



The 2019 Stack Overflow Developer Survey Results

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22 – 06 - 2024

OUTLINE



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EXECUTIVE SUMMARY



The conducted analysis covers the following areas:

- Current most used and future programming languages by developers
- Current most used and future Databases by developers.
- programming language trends and their implications.
- Database trends and their implication
- Data collection tools and process
- Discussion
- Result of the findings
- Conclusion
- Job opportunities and location
- Programming Languages and average salary

INTRODUCTION



- This report involves an analysis of the survey of the respondent by developers on stack overflow in 2019. The analysis shows insight in current used technologies (programming languages, Databases) and their future trends. The analysis also include job opportunities and their location. In conclusion the result highlight implications and ways to which the findings were resolved.

METHODOLOGY



- **Data source:** <https://stackoverflow.blog/2019/04/09/the-2019-stack-overflow-developer-survey-results-are-in/>
- **Data Collection:** The data used in this analysis was collected from various methods including, web scrapping , APIs and using file formats like excel and csv. In addition, some data were retrieved from online database with SQL Lite.
- **Exploratory Analysis:** was conducted on the data for a reliable and correct result. Pandas, Matplotlib and seaborn were tools used in this process.
- **Visualization Tool:** Finally, the dashboard embedding various visualizations was created with IBM Cognos Analytics.

PROGRAMMING LANGUAGE TRENDS

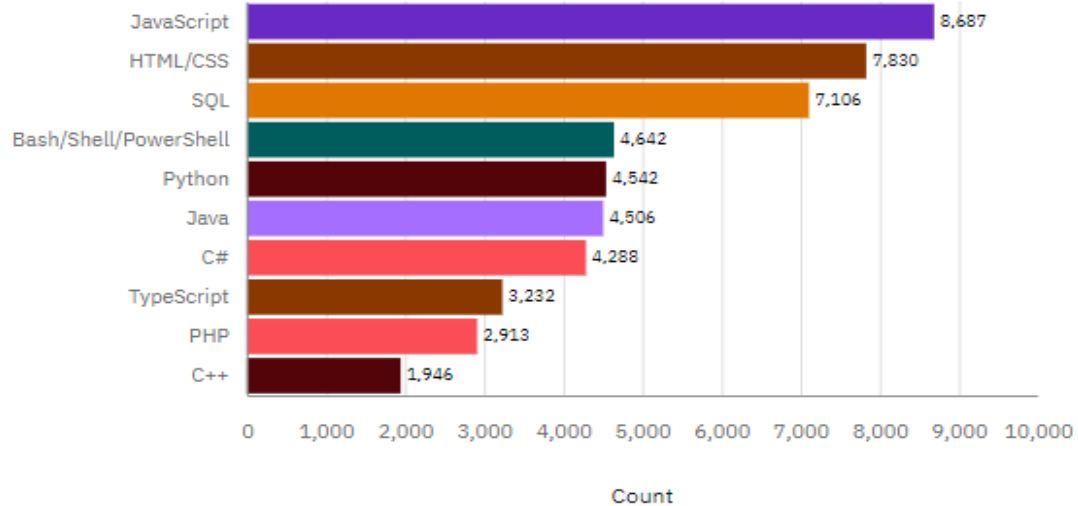
Current Year

Top 10 Most Used Programming Languages

LanguageWorkedWith



LanguageWorkedWith



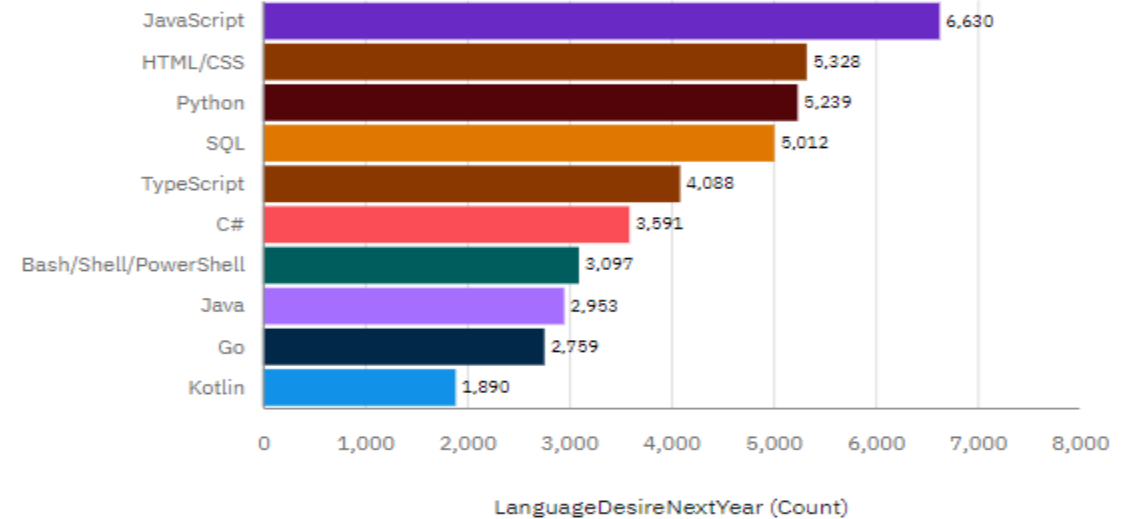
Next Year

10 top Languages Desire Next Year by developers

LanguageDesireNextYear



LanguageDesireNextYear



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings:

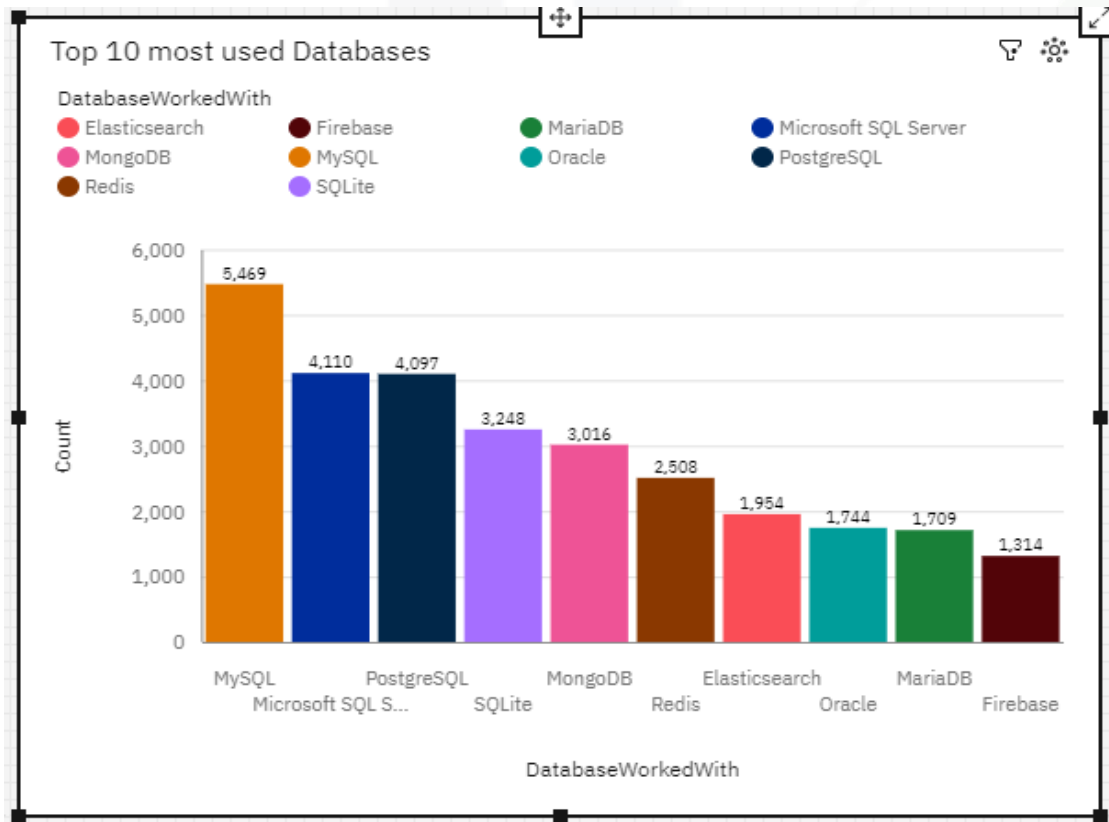
- JavaScript is a dominant language currently in use with C++ being the least of the top 10.
- JavaScript will be the future most used language with Kotlin being the least of the top 10.
- Python has made a significant increase in the next desired language by developers in the future.

Implications:

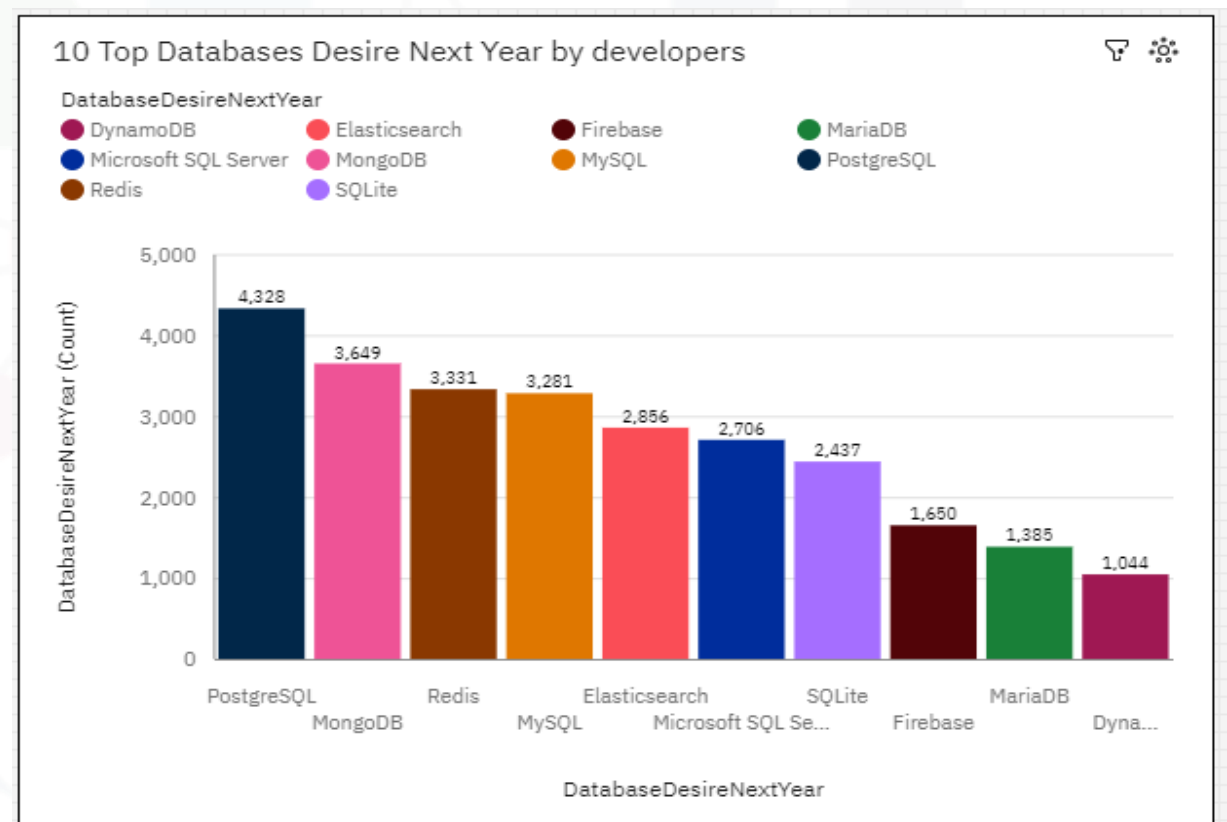
- This finding implies the highest demand for JavaScript developers in the current year and in the future.
- The findings also correlate with the job opportunities, competitive salary for different languages, respectively.
- Python is significantly growing and there will be high demand in the future.

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL is the current most widely used database with Firebase being the least of the top 10.
- PostgreSQL will be the most widely used database the following year with Dynamic being the least of the top 10.

Implications

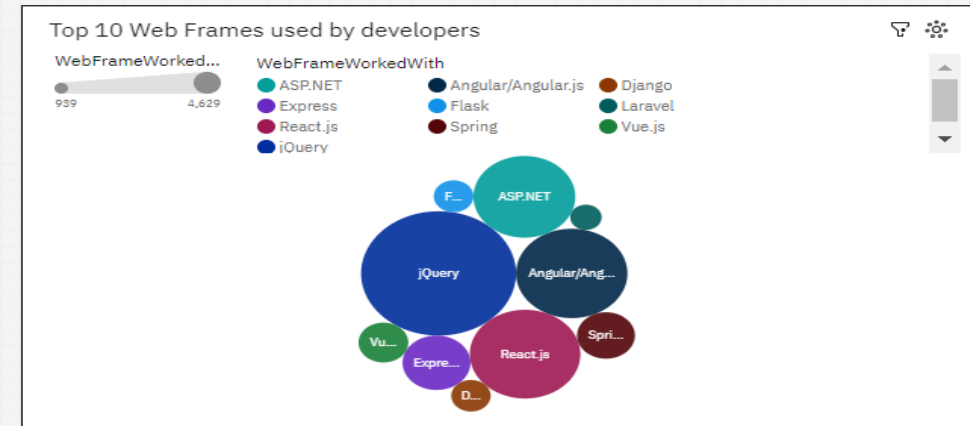
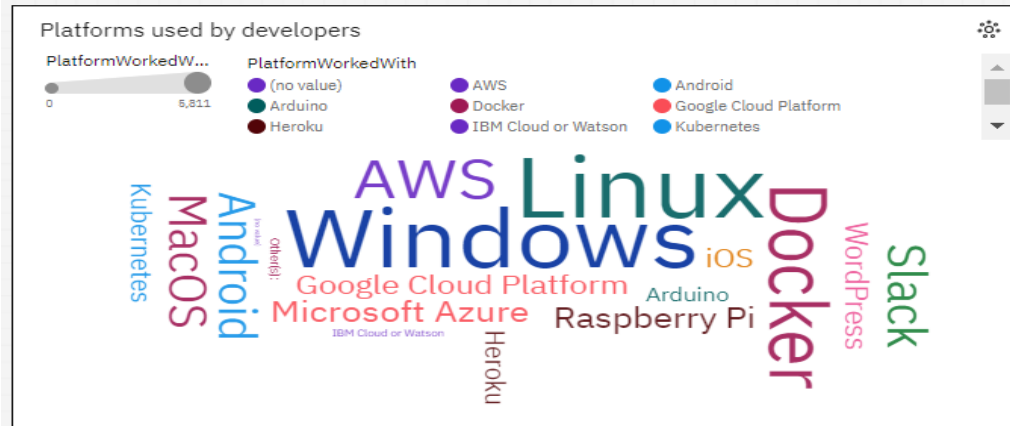
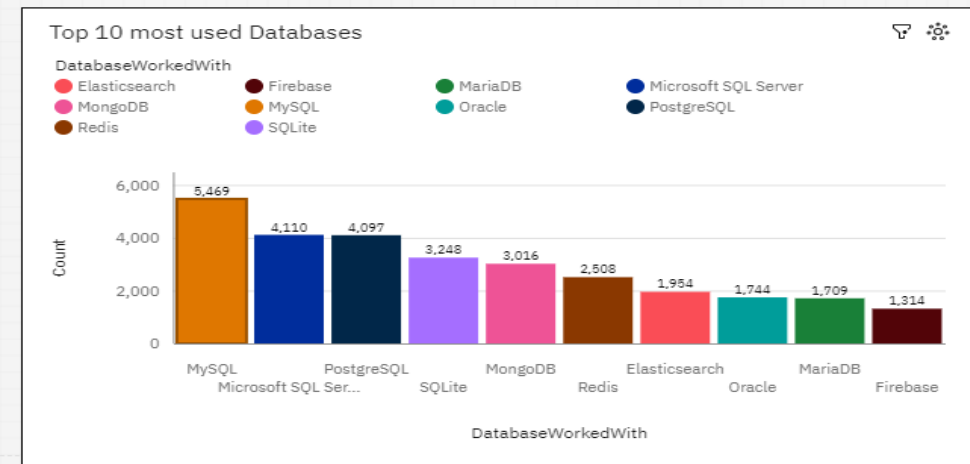
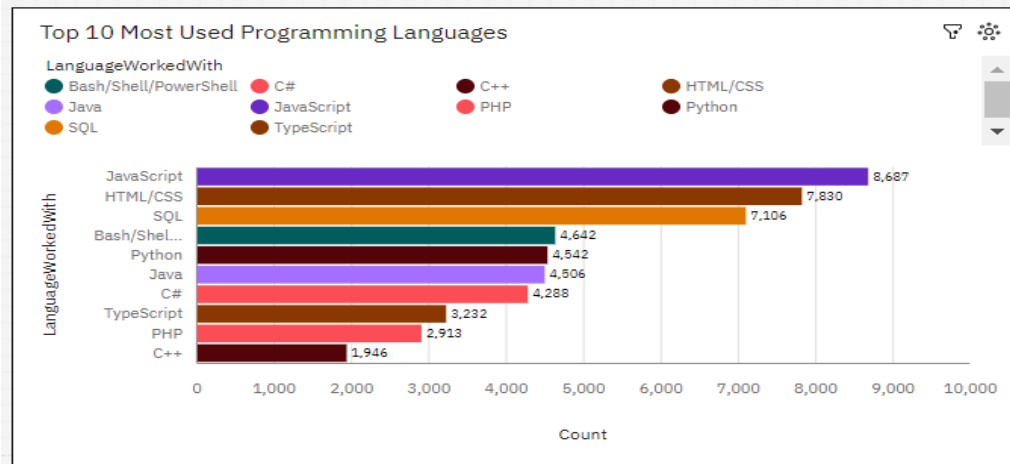
- The current trends implies that most Tech industry are using MySQL for this servers and the high demand for SQL developers
- This findings also shows an obvious deflection as PostgreSQL becomes the next desired database by developers over SQL and with high demands of developers. Job opportunities will become available in this area.

DASHBOARD

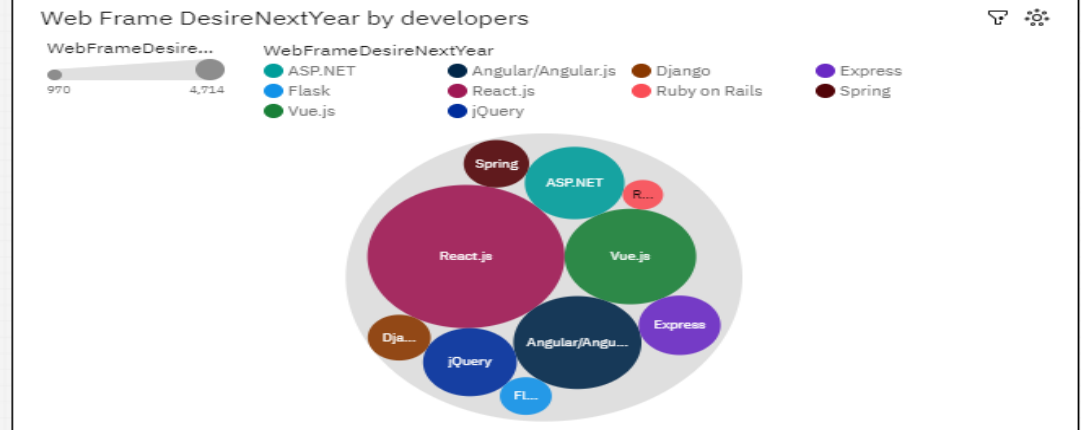
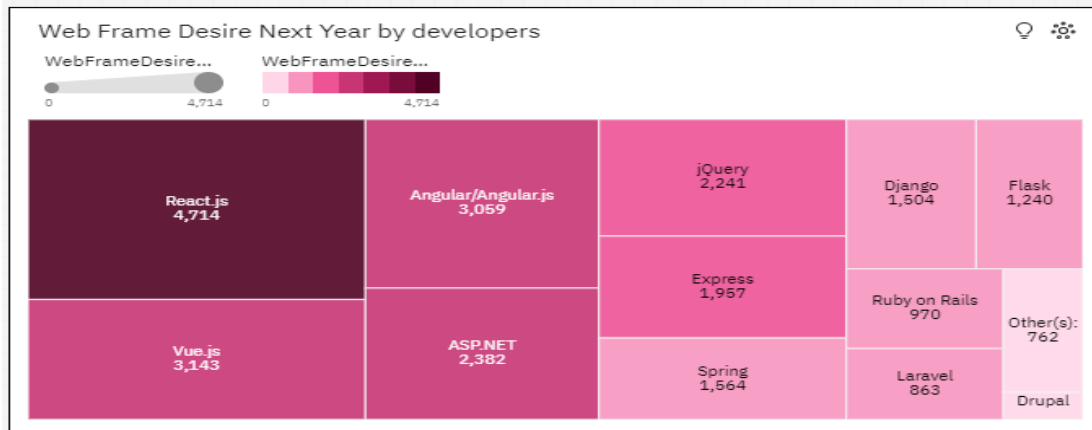
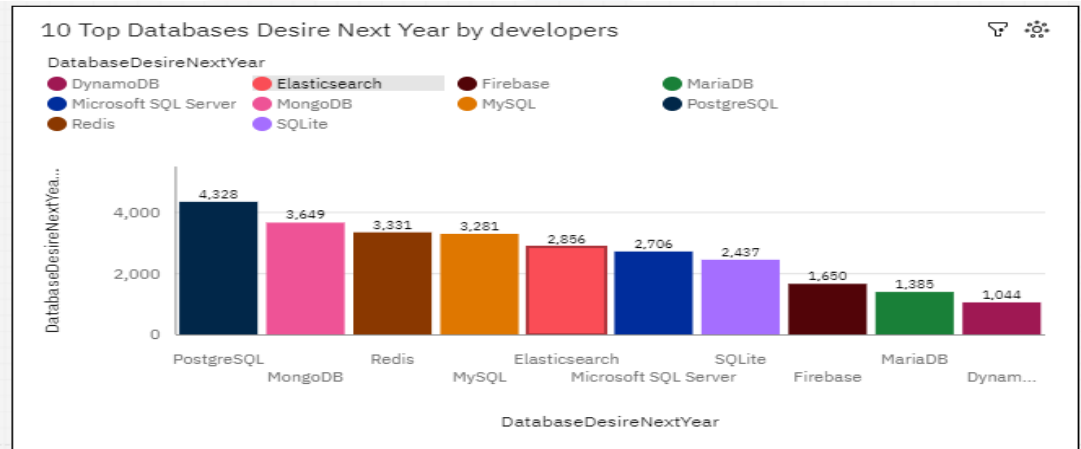
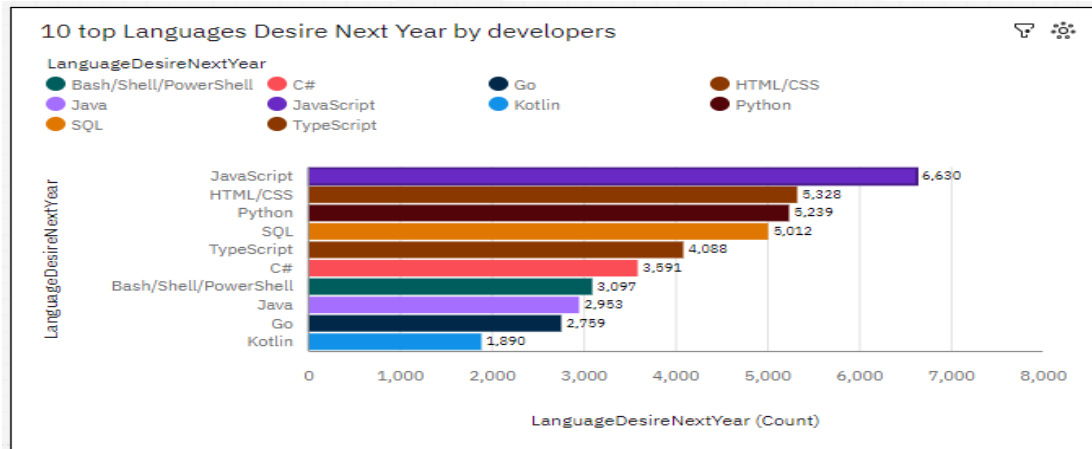


<https://github.com/Ubrillo/My-Projects/blob/main/The%202019%20Stack%20Overflow%20Developer%20Survey%20Results.pdf>

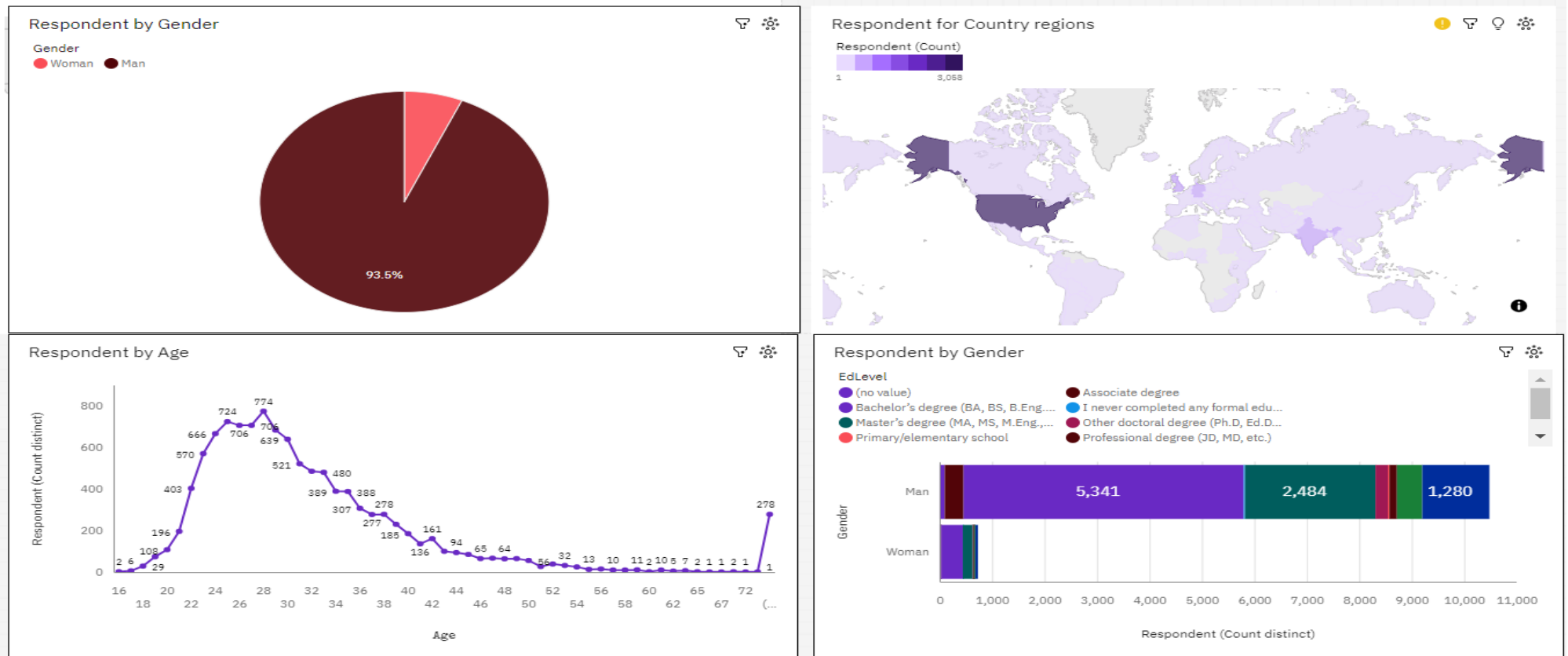
Current Technology Usage



Future Technology Trend



Demographics



DISCUSSION



The BIG why?

- Why is JavaScript the most used Language and what does it imply?
- Why is PostgreSQL overtaking MySQL in the next year?
- Why is python overtaking SQL in future desired language by developers?

RESULTS

Potential Answers to the BIG why?

- JavaScript web frameworks is widely used by developers across various domains. Research results that APIs heavily supported by JavaScript (JSON- REST API). APIs is used in almost all programming interface like Databases, Web, Artificial Intelligence endpoints. This has contributed to the increase in demand and dominance of the JavaScript.
- SQL is currently the most used database, but developers' desire the following year is PostgreSQL. Research shows that PostgreSQL provides more advanced functionality than SQL which is a potential reason to why PostgreSQL will overtake SQL in upcoming years since it is a combination of SQL and other advanced functions
- With the outburst of Artificial Intelligence in the recent years, Python is seen to gain popularity. Python is used in many development applications, like Data Science and Artificial Intelligence. This has potentially caused the increased in python popularity among developers.

OVERALL FINDINGS & IMPLICATIONS

Findings

- Most current used web frame works is JQuery with React Js being the next desired framework.
- Age group 24-34 has more respondents in the survey.
- Findings shows that Men (94%) have significantly engaged in the use of technology compared to women (6%).
- Findings shows that that United has most respondents and with most Jobs opportunities for these technologies

Implications

- This supports the notion of dominance and importance of JavaScript currently and in the future in industries.
- This implies that the job market of these technologies and educational investment should target the young audience more.
- The reason behind why men are more engaged in technology is dependent on my factors, like education, culture differences, Gender-Bias and work-life balance.

CONCLUSION



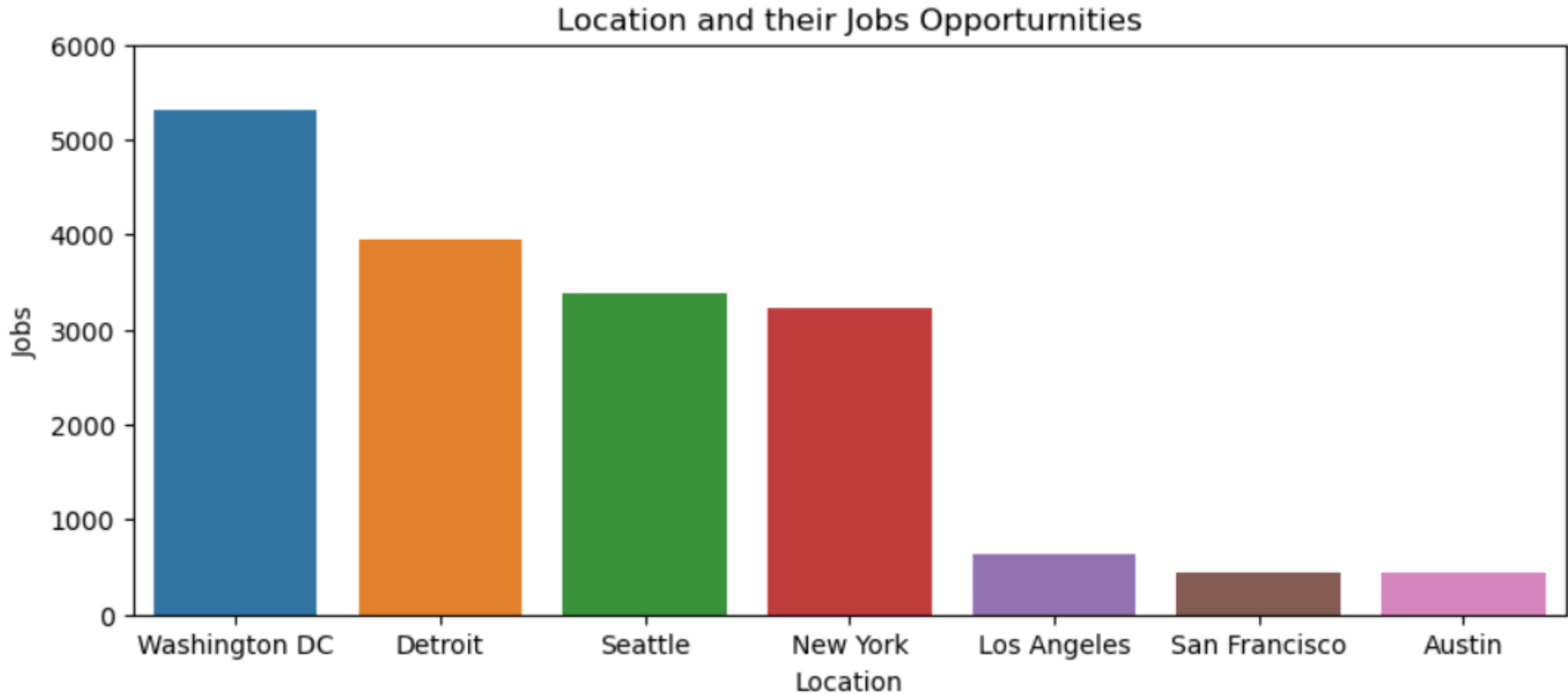
- In conclusion, JavaScript and Python is the programming language of the future and will most used by developers.
- PostgreSQL will potentially be the most used database in the future.
- With the above points, there will be high demand for JavaScript, Python, and PostgreSQL developers in the future market.
- Platforms like windows, Linux, AWS, Docker will remain relevant in supporting these technologies. But there will be increased in the platforms technologies that supports artificial intelligence like, AWS, Docker and Microsoft Azure. This will also affect the demand for C# developers.
- Other languages and developers like Java, C#, will still be in demand to develop user interactive applications.
- United State has more respondents with more jobs.

APPENDIX



- Include any relevant additional charts, or tables that you may have created during the analysis phase.

JOB POSTINGS



POPULAR LANGUAGES

