



Technology Trends from the 2019 Stack Overflow Developer Survey

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May 28, 2024

OUTLINE



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EXECUTIVE SUMMARY



- Top Coding Languages used by Developers
 - JavaScript, HTML/CSS, SQL, Bash/Shell/PowerShell, and Python
- Top Databases Developers Used
 - MySQL, Microsoft SQL Server, PostgreSQL, SQLite, and MongoDB
- Popular Platforms
 - Windows, Linux, AWS, Docker, and MacOS
- Most Used WebFrames
 - JQuery, Angular/Angular.js, React.js, ASP.net, and Express
- Future 2020 Trends
 - Python and Typescript will move up in coding languages used
 - React, Angular, Vue.js will beat out JQuery in WebFrames usage

INTRODUCTION



- Stack Overflow's annual Developer Survey is the largest and most comprehensive survey of people who code around the world
- The 2019 Stack Overflow survey was conducted globally, and nearly 90,000 developers participated.
- Technology is ever-changing, but from the Stack Overflows survey, you can see clear trends
- These insights can help shed light on the current and future landscape areas like coding language, platforms, web
- Let's examine some of the significant discoveries

METHODOLOGY



- The Stack Overflow survey was conducted from January 23 to February 14, 2019
- This data set is based on a survey of 88,883 software developers from 179 countries around the world.
 - Approximately 400 responses were submitted but not included in the analysis because respondents spent less than three minutes on the survey.
- Data wrangling and cleaning techniques were used to make the dataset useful for analysis
- Statistical techniques were applied using Python and two datasets on Technology Trends and Developer Demographics were uploaded to IBM Cognos Analytics to develop charts and dashboards

RESULTS

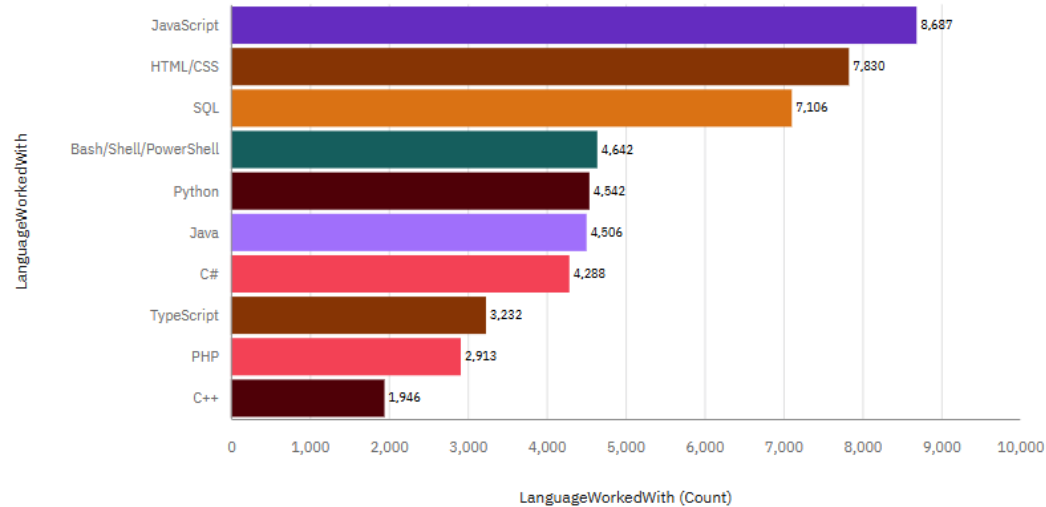


- Python has surpassed Java to become the 5th most preferred language, experiencing significant growth. During the survey, it was the fastest-growing programming language.
- jQuery was the most widely used web framework, but in the next year, React.js surpassed Angular in developer usage.
- Around 75% of professional developers globally have at least a bachelor's degree. While more than 80% of survey respondents in developer roles are under 40 years old.
- Over 90% of the survey's respondents were male

PROGRAMMING LANGUAGE TRENDS

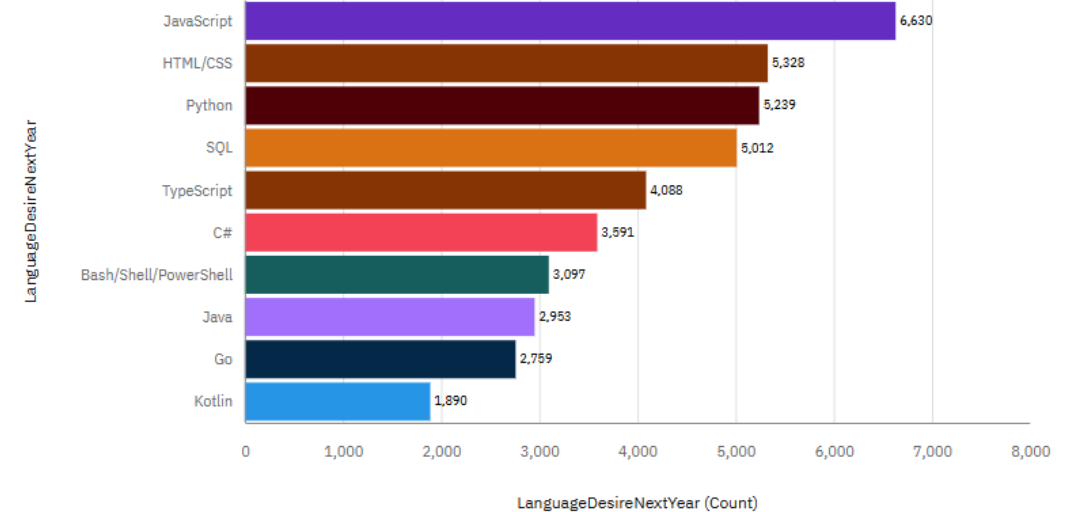
Current Year

Top 10 Languages Worked With



Next Year

Top 10 Languages Desired Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript, HTML/CSS, remain the top languages
- Python and Typescript have one the most significant moves in popularity
- SQL is undeniably a crucial programming language

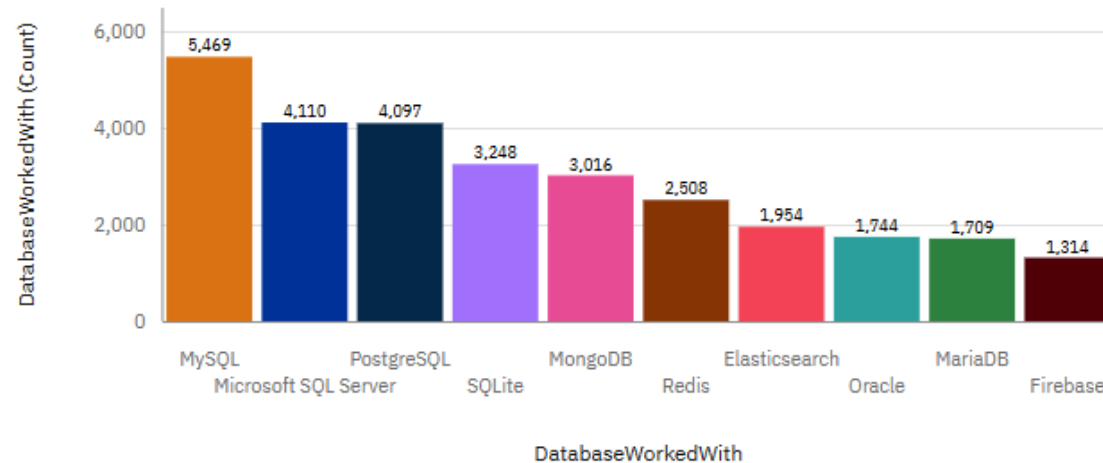
Implications

- JavaScript, HTML/CSS, and SQL are essential languages for developers, highlighting the significance of mastering them.
- Python, the swiftly expanding programming language worldwide, is the ideal choice for diverse software solutions thanks to its high-level, interpreted, and object-oriented architecture
- Since TypeScript excels in creating robust, multi-page applications and websites it is becoming more widely used

DATABASE TRENDS

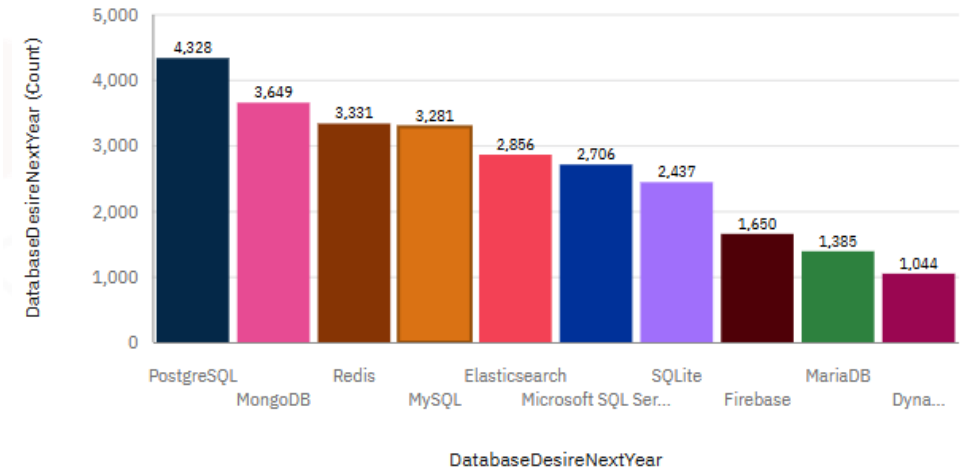
Current Year

Top 10 Databases Worked With



Next Year

Top 10 Databases Desired Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

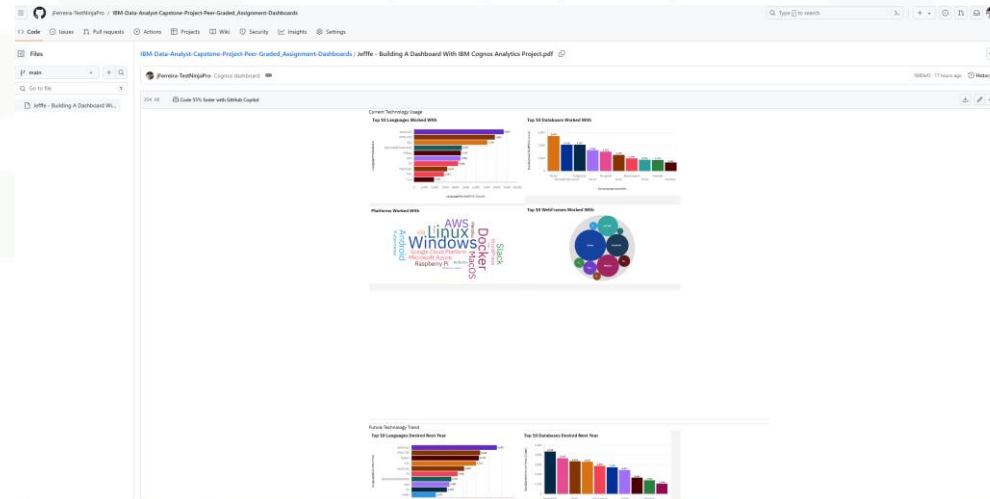
- In 2019 MySQL is the most frequently occurring database with almost 19 % of the total
- In 2020 PostgreSQL, MongoDB, and Redis will beat out MySql in usage
- Developers are increasingly embracing MongoDB, the open-source NoSQL DBMS, due to its growing popularity.

Implications

- MySQL with almost 41% market share in Relational Databases
 - [Database Market Findings](#)
- The enduring popularity of relational databases is clearly illustrated in the top 10 rankings on both charts
- Developers like MongoDB for its user-friendly interface, while enterprises use it to address various needs, such as creating a unified view from scattered enterprise data using its document data model.

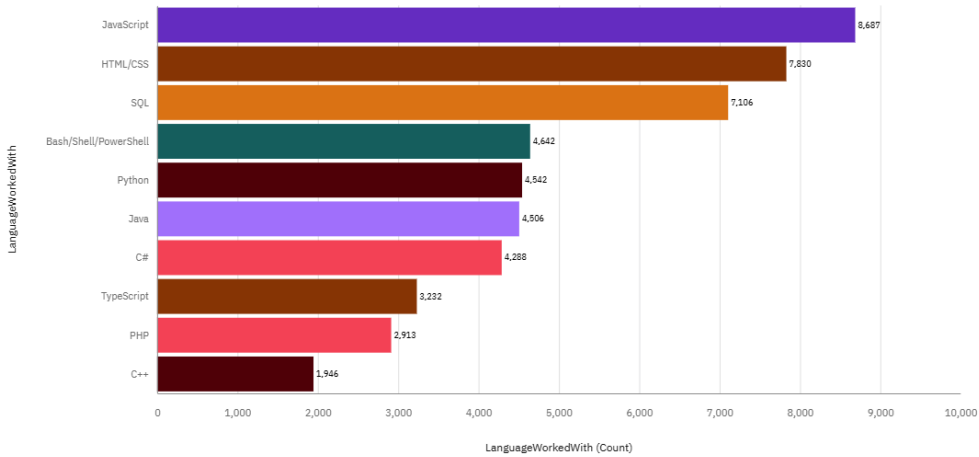
DASHBOARD

The GitHub link to my Cognos dashboard is [here](#)

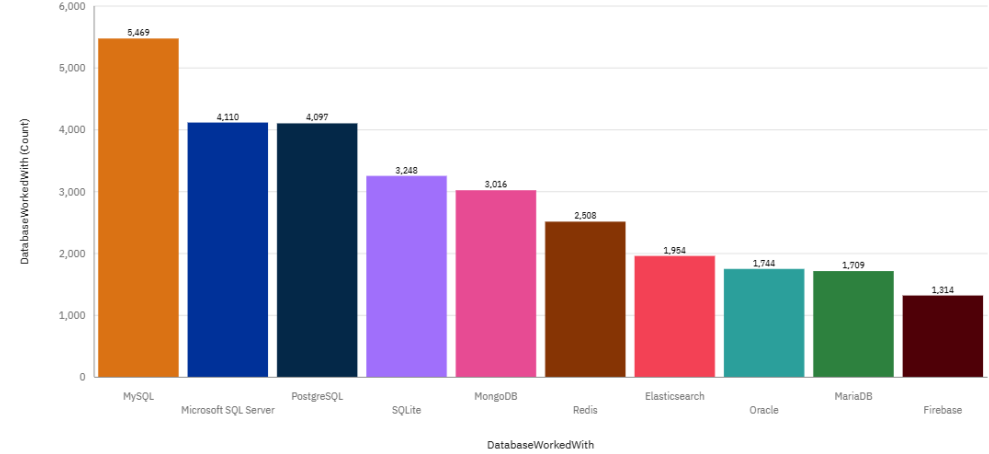


DASHBOARD | CURRENT TECHNOLOGY USAGE

Top 10 LanguageWorkedWith



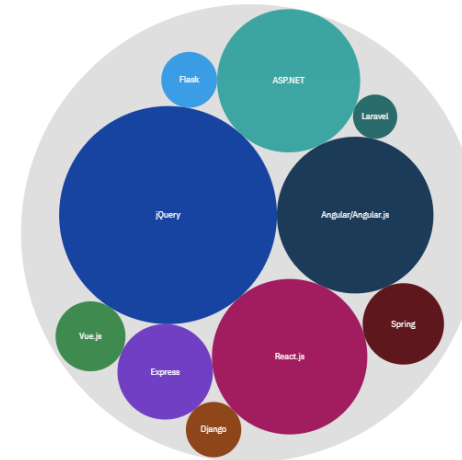
Top 10 DatabaseWorkedWith



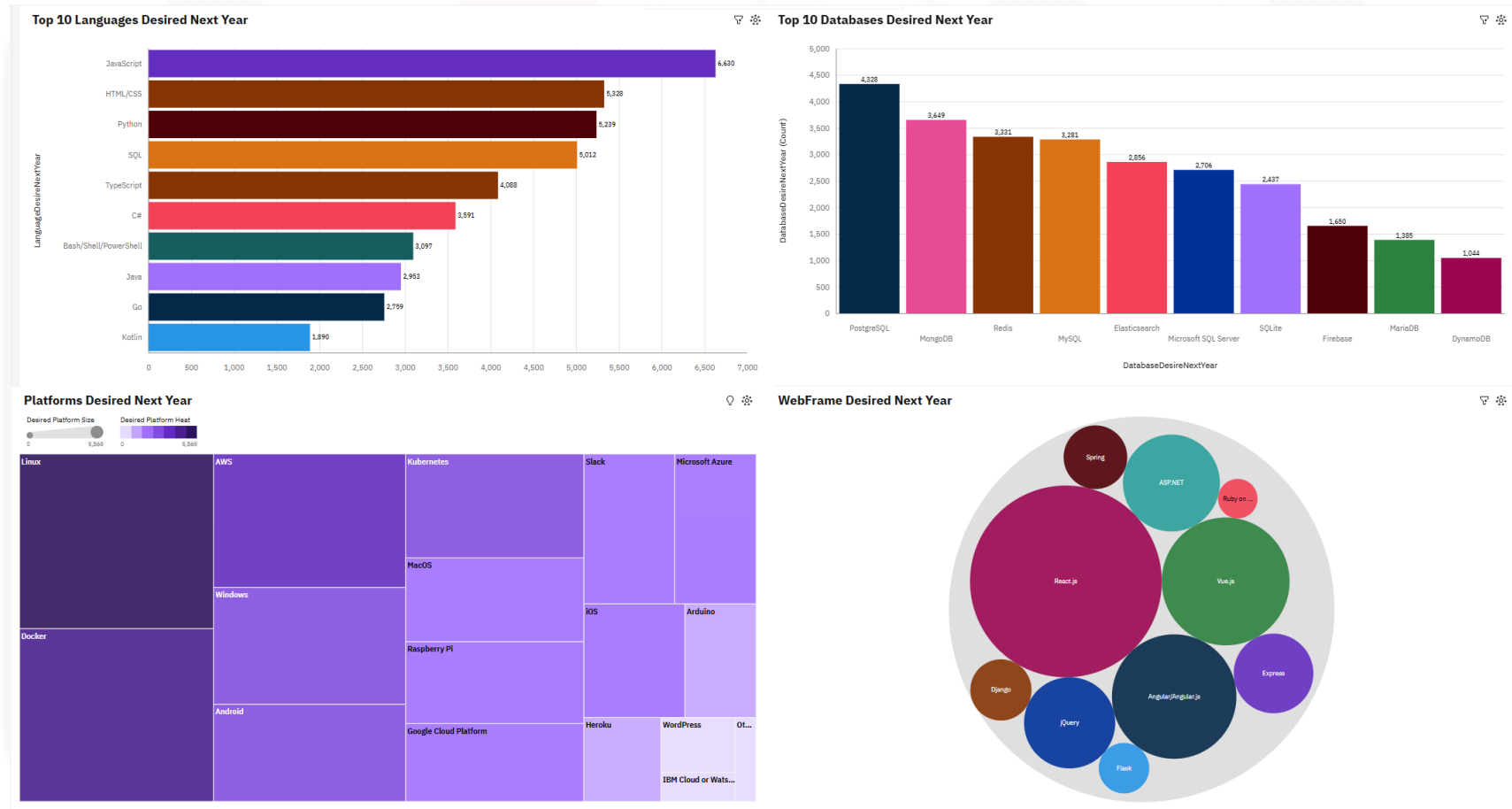
Platforms Worked With



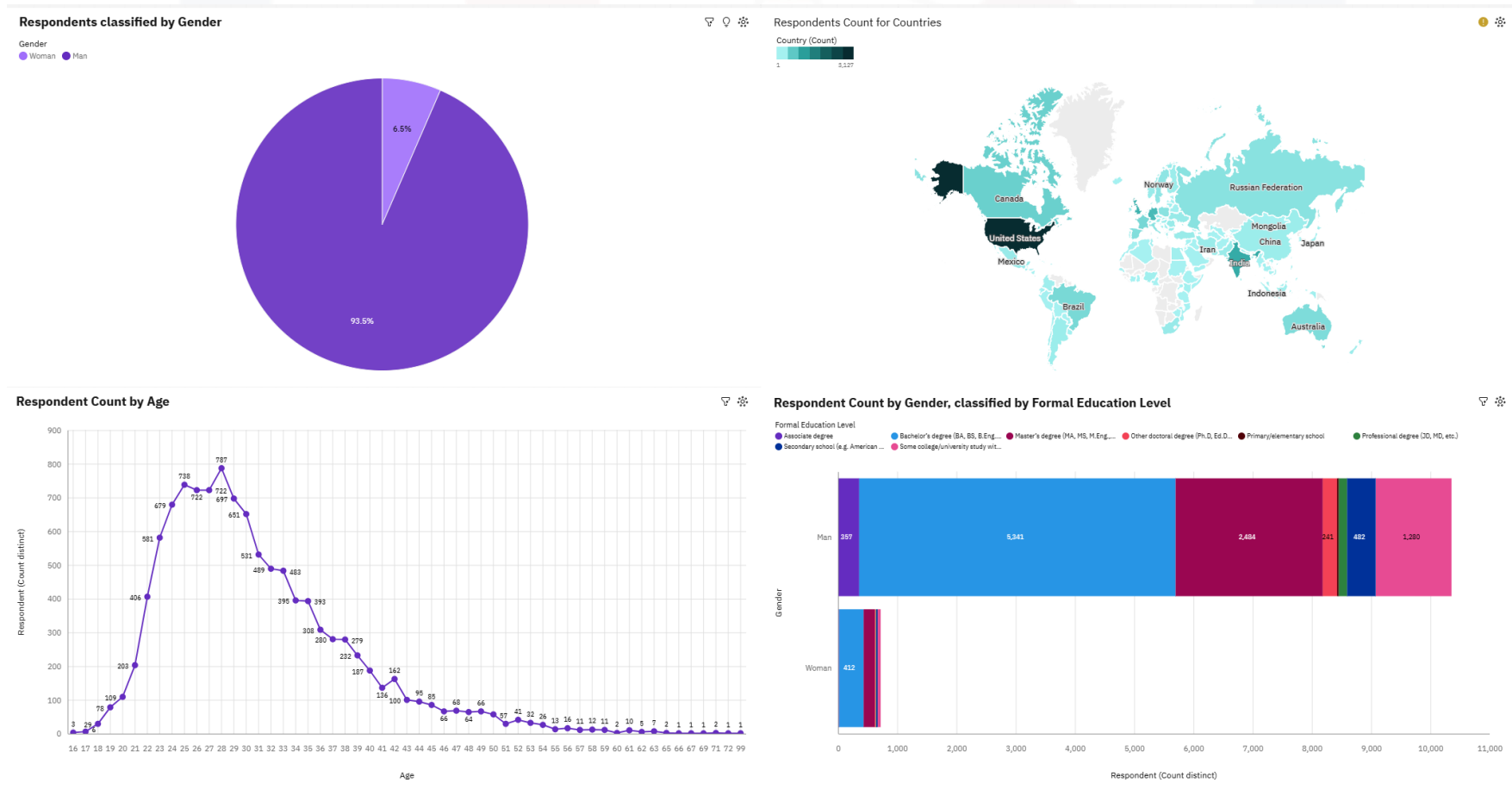
Top 10 WebFrameWorkedWith



DASHBOARD | FUTURE TECHNOLOGY TREND



DASHBOARD | Demographics



DISCUSSION



- After the presentation I will be around for 30 minutes to answer questions
- There will be a **Slack** workspace open for further discussion of these topics as they relate to our company



Technology Trends Slack **Link**

OVERALL FINDINGS & IMPLICATIONS

Findings

- Web-based programming languages continue to top language usage
- Even though the survey was diverse globally, the majority of participants were male and under 40 years old
- Diversity in language and tool-set show the importance of hiring full-stack developers

Implications

- The accessibility, efficiency, and scalability of web apps are demonstrated by the continuous need for HTML/CSS developer
- Females and older engineers are still a minority in software development
- Hiring full stack developers that can code both the front end and back end of an application can be cost-effectiveness in the ever-changing technology

CONCLUSION



- The findings emphasize the programming landscape's ever-changing nature and technology's crucial role in fueling innovation across various industries
- The software industry is constantly evolving, and it is crucial to:
 - Understand various programming languages.
 - Knowing database systems is vital to meet the requirements of modern applications.
 - Staying updated on technology trends can reduce costs and minimize the need for unnecessary changes

APPENDIX



- Stack Overflows Survey Results Page
- Job Posting Chart
- Popular Language Chart

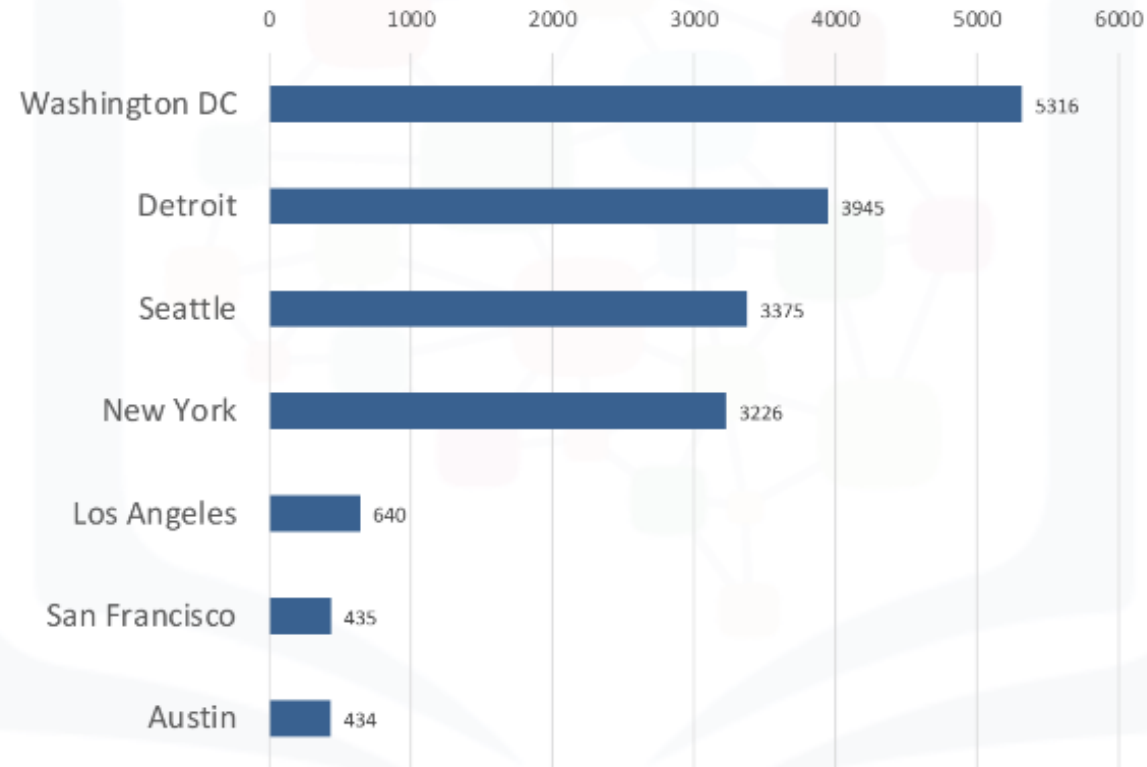
Stack Overflows Survey Results Page

The company results of the survey can be found [here](#)



JOB POSTINGS

JOB POSTINGS CHART



POPULAR LANGUAGES

POPULAR LANGUAGES CHART

