



Capstone Project

Stack Overflow Developer Survey –
2019 Analysis

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OUTLINE



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

EXECUTIVE SUMMARY



- **Current Technology Usage**
 - Top 10 Languages Worked with
 - Top 10 Databases Worked with
 - Platforms as presented by Word Cloud
 - Top 10 Web Frames worked with
- **Future Technology Trend**
 - Top 10 Languages Desired Next Year
 - Top 10 Databases Desired Next Year
 - Platforms worked with Desired Next Year
 - Top 10 Web Frames Desired Next Year
- **Demographics**
 - Respondents Classified by Gender
 - Respondent Count for Countries
 - Respondent Count by Age
 - Respondent Count by Gender by Formal Education Level

INTRODUCTION



- This is a report written for Stack Overflow's annual Developer Survey. It is the world's largest and most comprehensive survey of people who code around the world.
- Nearly 90,000 developers.
- Trends of predictive analysis and characterization of developers around the globe.

METHODOLOGY



- Collecting Data – *Stack Overflow Developer Survey – 2019*
 - Using – API.
 - Using – Web scraping.
- Exploring Data
 - Finding Duplicates & Removing Duplicates.
 - Finding & Imputing Missing Values.
 - Normalizing Data
 - Handling Outliers
 - Correlation
- Visualization Data
 - Visualization Distribution, Relation, Composition & Comparison of data.
 - Building Dashboard.

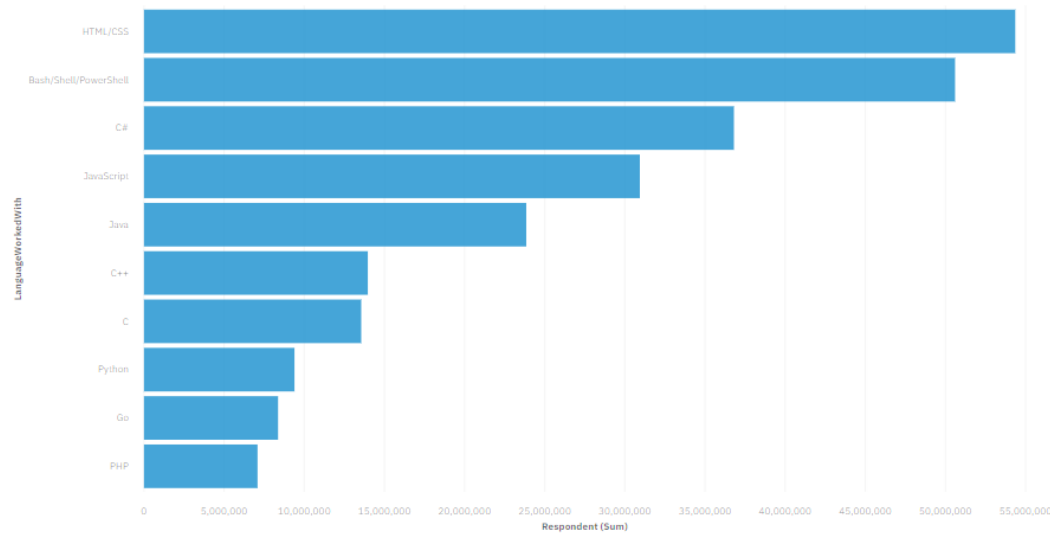
RESULTS



PROGRAMMING LANGUAGE TRENDS

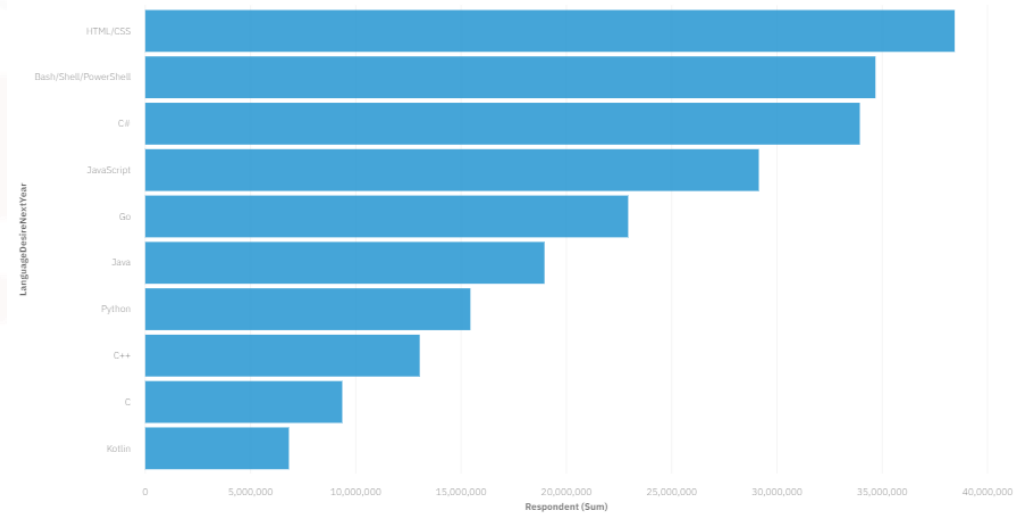
Current Year

Top 10 Languages Current Year



Next Year

Top 10 Languages Desired Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- HTML/CSS appears to be a popular choice for the current year as well as the future.
- PHP comes as the least popular for the current year and Kotlin appears as the least choice for the next year.
- JavaScript and Java appear to be a mid-popular choice for the current year and next year respectively.

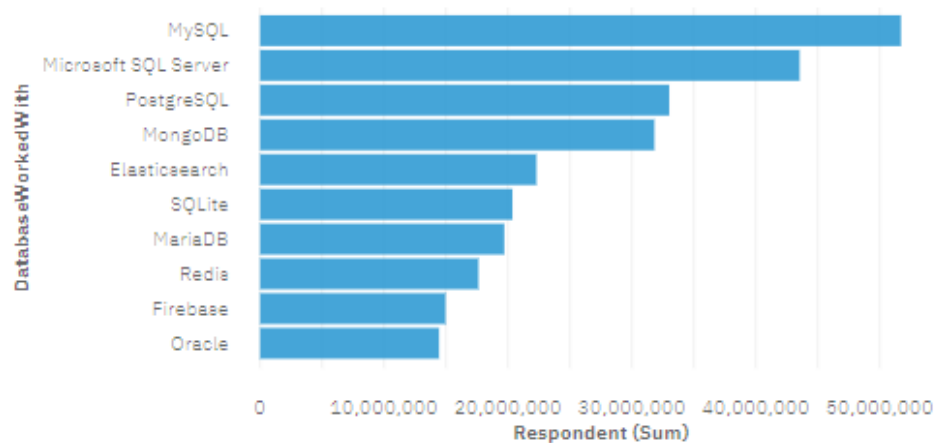
Implications

- HTML/CSS is becoming the new and upcoming popular and demanding programming language among users.
- PHP and Kotlin have been replaced by other programming languages at most places.
- JavaScript and Java appear to be medium demand programming languages.

DATABASE TRENDS

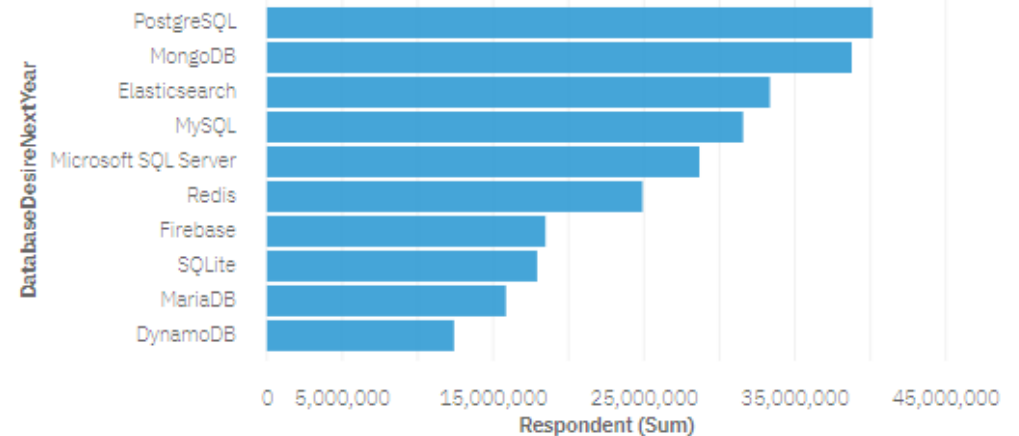
Current Year

Top 10 Databases Current Year



Next Year

Top 10 Databases Desired Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL comes out to be a popular choice of database for the current year whereas PostgreSQL is the select database desired in the future
- Oracle comes as the least popular for the current year and DynamoDB as well for the next year as well.
- Looking to the future, PostgreSQL, MongoDB, Elasticsearch, MySQL, and Microsoft SQL Server appear to be the most trending databases.

Implications

- PostgreSQL is becoming the new upcoming popular desired database skill among users replacing MySQL.
- Oracle has been replaced by other programming languages at most places.
- PostgreSQL, MongoDB, Elasticsearch, MySQL, and Microsoft SQL Server appear to be the more popular desired choices of databases in the future.

DASHBOARD

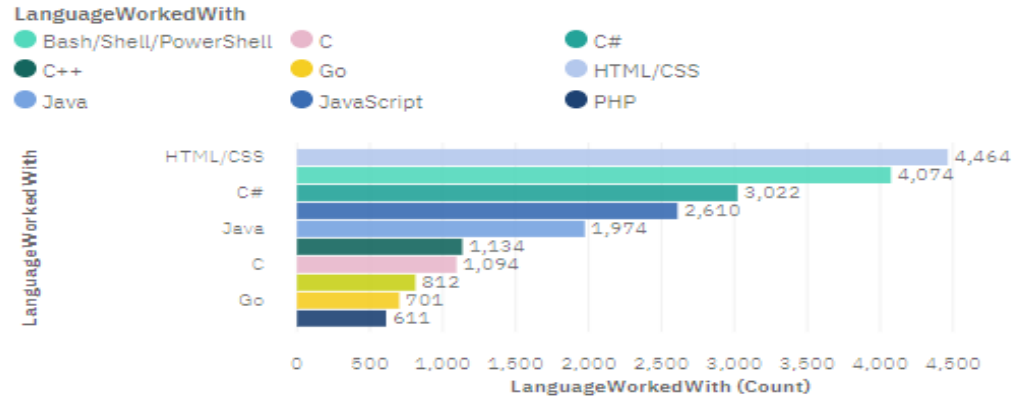


The permanent link of the read-only view of the Cognos dashboard is as follows:

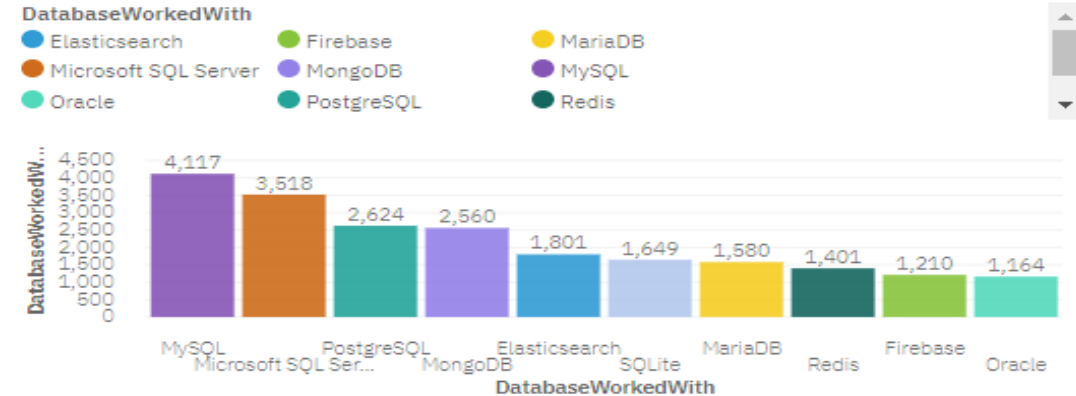
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DASHBOARD TAB 1

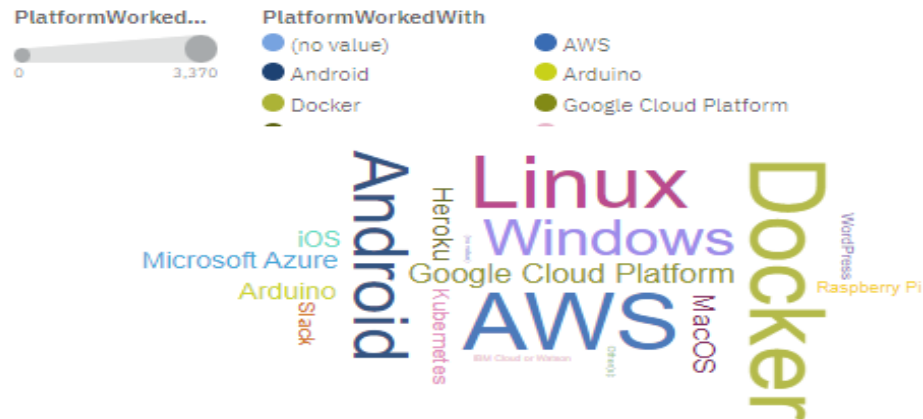
Top 10 Languages Worked With



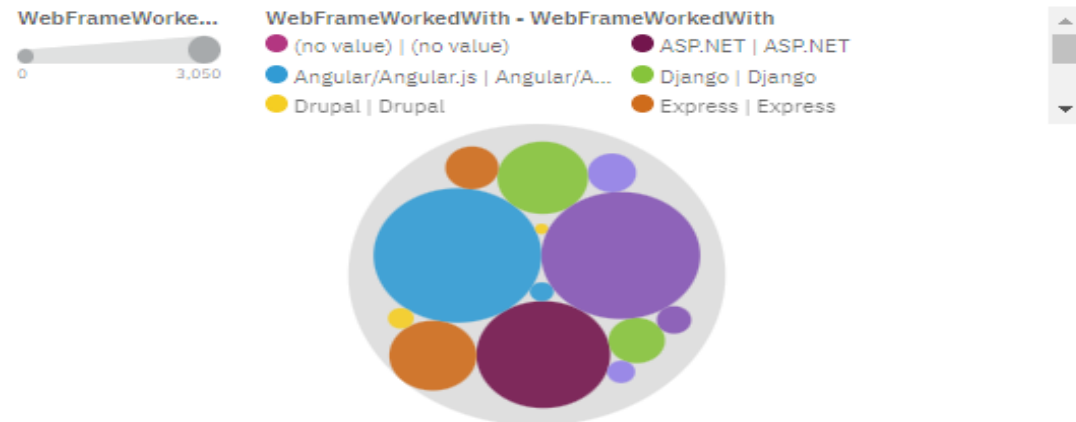
Top 10 Databases Worked With



Platforms Worked With

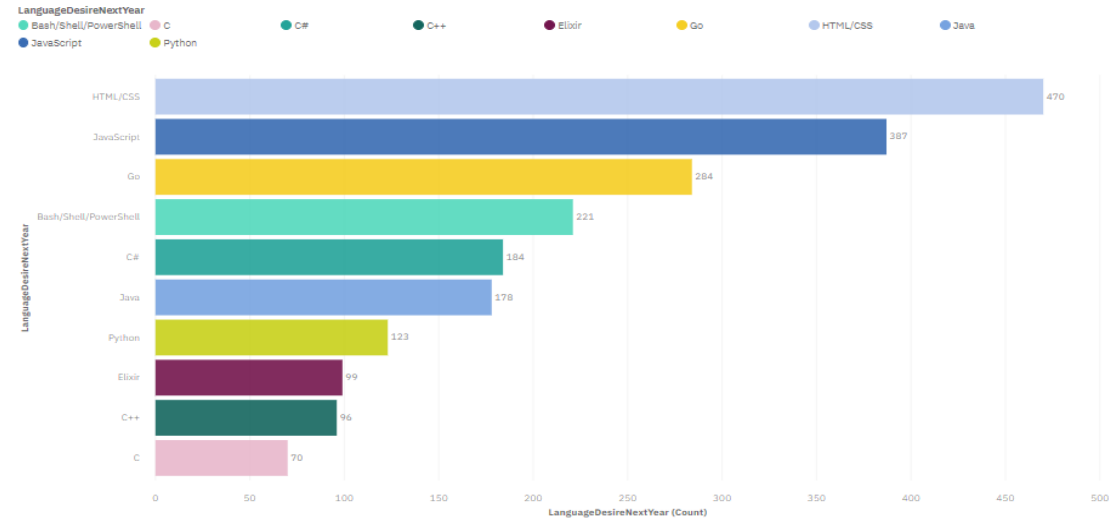


Top 10 Web Frames Worked With

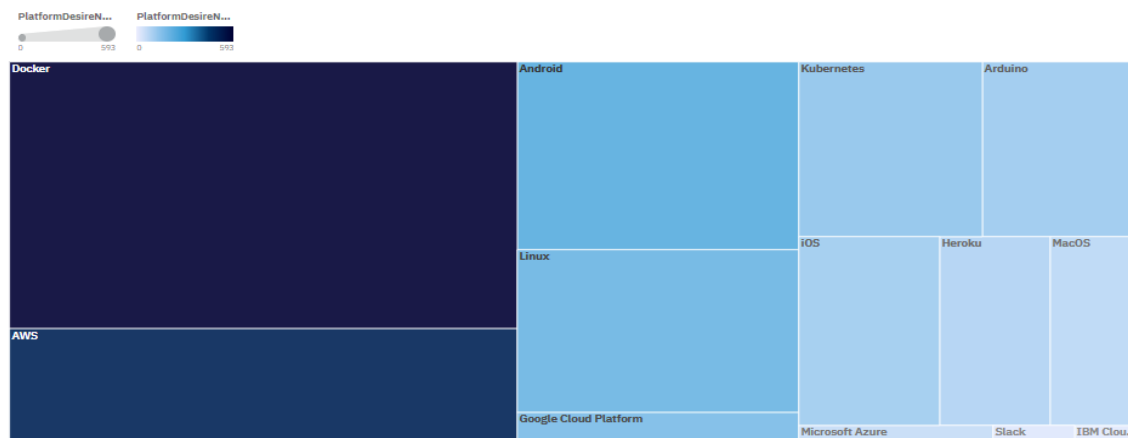


DASHBOARD TAB 2

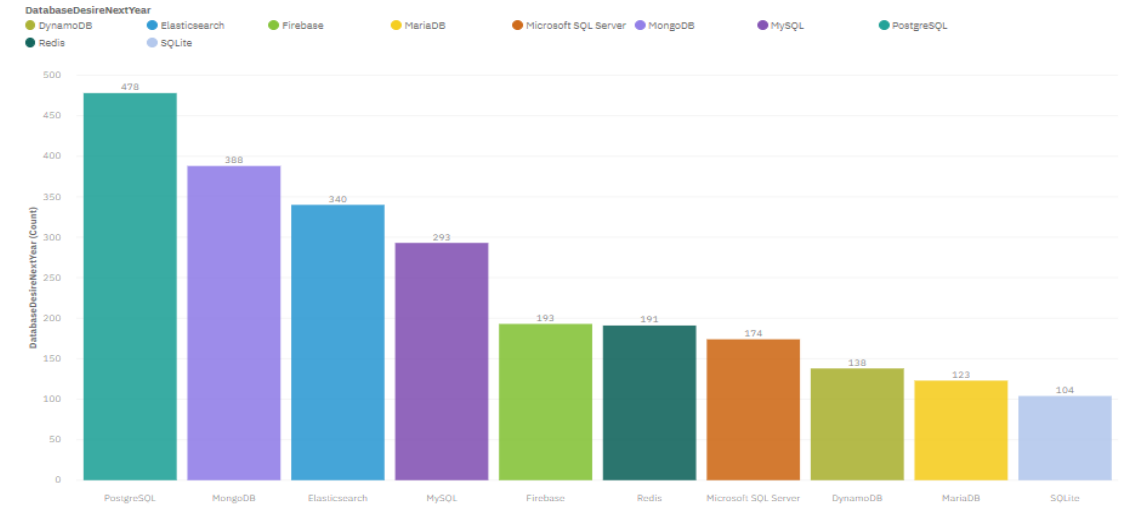
Top 10 Language Desire Next Year



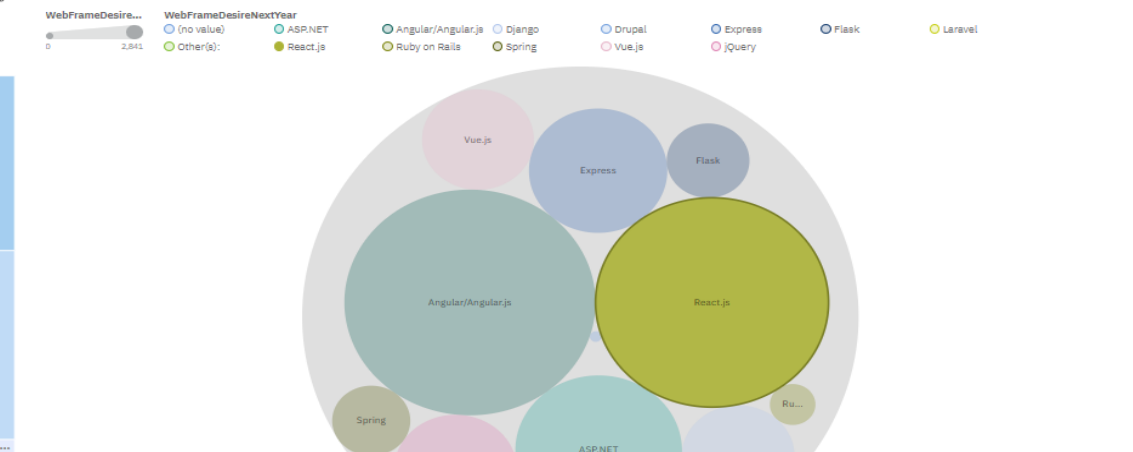
Platform Desire Next Year



Top 10 Database Desire Next Year



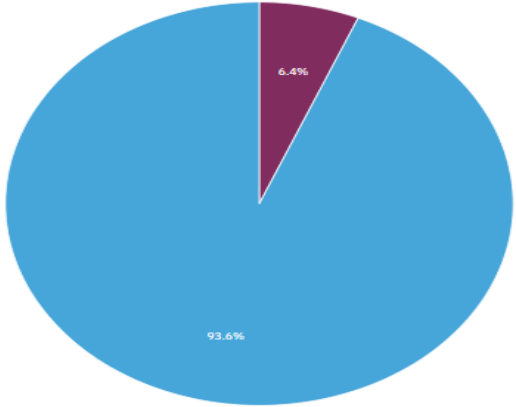
Top 10 Web Frame Desired



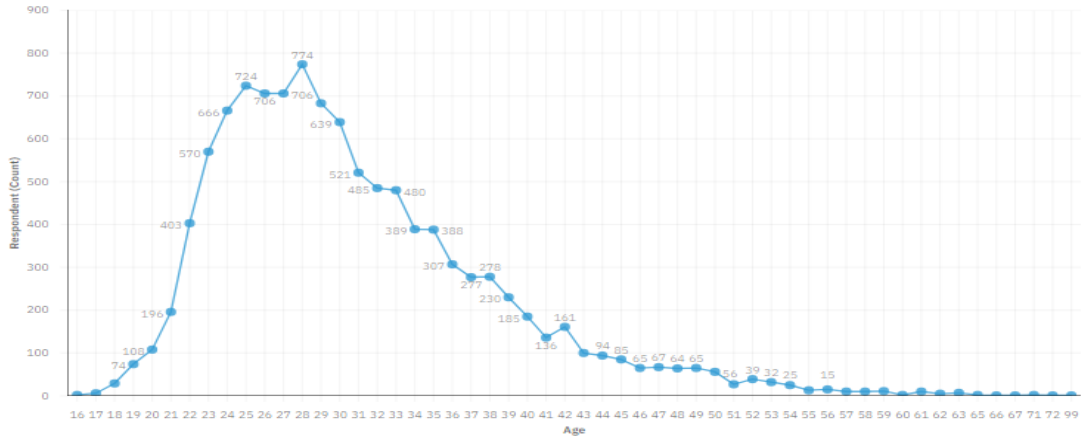
DASHBOARD TAB 3

Respondent Classified by Gender

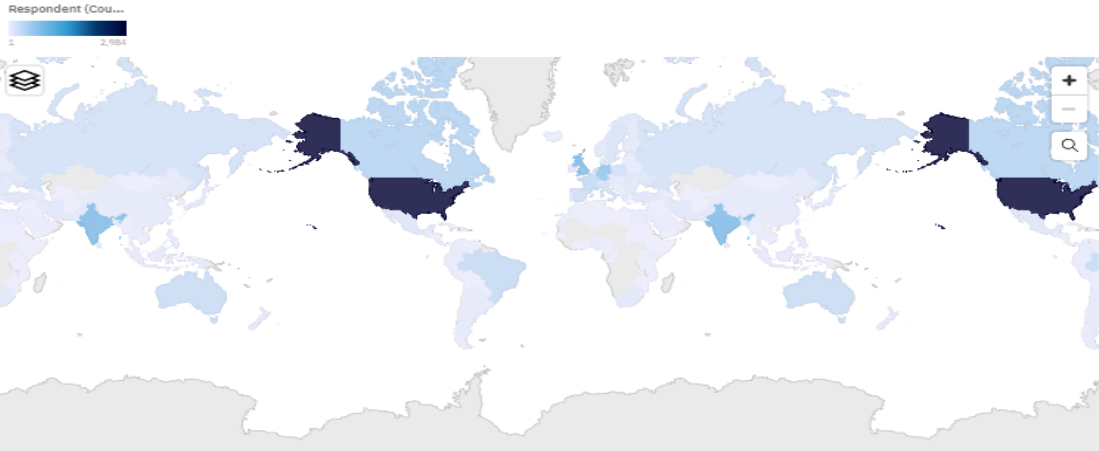
Gender
● Woman ● Man



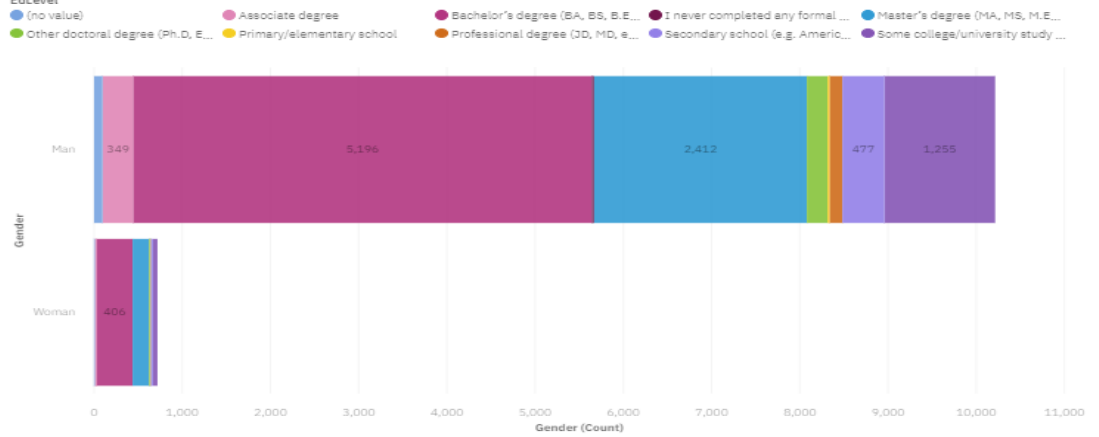
Respondent Count By Age



Respondent Count for Countries



Respondent by Gender Classified by Education Level



DISCUSSION



- All ages used for survey. Outliers filtered out.
- All genders were considered for this survey.
- People from across various countries were asked for the survey.
- Various people with different educational levels were included as well.

OVERALL FINDINGS & IMPLICATIONS

Findings

- The upcoming languages trend is for web languages like HTML/CSS and scripting languages like Bash/Shell/PowerShell.
- The upcoming trend for relational database usage is PostgreSQL.
- Docker appears to be the most used platform and continues to be the future platform of use.

Implications

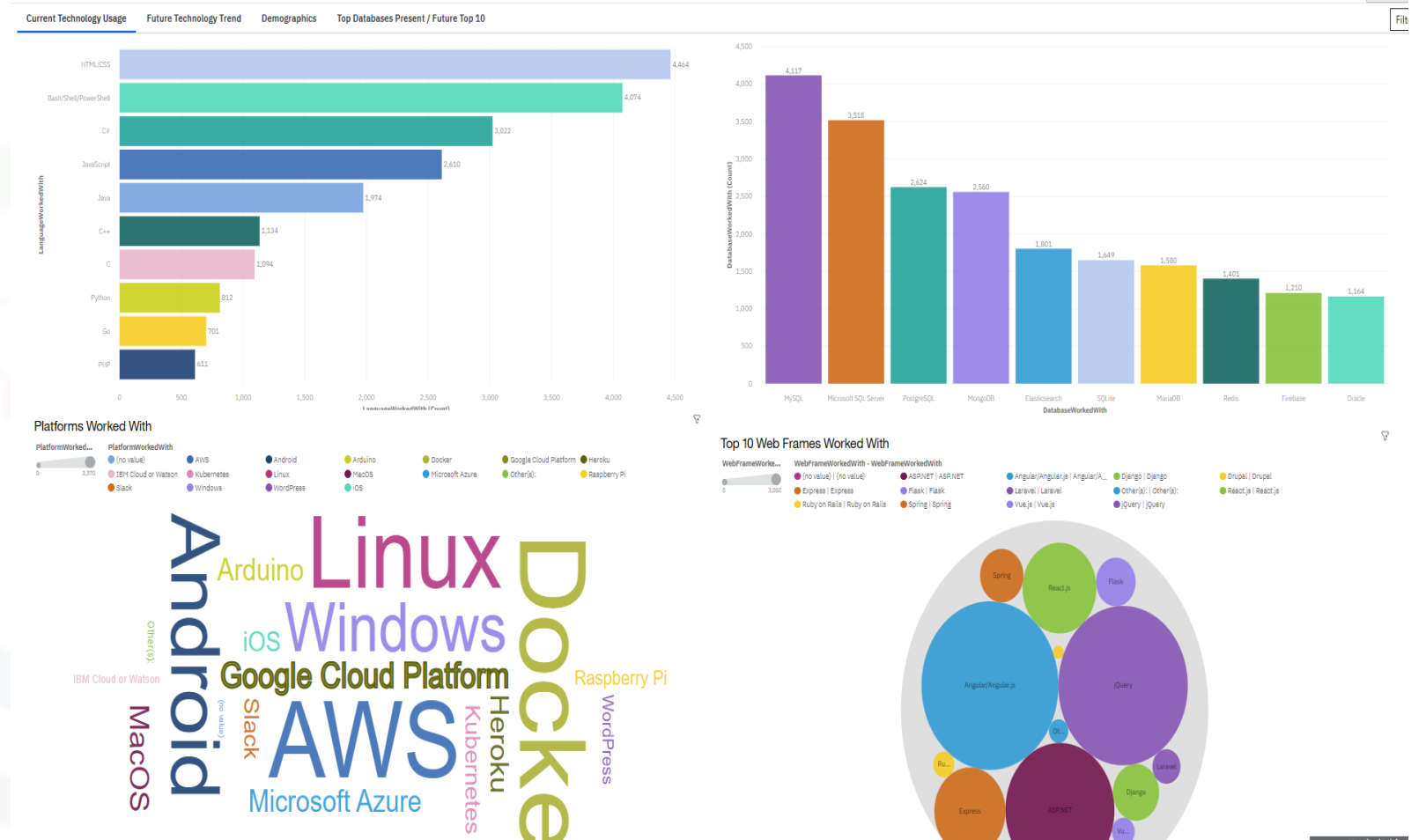
- People are looking towards web languages and shell scripting in the future.
- Relational databases are the trending options for the future!
- Docker is the dominant platform for all platforms.

CONCLUSION



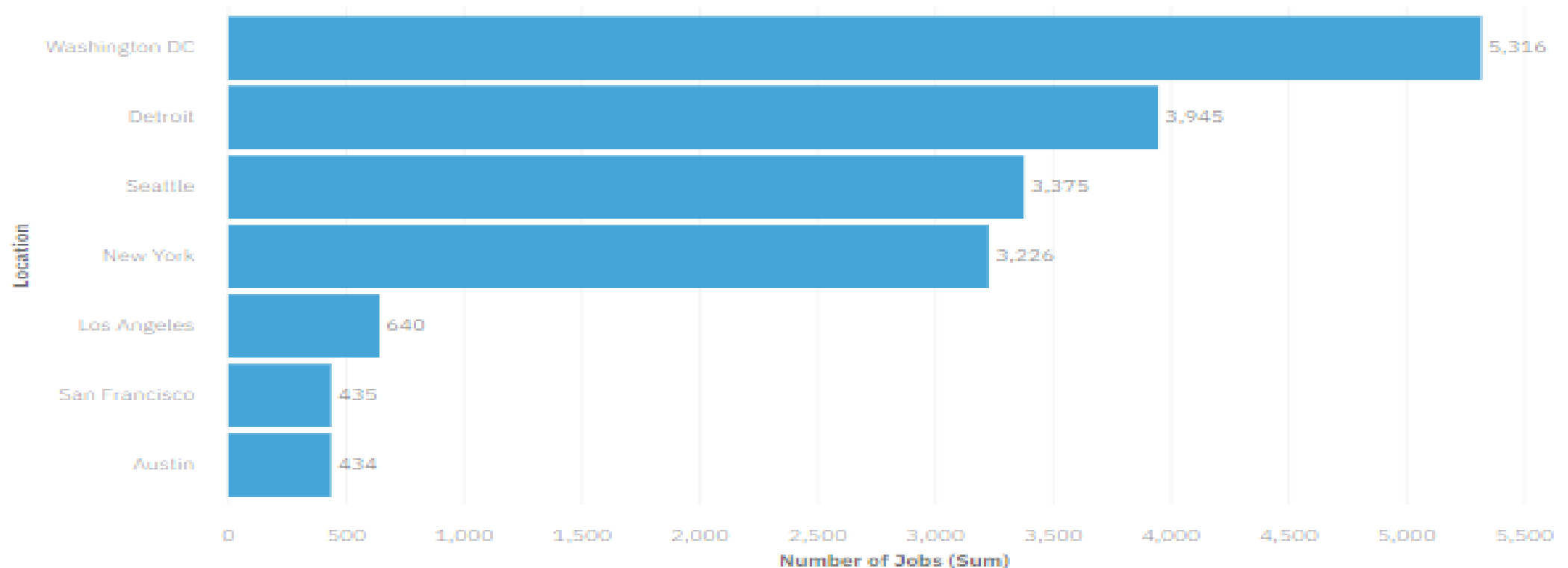
- The top language in demand of present and future is HTML/CSS.
- The top database in demand:
Present – MySQL; Future - PostgreSQL
- The most popular platform is Docker.
- The top web frame in demand for present and future is Angular.js.

APPENDIX



JOB POSTINGS

Github Job Postings



POPULAR LANGUAGES

