



Technology and its Trends

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OUTLINE



- Executive Summary
- Introduction
- Methodology
- Results
 - Visualization – Charts
 - Dashboard
- Discussion
 - Findings & Implications
- Conclusion
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EXECUTIVE SUMMARY



- **Top 10 Programming Languages, Databases, Platforms and Web Frameworks their current trends and use.**
- **Possible future technology use and trends shift.**
 - Top 10 Languages & Databases Desired
 - Top 10 Platforms Desired
 - Top 10 Web Frameworks Desired
- **Demographics of Technology Users**
 - Gender of Respondents & their contribution
 - Age & Geographic Locations of Respondents
 - Educational Qualifications of Respondents

INTRODUCTION



- **About:** Analysis of Technological Trends among respondents from the United States.
- **Purpose:**
 - Identification of future skill requirements.
 - Identifying the top in-demand programming languages.
 - Identifying the top in-demand databases and skills.
 - Identification of the most popular web frameworks and platforms?
- **Audience:** Human Resources and IT Head of Department.

METHODOLOGY



- **Data Collection Sources**
 - Stack Overflow Developer 2019 Survey
 - GitHub Job Postings
- **Annual Salary of Programmers and Web Devs.**
- **Data Exploration**
- **Data Cleaning**
- **Data Visualization**
- **Presentation**

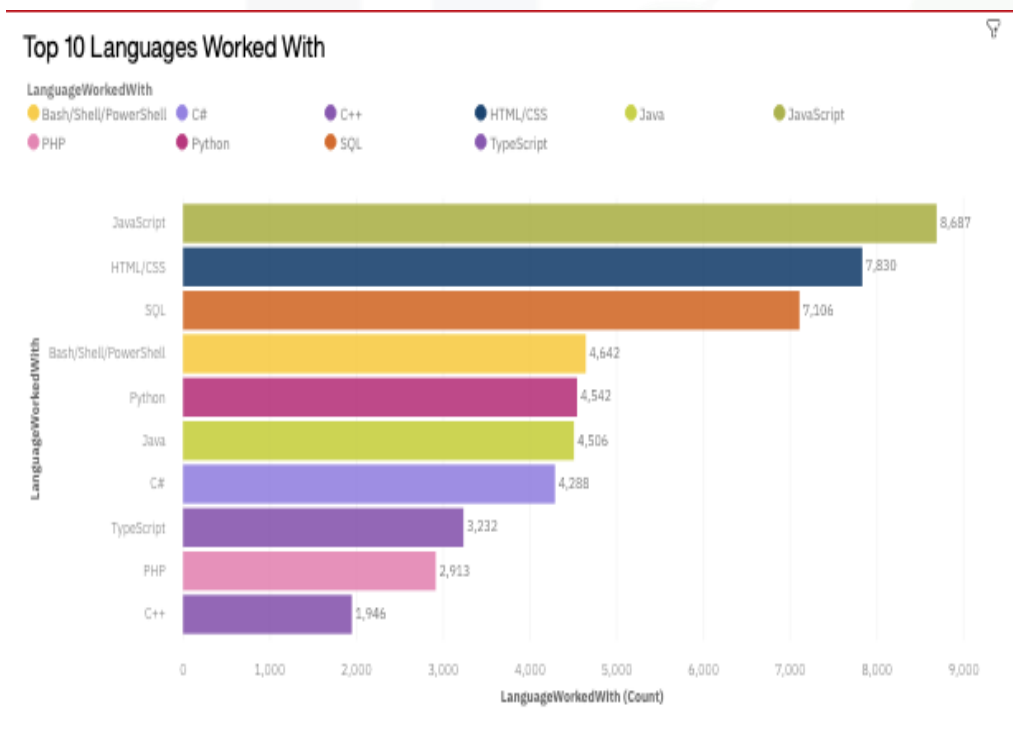
RESULTS

The report's results were formulated from the table/dataframe below which is from a survey responded to by various technology users.

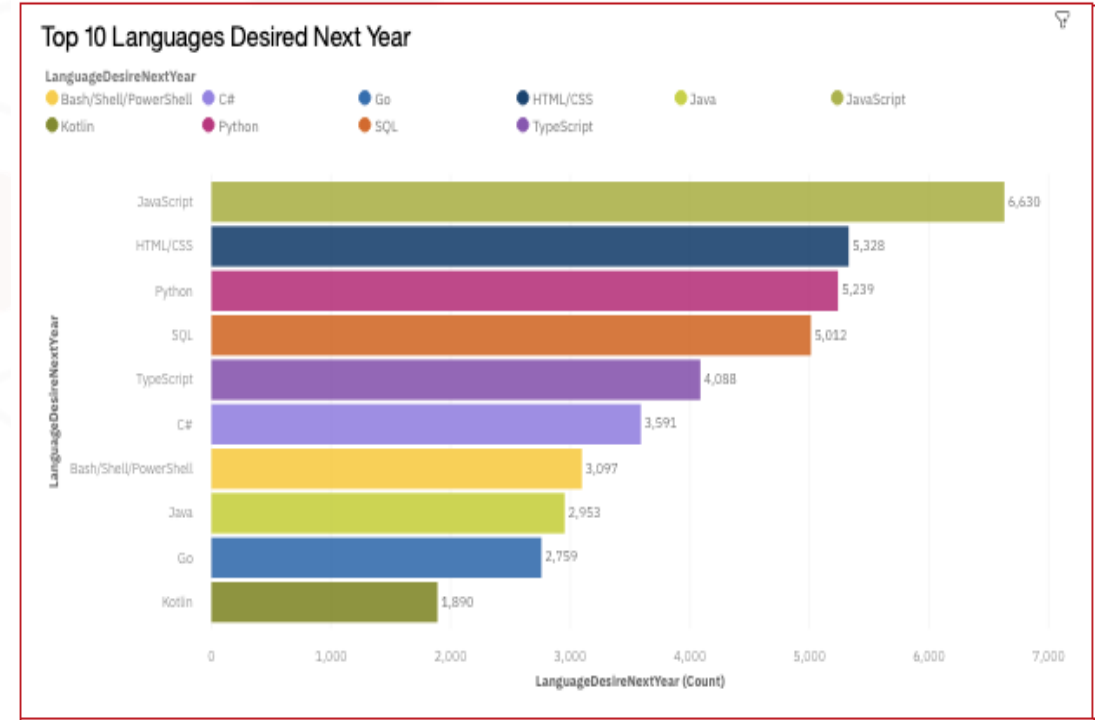
	Respondent	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear	PlatformWorkedWith
0	4	C	C	MySQL	MySQL	Linux
1	4	C++	C#	SQLite	SQLite	Windows
2	4	C#	JavaScript	NaN	NaN	NaN
3	4	Python	SQL	NaN	NaN	NaN
4	4	SQL	NaN	NaN	NaN	NaN
...
74584	25142	Go	Python	NaN	NaN	NaN
74585	25142	HTML/CSS	R	NaN	NaN	NaN
74586	25142	PHP	NaN	NaN	NaN	NaN
74587	25142	Python	NaN	NaN	NaN	NaN
74588	25142	R	NaN	NaN	NaN	NaN

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript, HTML/CSS, SQL are top 3 most used technologies this year
- Python and Typescript seen to be becoming popular in the coming years.
- Typescript edges out Powershell.

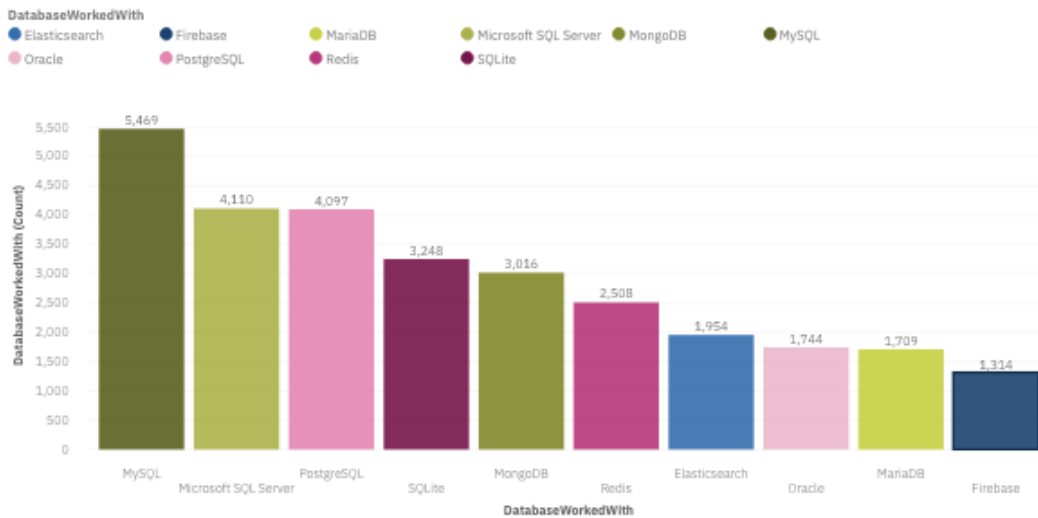
Implications

- Web development skills are still in high demand
- Big Data technology in companies still requires SQL skills.
- This shows that in the coming years dependency on terminals that are not operating system dependent will increase.

DATABASE TRENDS

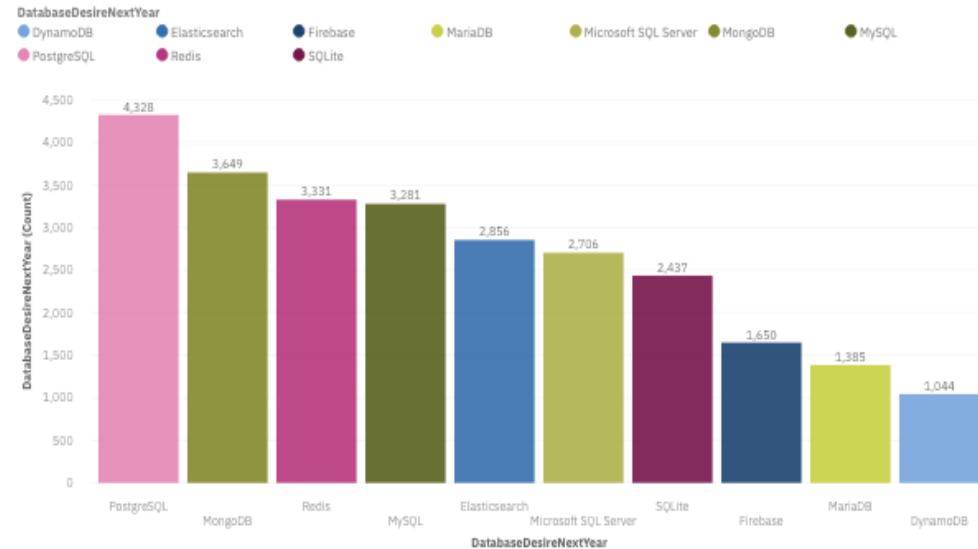
Current Year

Top 10 Databases Worked With



Next Year

Top 10 Databases Desired Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL most popular
- Behind is Microsoft SQL
- MongoDB and Redis are upcoming favorites
- New kid on the block: Elasticsearch

Implications

- Open-source databases are still preferable in companies
- NoSQL databases will make an impact for storing non-relational data
- Redis supports abstract data types
- Pre-tuned search to website, app, or ecommerce store.

DASHBOARD



<https://dataplatform.cloud.ibm.com/dashboards/3a363acb-3d4b-4113-af5a-f5608e19b47e/view/7c62df29149d30de6beedce407c87e057d66205fb1bb865181d47b4959342297f33f4291c87e4e5dd9440662a2b9165fc9>

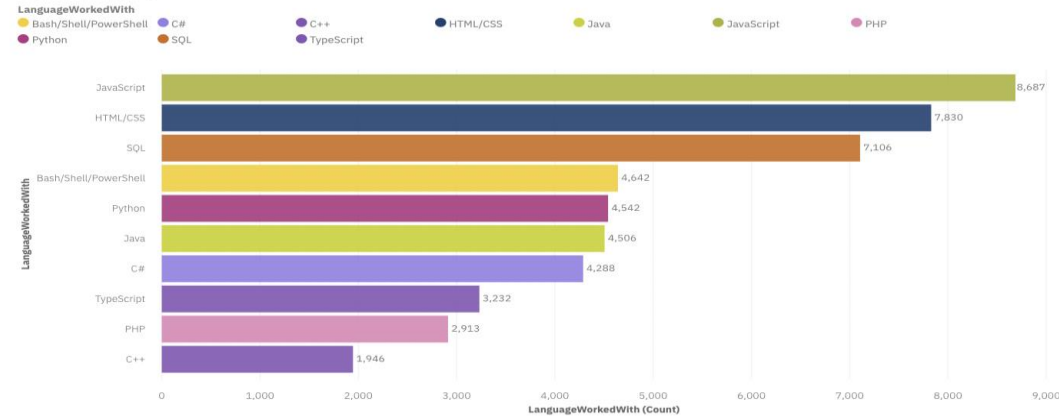
Current Technologies Dashboard

Current Technology Usage

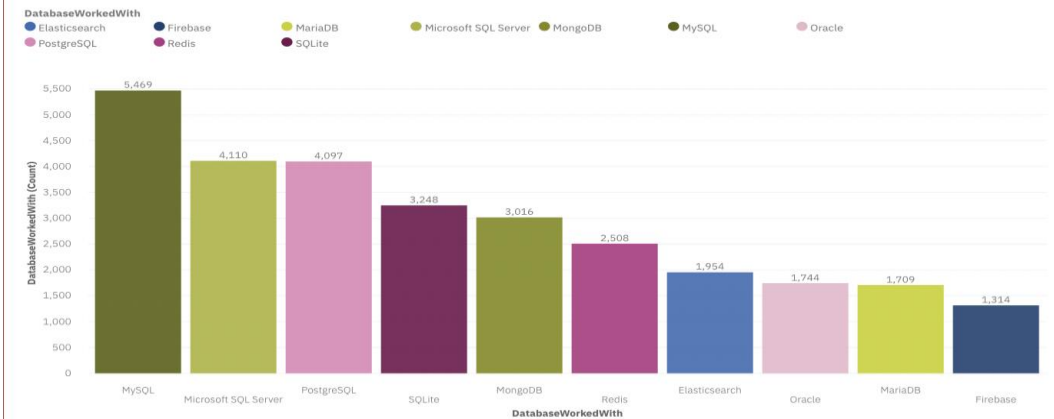
Future Technology Trend

Demographics

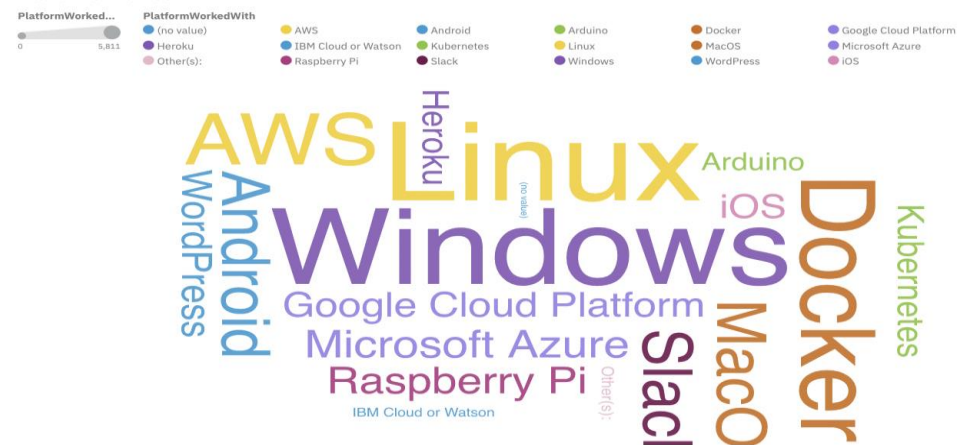
Top 10 Languages Worked With



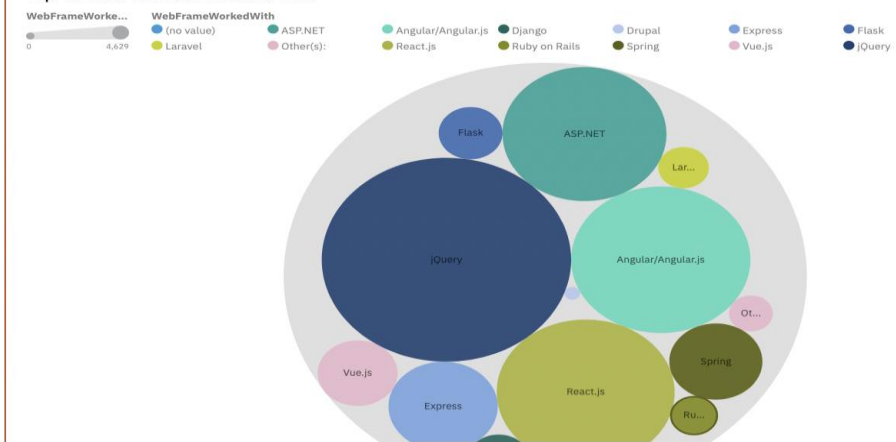
Top 10 Databases Worked With



Platforms Worked With



Top 10 Web Frames Worked With



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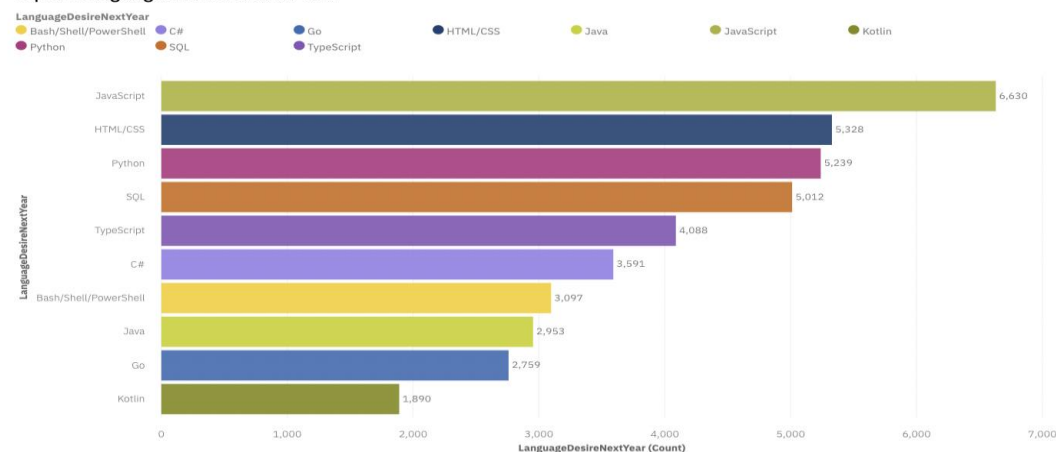
Future Technologies Dashboard

Current Technology Usage

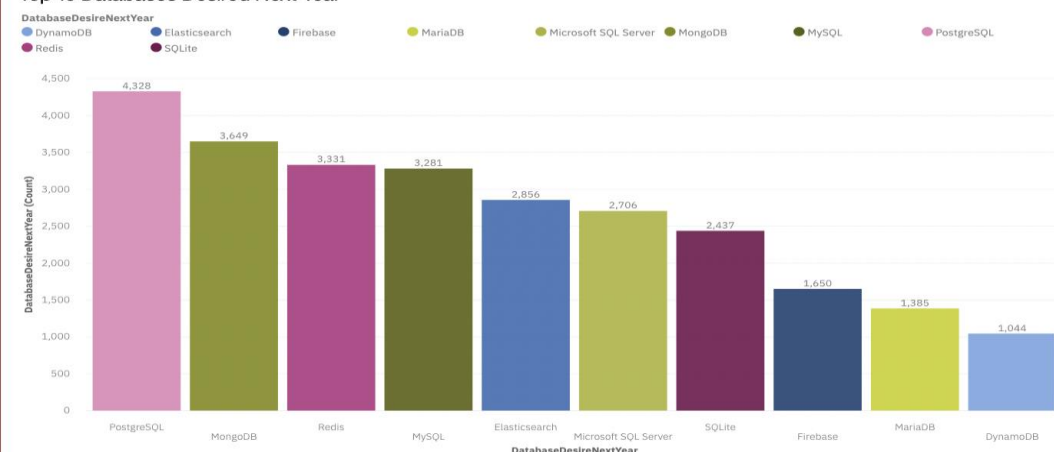
Future Technology Trend

Demographics

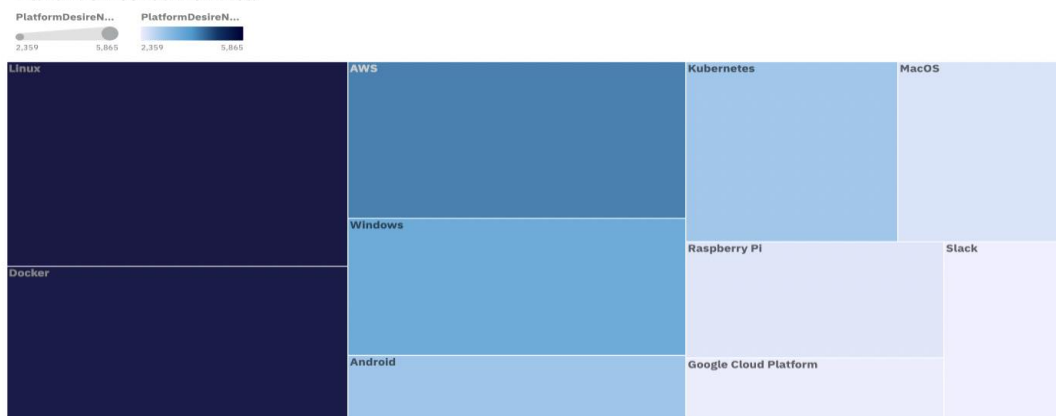
Top 10 Languages Desired Next Year



Top 10 Databases Desired Next Year



Platforms Desired Next Year



Top 10 WebFrames Desired Next Year



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Demographics Dashboard

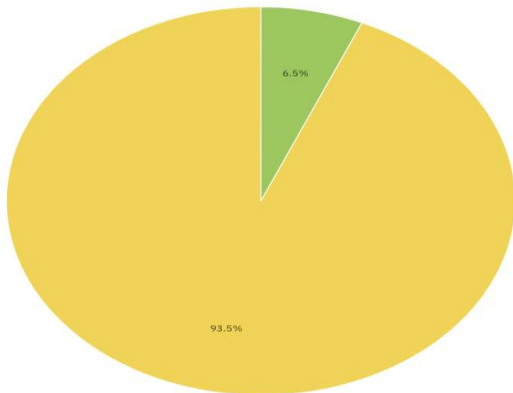
Current Technology Usage

Future Technology Trend

Demographics

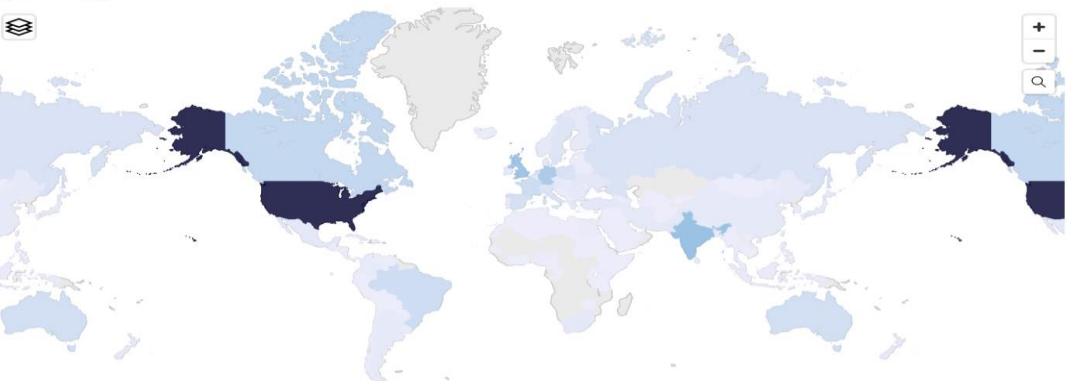
Respondents classified by Gender

Gender
● Woman ● Man

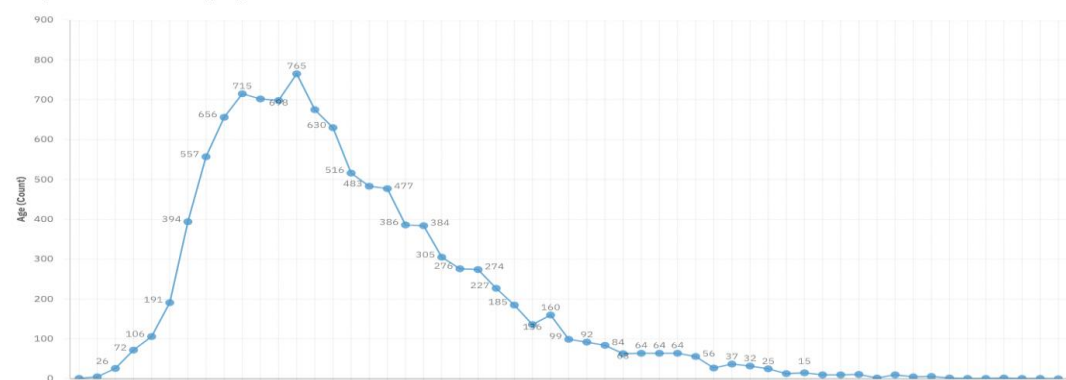


Respondents Count for Countries

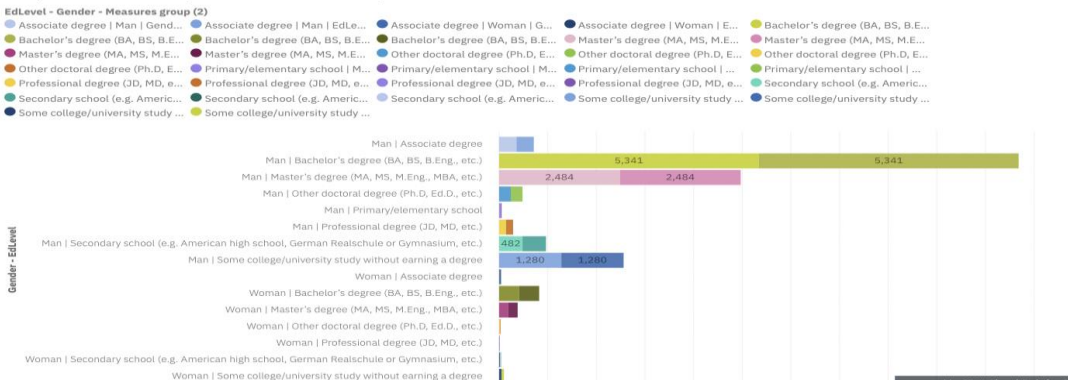
Country (Count)
1 3,042



Respondents Count by Age



Respondent Count by Gender, classified by Formal Education Level



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DISCUSSION



- Technological shifts now and in the future.
- Training, re-training and upskilling of workers.
- Female inclusion in the Technology space.
- Bridging the divide of technology gaps in developing countries.
- Elimination of age and education discrimination in employment.

OVERALL FINDINGS & IMPLICATIONS

Findings

- Fast changing technology every year.
- Concentration on several countries like USA and India.
- Gender gap in technology jobs.
- Platforms like Docker and AWS are growing.

Implications

- Need for companies to be flexible and adjust to rapid technological shifts.
- Need to spread technology out to lagging countries
- Impact of effective recruitment (best/most qualified person for the job)
- Shift to faster app deployments and cloud services in future

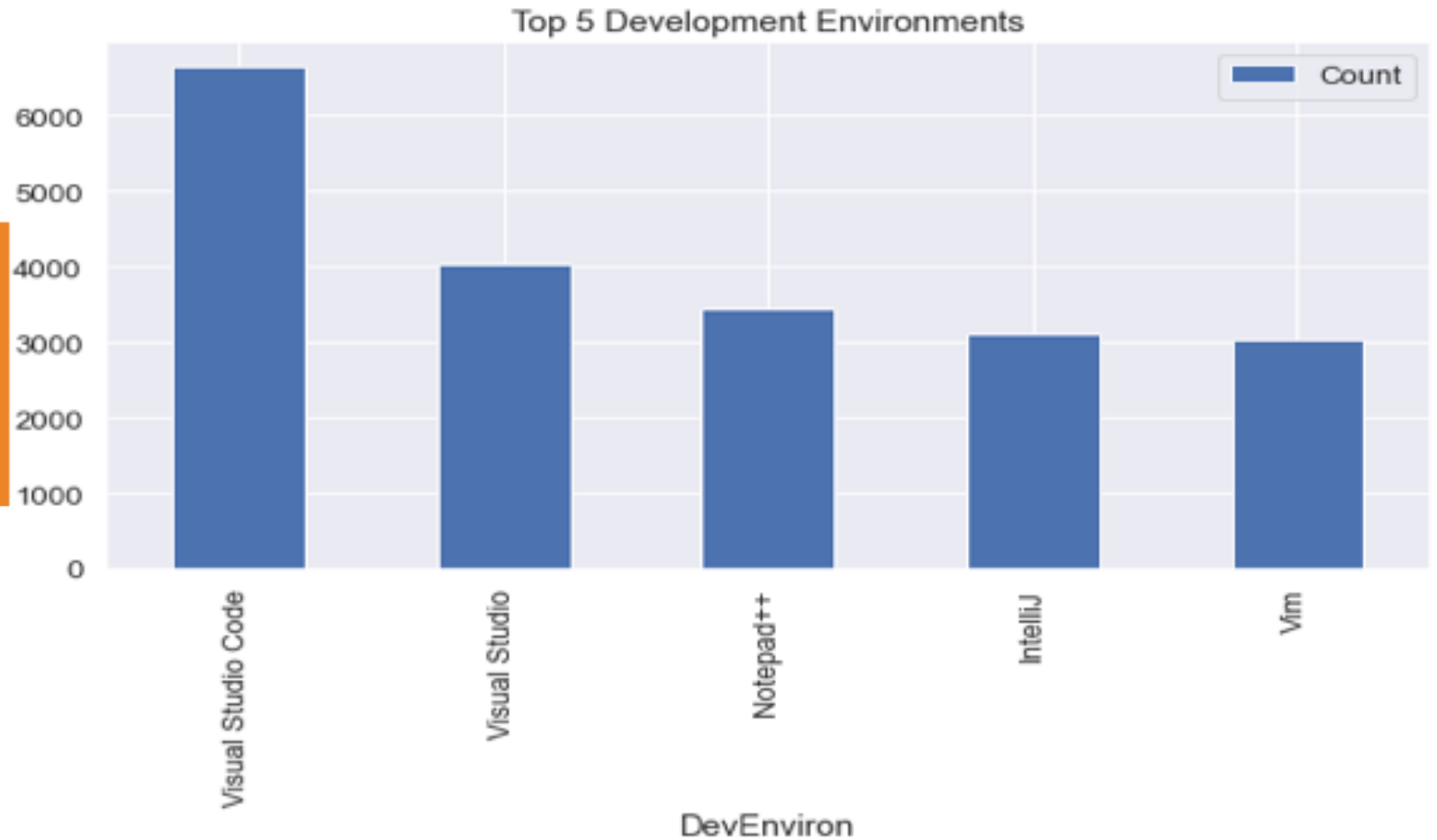
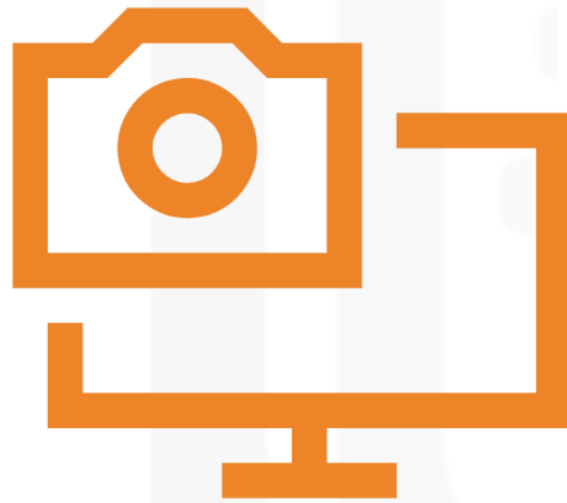
CONCLUSION



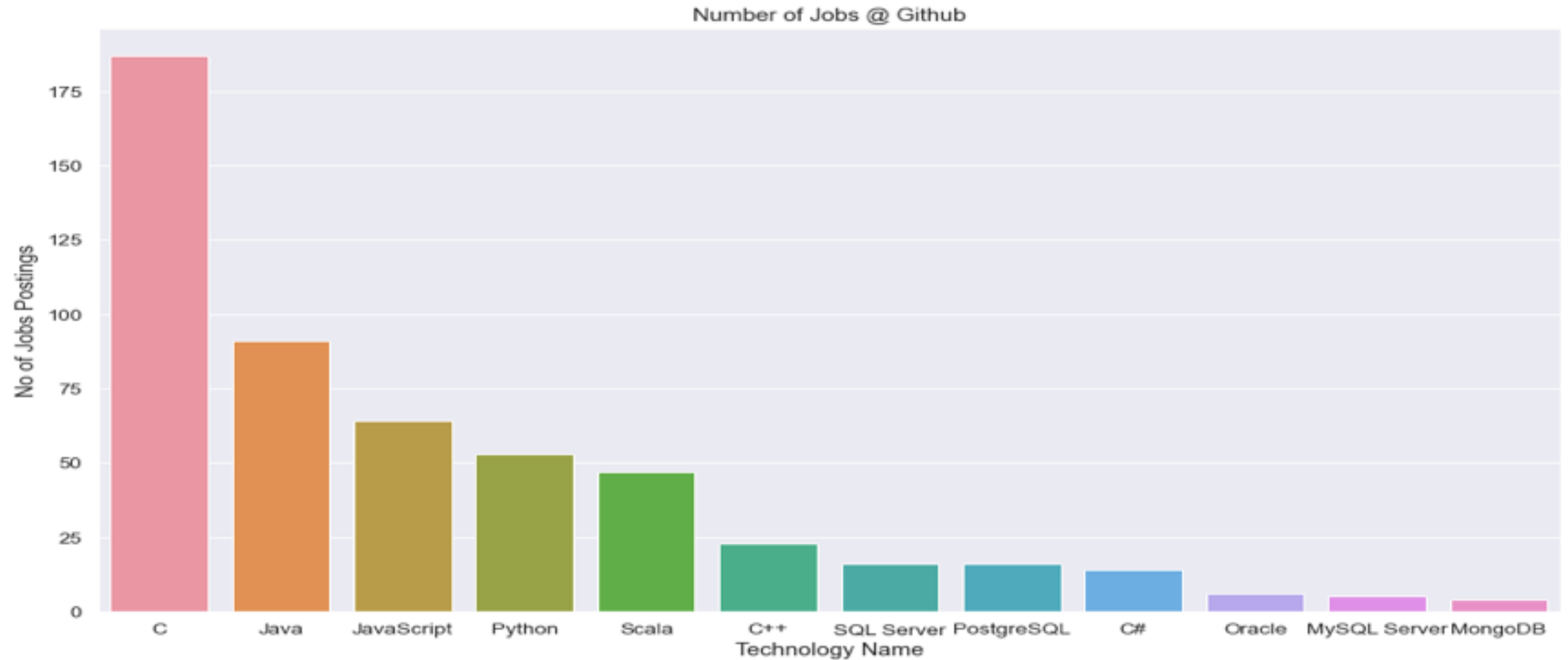
In conclusion the following were touched upon:

- Technology Trends for current and future years.
- Programming Languages, Database and Platform overview.
- A review of demographics of respondents.
- Present and future actions to be taken to remain industry relevant.
- Incorporation of Machine Learning and A.I. in future endeavours to predict trends and shifts.

APPENDIX



JOB POSTINGS



POPULAR LANGUAGES

