

Technology Trends & Analysis Presentation



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Skills Network



OUTLINE



- Executive Summary
- Introduction
- Methodology
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- Discussion
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- Conclusion
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EXECUTIVE SUMMARY



- Trends in programming languages and databases
- Demographics survey
- Technological gap in countries
- Gender gap in jobs
- Platforms Desired



INTRODUCTION



- About: Analyzing the trends in software development
- Goal:
 - Identify skill requirement for the future
 - What are the top programming languages in demand?
 - What are the top databases in demand?
 - Outline clear presentations for the top platforms worked with including the top platforms desired in the future
- Targeted audience: Human Resources and the IT department

METHODOLOGY



- Data sources
 - Stack Overflow Developer 2019 survey
 - Github job postings
- Data Exploration
- Data Cleaning
- Data Visualization
- Presentation



RESULTS

Results are based on this well cleaned table

Respondent	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear	PlatformWorkedWith	PlatformDesireNextYear
4	C	C	MySQL	MySQL	Linux	Linux
4	C++	C#	SQLite	SQLite	Windows	Windows
9	Bash/Shell/PowerShell	Bash/Shell/PowerShell	DynamoDB	PostgreSQL	AWS	AWS
9	C#	C	PostgreSQL	Redis	Docker	Docker
9	HTML/CSS	HTML/CSS	SQLite	SQLite	Heroku	Heroku
13	Bash/Shell/PowerShell	Bash/Shell/PowerShell	Couchbase	Firebase	Android	Android
13	HTML/CSS	HTML/CSS	DynamoDB	MySQL	AWS	AWS
13	JavaScript	JavaScript	Firebase	Redis	Docker	Docker
17	Bash/Shell/PowerShell	Bash/Shell/PowerShell	MongoDB	Elasticsearch	Arduino	Docker
19	C#	HTML/CSS	DynamoDB	DynamoDB	Android	AWS
20	Bash/Shell/PowerShell	Bash/Shell/PowerShell	Elasticsearch	Elasticsearch	Android	Android
20	C#	C#	MariaDB	MariaDB	Docker	Docker
20	HTML/CSS	HTML/CSS	MongoDB	MongoDB	Windows	Windows
22	Bash/Shell/PowerShell	Bash/Shell/PowerShell	Elasticsearch	Elasticsearch	Docker	Docker
22	C++	C++	MySQL	MySQL	Linux	Linux
22	HTML/CSS	HTML/CSS	Oracle	Oracle	Raspberry Pi	Raspberry Pi
22	JavaScript	JavaScript	Redis	Redis	Windows	Windows
23	Bash/Shell/PowerShell	Bash/Shell/PowerShell	Oracle	Couchbase	Docker	Docker
23	HTML/CSS	Go	SQLite	DynamoDB	Google Cloud Platform	iOS
25	HTML/CSS	HTML/CSS	MySQL	MySQL	Linux	Linux
26	Bash/Shell/PowerShell	C#	Microsoft SQL Server	Microsoft SQL Server	AWS	Android
26	C++	HTML/CSS	MySQL	MySQL	Docker	Docker
26	C#	JavaScript	Redis	Redis	Linux	iOS
26	HTML/CSS	Objective-C	SQLite	SQLite	MacOS	Linux
38	C#	C#	Microsoft SQL Server	Microsoft SQL Server	Windows	Windows
39	C#	C#	Microsoft SQL Server	Microsoft SQL Server	AWS	AWS
39	JavaScript	F#	PostgreSQL	PostgreSQL	Docker	Linux
39	SQL	SQL	Redis	Redis	Kubernetes	Microsoft Azure
39	TypeScript	TypeScript	SQLite	SQLite	Linux	Windows
43	C++	C#	Firebase	Firebase	Android	Android
44	Bash/Shell/PowerShell	C#	Oracle	Other(s):	Linux	Docker
49	Bash/Shell/PowerShell	Bash/Shell/PowerShell	Cassandra	Cassandra	Android	Android
49	HTML/CSS	HTML/CSS	DynamoDB	DynamoDB	Arduino	Arduino
49	Java	Java	Elasticsearch	Elasticsearch	AWS	AWS
49	JavaScript	JavaScript	MariaDB	MariaDB	Docker	Docker
49	PHP	Kotlin	MongoDB	MongoDB	Linux	Linux
49	Python	Python	PostgreSQL	PostgreSQL	Slack	Slack
50	Bash/Shell/PowerShell	HTML/CSS	Elasticsearch	Firebase	Arduino	AWS
50	C	JavaScript	Firebase	PostgreSQL	AWS	Docker



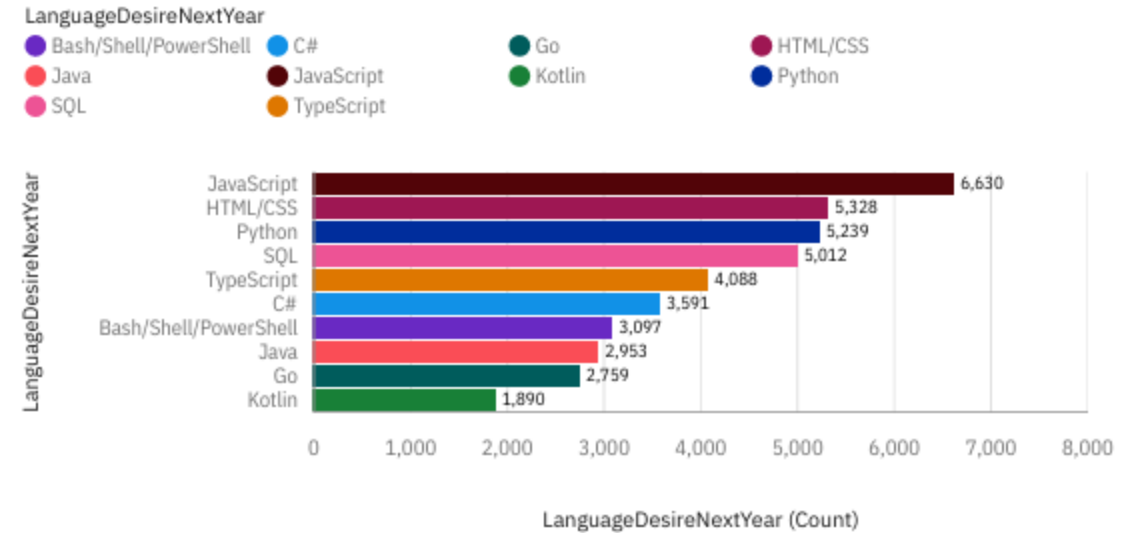
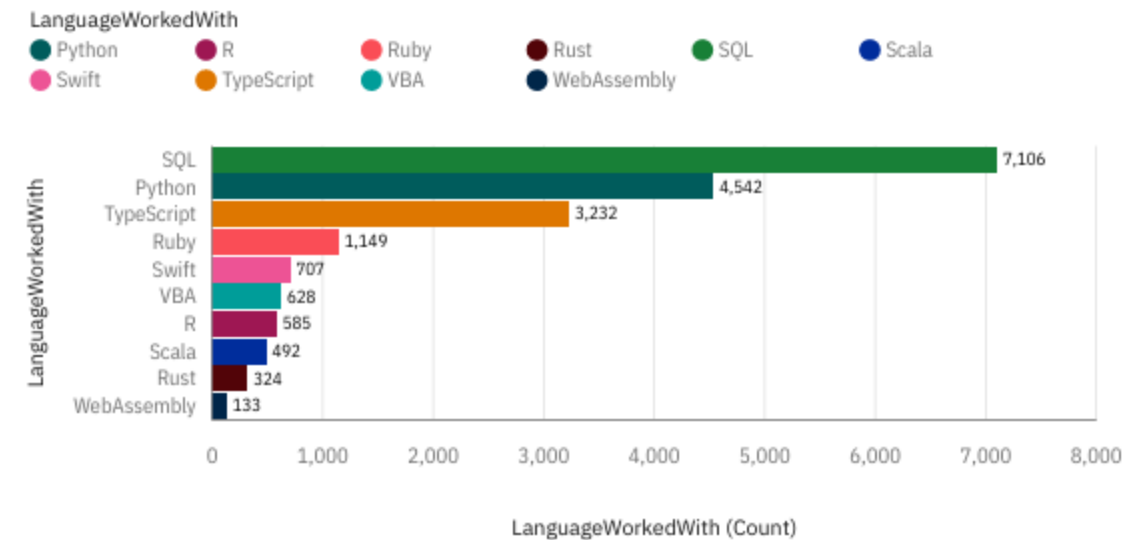
PROGRAMMING LANGUAGE TRENDS

Current Year

Next Year

Top 10 Languages worked with

Top 10 Languages Desire Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Sql is the most language worked with currently
- JavaScript is the top desired for next year despite not being in the top 10 languages worked with
- A lot more people respondent on the top 10 languages desired next year compared to the top 10 languages worked with

Implications

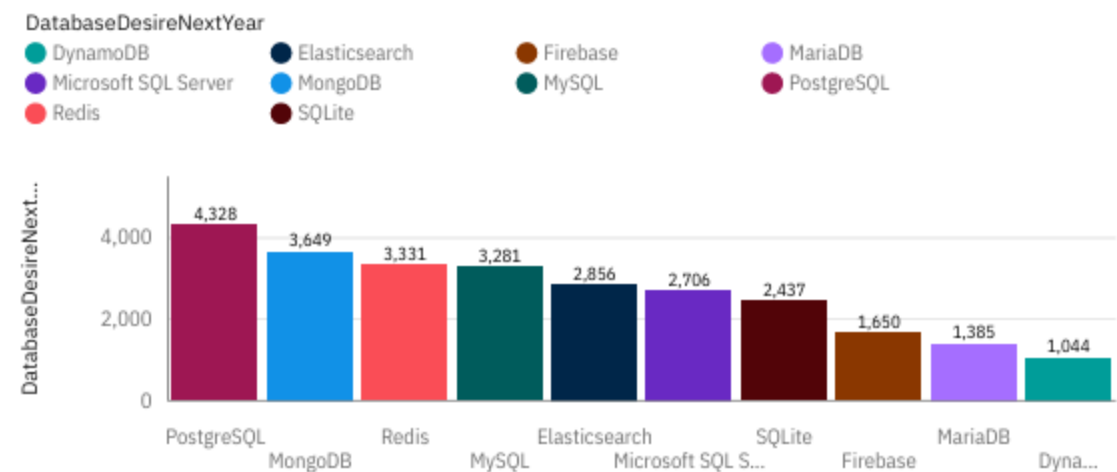
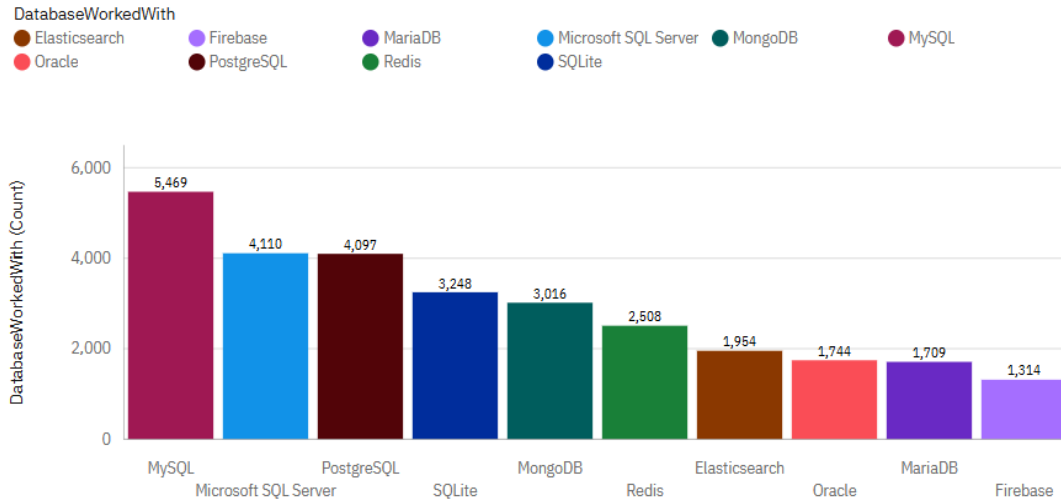
- Sql fell to fourth in languages desired next year but Big Data in companies still requires Sql
- The total number of respondents on current & next year are not the same, therefore the results might not be fair and accurate
- By changing the languages worked with, the whole system might have to change and if not done properly there might be some data lose



DATABASE TRENDS

Current Year

Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Respondents must be pleased with Redis because it's going from the 6th current database to the 3rd database for next year
- PostgreSQL is the top database for next year
- MySQL is dropping from the top current to the 4th database for next year

Implications

- Open-source databases are still preferable in companies
- Redis supports abstract data types
- No Sql databases will make an impact for storing non-relational data



DASHBOARD



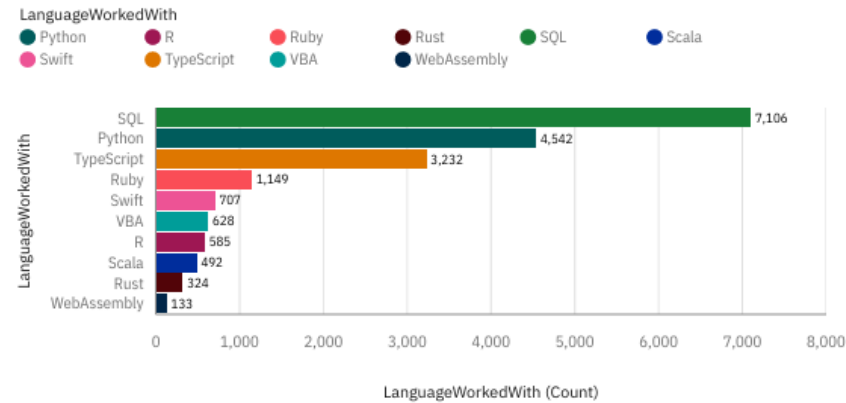
[Github IBM Cognos Link Dashboard](https://github.com/AdonijahManyange/Building-A-Dashboard-with-IBM-Cognos-Analytics)

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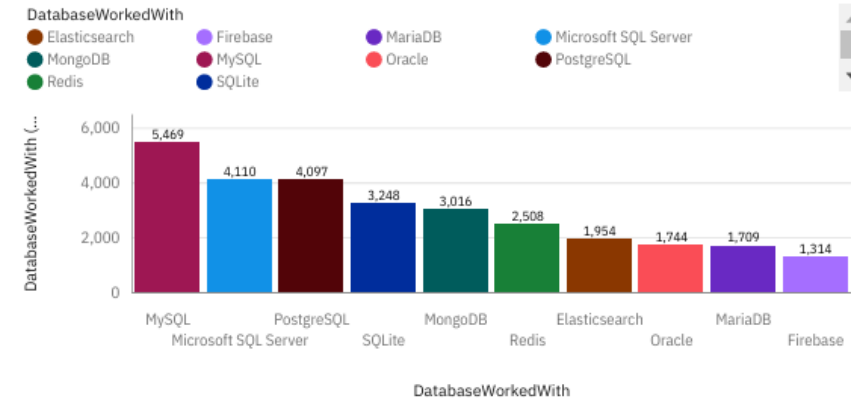


CURRENT TECHNOLOGY USAGE DASHBOARD

Top 10 Languages worked with



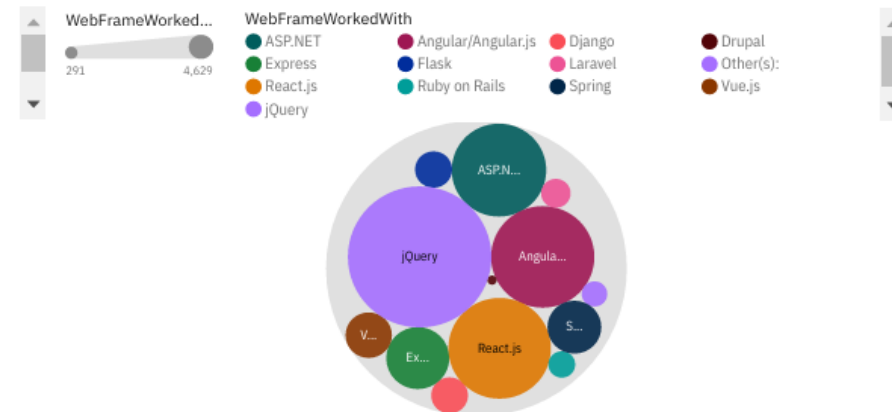
1 Top 10 Databases worked with



Platforms worked with

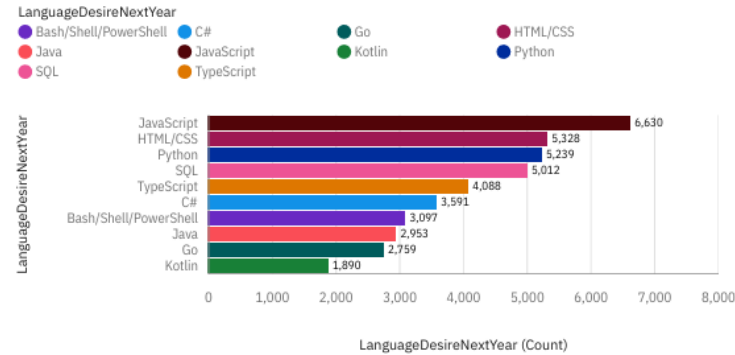


3 WebFrames worked with

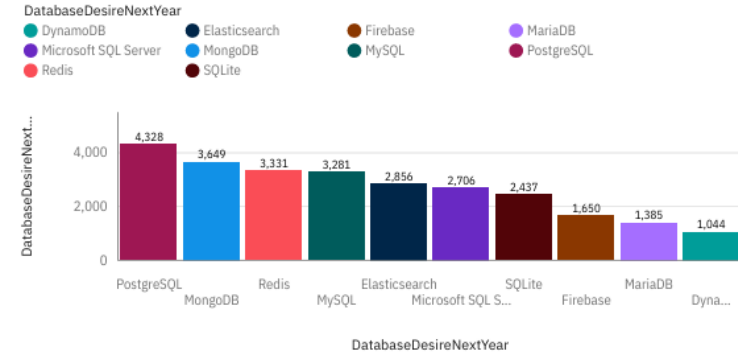


FUTURE TECHNOLOGY TREND DASHBOARD

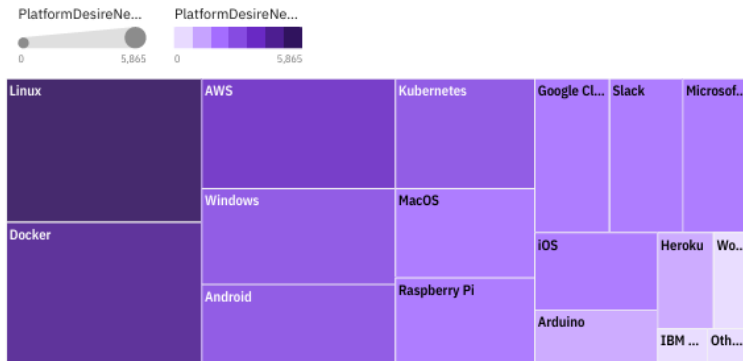
Top 10 Languages Desire Next Year



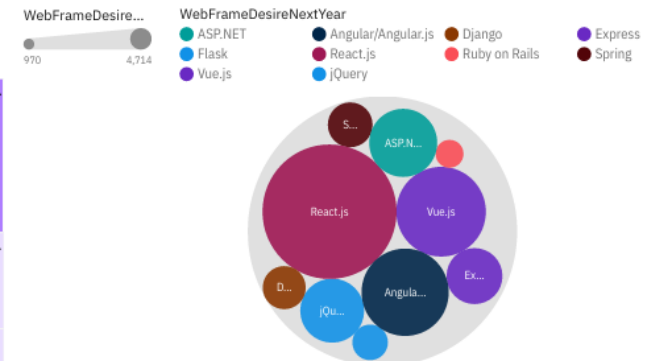
Top 10 Database Desire Next Year



Platforms Desire Next Year



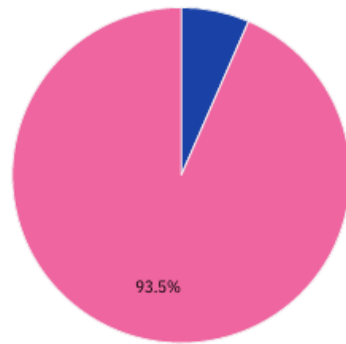
Top 10 WebFrames Desire NextYear



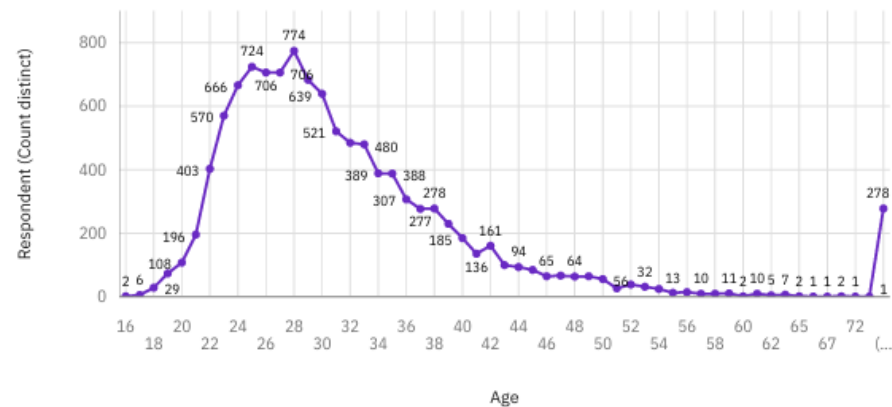
DEMOGRAPHICS DASHBOARD

Respondent classified by Gender

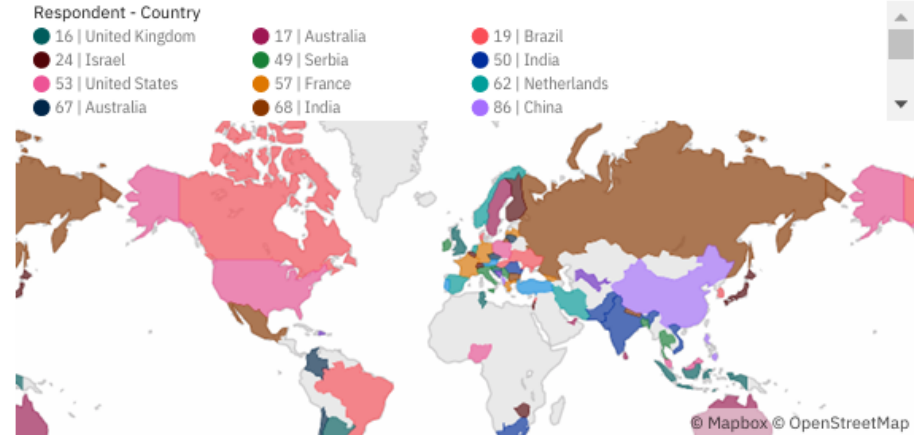
Gender
 ● Woman ● Man



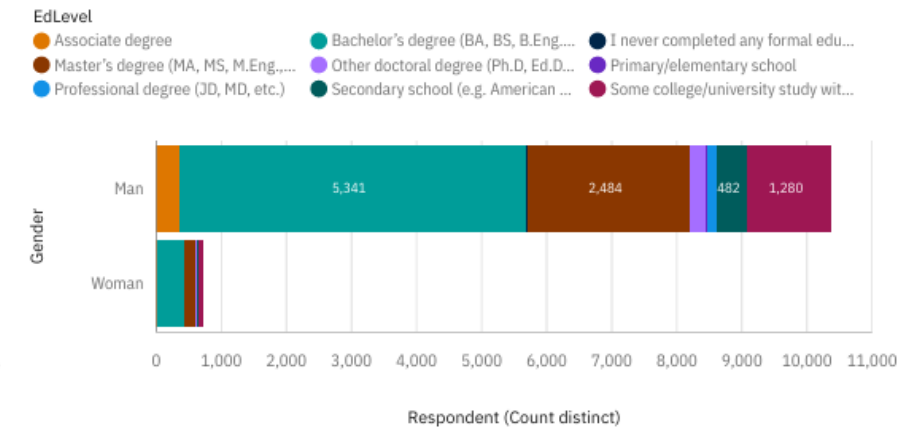
Respondent Count by Age



1 Respondent Count for Countries



3 Respondent Count by Gender, classified by Formal Education Level



DISCUSSION



- Technology trends now and future
- Females participation in the technology field
- Training and reskilling workers
- Bridge divide of technology gaps in developing countries



OVERALL FINDINGS & IMPLICATIONS

Findings

- Fast changing technology every year
- Big Gender gap in technology jobs
- Platforms like Docker and AWS are growing rapidly
- There's concentration on several countries like USA and India

Implications

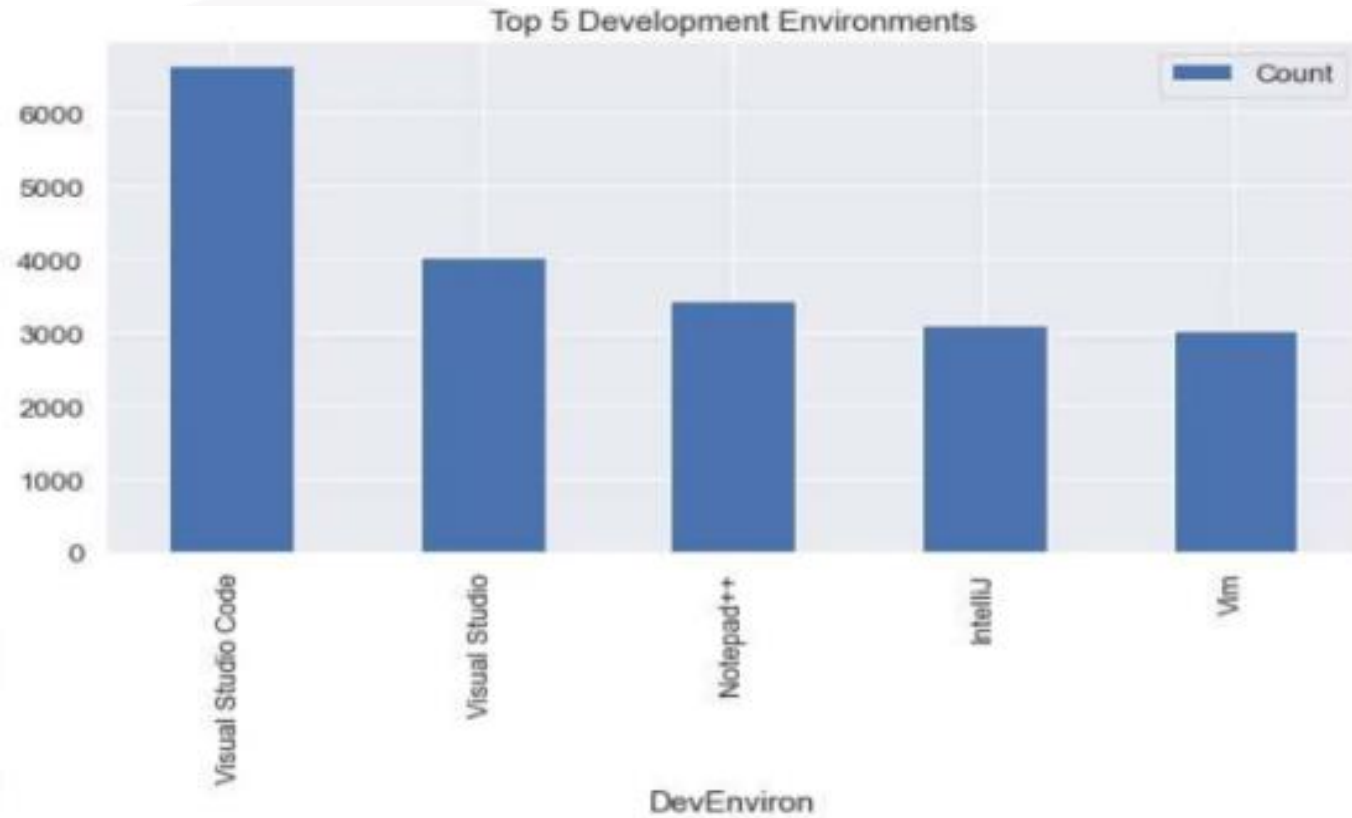
- Companies need to be flexible and adjust to rapid changes in technology
- Technology needs to be spread out to lagging countries especially third world countries
- The need to switch to faster app deployment and cloud

CONCLUSION

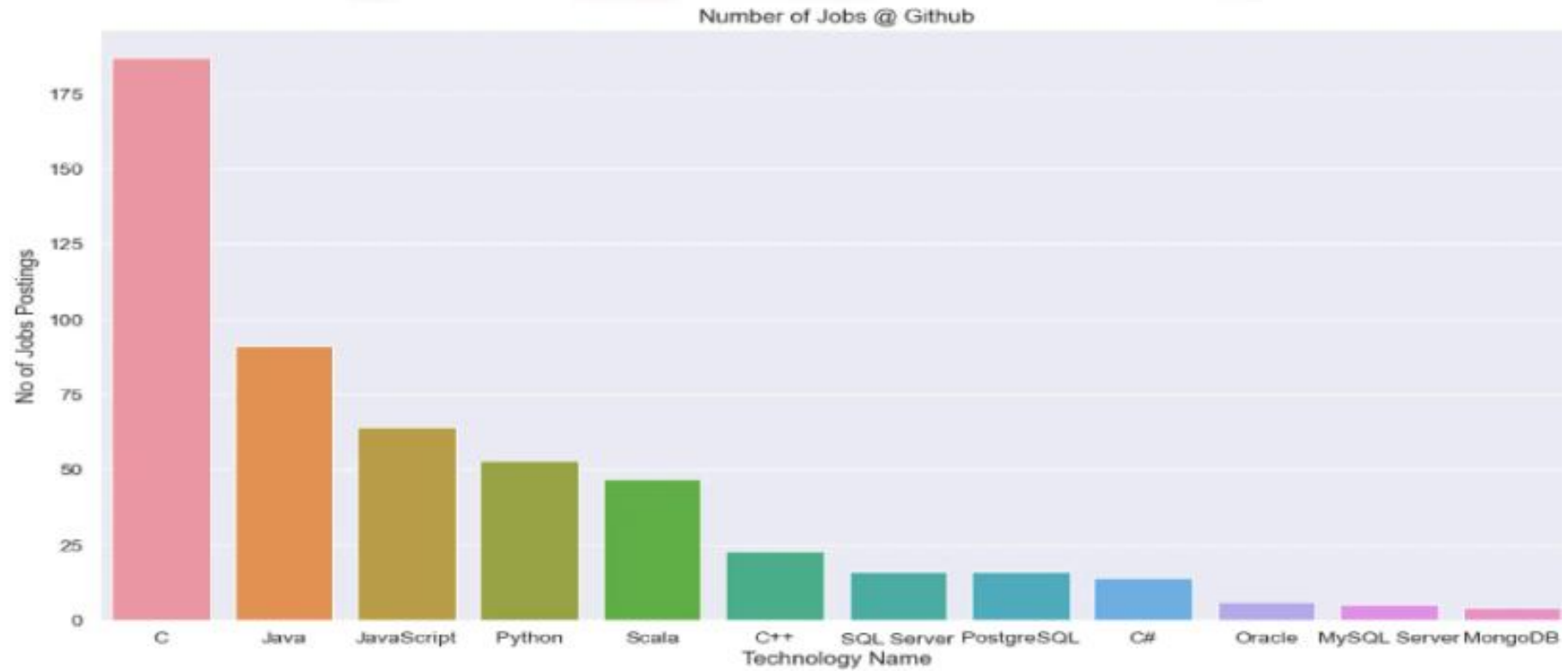


- Technology trends for current and next year
- Programming languages, Database and Platform overview
- Demographics overview
- Actions to be taken
- In future, incorporate Machine Learning to predict trends and salaries

APPENDIX



JOB POSTINGS



POPULAR LANGUAGES BY SALARY

