



Technology Trends amongst Devs: Current vs Future

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OUTLINE



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EXECUTIVE SUMMARY



- Trends in Technology
 - Current popular languages, databases, platforms and frameworks
 - Desired languages, databases, platforms and frameworks
- Demographic Gaps in Developers
 - Gender
 - Age
 - Location

INTRODUCTION



- This presentation is intended to analyze the current in technologies amongst developers. It covers their current technologies, desired technologies, and their demographic analysis.
- The analysis should aid in making data driven decisions on which technologies to invest in with regards to training current developers or in hiring.
- Additionally, it highlights the location of most developers, along with other demographic information to aid in hiring or training.

METHODOLOGY



- Datasets
 - GitHub Jobs API
 - Programming Languages and Annual Salary
 - Stack Overflow Developer Survey
- Data Collection Methods
 - APIs and Web scraping
- Data Cleaning
 - Removing duplicated
 - Imputing missing values
 - Normalizing the data
- Data Exploration and Visualization
 - Python
- Dashboard Creation
 - IBM Cognos Dashboard Embedded (CDE)



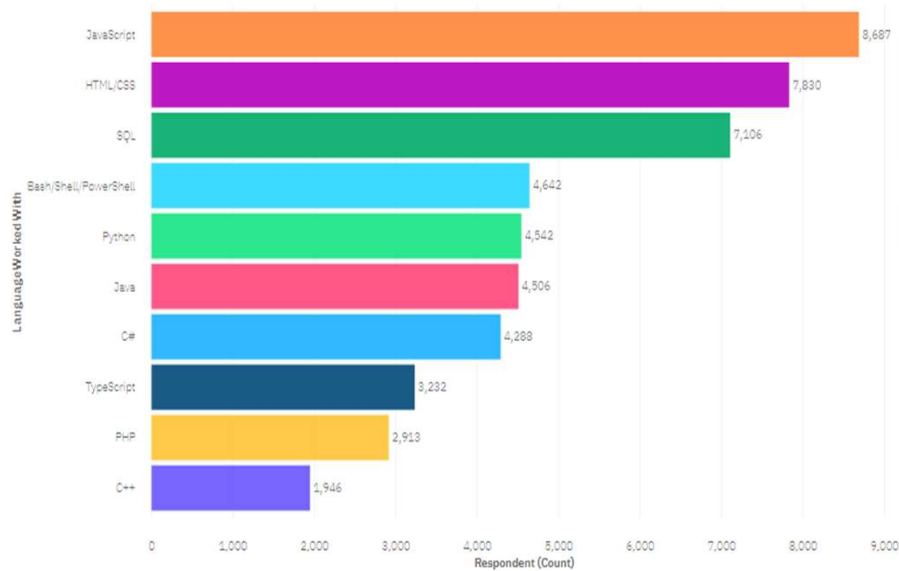
RESULTS

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PROGRAMMING LANGUAGE TRENDS

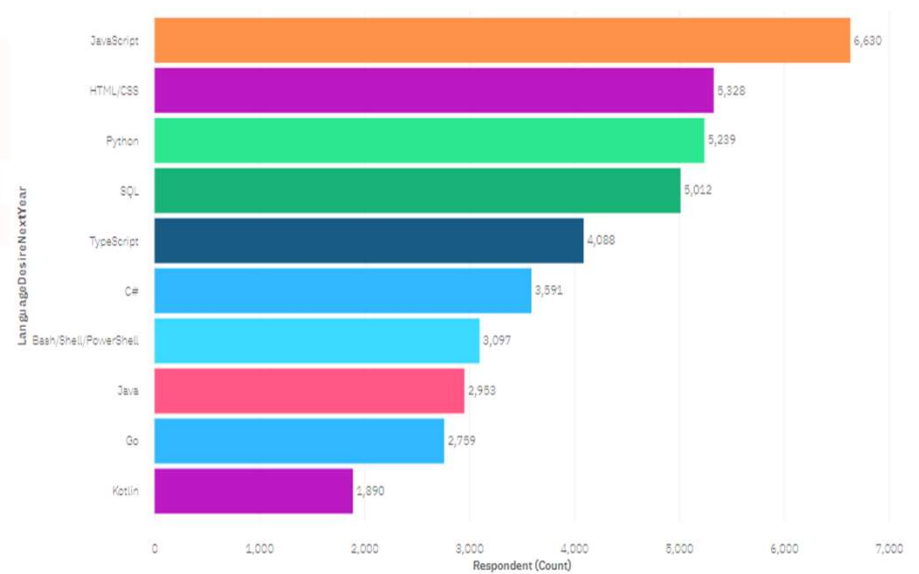
Current Year

Top 10 Languages Worked With



Next Year

Top 10 Languages Desired to Work With Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Web development languages continue to be popular, e.g. JavaScript and HTML/CSS
- Increased popularity in Python indicates a move towards Data Science, AI and Machine Learning
- Increased interest in languages used in mobile development, e.g. Kotlin

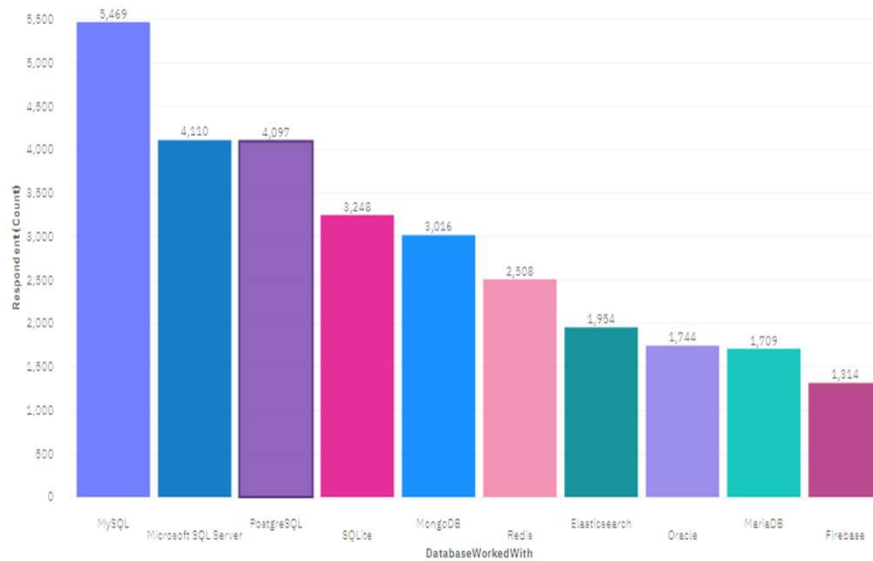
Implications

- Continue to employ or train current developers in JavaScript and HTML/CSS
- Invest in Data Science, AI and Machine Learning, as well as mobile development

DATABASE TRENDS

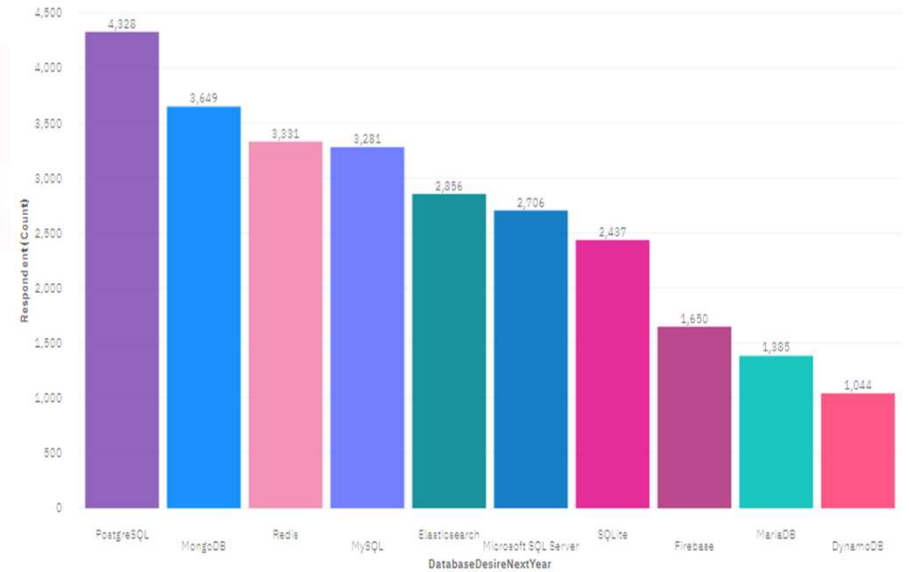
Current Year

Top 10 Databases Worked With



Next Year

Top 10 Databases Desired to Work With Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- There is significant decrease in interest in MySQL and Microsoft SQL Server
- While there is increased interest in modern databases such as PostgreSQL and MongoDB
- There is no longer any significant interest in Oracle

Implications

- Shift investment from MySQL and Microsoft SQL Server to modern databases such as PostgreSQL, MongoDB and Redis
- It is not necessary to train, or higher developers experienced with Oracle

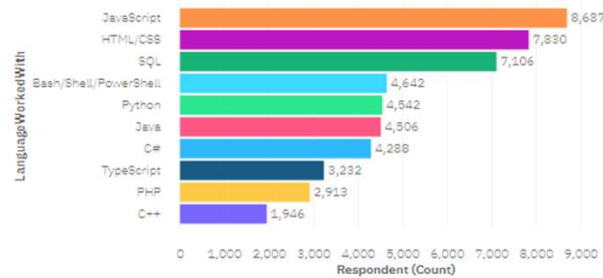
DASHBOARD



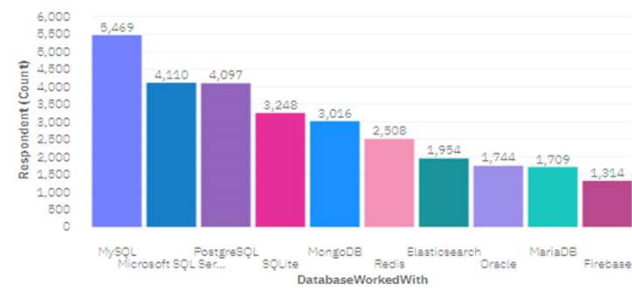
[View Dashboard](#)

DASHBOARD TAB 1

Top 10 Languages Worked With



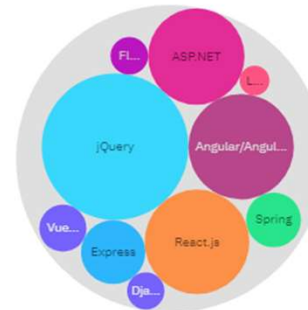
Top 10 Databases Worked With



Platforms Worked With

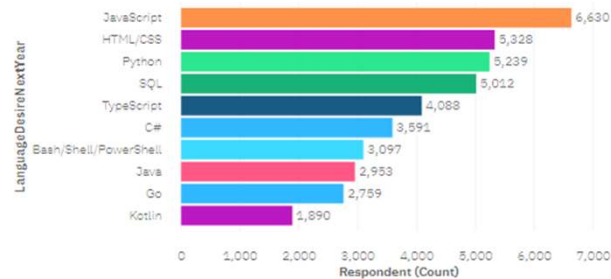


Top 10 Webframes Worked With

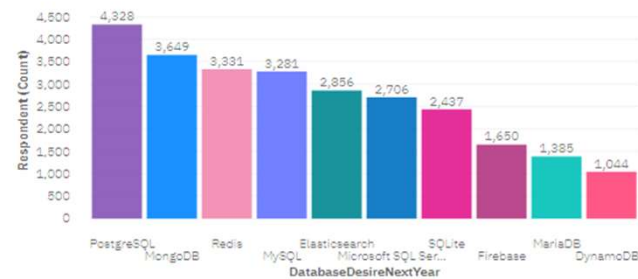


DASHBOARD TAB 2

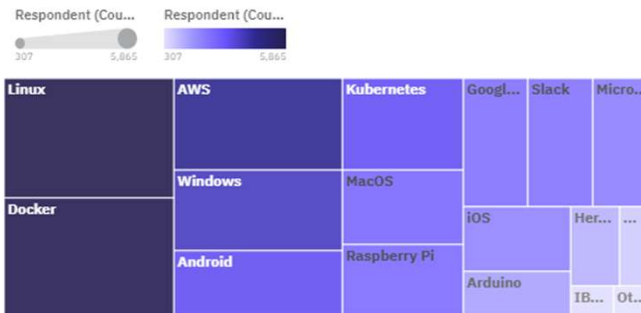
Top 10 Languages Desired to Work With Next Year



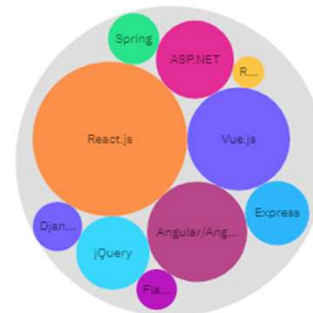
Top 10 Databases Desired to Work With Next Year



Platforms Desired to Work With Next Year



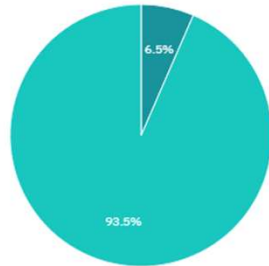
Top 10 Webframes Desired to Work With Next Year



DASHBOARD TAB 3

Percentage of Respondents based on Gender

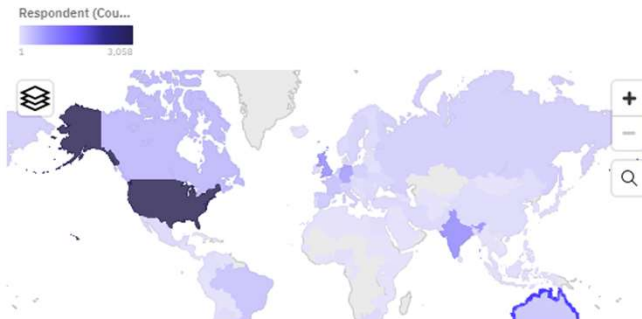
Gender
● Woman ● Man



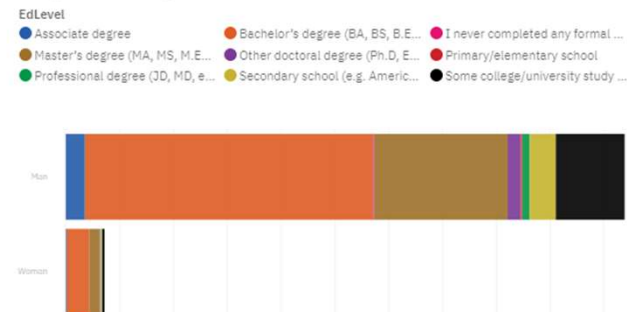
Respondents based on Age



Respondents based on Location



Respondents by Gender and Education Level



DISCUSSION

- Technology trends
- Demographics of developers

OVERALL FINDINGS & IMPLICATIONS

Findings

- Wide gender disparity in developers with 93.5% being men, and only 6.5% women
- Concentration of developer talent being in the USA and India
- Web development languages continue their popularity, along with Data Science, Big Data, AI and Machine Learning languages

Implications

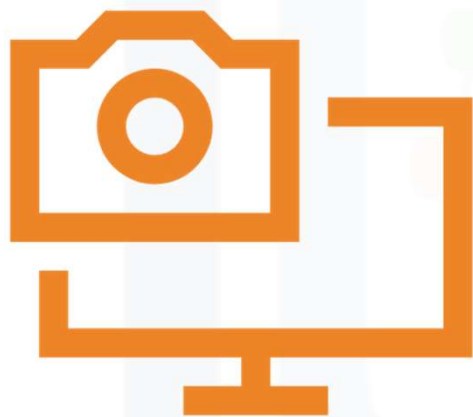
- Companies not primarily located in USA and India would have to consider outsourcing dev talent or investing in training local talent
- Intentional investments need to be made in getting more women involved in software development
- Continue to invest in web development and increase use of data

CONCLUSION



- Invest in local developer talent or outsource developers if located outside of the US and India
- Get more women into the tech and software development space
- Make use of data in making business decisions
- Continue focus on web development

APPENDIX

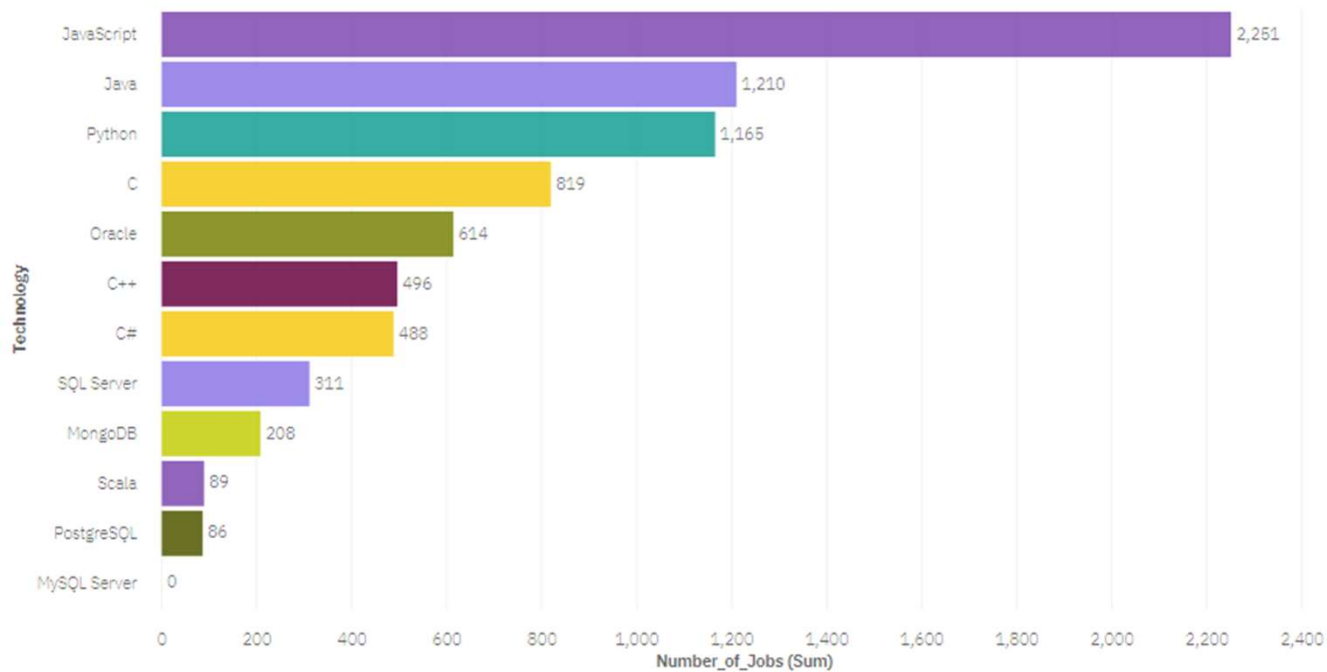


IBM Developer

SKILLS NETWORK 

JOB POSTINGS

Number of Job Postings for each Technology



POPULAR LANGUAGES

Average Annual Salary based on Language

