



Analysis of Changing Technology Trends

ERCAN SUZEN

24.03.2022

OUTLINE



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

EXECUTIVE SUMMARY



- Data set used is the «The 2019 Stack Overflow Developer Survey Results» The actual data set has around 90,000 responses.
- To Learn trend comparison of Current usage and Desired for next year performed.
 - Trend of Language ; Python increasing popularity
 - Trend of Database ; Top4 seems to change with new databases.
 - Trend of Platform ; Microsoft Out , Docker In
 - Trend of Webframe ; jQuery Out , React.js In
- Participants of Surveys' demographics status were analyzed ;
 - Most of them is Man ,graduated with Bachelors' degree and from United States and mostly 20-40 years old.

INTRODUCTION



This presentation mainly focusing on answers of most used Languages, Databases, Platforms and WebFrames. Then comparison of current preferences with desired next year.

Definition of survey participants demographic status and analyze the technologic programmes popularity.

With Top 5 of them were evaluated to trend analytics.

METHODOLOGY



- COLLECTING DATA

- Data set used is the «The 2019 Stack Overflow Developer Survey Results»
- Job positng data from GitHub Jobs API
- Average Annual Salary data from IBM website

USE IBM COGNOS DASHBOARD TO ANALYSE AND VISUALIZATION

- Dashboard 1 : Current Technology Usage
- Dashboard 2 : Future Technology Trend
- Dashboard 3 : Demographics

RESULTS

- Language survey results shows that Java Script, HTML/CSS and SQL are going to still be most used languages but they will lose the users. Also Python users quantity increase seriously.
- PostgreSQL and MongoDB seems to be sector leaders where MySQL, Microsoft SQL Server and SQL Lite dramatically lose users.
- In platform area, Linux is sharing the leadership with Windows now but in next year expectation is that Linux is sharing the leadership with Docker.
- As WebFrames, React.js and Vue.js seems to increase users next year and will position at top 3. On the other hand next year it expected that jQuery drops to half of users.

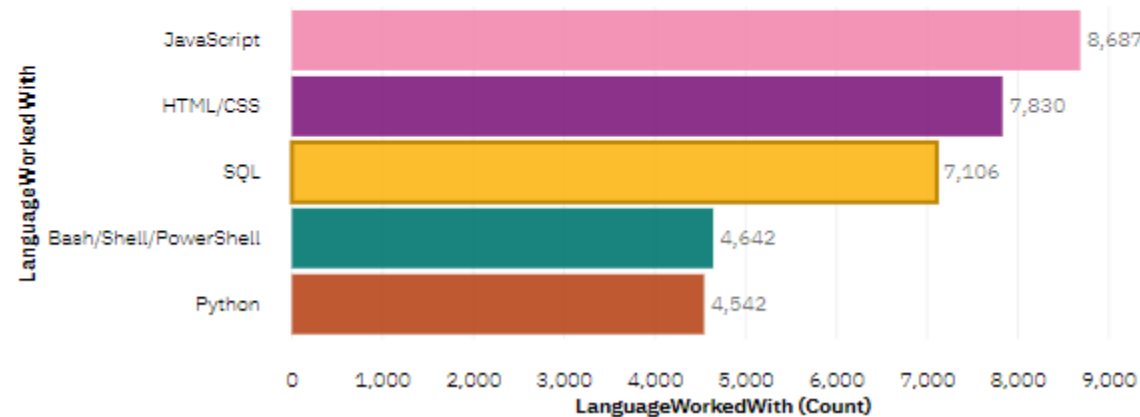
PROGRAMMING LANGUAGE TRENDS

Current Year

Top 5 Worked Current Language

LanguageWorkedWith

● Bash/Shell/PowerShell ● HTML/CSS ● JavaScript ● Python ● SQL

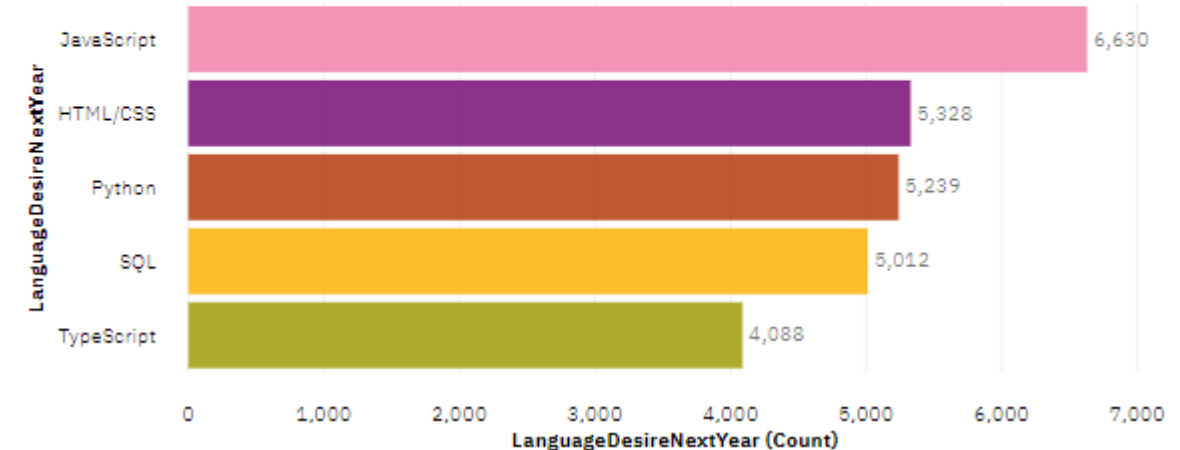


Next Year

Top 5 Desired Languages Next Year

LanguageDesireNextYear

● HTML/CSS ● JavaScript ● Python ● SQL ● TypeScript



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Java Scripts and HTML/CSS protect their position in list.
- Phyton is expected to more useage
- Shell will drop from top5

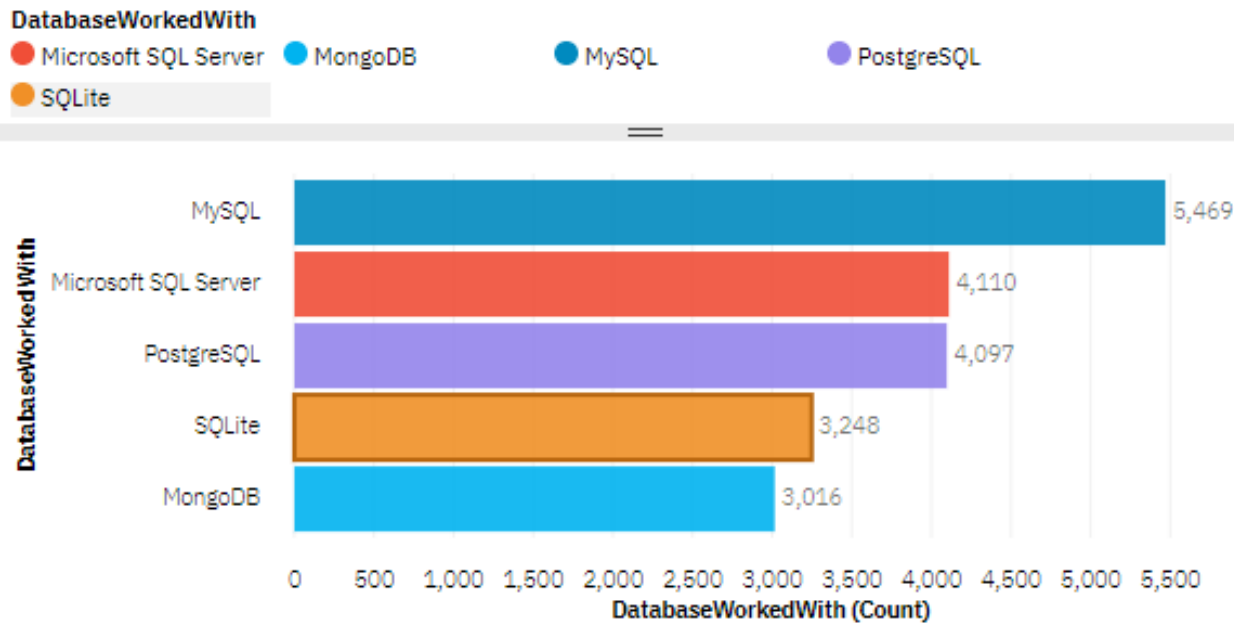
Implications

- Although users decrease on Java Scripts, HTML and SQL, they are in top5
- Phyton is getting position at number 3, but actually it is results from SQL and Shell's bad usage expectations. Java SCRIPTS,HTML/CSS adn SQL decreasing ratio is bigger than Phyton users quantity increasing ratio.

DATABASE TRENDS

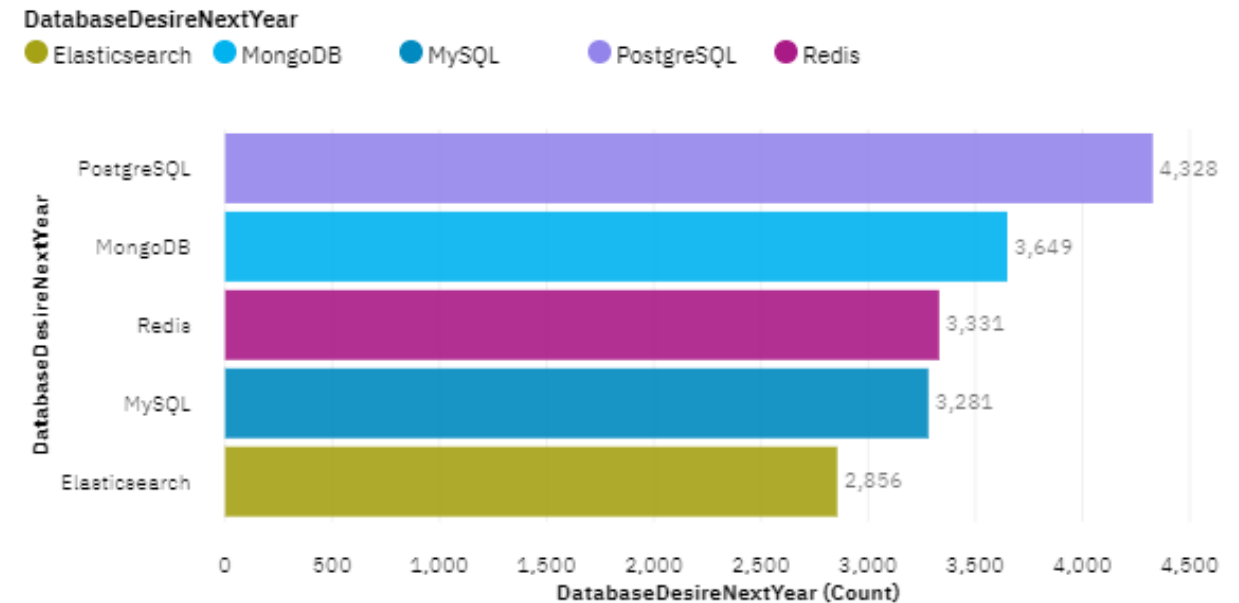
Current Year

Top 5 Database used current



Next Year

Top 5 Database desired next year



DATABASE TRENDS-FINDINGS &IMPLICATIONS

Findings

- Currently MySQL usage is most one.
- Only MongoDB and PostgreSQL expected to more usage next year
- Microsoft SQL Server and SQL Lite drops from most used Top5 databases .

Implications

- PostgreSQL becomes most popular database with increasing users from 4097 to 4328
- MongoDB becomes most 2nd popular database with increasing users nearly %20

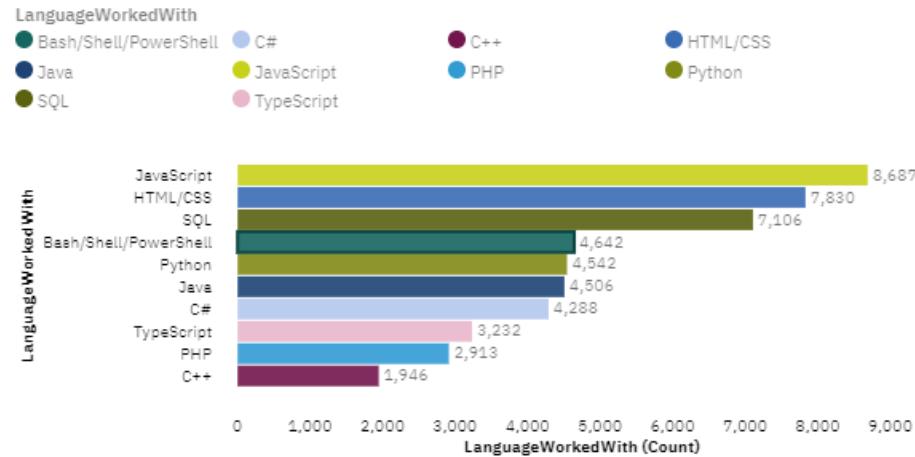
DASHBOARD



<https://eu-gb.datapatform.cloud.ibm.com/dashboards/cc4f961f-d335-4e7f-a24d-20d827f9d6f4/view/6312d7180ce823f26de3e6e407982a0e7d342559e0bb8350d2827b495e327197a8691090c82c4d5a8b430436a5bf445ec8>

DASHBOARD TAB 1

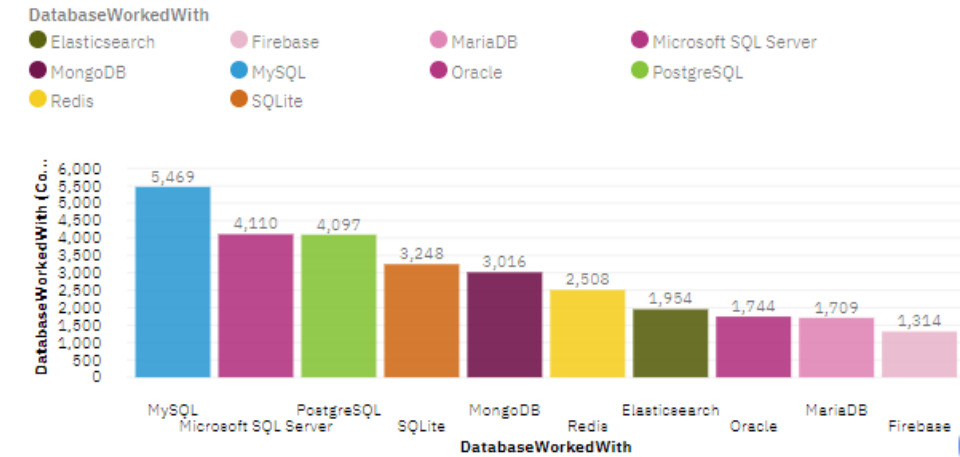
Top 10 LanguageWorkedWith



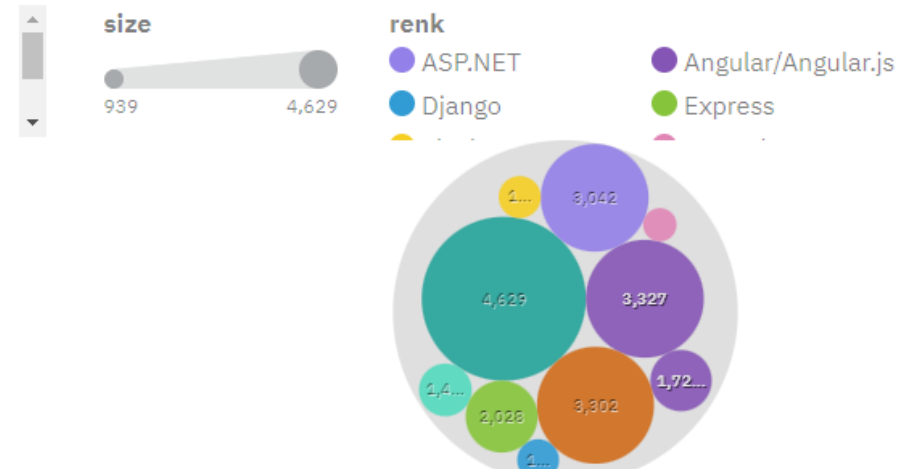
PlatformWorkedWith



Top 10 DatabaseWorkedWith

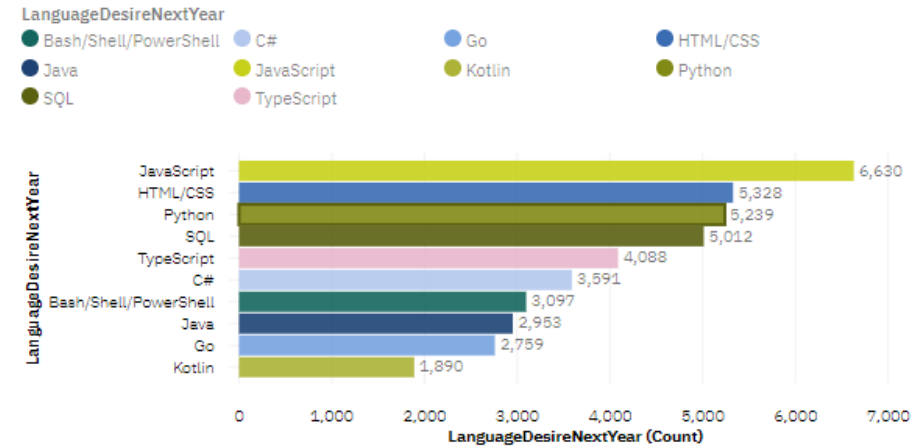


Top 10 WebFrameWorkedWith

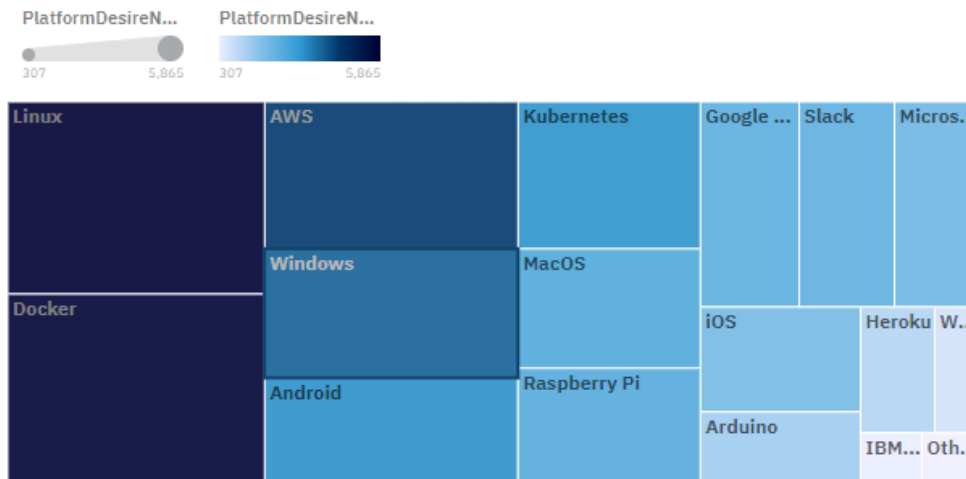


DASHBOARD TAB 2

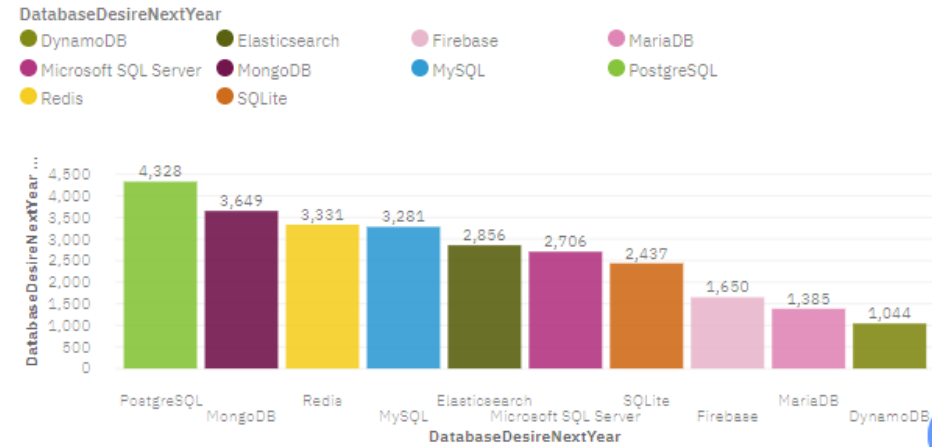
Top 10 LanguageDesireNextYear



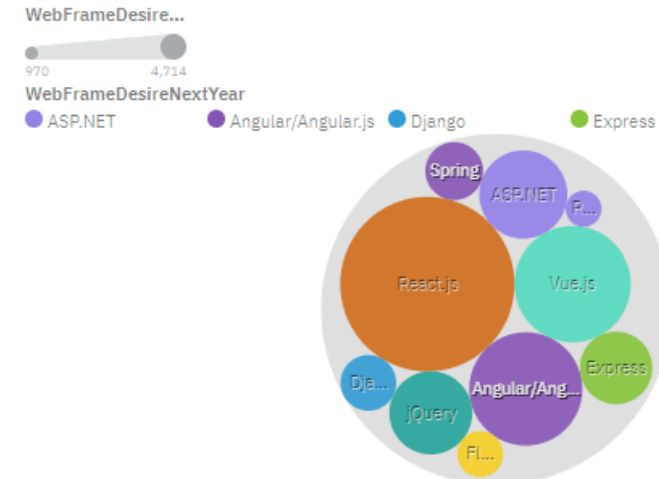
PlatformDesireNextYear



Top 10 DatabaseDesireNextYear



Top 10 Webframe Desire Next Year

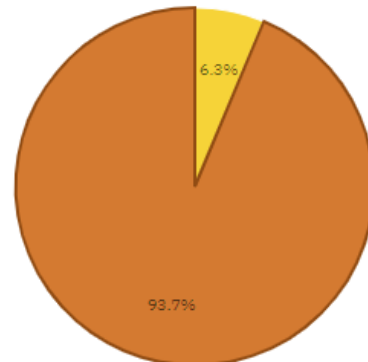


DASHBOARD TAB 3

Respondent classified by Gender

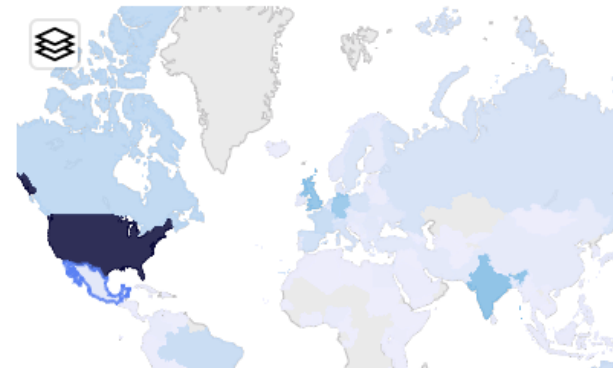
Gender

● Woman ● Man

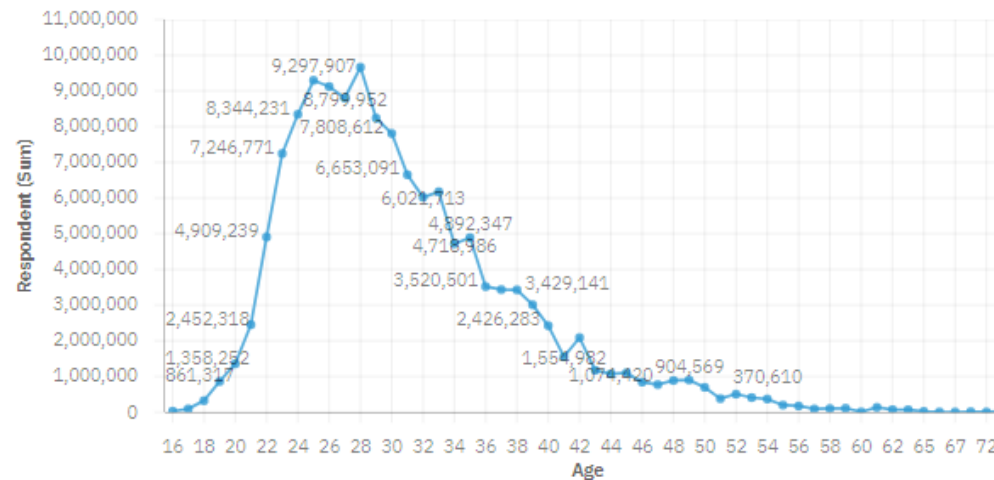


Respondent Count for Countries.

Respondent (Sum)
865 38,170,293



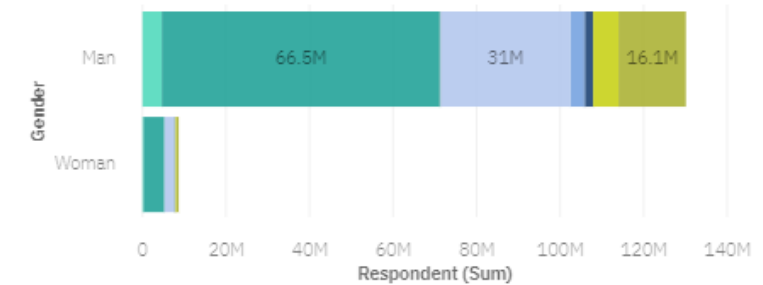
Respondent Count by Age



Respondent Count by Gender, classified by Formal Education Level

EdLevel

● Associate degree ● Bachelor's degree (BA, BS, B.E...
● I never completed any formal ... ● Master's degree (MA, MS, M.E...
● Other doctoral degree (Ph.D, E... ● Primary/elementary school



DISCUSSION



- %70 of respondent have Bachelor or Master degree
- Respondents are %93 male.
- Respondents are mostly at 23-30 years old. It seems that they are in professional life.

OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript and HTML protects positions in top5 list but they lose users.
- Docker gains popularity and rises to number 1 as a platform
- Windows lose seriously users and drops the from position 2 to position 4.

Implications

- Python has increasing trend with high job posting and average annual salary
- Respendent Country top 3 list have United States, India, United Kingdom
- Docker is expected to be more popular platform with Linux.
- React.js is greatly expanding of usage for highest position in Webframes.

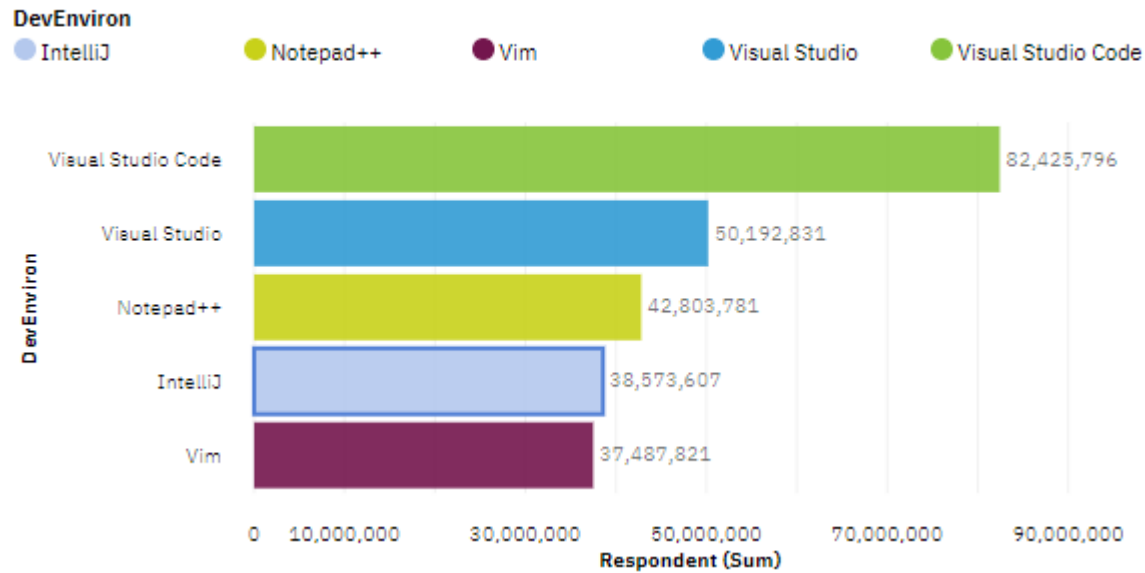
CONCLUSION



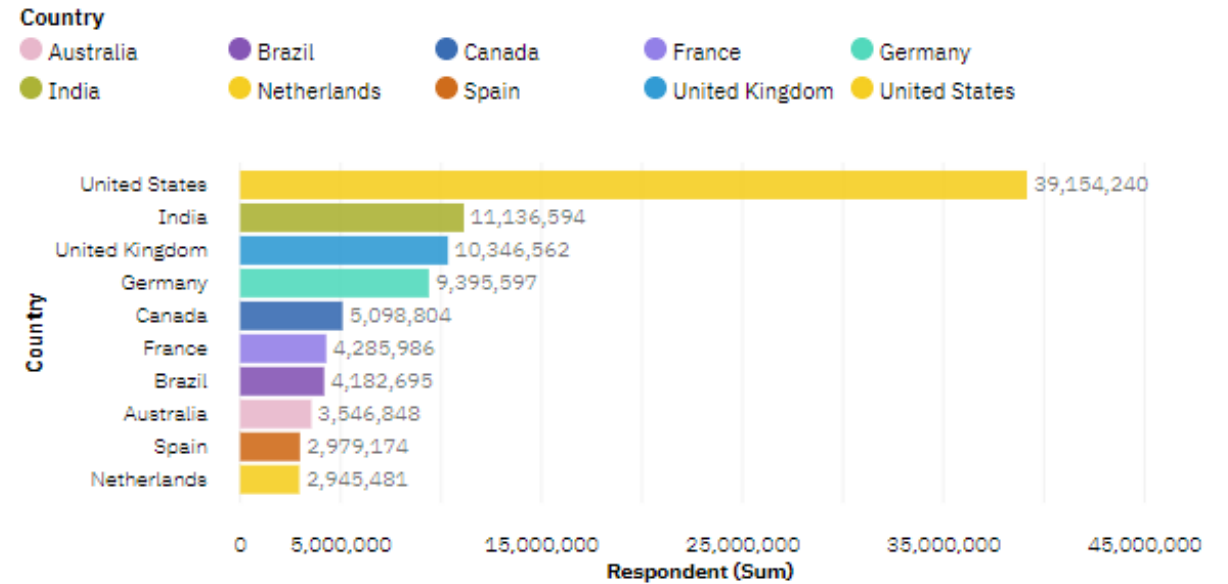
- Generally for all technologic areas, distribution of usage are being smooth and top3 positions products's user distributing to the lower products.
- Low ratio of female respondents and developers
- Swift is the highest average annual salary language but it is 15th position in list and is not in list of job posting.

APPENDIX

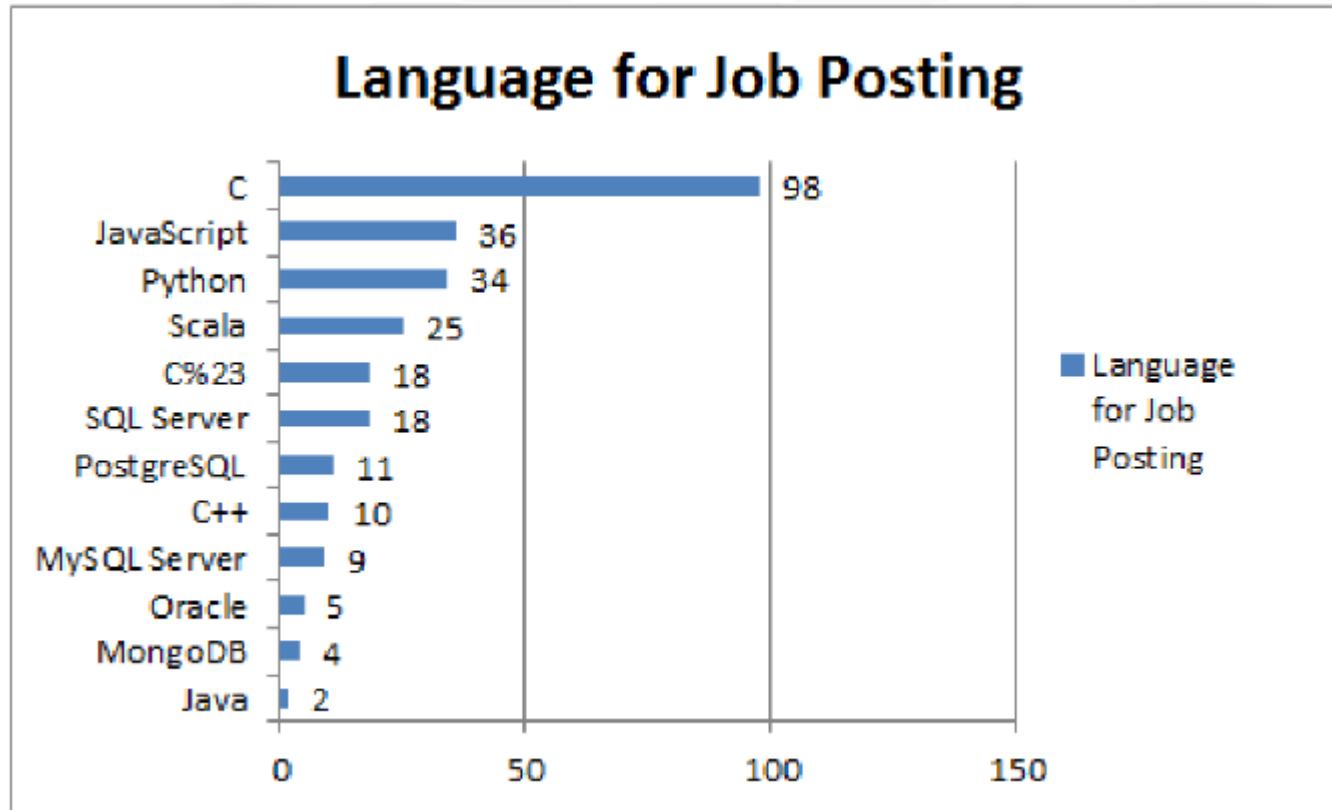
Top 5 Respondent - Development Environment



Top 10 Country Respondent Quantity



GITHUB JOB POSTINGS



POPULAR LANGUAGES

