STACK DEVELOPER SURVERY ANALYSIS

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OUTLINE

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EXECUTIVE SUMMARY

- Web Design is a market still in demand and is heavy with workers and with demand.
- Python is an import language that is rising in usage and is being demanded more.
- Male dominated survey, Females are not being offered enough jobs or opportunities to participate in the industry.
  - Majority were late 20 males
  - Majority were highly educated males, bias
  - Majority were from the USA
- PostgreSQL is a database rising in popularity and in demand.
- Despite heavy market dominance by some languages or databases the less popular ones still have a hold and place in the industry.

INTRODUCTION

- Stack Overflow, a website used by many developers and even students as a tool to find out solutions to problems one may face, this can range from finding errors to finding optimized code. The Stack Overflow Developer Survey aims to find out more about developers, and their favorite tools as well as languages.
- The problem this survey faces is the various backgrounds of the people who answered the survey, as well as any common trends in the tech industry that are important to highlight. This can range from anything gender related, to even any tool problem that is being unnoticed that can be highlighted by the survey.
- The questions that are being asked are ones that range across a person's background in tech, so their favorite languages, databases, and which ones they want to learn. Some other questions are also what are a person's gender, education level, country, and of course gender.

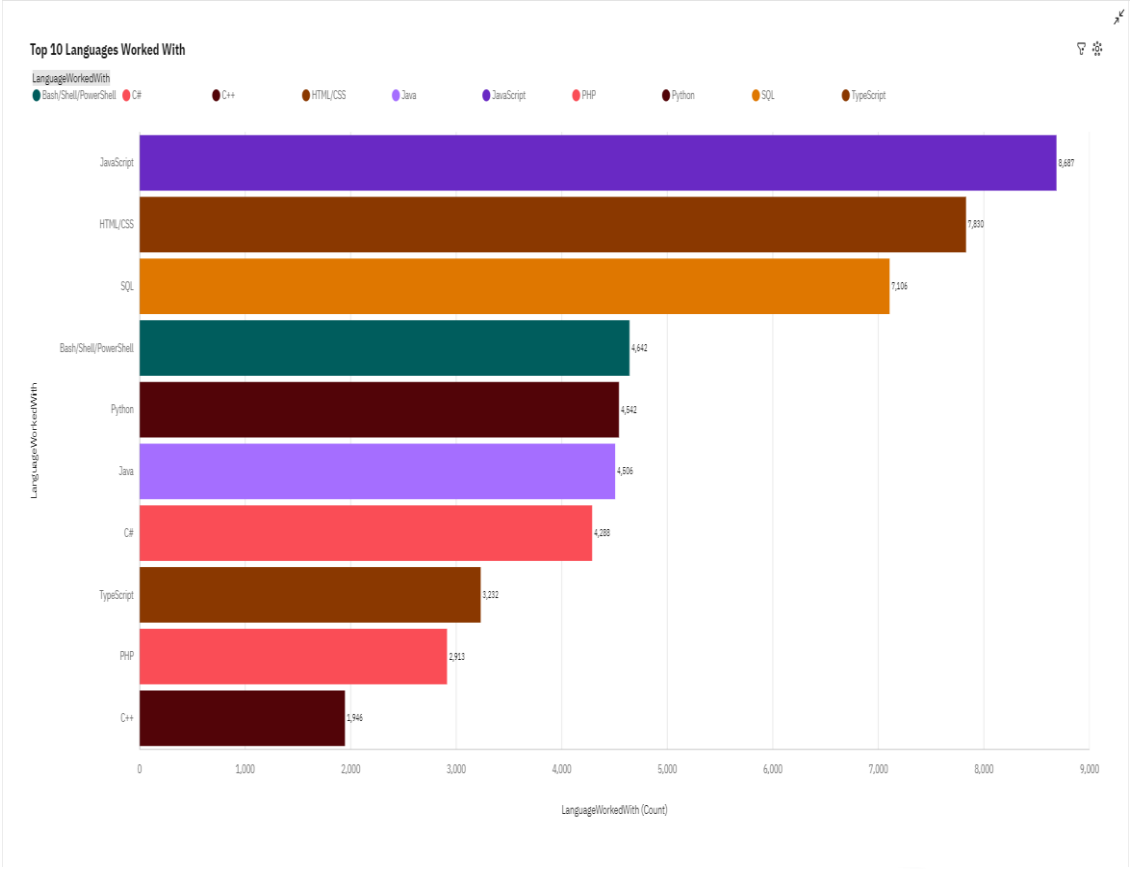
METHODOLOGY

- The data sources come from two csv files, one that focuses on the survey answers of the respondents, and one that focuses on the demographics. These surveys were written in blocks of questions and randomized for each respondent, thus adding a level of randomization, along with this based on certain questions some would not be shown (Stack Overflow).
- With these csv's the data was used to create several dashboards and charts based on the data within them. These csv's were analyzed using Cognos Analytics and as well as python libraries in Jupyter notebooks.

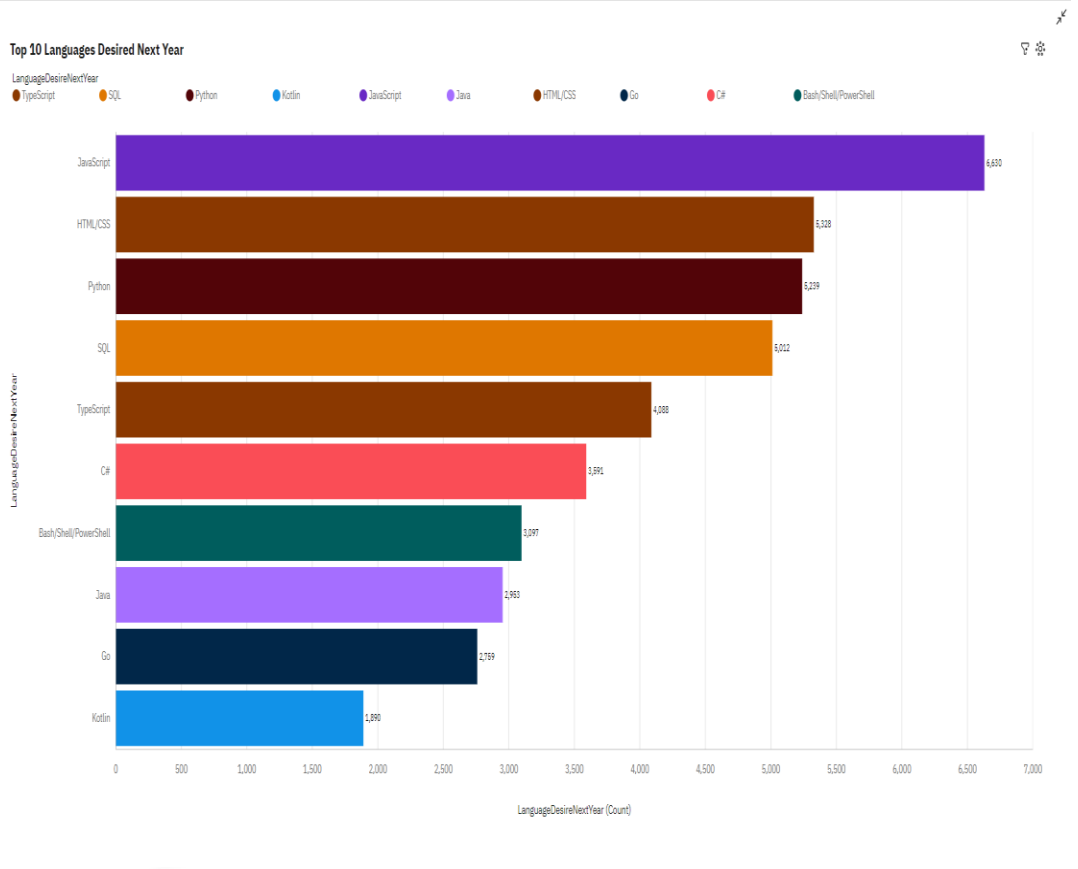
RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

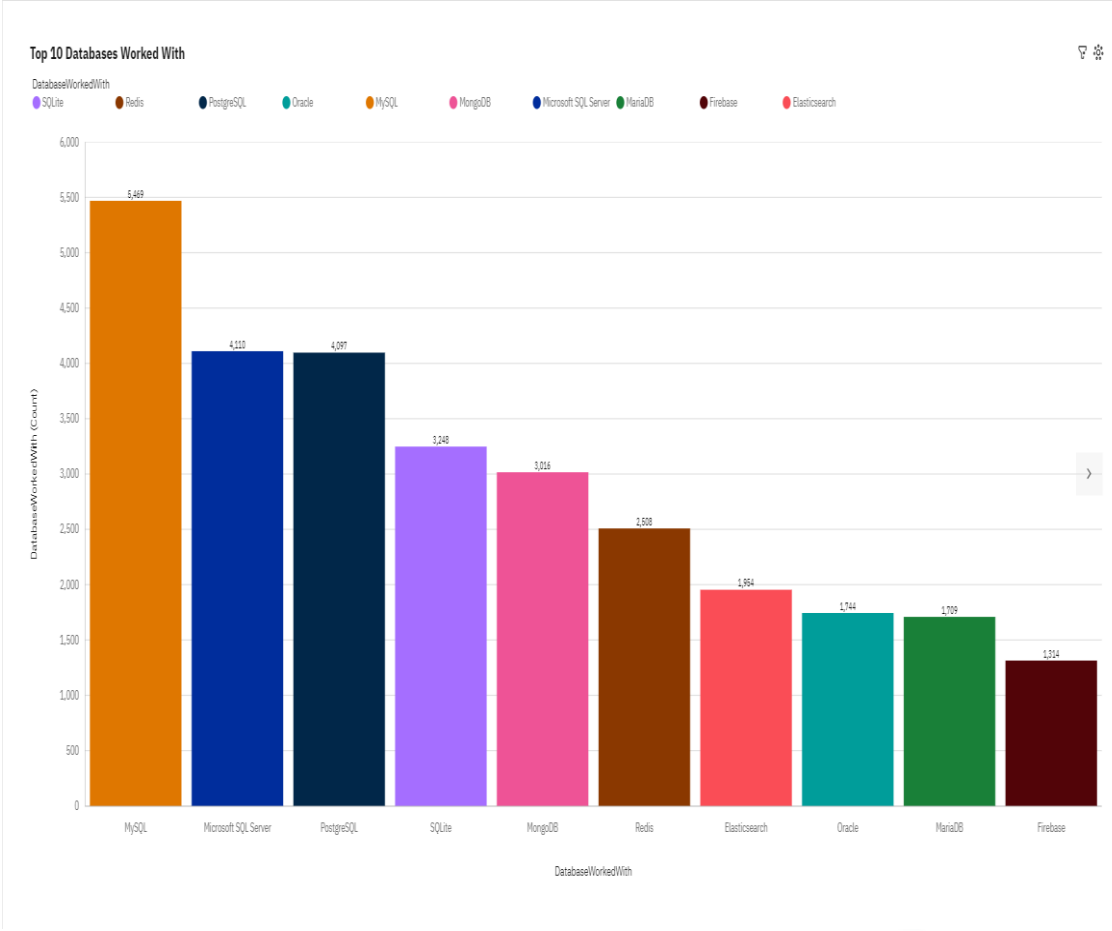
- The web-oriented languages are first in both charts.
- C++ and PHP although are in the top ten used, they do not seem to make it to the top 10 want to learn.
- More and More people want to use Python, although it is not high up on the currently used chart, it is high up on the want to learn chart.

Implications

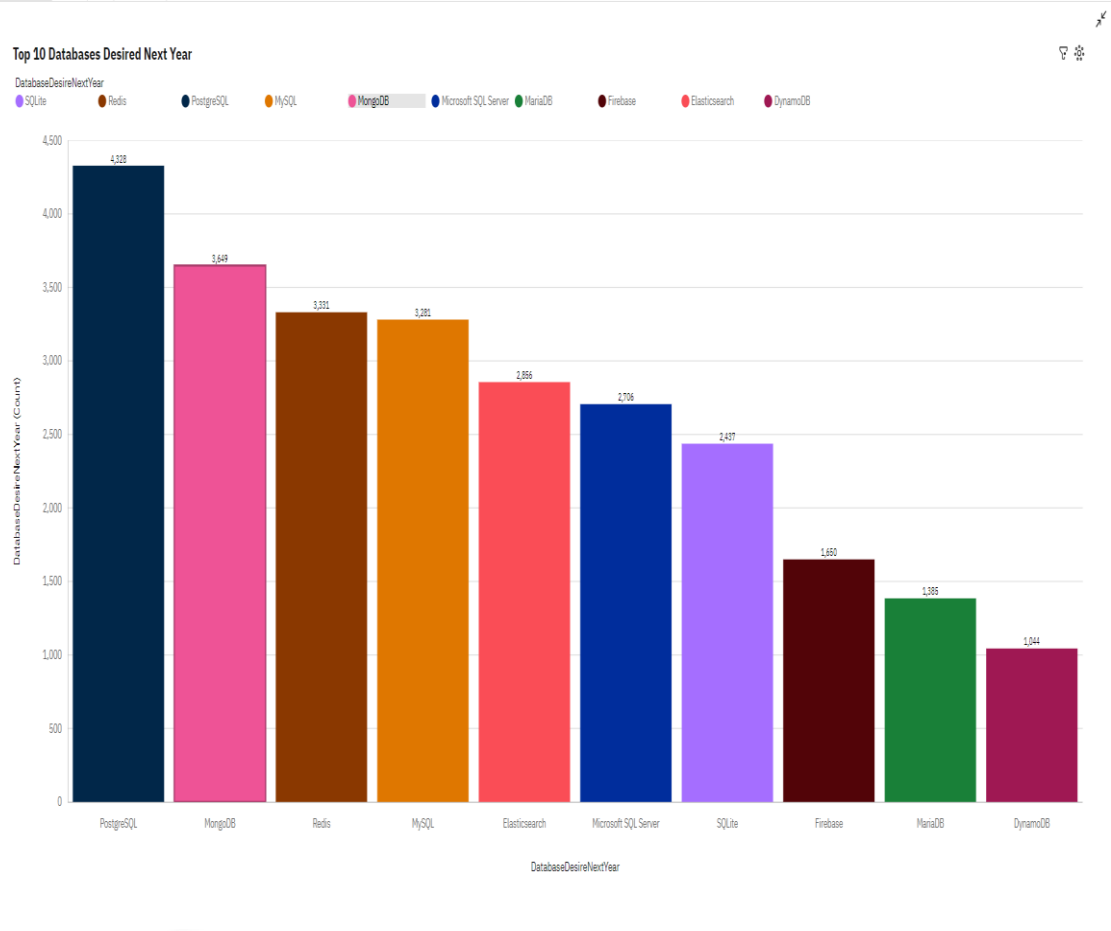
- Web Design and jobs associated with it are still a powerful market, but oversaturation could occur
- C++ and PHP are slowly fading out, or the need for and current market is small.
- Python is a powerful language to learn, both in market potential and in user demand, highly competitive.

DATABASE TRENDS

Current Year



Next Year



IBM Developer

SKILLS NETWORK

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- PostgreSQL is a language in demand in both charts
- Microsoft SQL and MySQL seem to be down in the want to learn chart.
- MariaDB and Firebase roughly the same position

Implications

- PostgreSQL is rising as a popular database and is also rising as a database users want to learn, possible dominance over next few years in databases used chart
- Although the two have a good number of users, less people want to learn it than use it, less popularity
- Niche Databases are popular in their own spheres, thus keeping them roughly in the same spot.

DASHBOARD

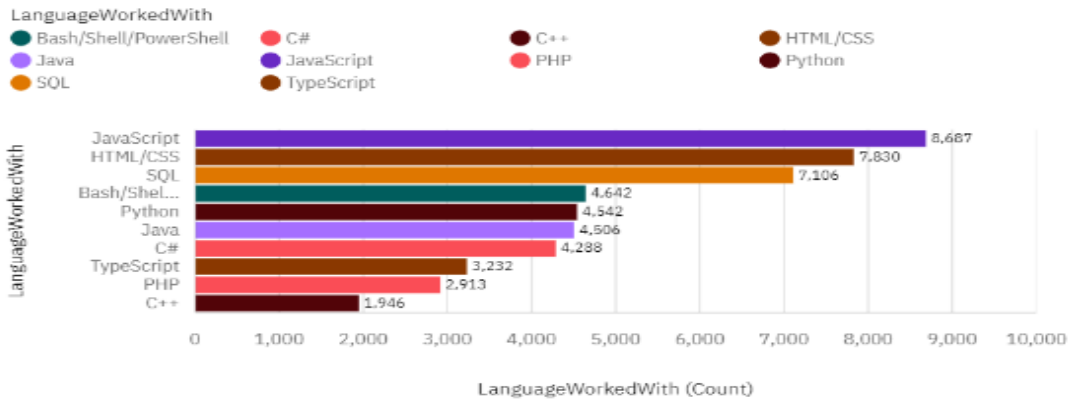
The Full repository of Dashboards is in the link below:

https://github.com/drod75/IBM-DASHBOARD-REPO

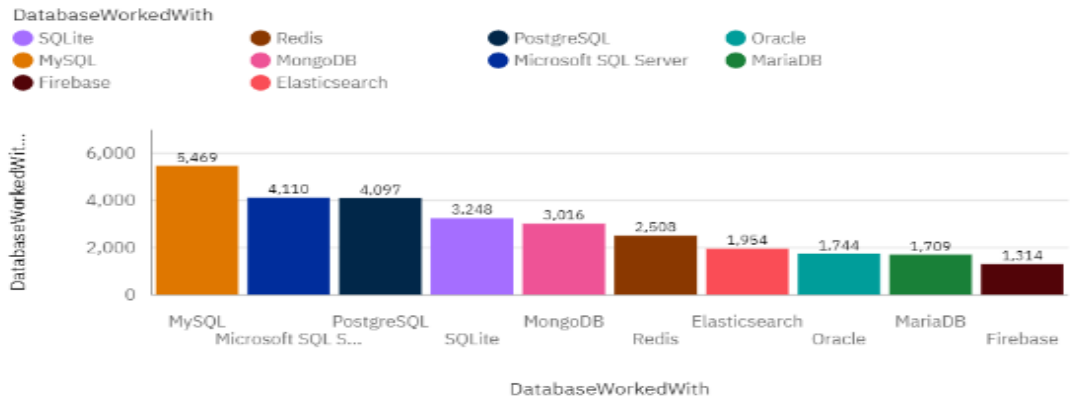
DASHBOARD TAB 1

Tab 1

Top 10 Languages Worked With

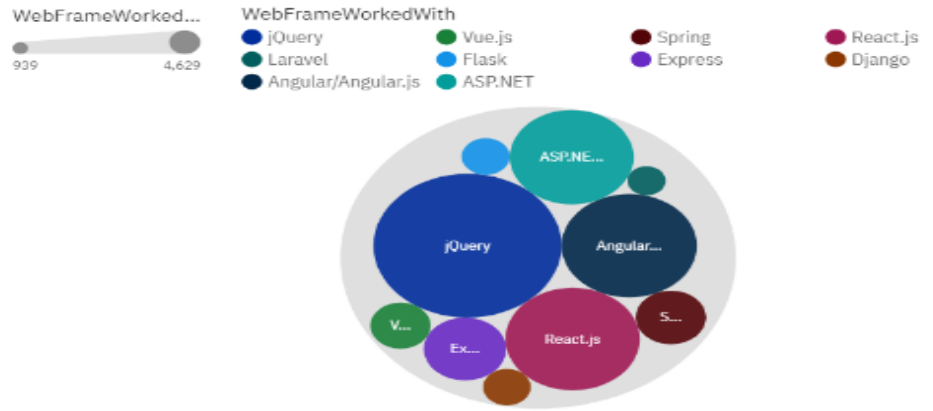


Top 10 Databases Worked With



Platforms Worked With

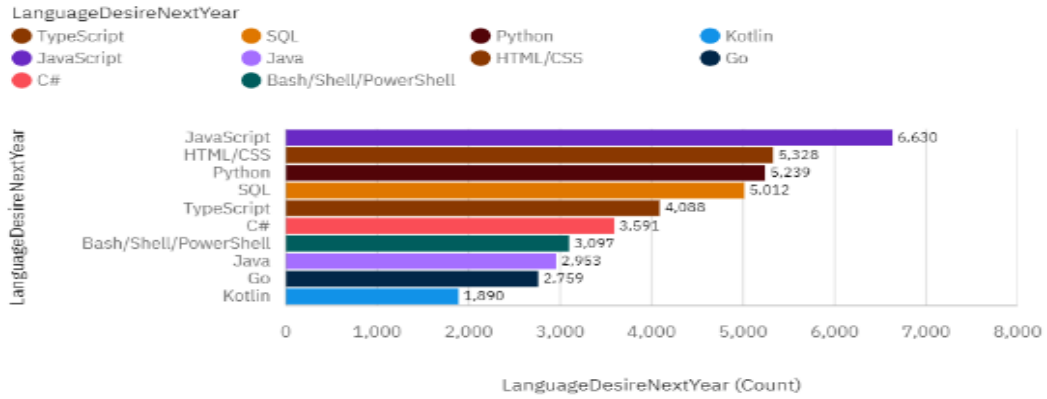
Top 10 Web Frames Worked With



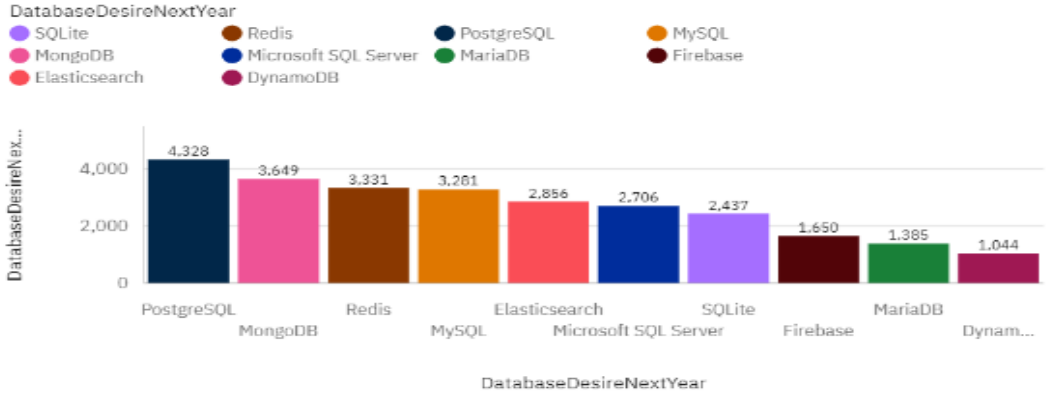
DASHBOARD TAB 2

Tab 1

Top 10 Languages Desired Next Year

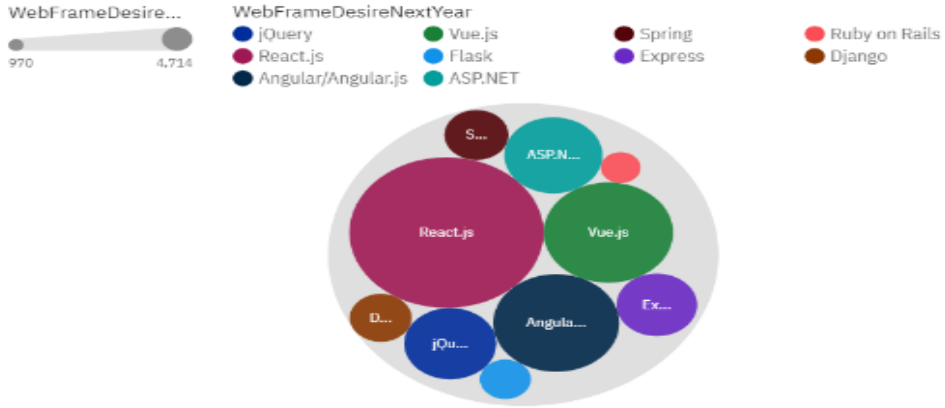


Top 10 Databases Desired Next Year



Platforms Desired Next Year

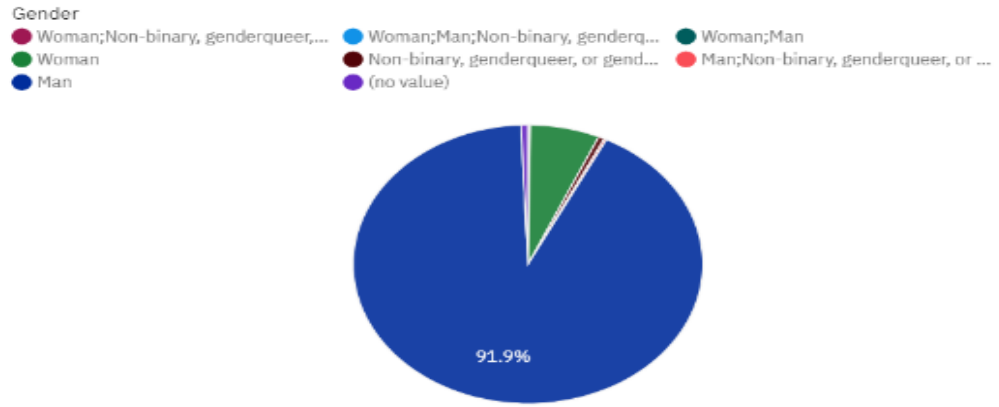
Top 10 Web Frames Desired Next Year



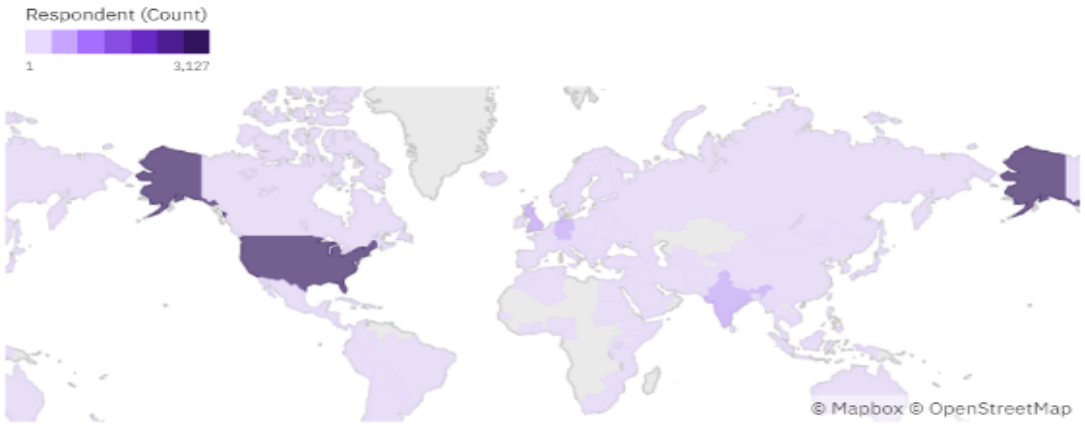
DASHBOARD TAB 3

Tab 1

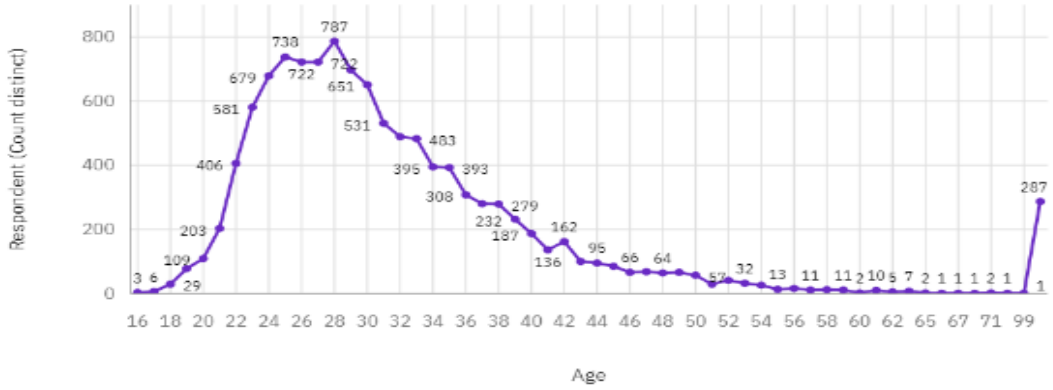
Respondent by Gender



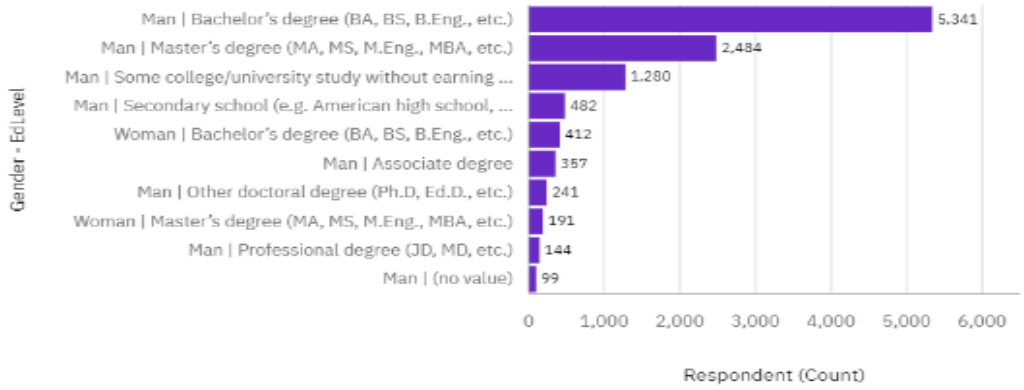
Respondent Count for Country regions



Respondent Count by Age



Respondent Count by Gender and EdLevel



DISCUSSION

OVERALL FINDINGS & IMPLICATIONS

Findings

- Majority of Respondents are male.
- Linux is gaining popularity and is slowly catching up to windows.
- React.js is very popular

Implications

- Either not enough females were given the survey, or not enough females work in the field. Either way a clear problem is visible and needs to be addressed.
- Due to the problems many report with the windows software and experience, more and more are most likely going to Linux.
- React.js is a popular web frame and will most likely surpass jQuery.

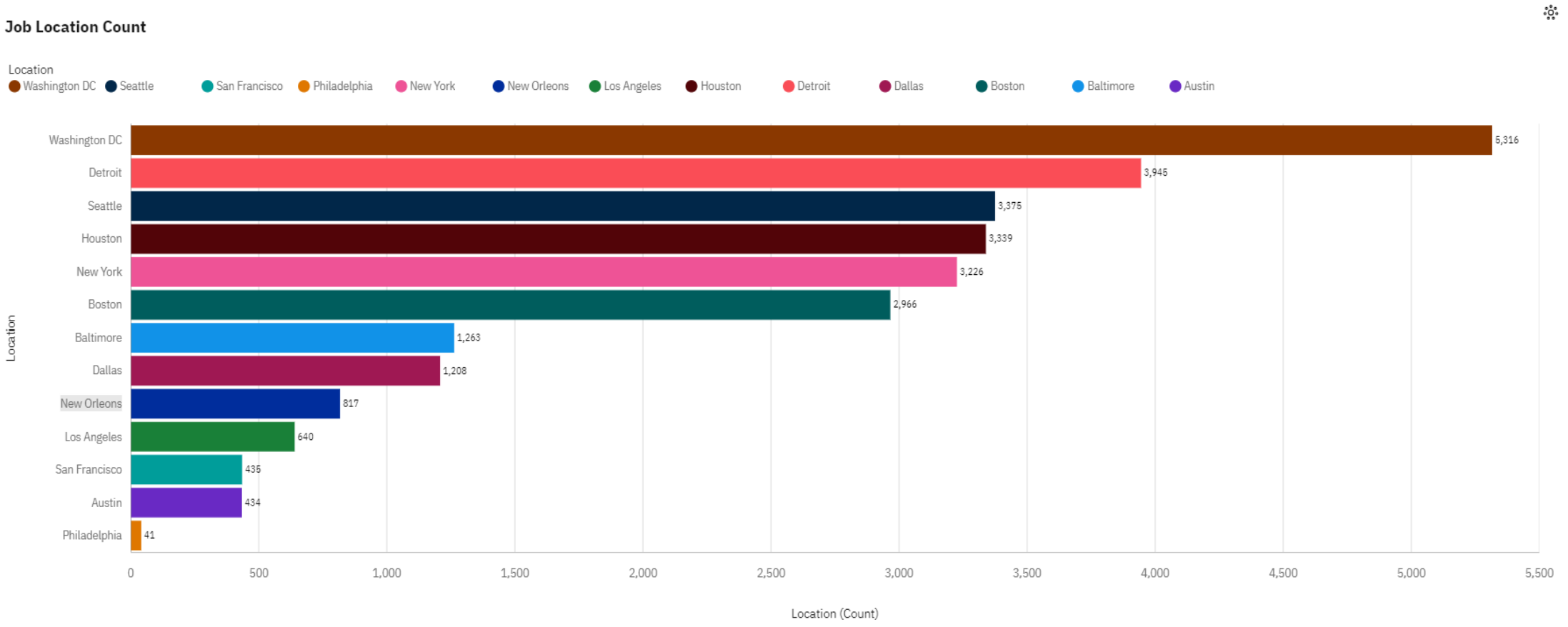
CONCLUSION

- With the Developer Survey from Stack Overflow, several questions were answered from the respondents which we analyzed via charts. This data consisted of demographics, and the favorite languages and databases from developers.
- When analyzing the data we managed to find out many trends and correlations. One important note is that most respondents were male, and only a small percentage were female. Another note is the survey was very USA dominated, most of the respondents came from the USA and this might have skewed the results.
- In the end the survey helped understand more about developers and the many trends within the industry as per that year, using it may give a good advice on furthering the industry and improving the tools used.

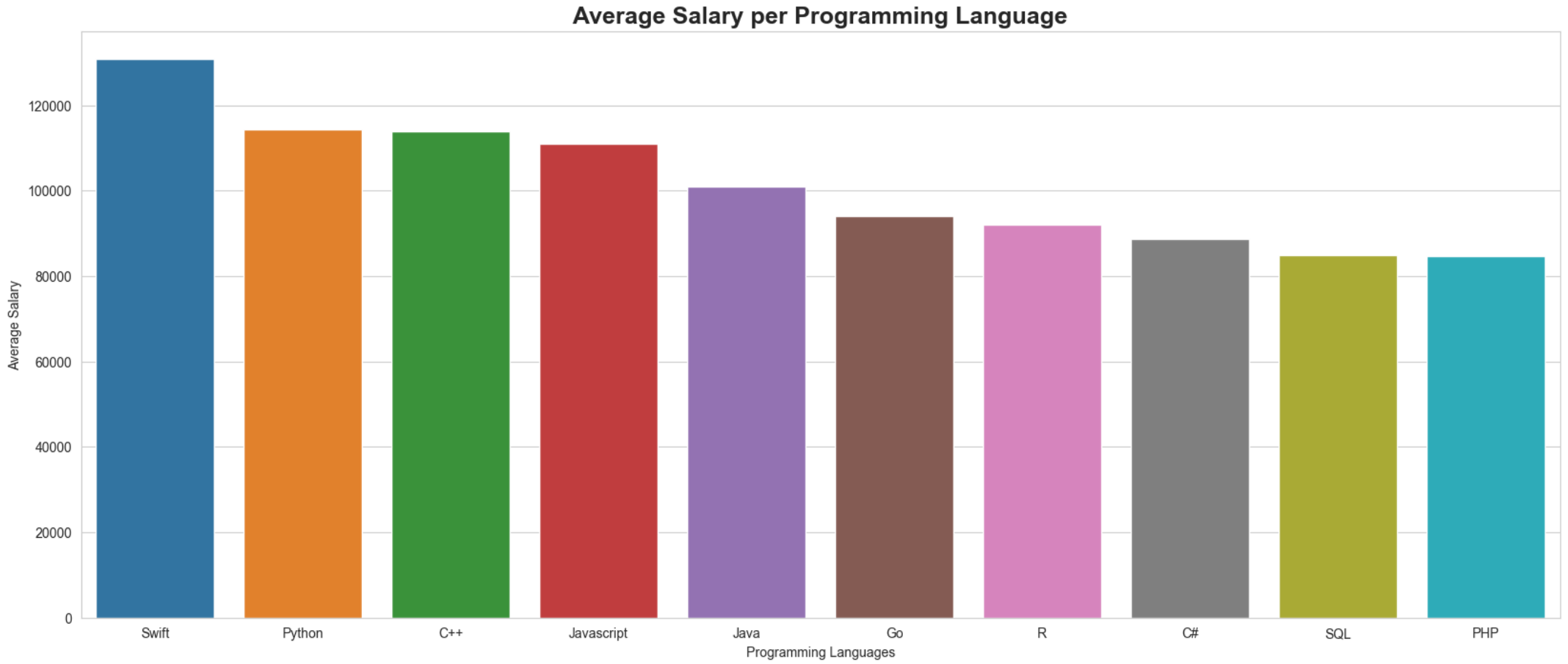
APPENDIX

- JOB POSTINGS CHART
- POPULAR LANGUAGES CHART
- SOURCES AND TOOLS

JOB POSTINGS



POPULAR LANGUAGES



SOURCES AND TOOLS

- TOOLS: COGNOS ANALITICS, JUPYTER NOTEBOOKS, PYTHON LIBRARIES
- “Stack Overflow Developer Survey 2019.” Stack Overflow, survey.stackoverflow.co/2019?utm_source=so-owned&utm_medium=blog&utm_campaign=dev-survey-2019&utm_content=launch-blog#methodology. Accessed 6 July 2024.