



STACK OVERFLOW DEVELOPER SURVEY 2019

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OUTLINE



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

EXECUTIVE SUMMARY



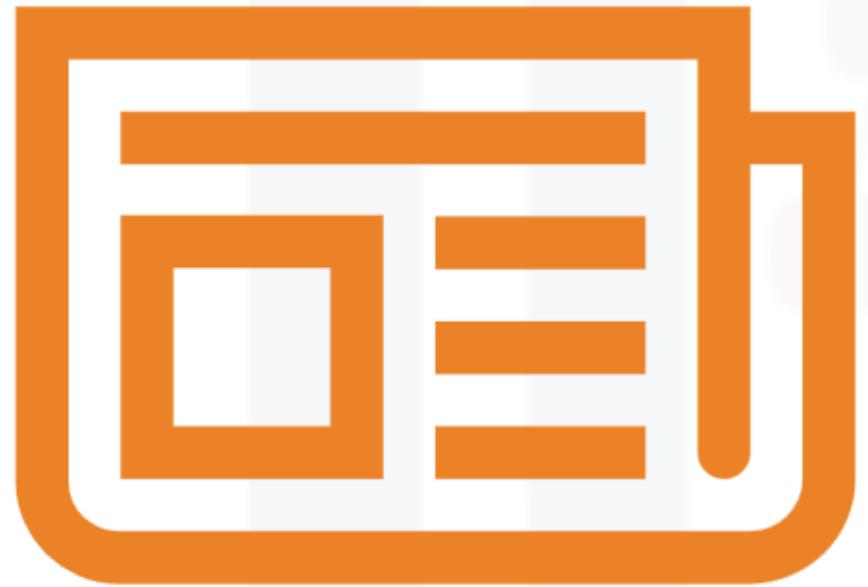
- Data contextualization and analysis goal.
- Methodology description.
 - Data gathering.
 - Data analysis.
 - Data visualizations.
- Results presentation supported with graphs and trends.
- Discussion of overall findings and implications regarding the results previously exposed.
- Final conclusions of the carried out research.

INTRODUCTION



- Stack Overflow's annual Developer Survey is the largest and most comprehensive survey of people who code around the world.
- Results don't represent everyone in the developer community evenly.
- Nearly 90,000 developers.
- Trends to predict where the developers are going.
- Characterization of developers around the globe.

METHODOLOGY



- **Collect survey data & explore its content**
 - Web Scraping
 - APIs.
 - Request library.
- **Data Wrangling**
- **Exploratory data analysis**
 - Analyzing data distribution.
 - Handling outliers.
 - Correlations.
- **Data Visualization**
 - Highlight distribution of data, relationships, the composition and comparison of data.
- **Dashboards**

INTRODUCTION



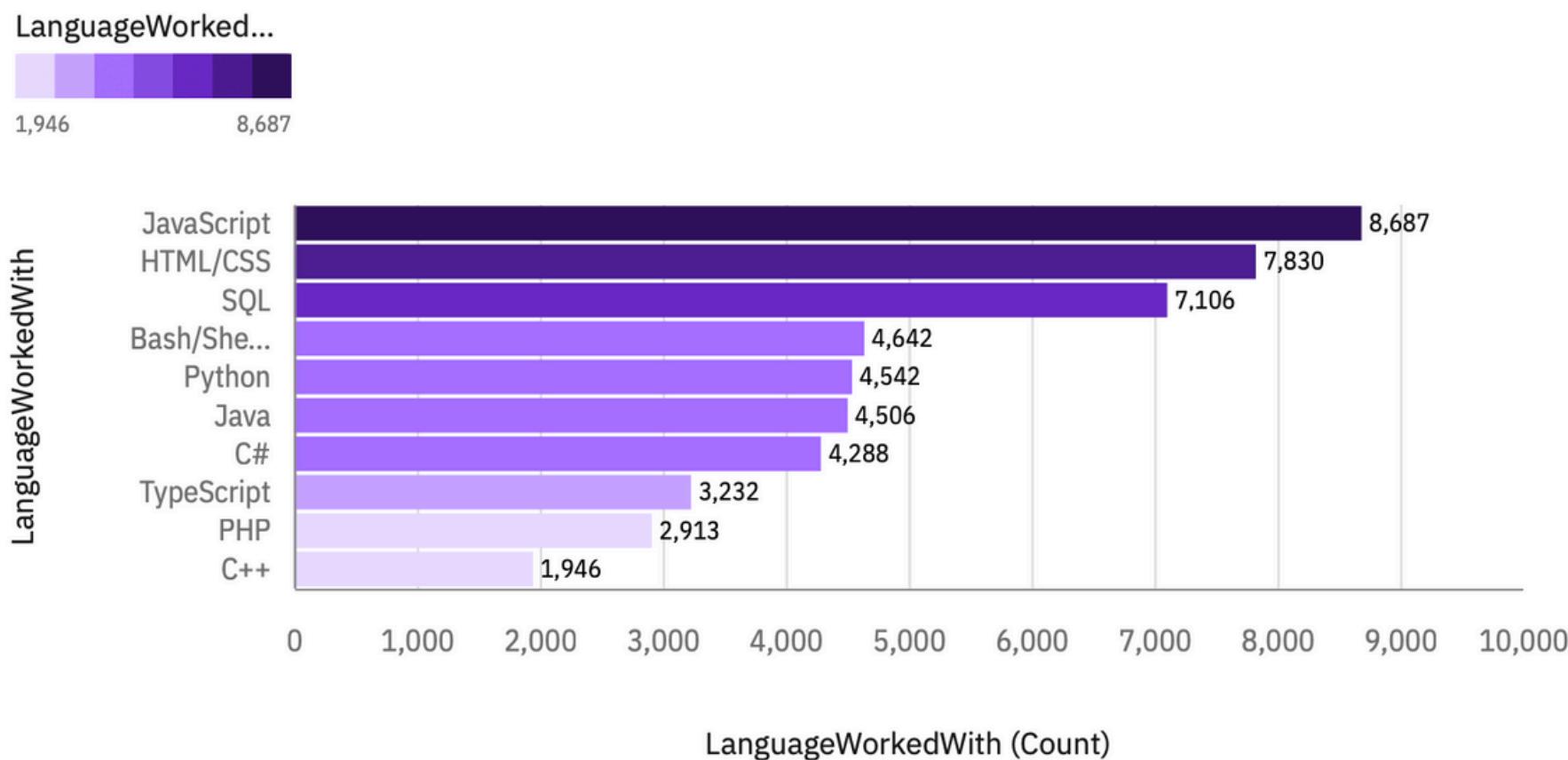
- Python overtakes Java, becoming the 5th most preferred language with significant growth. It stands as the fastest growing major programming language.
- JavaScript remains the most used programming language.
- JQuery is the most widely used among web frameworks, with React.js surpassing Angular in developer usage this year.
- Globally, men represent approximately 90% of respondents, with higher female representation among students than professional developers in regions like the US, India, and the UK.
- Around 3/4 of professional developers globally hold at least a bachelor's degree, aligning with past findings.
- 3/4 of survey respondents in professional developer roles are under 35 years old.

PROGRAMMING LANGUAGE TRENDS

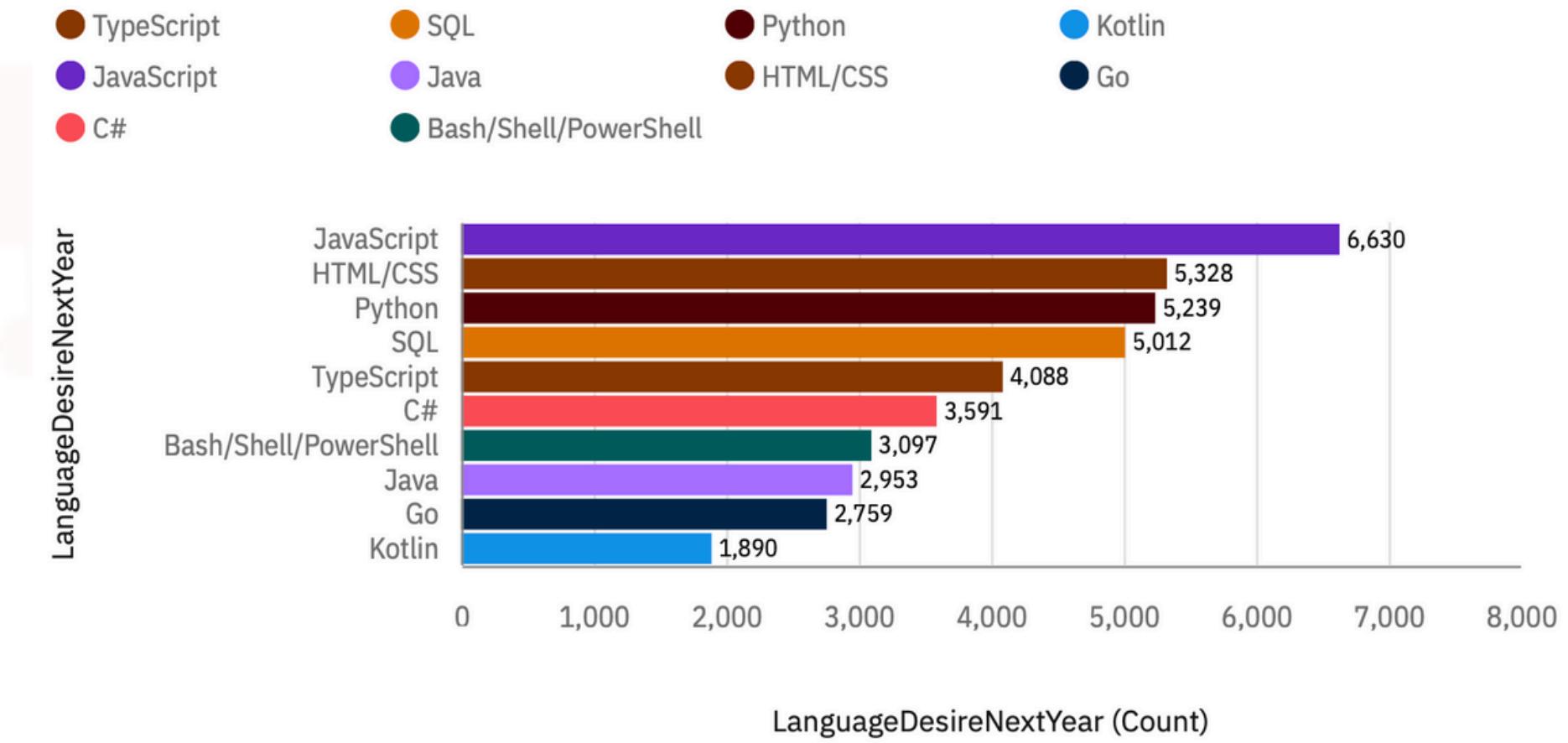
2019

Following Year

Top 10 Language Worked With



Top 10 Language Desire Next Year



PROGRAMMING LANGUAGE TRENDS

FINDINGS

- **JavaScript** and **HTML/CSS** emerge as the most used programming languages among all respondents
- **SQL** also maintains a significant presence.
- **Python** just edged out **Java** in overall ranking.

IMPLICATIONS

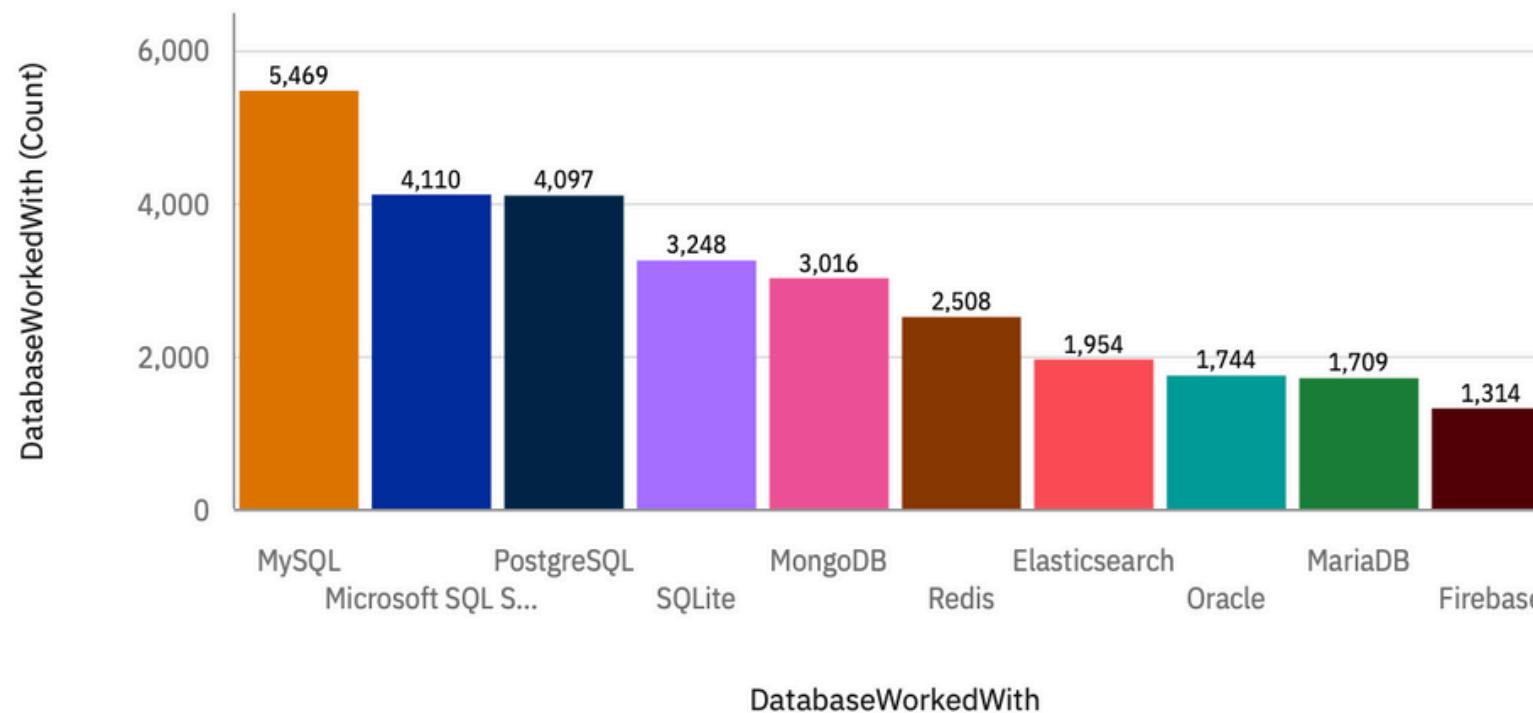
- The dominance of **JavaScript** and **HTML/CSS** in modern web development underscores their essential role, highlighting the importance for developers to master them.
- The high usage of **SQL** emphasizes the critical role of data management and querying in modern software applications, across both web and non-web environments.
- The rise of **Python** might also reflect its versatility and ease of use, attracting developers across various domains from data science to software development.

DATABASE TRENDS

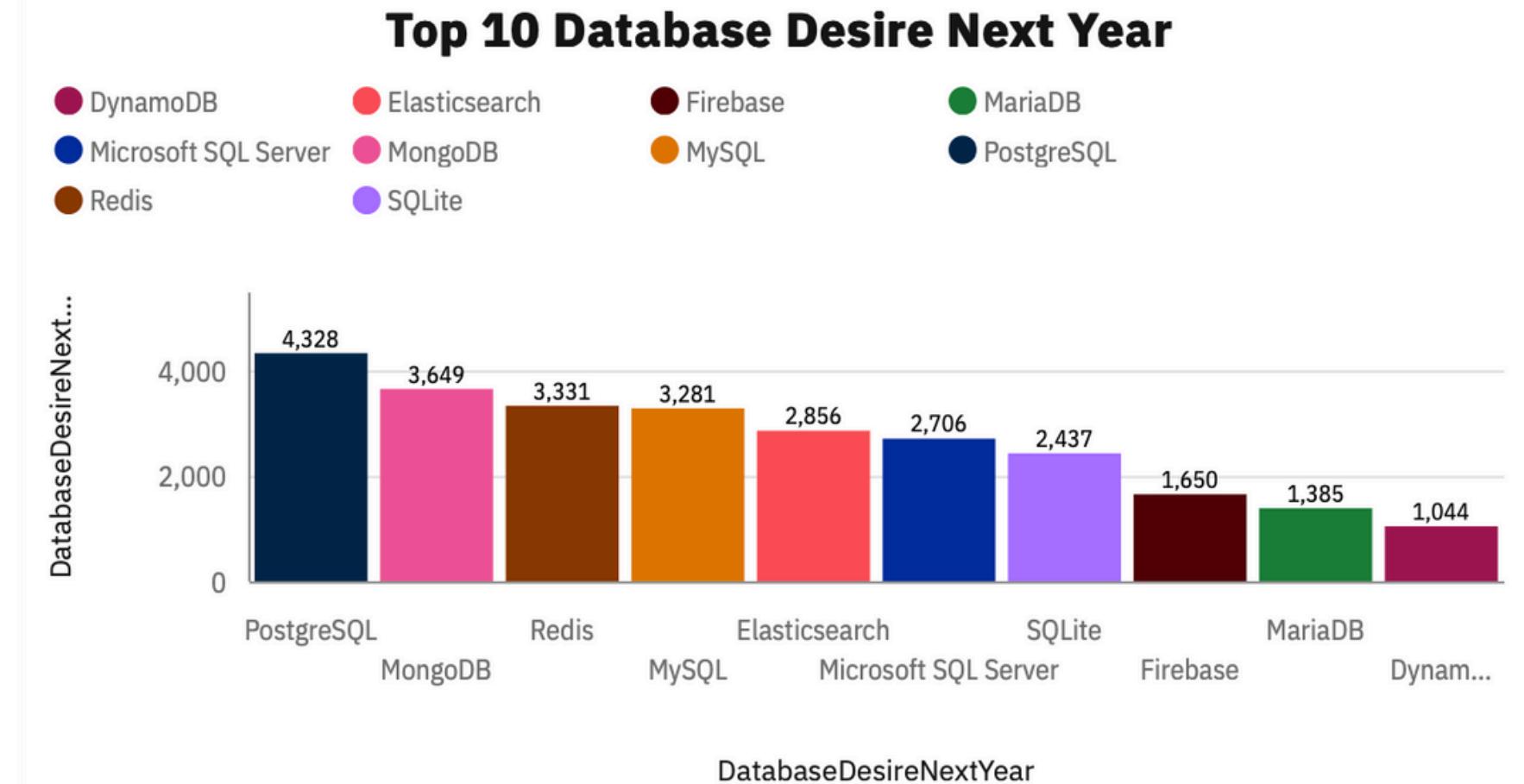
2019

Following Year

Top 10 Database Worked With



Top 10 Database Desire Next Year



DATABASE TRENDS

FINDINGS

- MySQL leads as the most used DBMS among all respondents.
- PostgreSQL and Microsoft SQL Server follow closely behind MySQL.
- MongoDB ranks as the top NoSQL database.

IMPLICATIONS

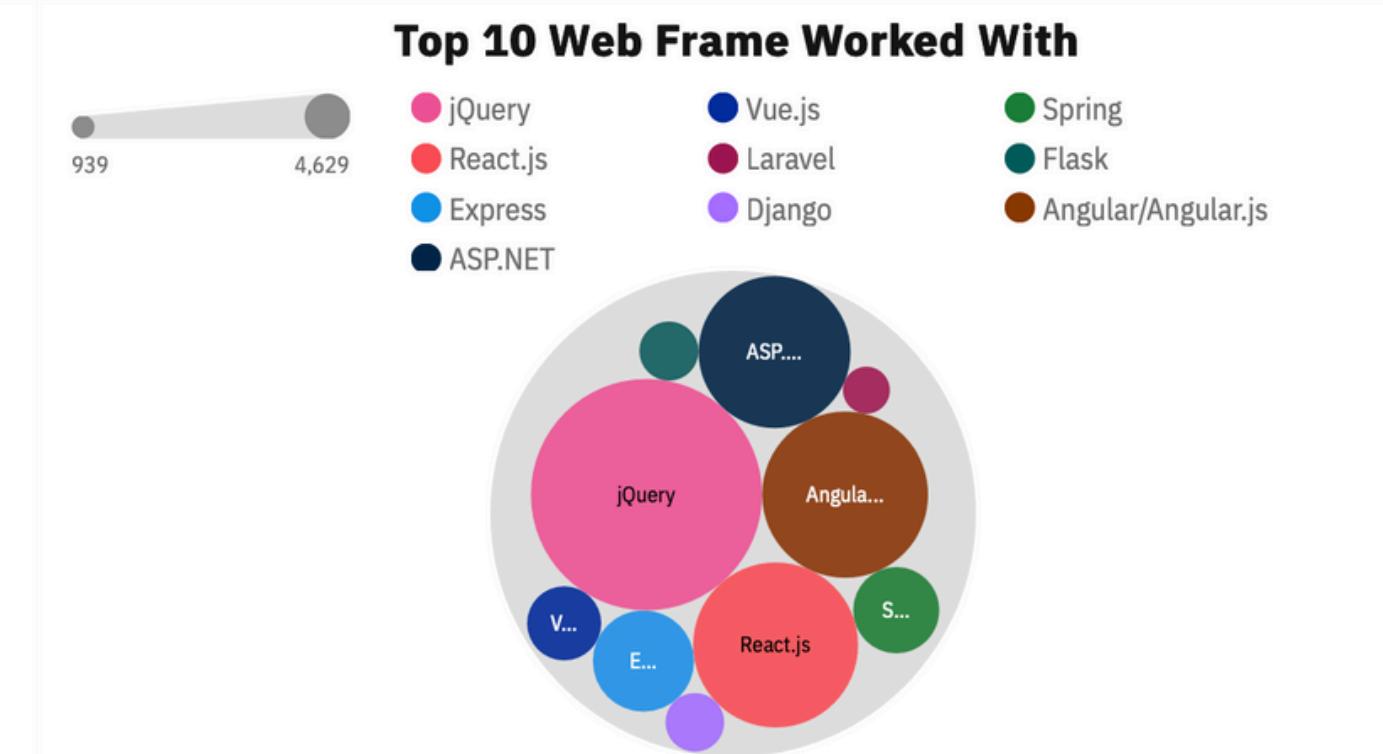
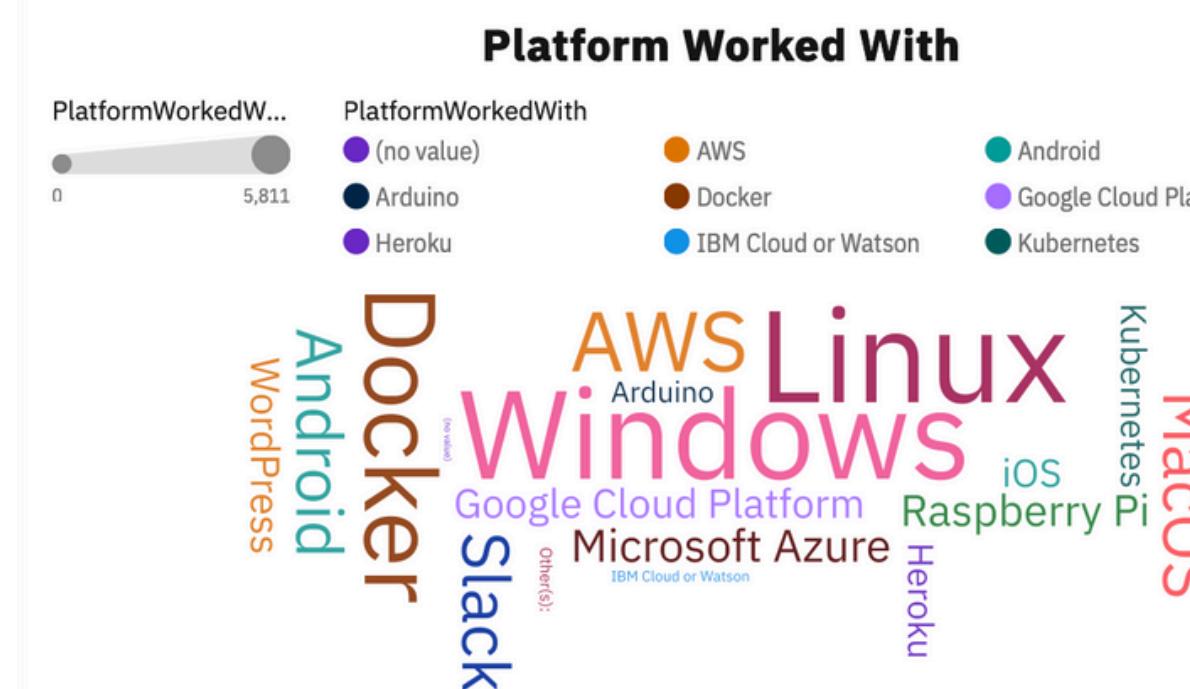
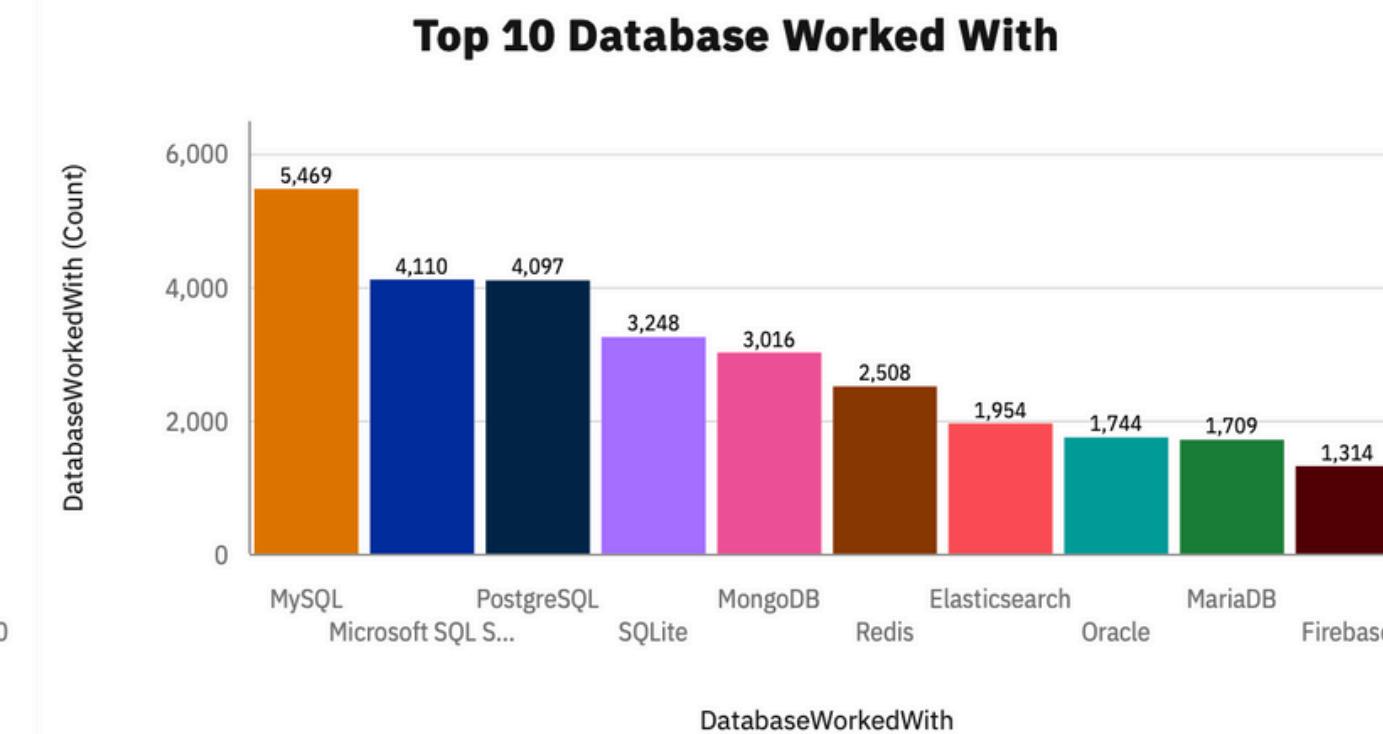
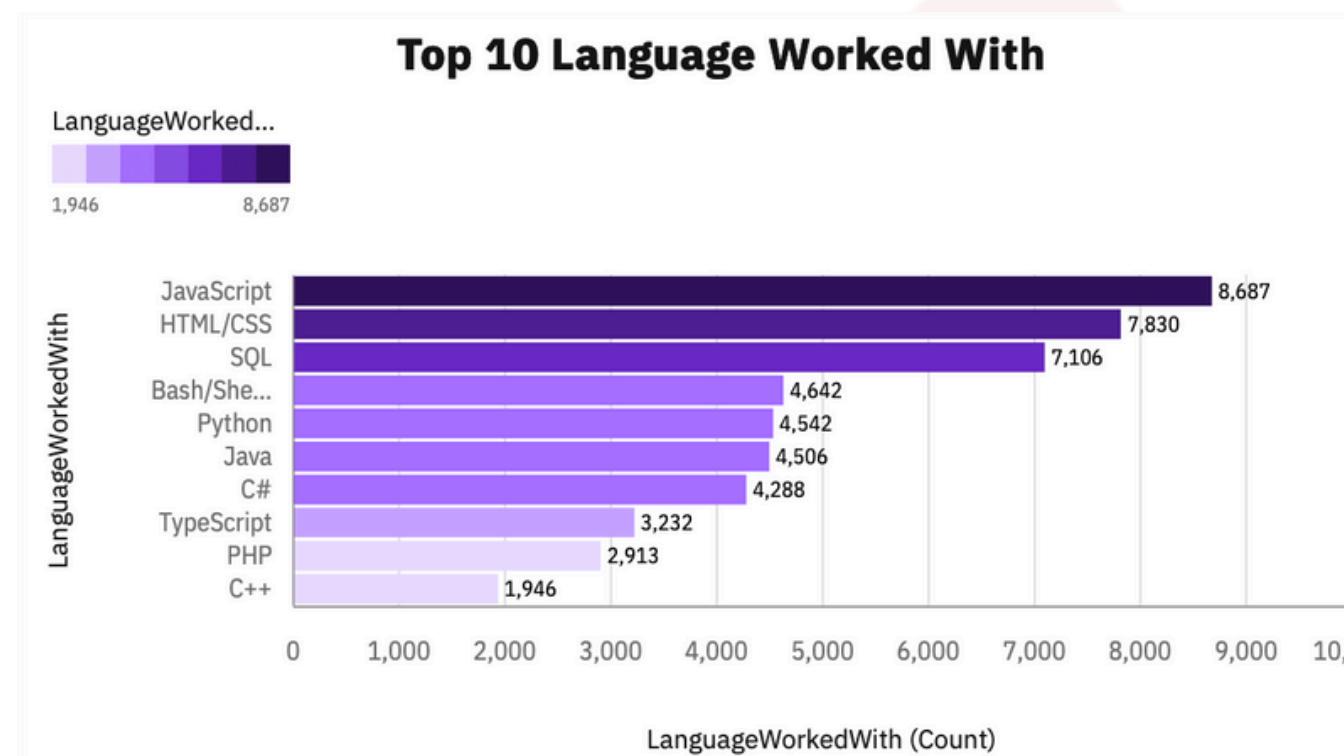
- The popularity of MySQL, PostgreSQL, and Microsoft SQL Server highlights the importance of relational databases in various applications.
- The high usage of MongoDB shows the growing trend towards NoSQL databases for flexible data models and scalability in modern web and mobile apps.
- The variety of database systems used by developers emphasizes the need to choose the right tool based on data structure, scalability, and performance.

DASHBOARD

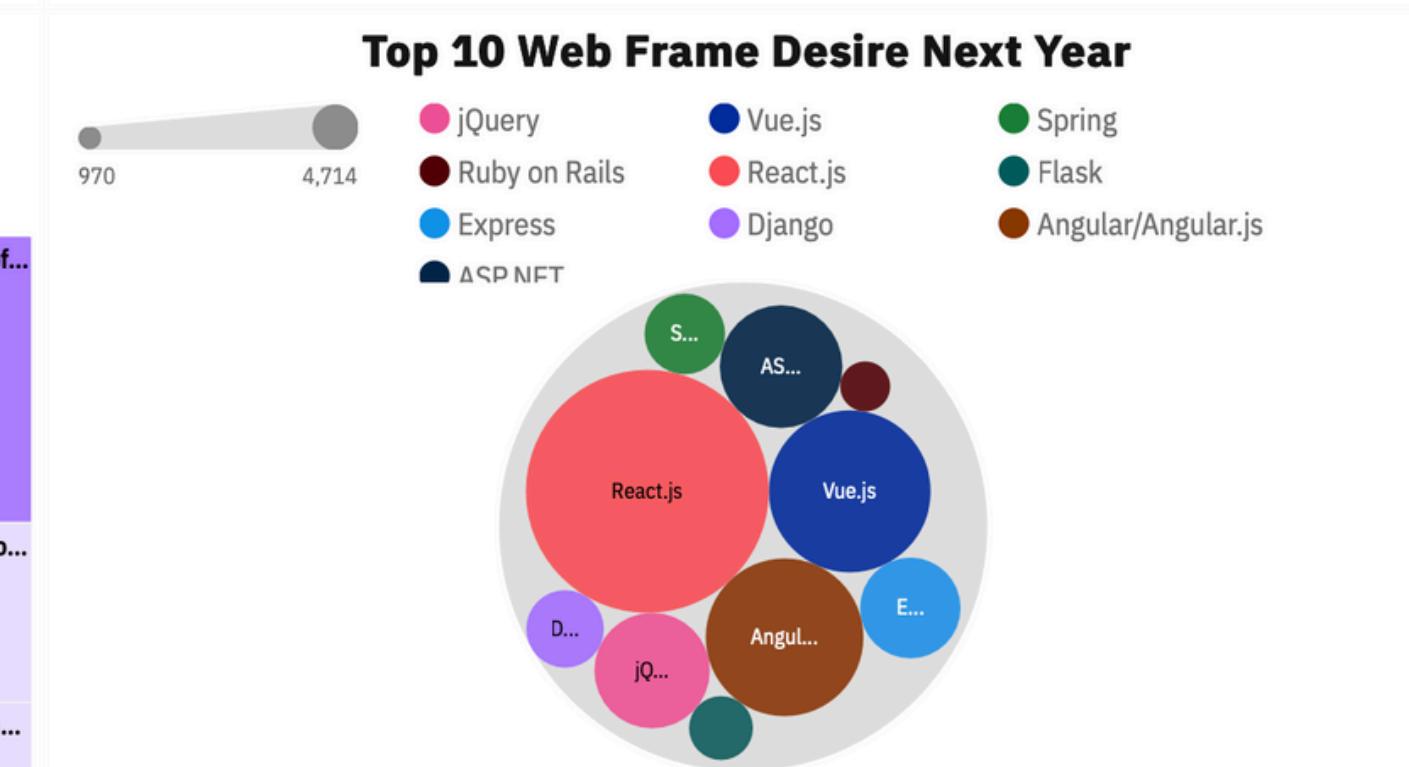
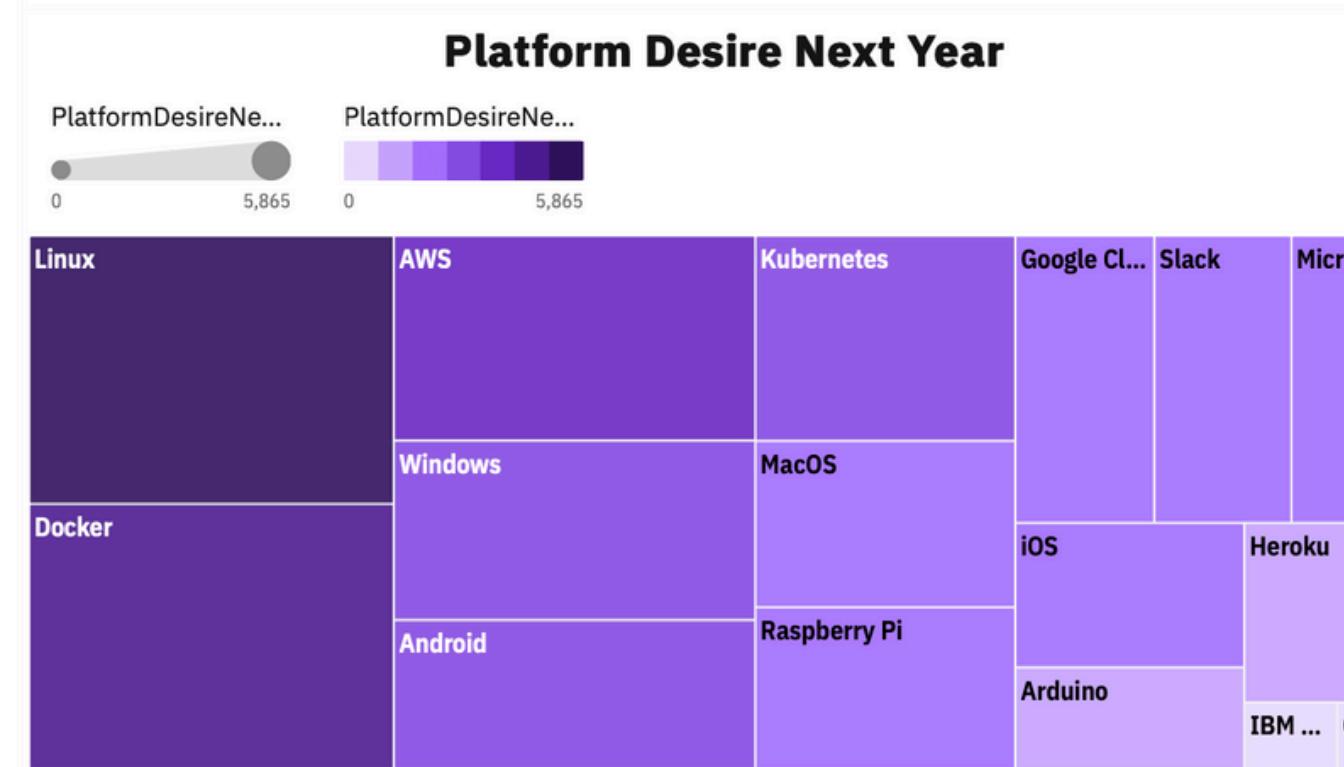
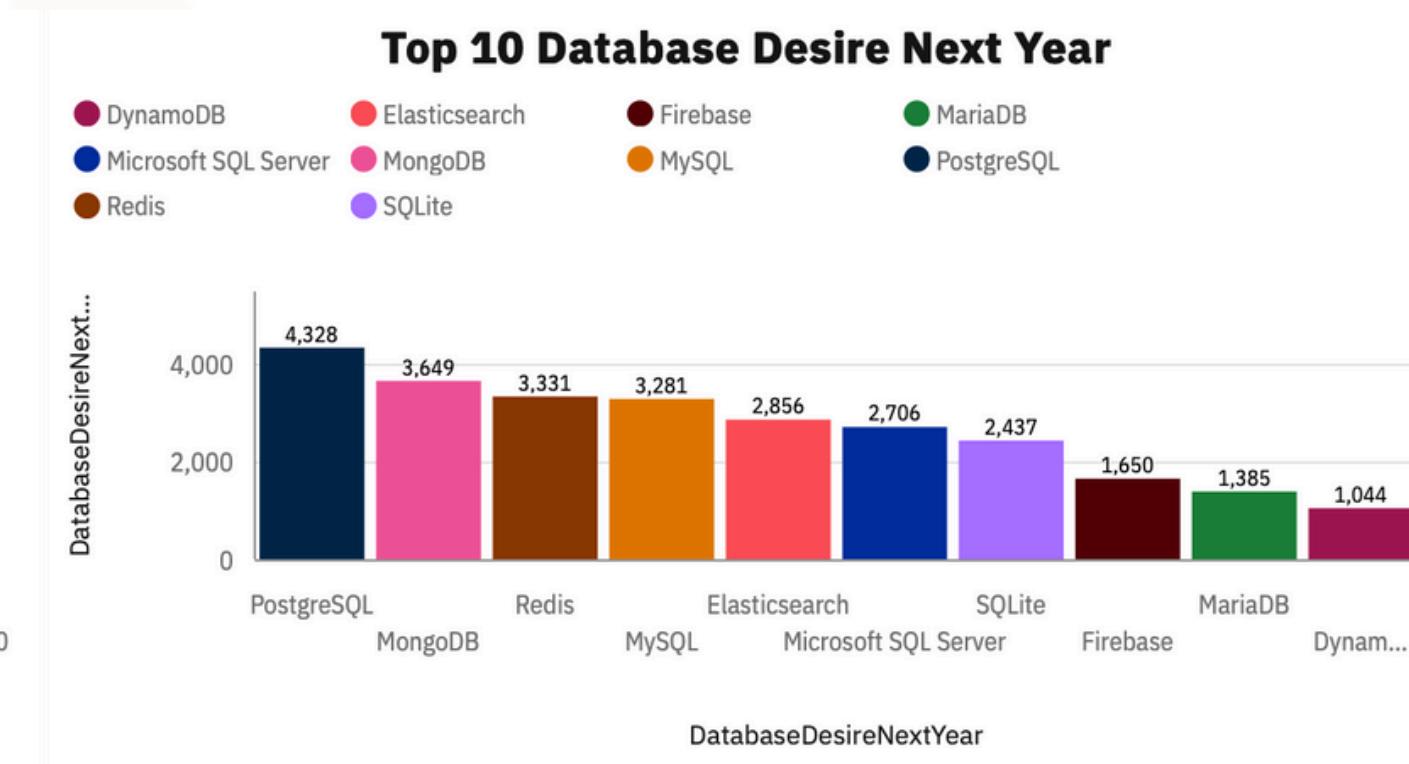
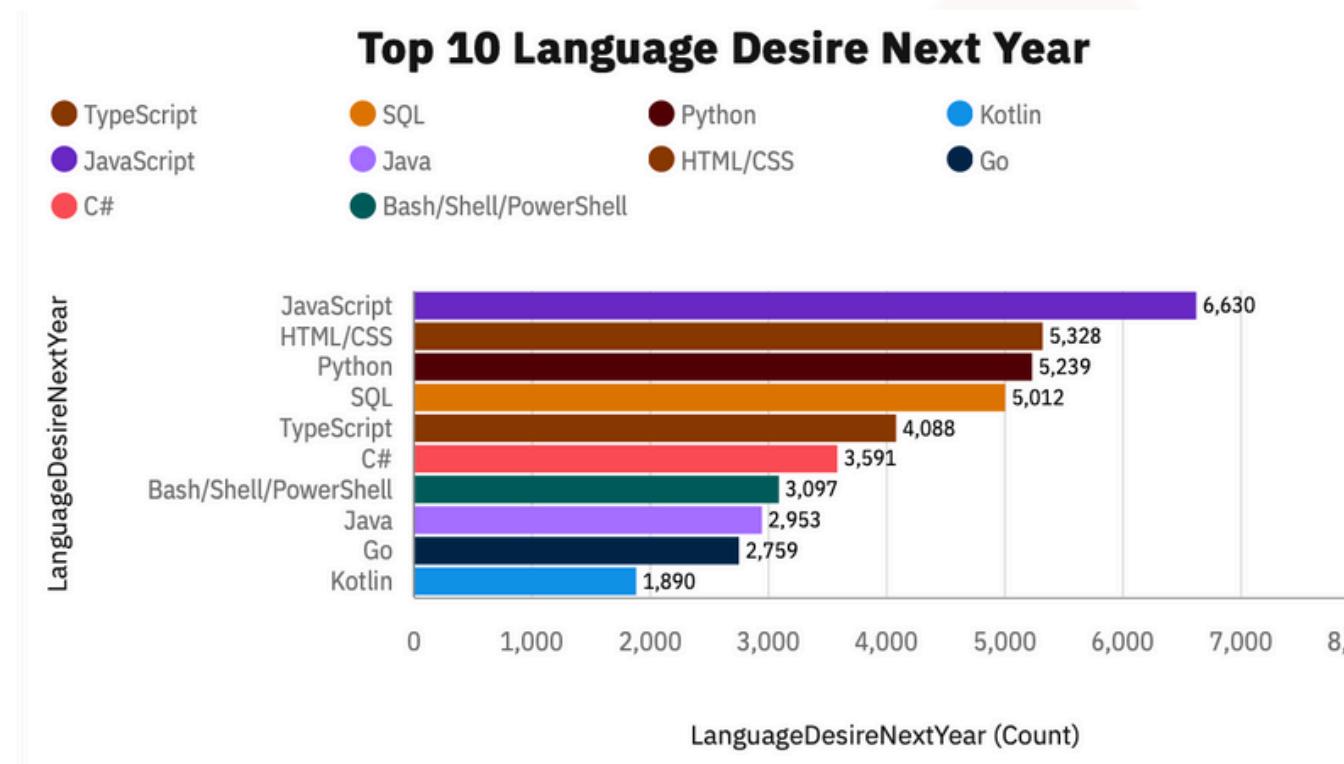


[My dashboard link](#)

CURRENT TECHNOLOGY USAGE

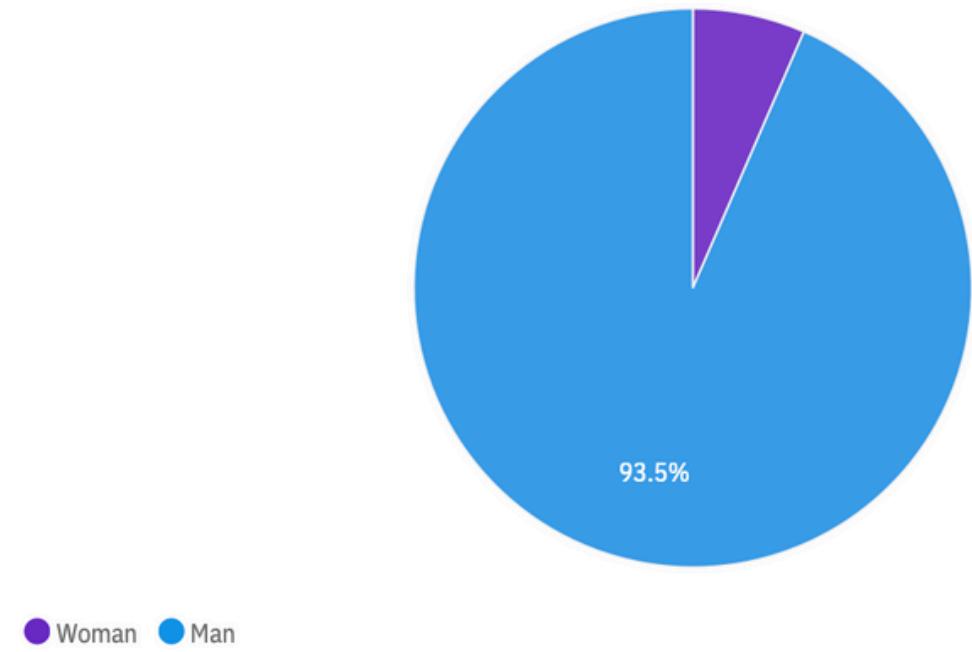


FUTURE TECHNOLOGY TREND

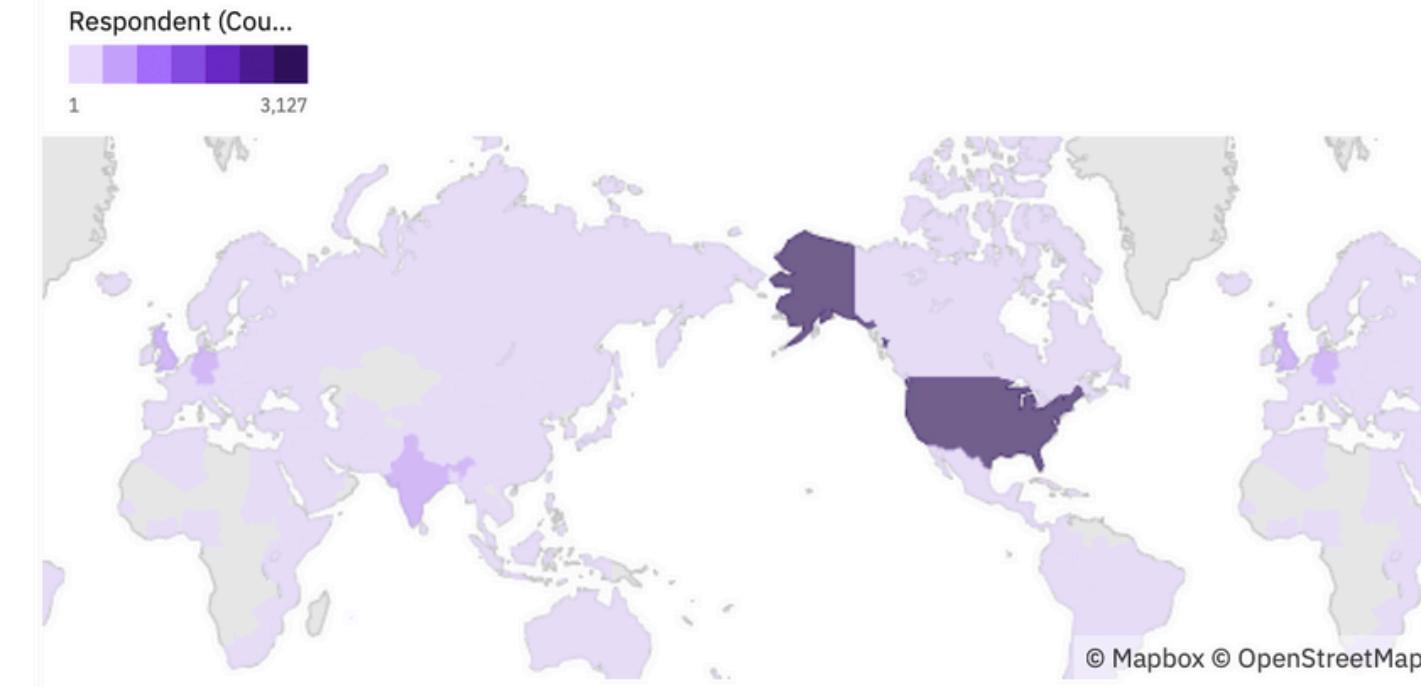


DEMOGRAPHICS

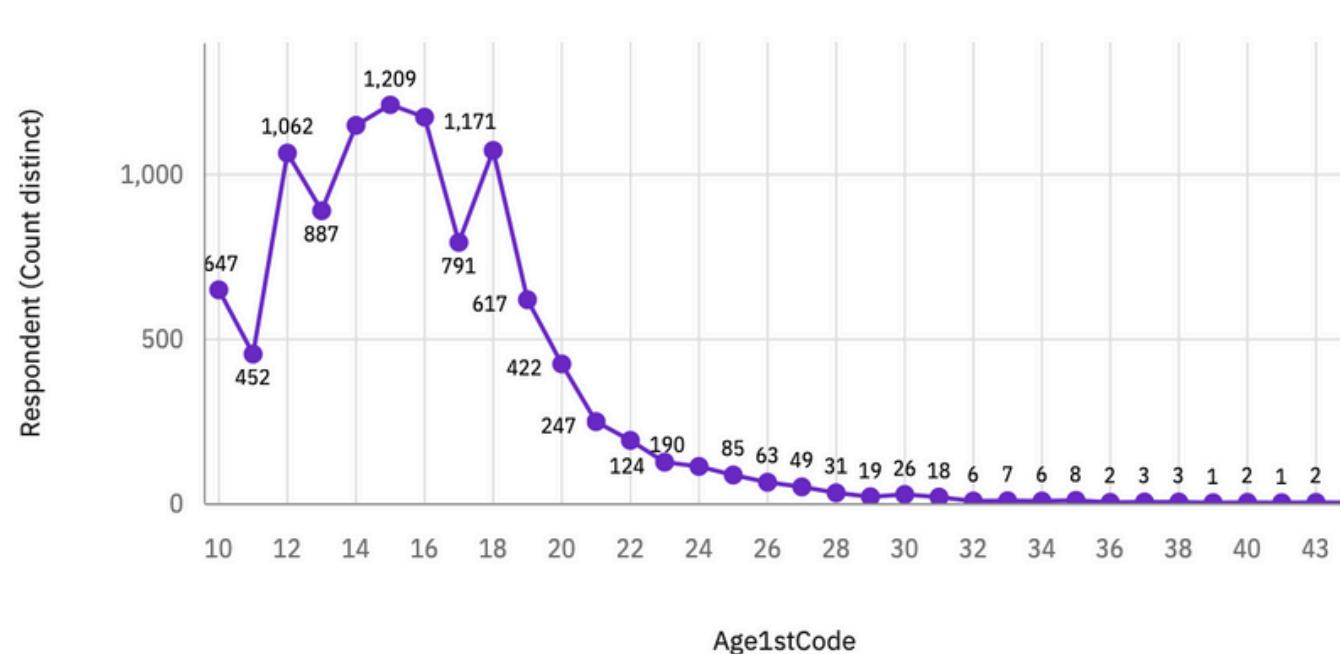
Respondent classified by Gender



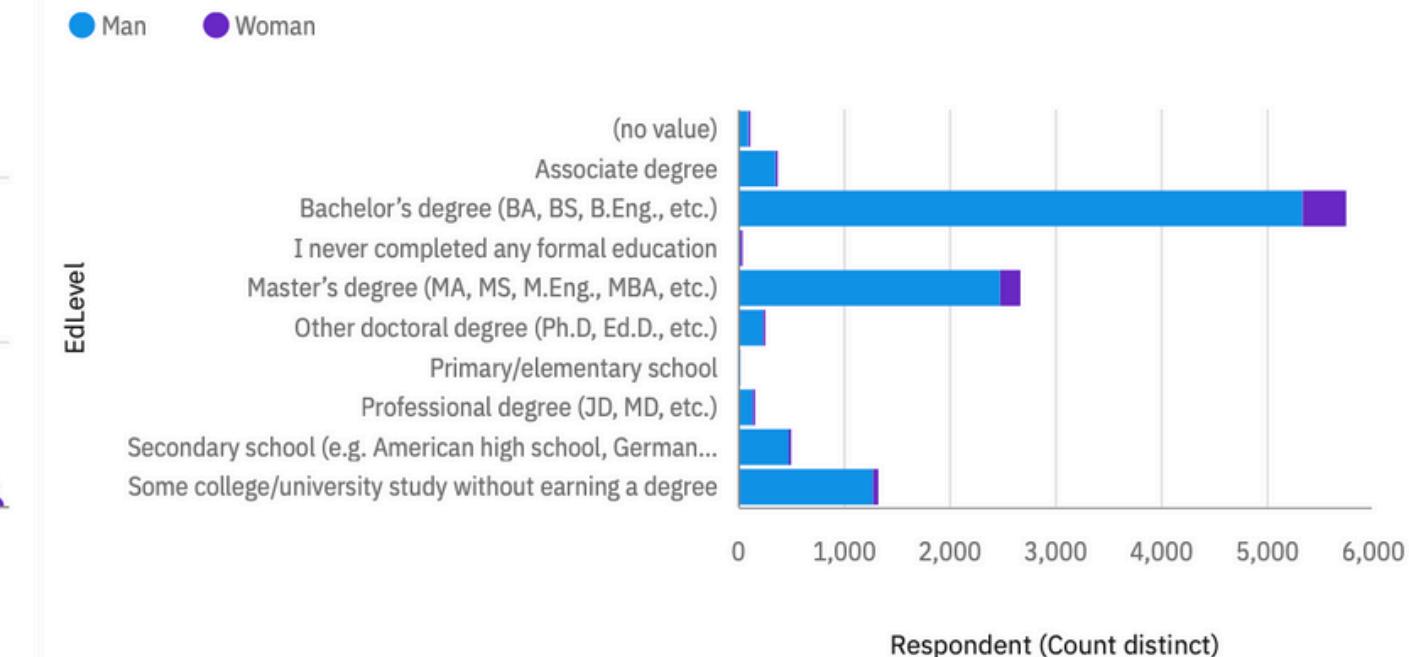
Respondent Count for Countries



Respondent Count by Age



Respondent Count by Gender and Formal Education Level



DISCUSSION



- The dominance of JavaScript and HTML/CSS and the adoption of MySQL as the leading database management system.
- Highlights the central role of web development in the programming landscape.
- Opens up discussions on the significance of client-side scripting and styling, trends in web development frameworks, and the evolving nature of web technologies

OVERALL FINDINGS & IMPLICATIONS

FINDINGS

- **JavaScript** widely used and **TypeScript** getting popular.
- Over 90% young **male** developers.
- Developers mostly located in **developed countries**.

IMPLICATIONS

- **JavaScript and TypeScript** web frames gaining followers.
- Global polarization of developers location and gender.
- Young developers **without postgrad studies** on its majority.

CONCLUSION

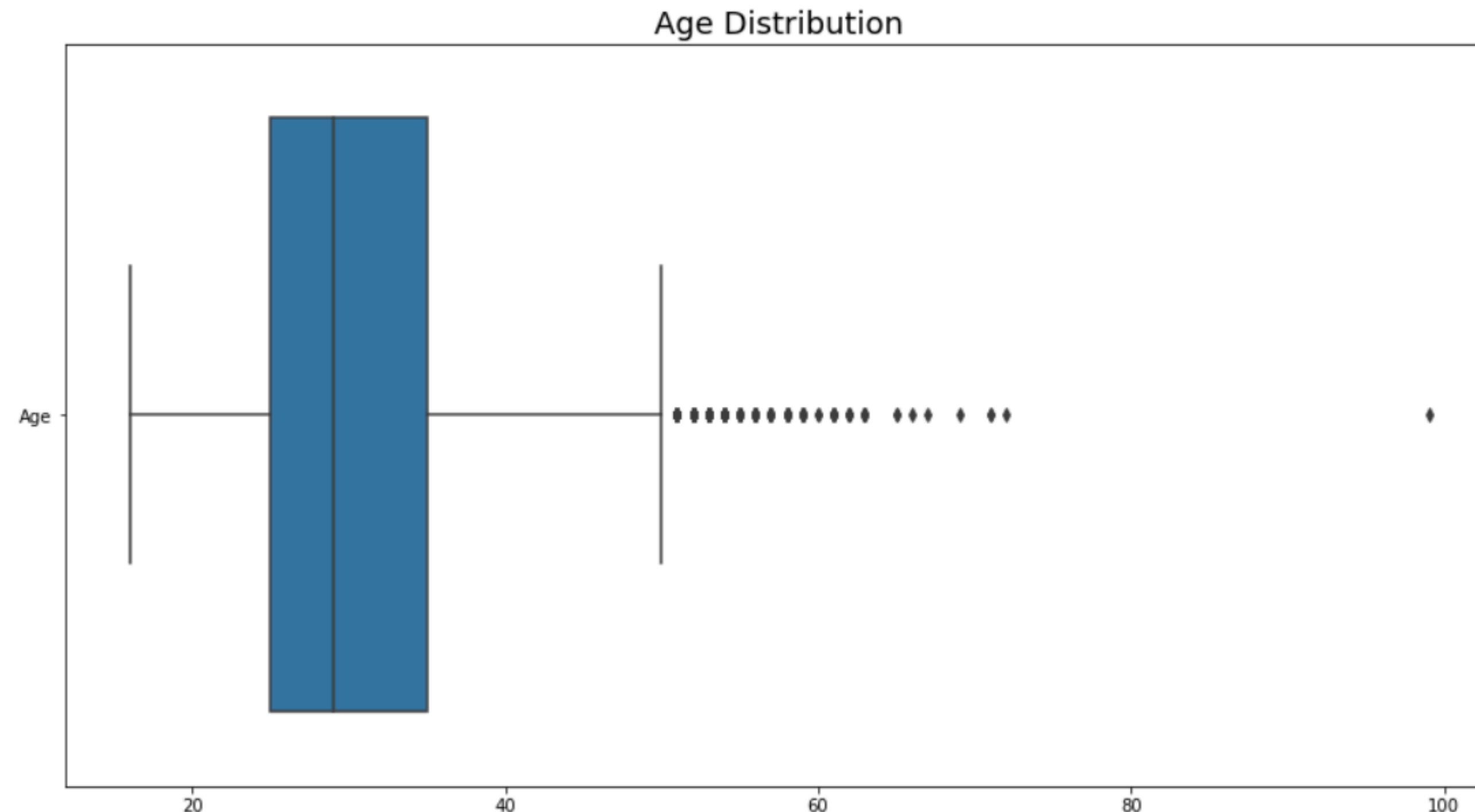


- Developers are people with very marked characteristics.
- A good idea of popularity trends of different tools, platforms and languages can be obtained.
- There is a job to be done to spread accessibility of this labor market to countries in development.

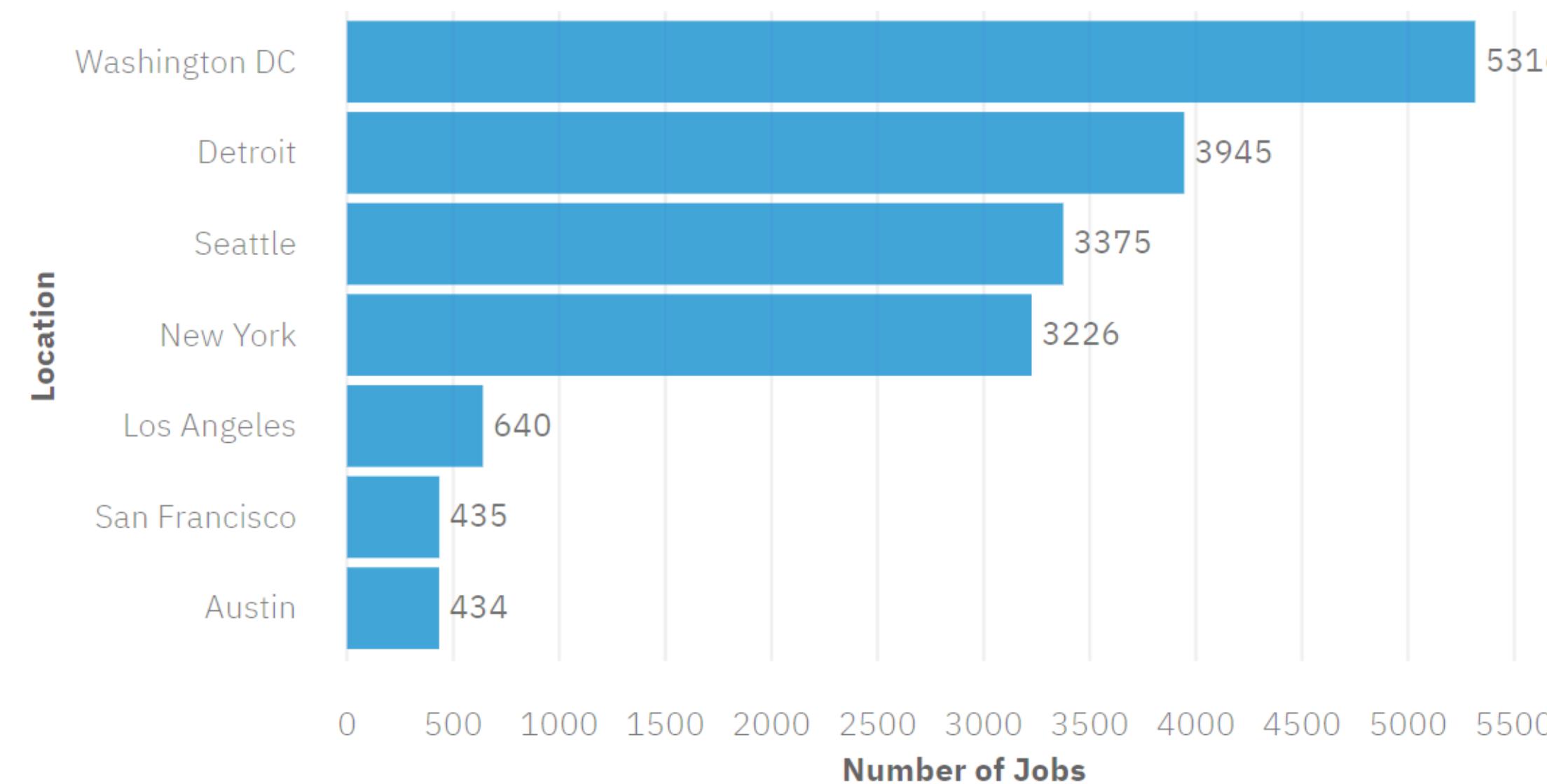
APPENDIX



AGE DISTRIBUTION BOXPLOT



JOB POSTINGS



POPULAR LANGUAGES

