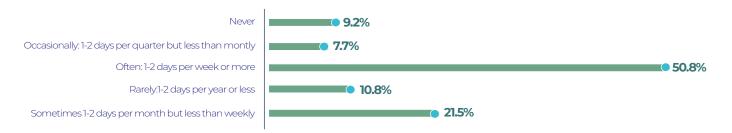


Startups employ the largest number of developers in Uganda. Whereas Government is the largest consumer of services, only 7% of developers work for Government.

# Where do the developers work?



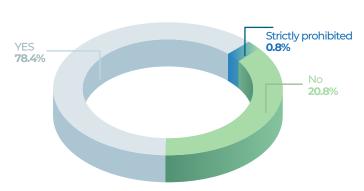
## **Working Overtime**

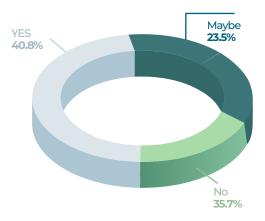


## **Capacity Building**

Does your company allow you to do capacity building during working hours

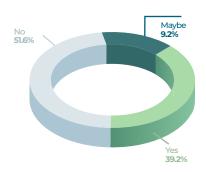






#### **DevOps**

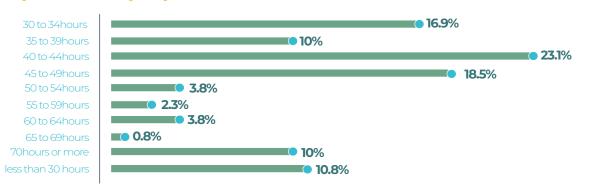
Does the company have dedicated DevOps personnel?



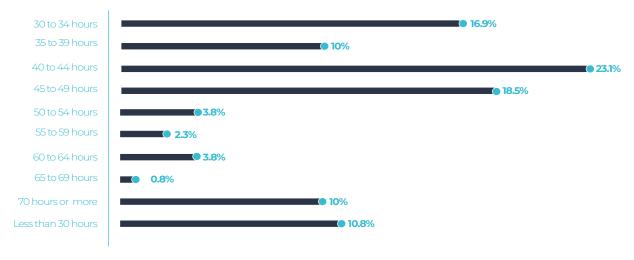
In your opinion, how important is DevOps to scaling software development



# How do you feel about your job now?

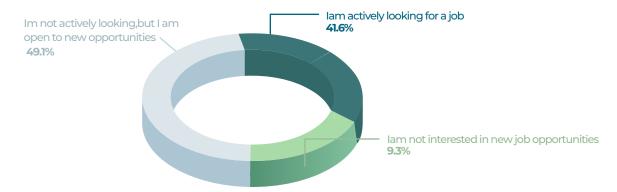


### Number of hours worked per week



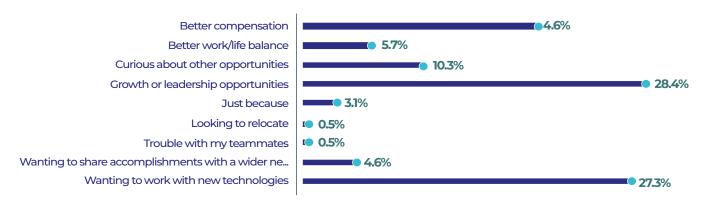
To assess their typical workload, developers were also asked how many hours they work per week. The data shows that developers are working for at least 6 hours a day. Most (23.1%) indicated that they work between 40 to 44 hours a week (about 5.7 to 6.3 hours a day). 18.5% of developers work between 45 to 49 hours a week (6.4 to 7 hours a day).

# Are you actively looking for another job?



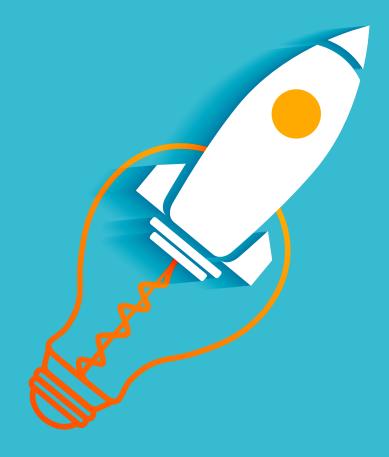
Developers are in search of better-paying jobs especially as they start to grow their skills. Our survey found that up to 41.6% are actively looking for a new job.

# Why are you looking for a job?



Developers also indicated several reasons as to why they are looking for another job which included growth or leadership opportunities (28.4%), access to new technologies (27.3%), better compensation (19.6%), and better work/life balance (5.7%).

Start-ups are where ideas are brought to life – creating a product or service that is taken to market. They play a significant role in boosting entrepreneurship hence creating new jobs, wealth, and markets. The environment in which entrepreneurs operate is made up of multiple factors, including physical, human, and financial assets, government policies, networks, and the underlying business culture. All these factors make up the start-up ecosystem. When taking a closer look at the ecosystem in Uganda, it is obvious that the number of tech hubs is rising, and among them is The Innovation Village.

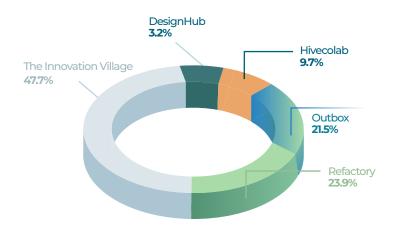


#### **Affiliation to Hubs**

Over the last 5 years, several hubs have been opened in Uganda targeting developers. We asked respondents if they are affiliated to any of the hubs and it was an equal split between those with affiliations and those without any affiliation. For those with no affiliation to any hub, we wanted to know what their reasons are.

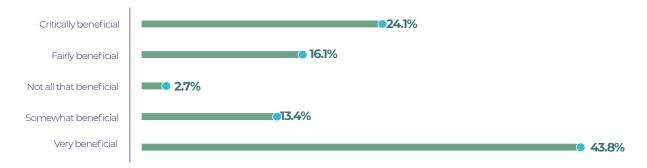


At these hubs, several tech start-ups are utilizing the co-working space among other facilities. A good number of developers have sharpened their skills at start-ups in these hubs and you will find several clusters of start-ups at hubs across the country, working on their start-up idea. 52.3% of developers in the 2021 DevScape survey are affiliated to a hub with 42.6% of those affiliated to the Innovation Village.



We noticed that even though Refactory is a fairly new entrant, 24% of the developers say they have an affiliation to it.

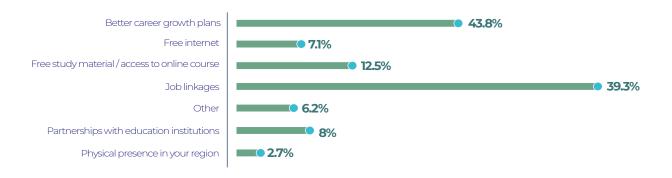
## How beneficial is your affiliation to these hubs?



It is important to note that 43.8% of developers find their affiliation to be very beneficial while 24% of developers find it critically beneficial. These hubs allow cost savings and convenience for start-ups using common infrastructures, such as equipment, utilities, receptionist, and custodial services. Coworking space is not only about providing a physical place but also about establishing a community.

# What is missing in the Hubs?

It was of interest to know what respondents think is missing in the Hubs in Uganda. We believe that this data would be beneficial to the hubs as they scope out their key areas of focus and seek to serve the needs of the tech ecosystem in Uganda.



This report demonstrates the state of the tech ecosystem in Uganda through careful collection and analysis of data from the key stakeholders within the industry. It looks at the trends concerning demographics, engineering journey, technologies, database systems, platforms, employment, and remuneration for developers in Uganda.

There are many positives to take. For example, the number of developers in Uganda is increasing. More and more people are interested in software development. However, there are some challenges including low remuneration for developers and access to new technologies.

As a key player within the tech ecosystem, The Innovation Village is committed to engaging stakeholders interested in transforming this sector. Innovations in the technology sector can be vital to improving outcomes across a wide spectrum of sectors including but not limited to education, finance, agriculture, energy, health, and telecommunications.

We hope that the insights shared here would be to the benefit of the ecosystem as we work to attract investment into tech start-ups in Uganda and Africa at large.



**Wilson Kiggundu** Chief Technology Officer



**Solomon Opio** Tech Community Lead



**Tevin Rwamahe**Business Analyst



**Sharon Kakai**Lead Communication &
Marketing



**Electine Oyaga**Public Relations Lead



**Ivan Sewajje** Brand Manager

Content Lead



#### Stackoverflow Survey

insights.stackoverflow.com/survey/2019

#### Andela report 2019

https://www.annualsurvey.dev/

Uganda Investment Authority, 2016.

#### Worldometers

https://www.worldometers.info/world-population/uganda-population/

#### Simpli learn

https://www.simplilearn.com/tutorials/data-science-tutorial/-

data-scientist-vs-data-analyst-vs-data-engineer

#### Red hat

https://www.redhat.com/en/topics/devops/devops-engineer

#### **Berkeley Bootcamp**

https://bootcamp.berkeley.edu/resources/coding/learn-web-deve-

lopment/what-does-a-front-end-web-developer-do/

#### Udacity

https://www.udacity.com/blog/2020/12/-

front-end-vs-back-end-vs-full-stack-web-developers.html

# Get in touch

+256 39 324 1297 info@innovationvillage.co.ug Plot 31 Ntinda - Kisaasi Road, Ntinda Shopping Complex, Block B&C 3rd Floor, Kampala