



Technology Insights and Trends Analysis

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OUTLINE



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EXECUTIVE SUMMARY



- Stack Overflow Developer Survey 2019 modified data sets were used to analyze the current and future technology trends among different age groups.
- IBM Cognos Dashboard was used to present the findings
- From the Current Technology Usage Dashboard we found:
 - **Javascript** was the most popular language while **MySQL** was the most popular database used.
 - **Linux & Windows** were the preferred platforms to work with while **jQuery** was the preferred web frame
- From the Future Technology Trend Dashboard we found:
 - **JavaScript** was the most desired language to learn and **PostgreSQL** was the most desired language to learn
 - **Linux and Docker** were the desired platforms to be worked with in the upcoming year
 - **React.js and Vue** were the preferred platform web frame to be worked with in the upcoming year
- From the Demographics Dashboard we found:
 - **93.5%** of the respondents were males with majority residing in USA and India
 - A large majority of the respondents had a **bachelor's or master's** degree

INTRODUCTION



- We are analyzing the top trends in software development
- To know the answer for:
 - What are the top programming languages in demand?
 - What are the top database skills in demand?
 - What are the popular IDEs?

METHODOLOGY



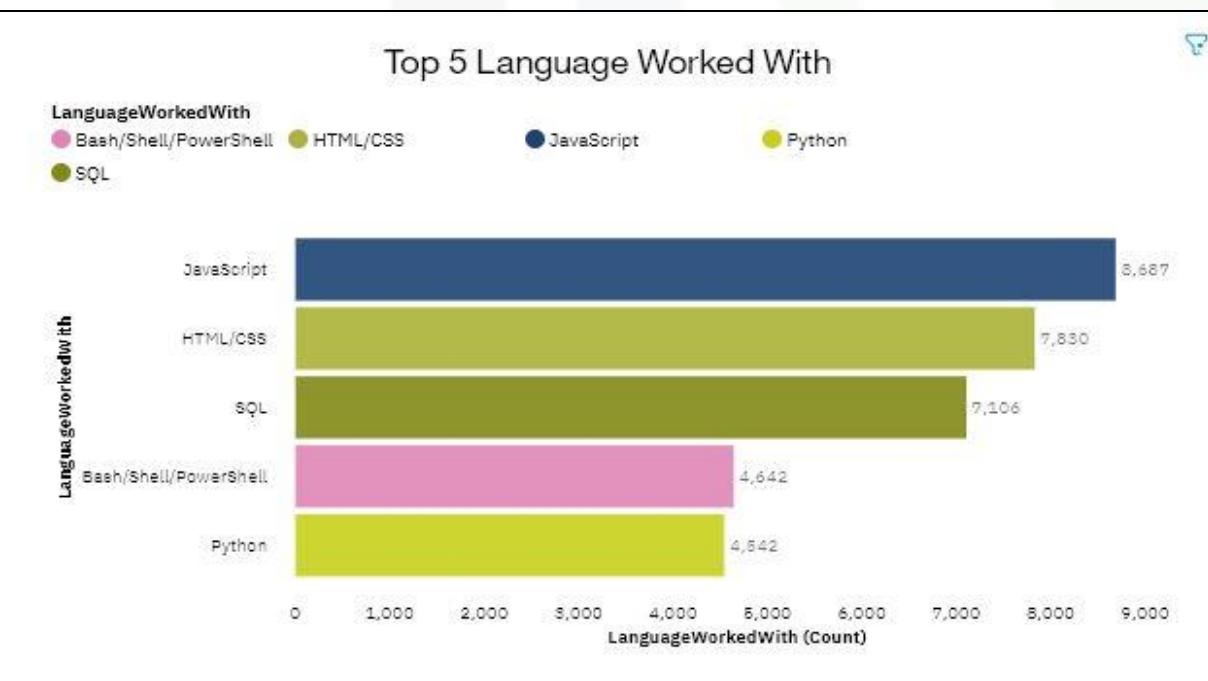
- Two datasets were used and they are a modified subset of the Stack Overflow Developer 2019 Survey
- Data were retrieved from the 2 sources CSV files
- Dashboards were created using IBM Cognos Dashboard Embedded (CDE)
- Findings were shared

RESULTS

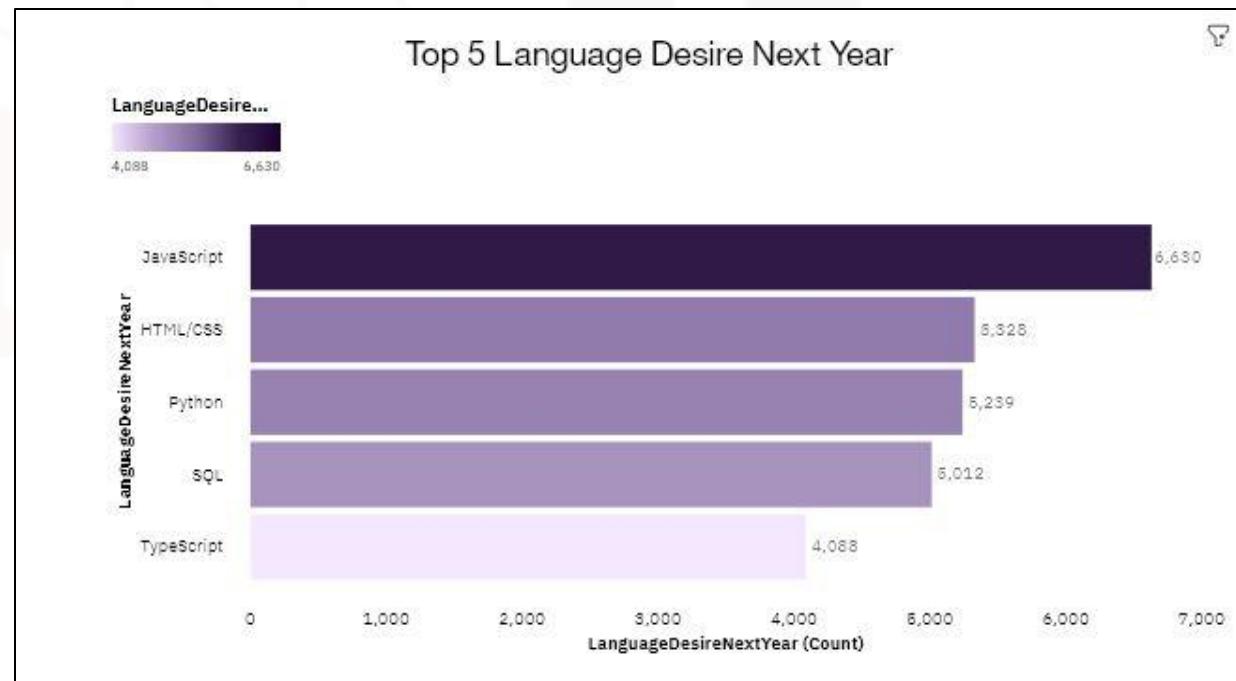
- Data were collected from the Stack Overflow Developer 2019 Survey under open database license
- The two data sets were:
 1. Survey data technologies normalised: consists of about 74,600 respondents answering queries about present and future technology interests
 2. Survey data demographics: consists of about 11,400 respondents answering queries about different demographics
- Findings were shared.

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

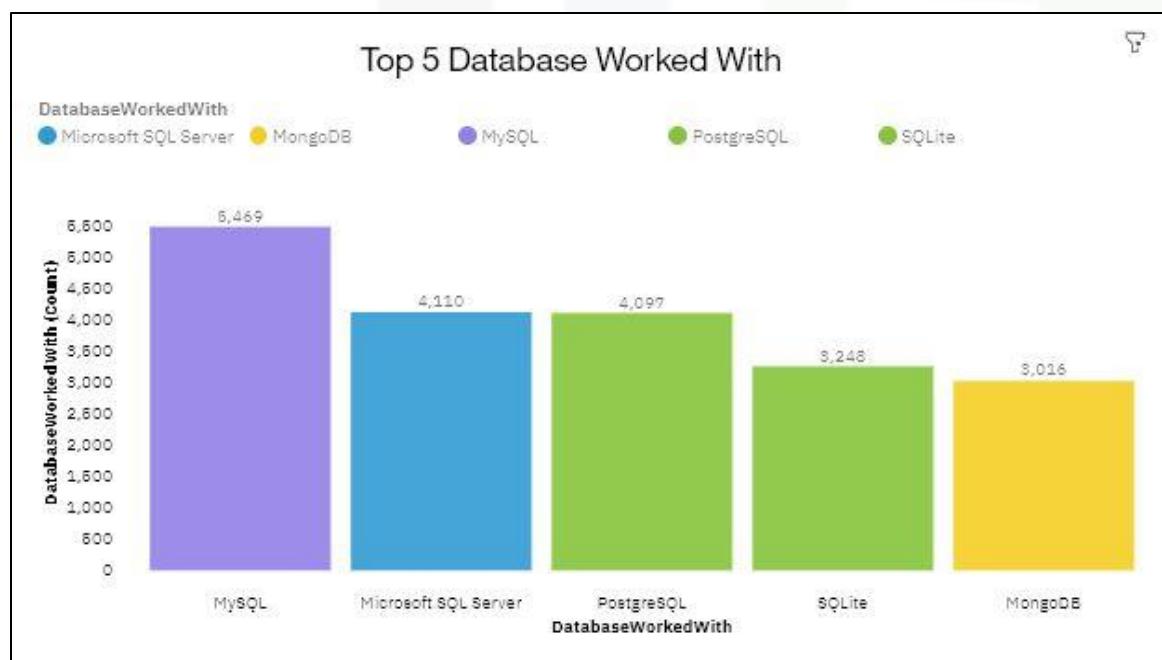
- Javascript and HTML were the preferred languages this year and the upcoming year
- Python and Typescript are becoming popular in the upcoming year
- PowerShell is not in the top 5 languages in the upcoming year

Implications

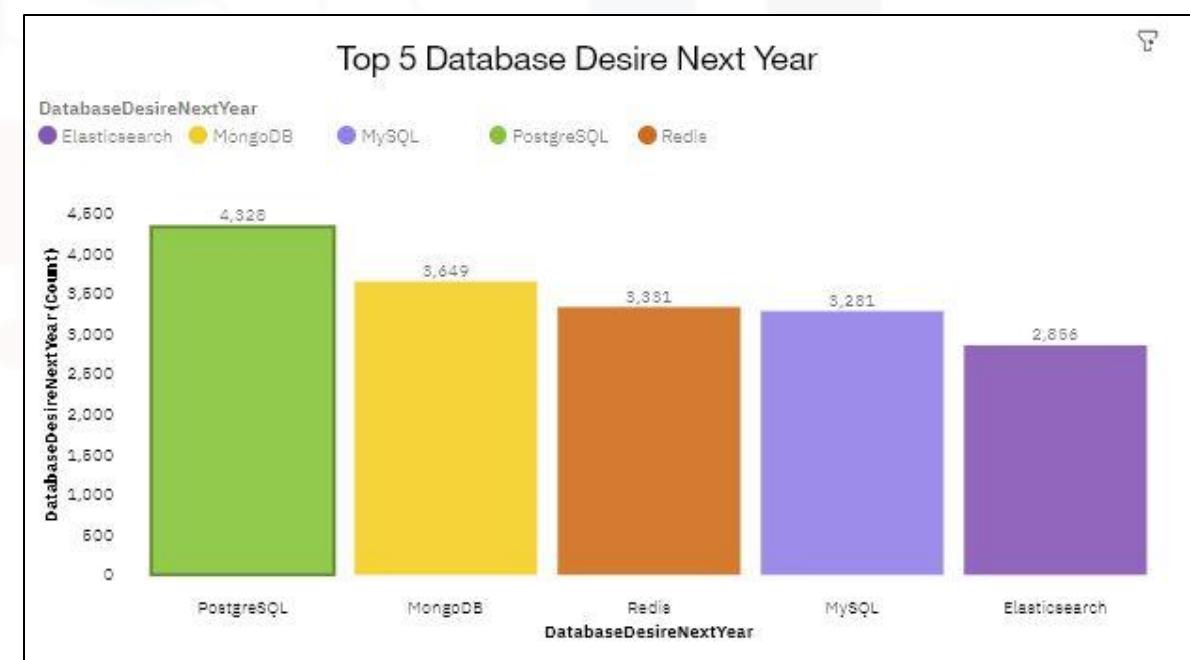
- There is a still high demand for web development
- Python is expected to grow in the next years
- Scripting language like Powershell is declining while general-purpose programming language like Python is becoming more popular

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL was the most popular but there is a decline in popularity in the next year
- PostgreSQL is rising
- MongoDB and Redis are becoming more popular

Implications

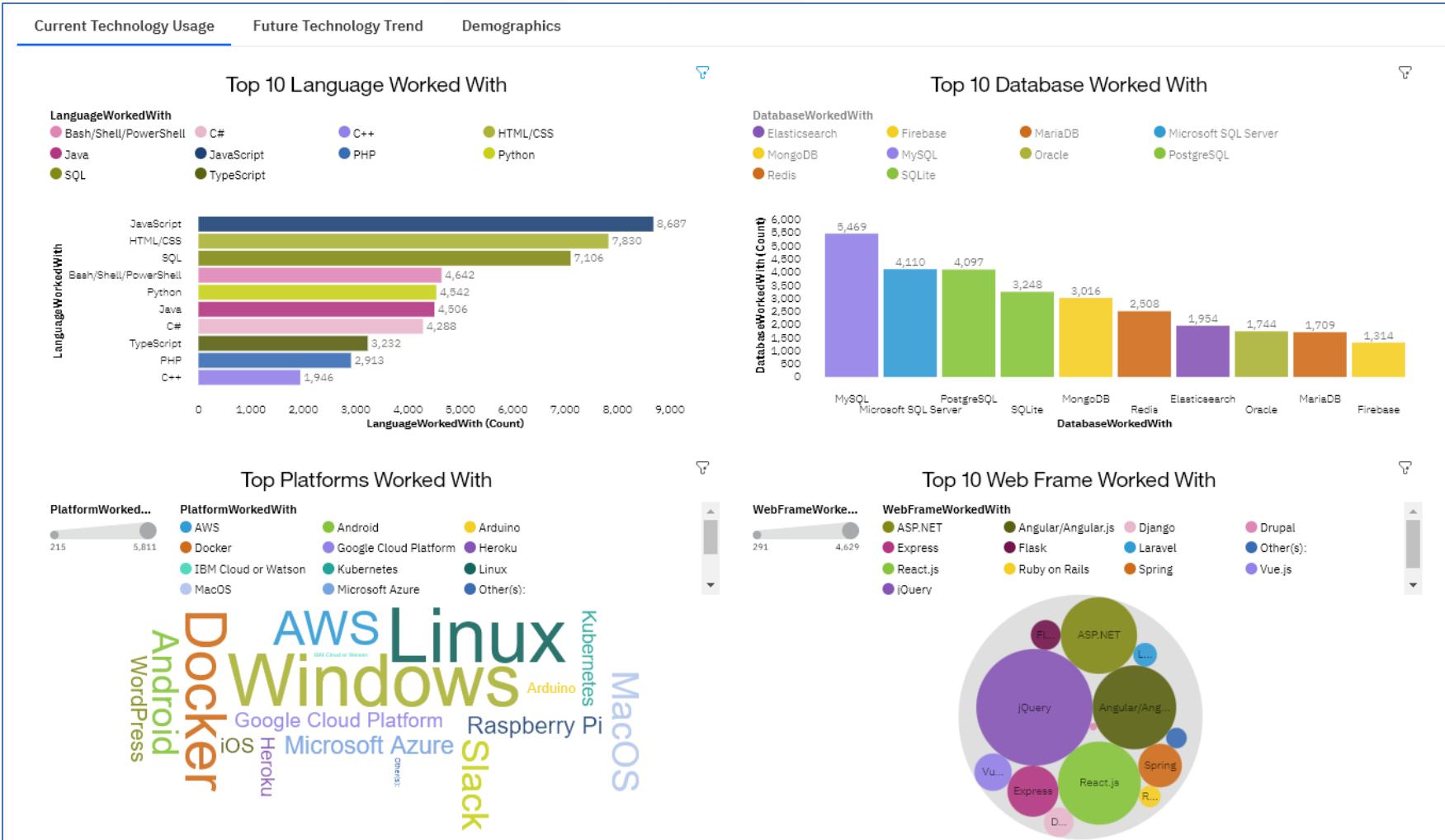
- More companies will prefer using open source databases like PostgreSQL, MongoDB and Redis
- MySQL and Microsoft SQL users should start learning new and trending databases
- A lot of changes is expected in the upcoming years and new trends will rise

DASHBOARD

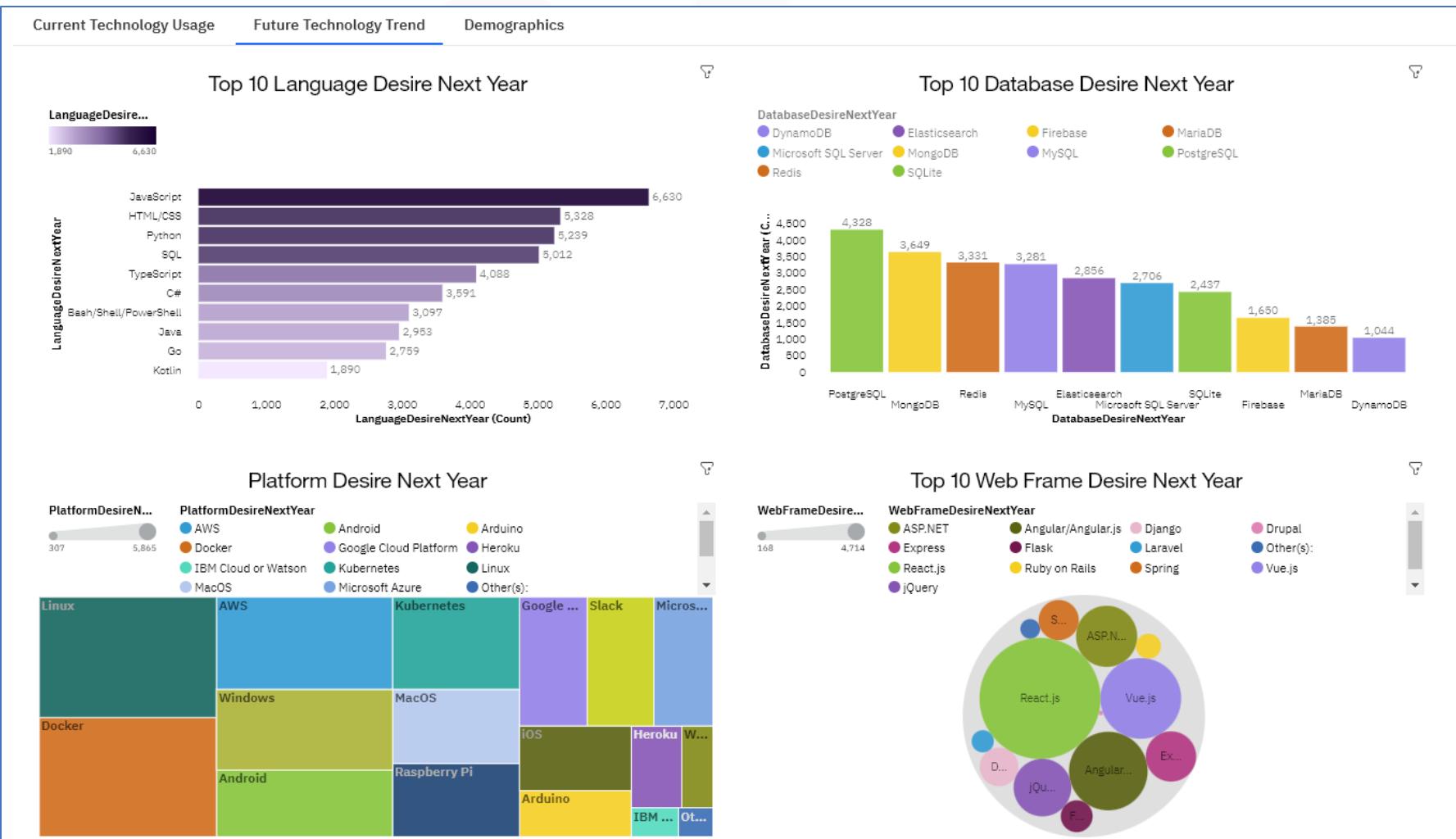


[Dashboard Link](#)

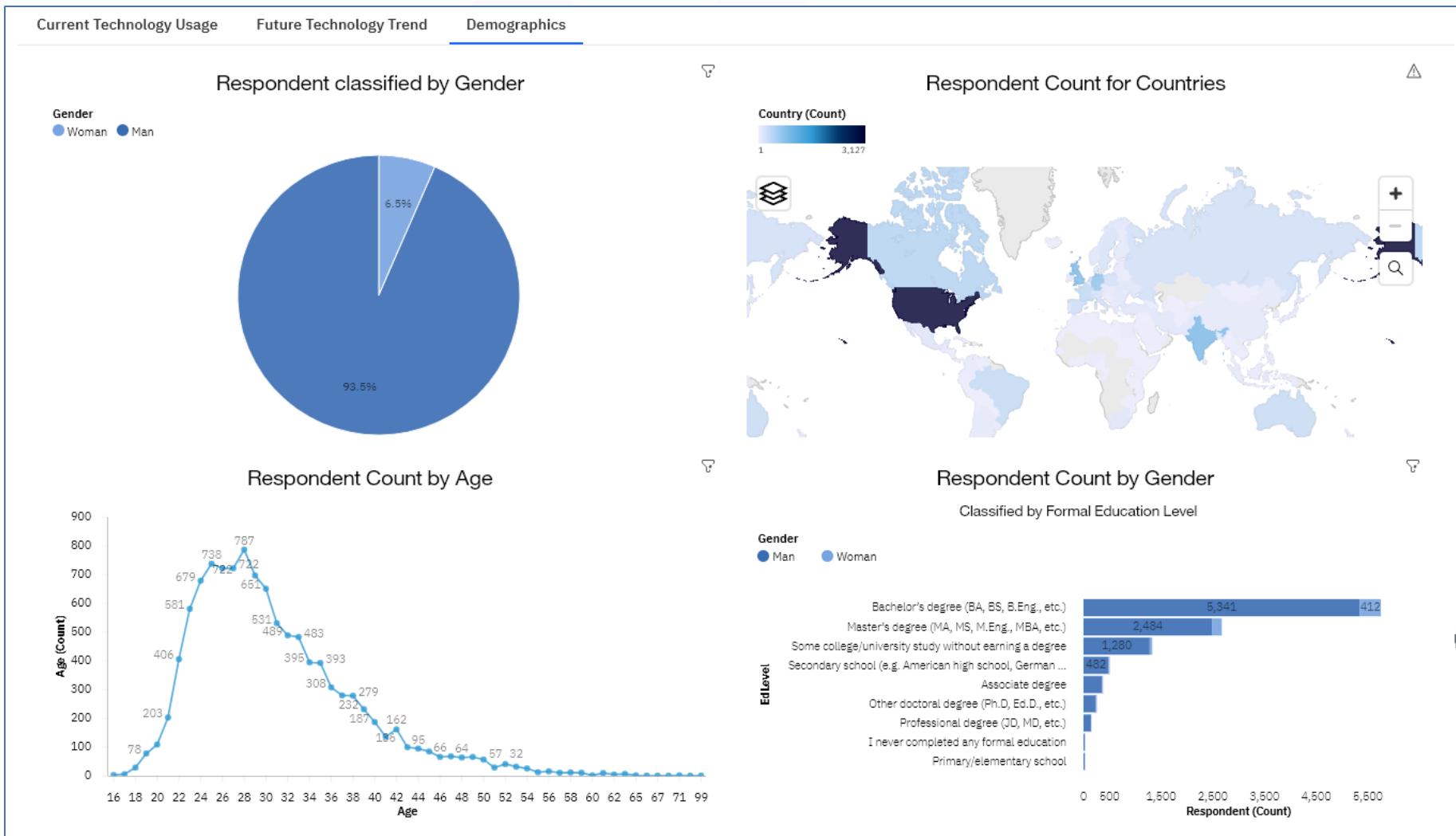
DASHBOARD TAB 1



DASHBOARD TAB 2



DASHBOARD TAB 3



DISCUSSION



- What will happen to Python and SQL popularity in the next years?
- Low % of females respondents in the survey
- Databases popularity are changing continuously due to the similarity between them

OVERALL FINDINGS & IMPLICATIONS

Findings

- Technology trends are rapidly changing from year to year
- There is a huge gender gap in the technology survey respondents that was dominated by males (USA & India)
- Bachelor's and Master's degree respondents prefer to specialize in data technology
- React.js is becoming popular in the web frame
- Docker and AWS are rising in the platforms desired to be used

Implications

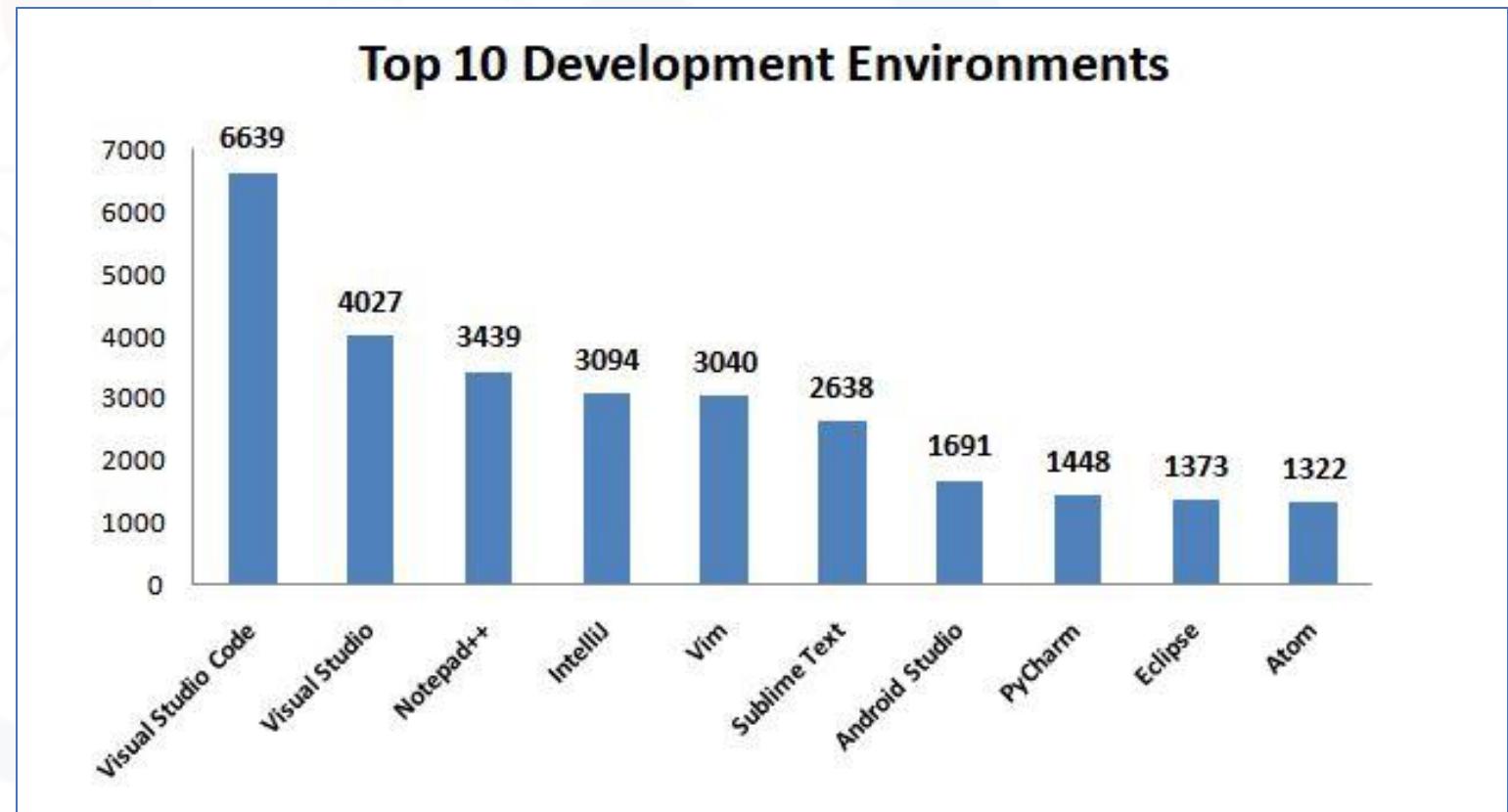
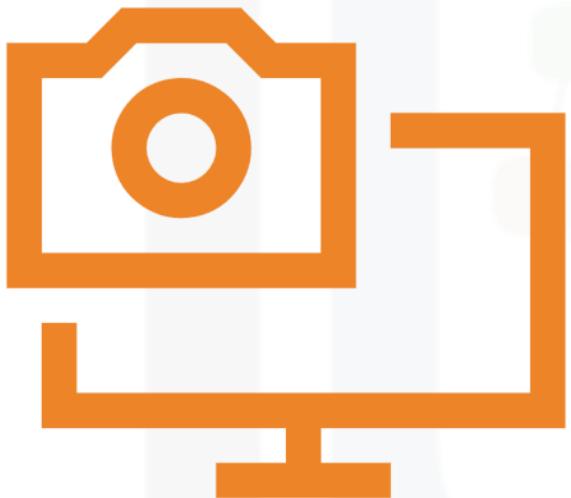
- Companies need to be proactive and follow the new trends
- Technology should be spread out to other countries
- More training and courses should be offered to age groups from 20 to 35

CONCLUSION



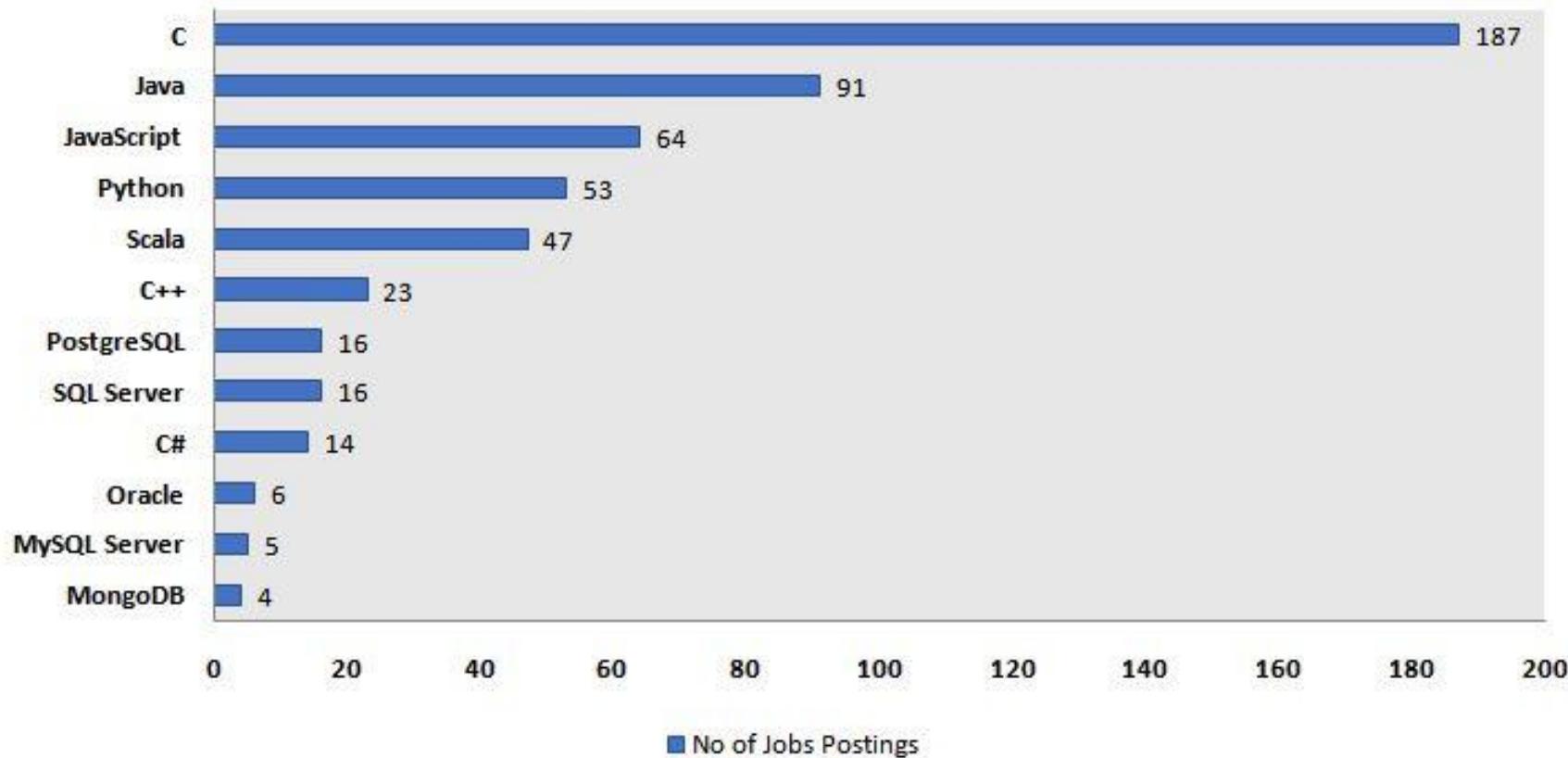
- From data visualizations, technology trends are preferred between the age groups 21 and 40
- HTML & JavaScript are the most popular programming languages to work with and will remain as such in the coming years
- We may expect a decrease in the popularity of databases to work with like MySQL and rise of PostgreSQL and MongoDB
- Linux is the most preferred platform to work with

APPENDIX



GITHUB JOB POSTINGS

Number of Jobs Postings For Different Technologies



The language with the most job postings is C



POPULAR LANGUAGES

By Salary

Average Annual Salary By Language



The highest average annual salary is for the Swift language

