

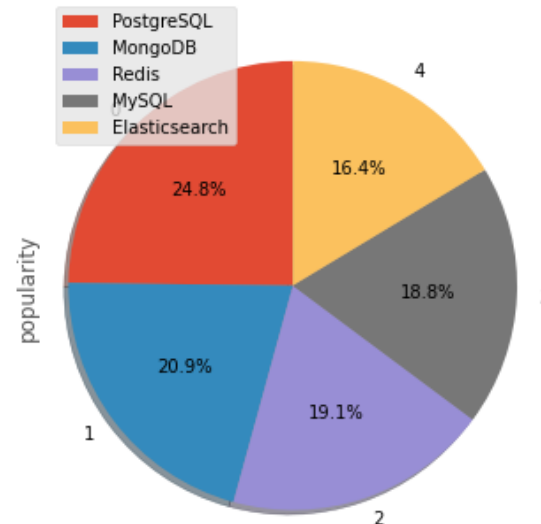
Tech Pro Trends: Analysis of Emergent Dev-Tech

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top 5 databases that respondents wish to learn next year



OUTLINE



- Executive Summary
- Introduction
- Methodology
- Results
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- Discussion
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EXECUTIVE SUMMARY



- This project revealed preferences of respondents from a large sample of developers.
- Trends in all skills critical to staying competitive – databases, programming languages and IDE are presented.
- Insights into what developers prefer to learn in the following years.
- All inputs originated from online job postings, training sites and online surveys of a wide sample of tech users.
- Statistical evidence is provided in the dashboards and charts that follow.

INTRODUCTION



- **The Purpose:**

- Reveal the latest tech trends/data and findings scraped or extracted from internet platforms in an effort to ensure that this firm stays ahead of the tech curve.

- **The Questions:**

- What are the top programming languages in demand?
- What are the top database skills in demand?
- What are the popular IDEs?
- What is the status of U.S. employer jobs compared to rest of the world in tech?
- What are the most listed tech job descriptions on job sites?

METHODOLOGY



- Data sourcing consisted of scraping internet web sites such as Stack Overflow as well as accessing APIs to collect data in various formats like .csv files, excel sheets, and databases.
- Data made ready for analysis using standard data wrangling techniques.
 - **Identify and remove duplicate rows in the data.**
 - **Find the number of missing values for all columns.**
 - **Impute variables where required.**
- Applied appropriate statistical techniques using Python to analyze data.
- Utilized IBM Cognos Analytics Dashboarding for a comprehensive statistical visualization of each insight relevant to the original questions and purpose.

RESULTS

The top five languages wanted for next year are:

- 1 JavaScript
- 2 HTML/CSS
- 3 Python
- 4 SQL
- 5 TypeScript

The top database skills:

- 1 PostgreSQL
- 2 MongoDB
- 3 Redis
- 4 MySQL
- 5 Elasticsearch

The charts that follow substantiate the results.

What are the popular IDEs?

- 1 Visual Studio Code
- 2 Visual Studio
- 3 Notepad++
- 4 Vim
- 5 Android Studio

Tech industry job rankings from online job sites.

- 1 Sales Executive
- 2 Business Dev Executive
- 3 PHP Developer
- 4 Business Dev Manager
- 5 Java Developer
- 6 Software Engineer
- 7 Android Developer
- 8 Graphic Designer
- 9 Content Writer
- 10 Sales Manager

PROGRAMMING LANGUAGE TRENDS: FINDINGS & IMPLICATIONS

Findings –

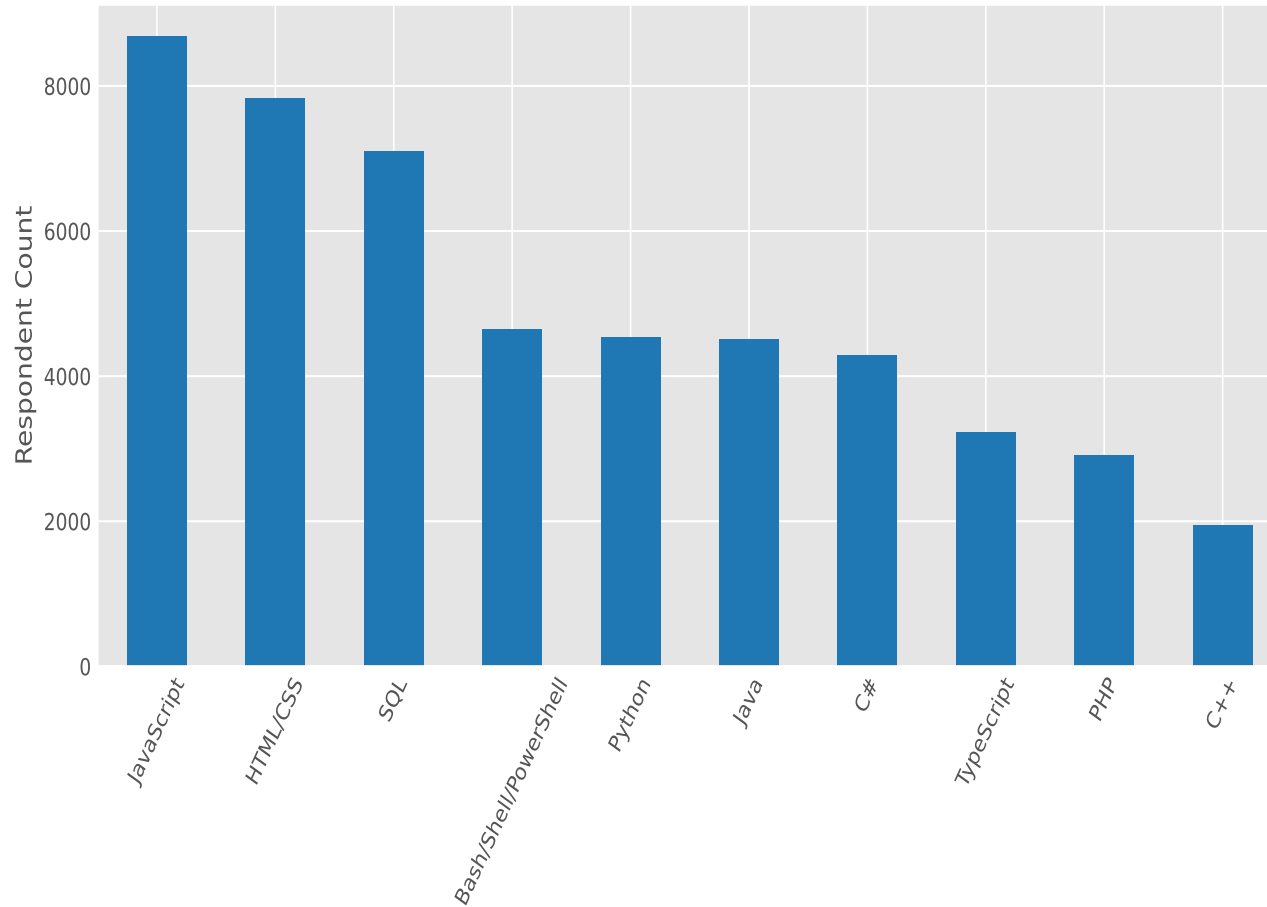
- For both this year and next year JavaScript and HTML/CSS remain #1 and #2 programming languages.
- Python overtook SQL for next year.
- Both BASH/Shell scripting and Java dropped significantly for next year.

Implications –

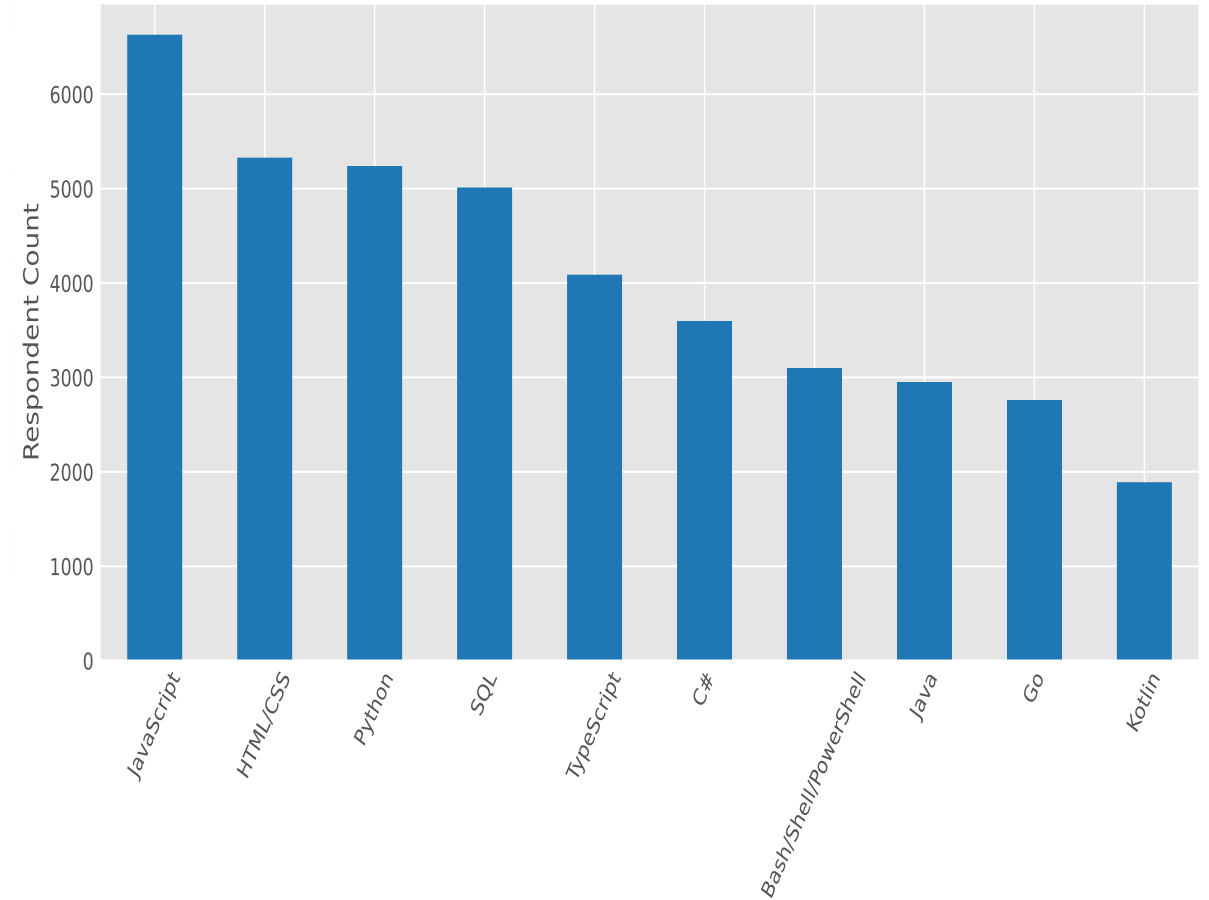
- *Front-end web development is strong with no change in core technologies used.*
- *A more flexible yet powerful tool in Python is gaining interest and use over SQL.*
- *An increase in Python uptake may preclude shell scripting and Java code for web and app dev.*

PROGRAMMING LANGUAGE TRENDS

Top 10 programming languages for the current year



Top 10 programming languages for next year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings -

- This year MySQL and SQL Server are #1 and #2 database systems.
- A complete reordering of DB popularity next year:

This Year:

1 MySQL
2 SQL Server
3 PostgreSQL
4 SQLite
5 MongoDB

Next Year:

1 PostgreSQL
2 MongoDB
3 Redis
4 MySQL
5 Elasticsearch

- The shift in top DB preference for next year reflects the popularity of PostgreSQL, MongoDB and decreased interest in MySQL and SQL Server.

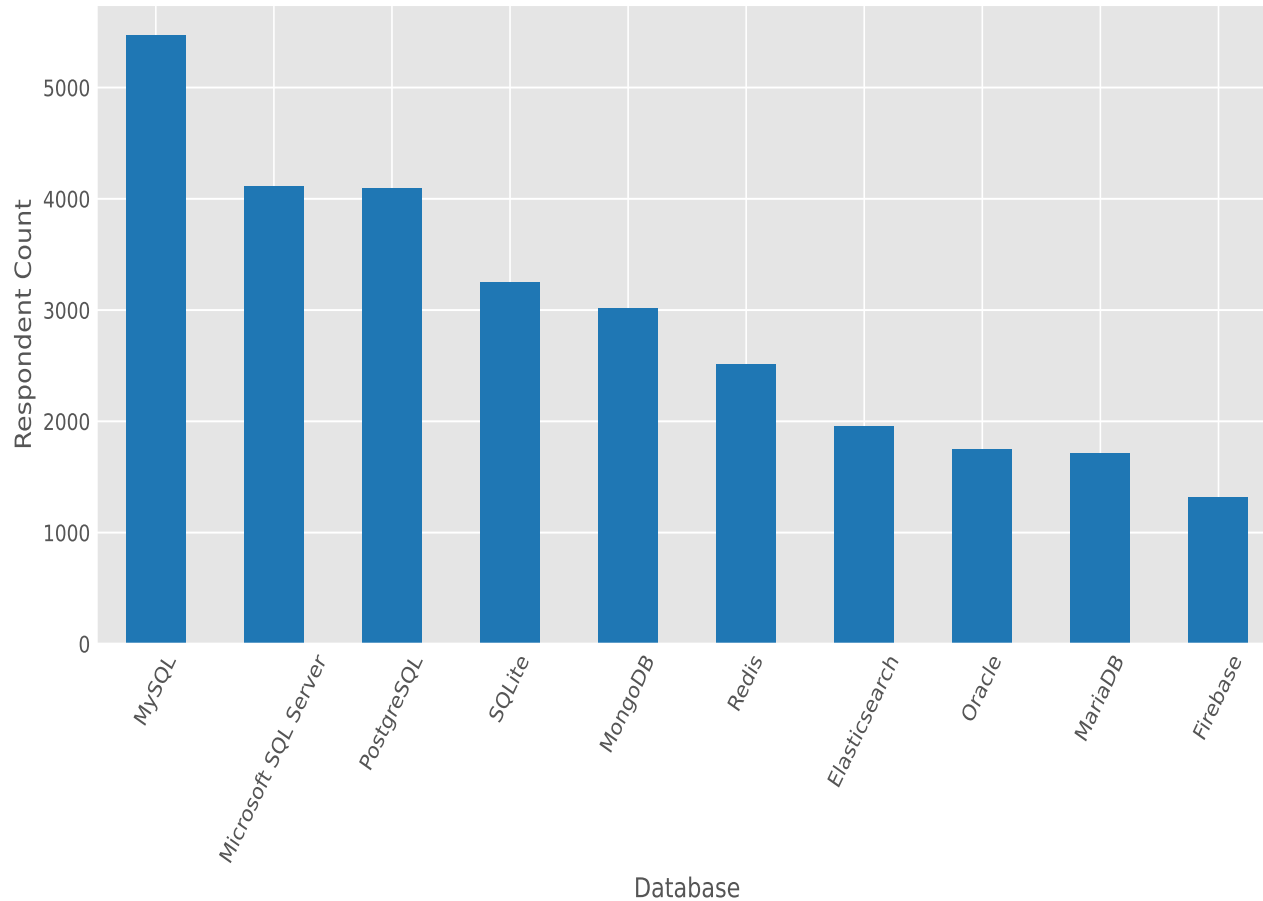
The charts that follow substantiate the results.

Implications -

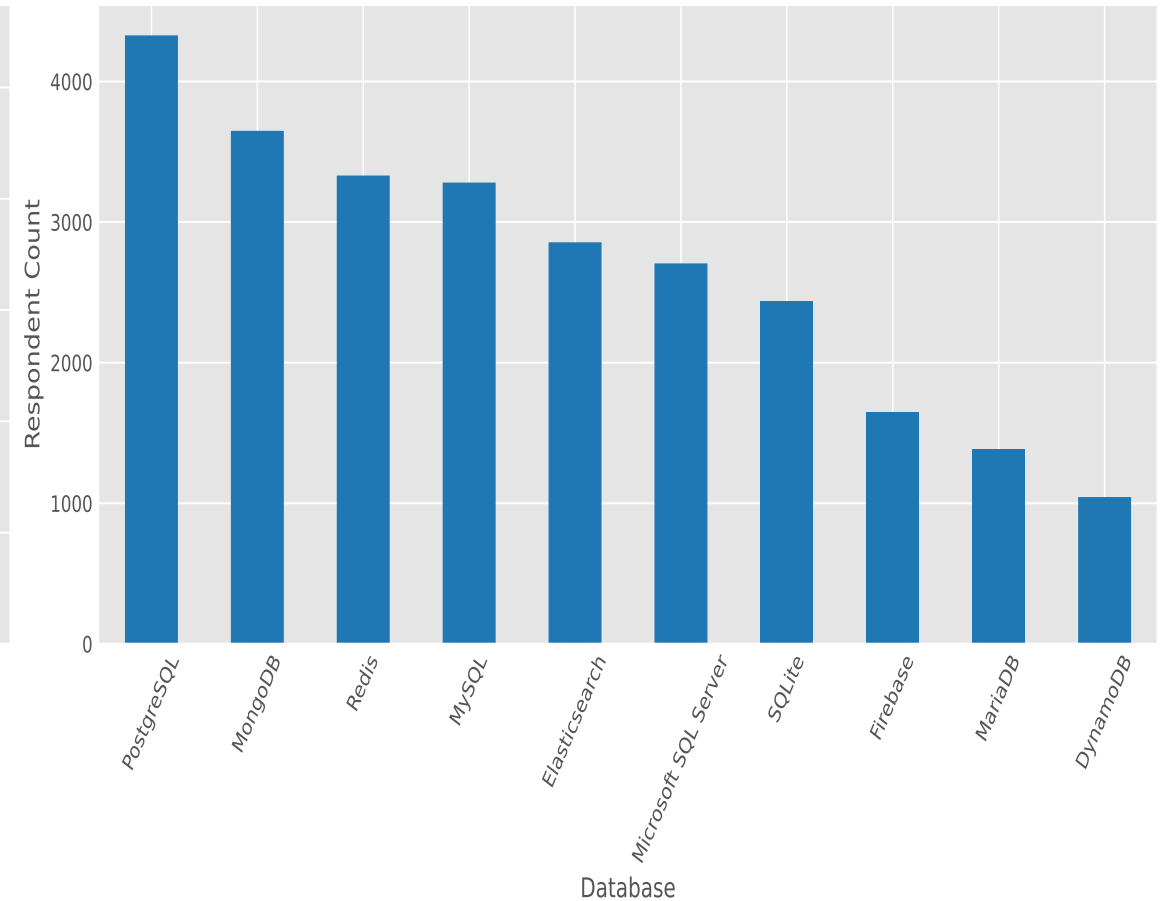
- PostgreSQL is very popular as a backend comparable to MySQL and has a robust open free version.
- MongoDB is a popular big data storage system for a multitude of data types including files.
- Redis being similar to Spark and being open source is sure to become a viable offering to those organizations yet to occupy the big data processing and storage realm.

DATABASE TRENDS

Top 10 databases of respondents for the current year



Top 10 databases that respondents wish to learn next year



DASHBOARD

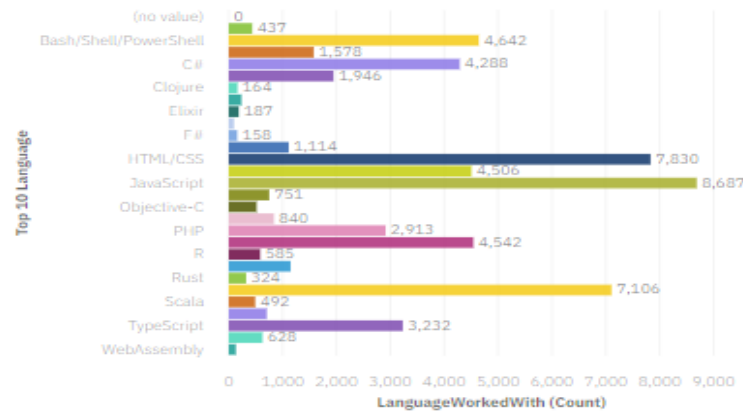


[Cognos Language Survey Dashboard](#)

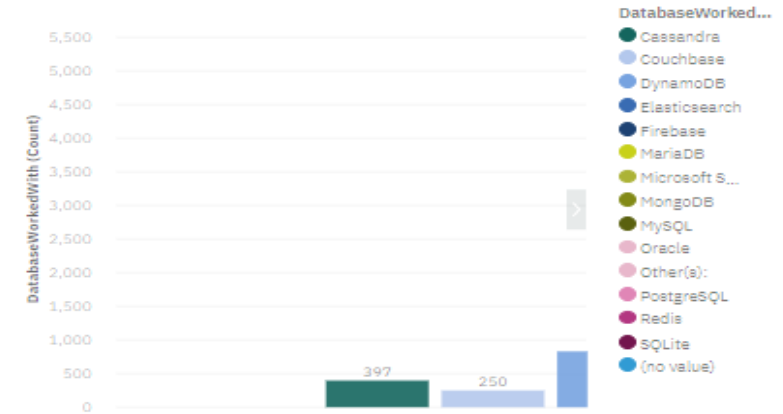
Top Results

Top 10 Languages

LanguageWorkedWith
 (no value) Kotlin
 Assembly Objective-C
 Bash/Shell... Other(s):
 C PHP
 C# Python
 C++ R
 Clojure Ruby
 Dart Rust
 Elixir SQL
 Erlang Scala
 F# Swift
 Go TypeScript
 HTML/CSS VBA
 Java WebAsse...
 JavaScript



Top 10 Database

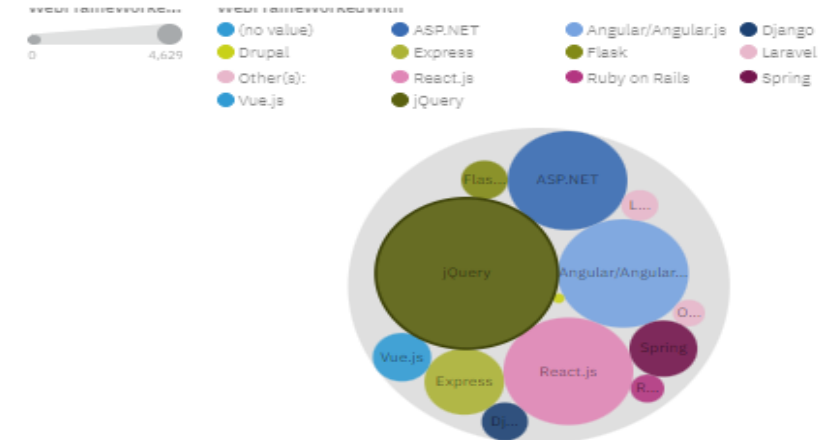


Platform Worked With

PlatformWorkedWith
 (no value) Linux
 AWS MacOS
 Android Microsoft...
 Arduino Other(s):
 Docker Raspber...
 Google ... Slack
 Heroku Windows
 IBM Clo... WordPre...
 Kubernetes iOS

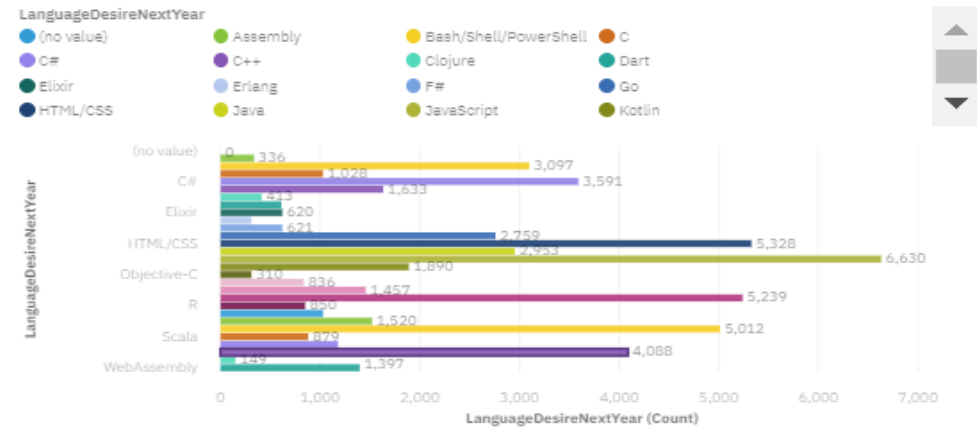


Top 10 Web Frame Worked With Next Year

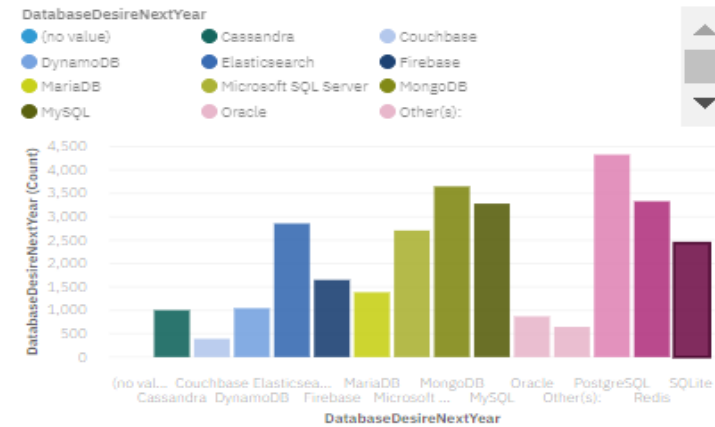


Top 10 Continued

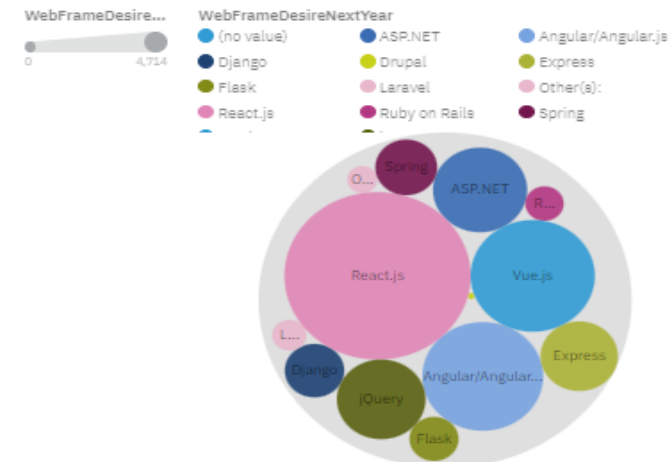
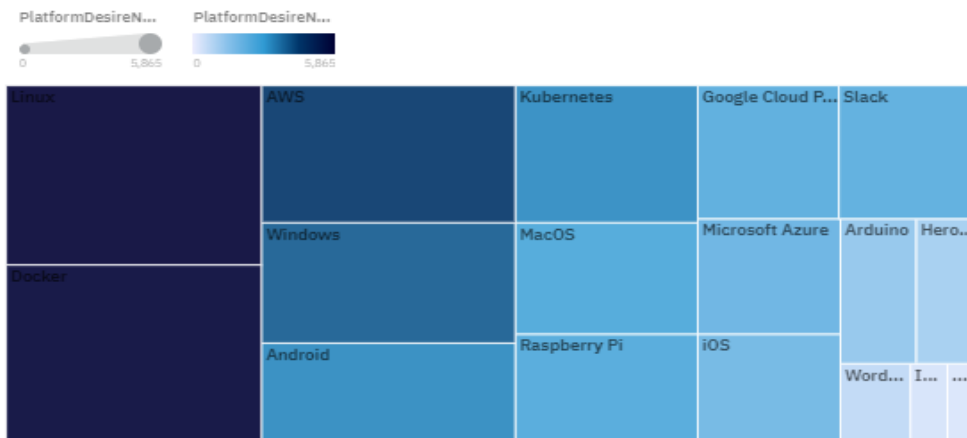
Top 10 Language Desire Next Year



Top 10 Database Desire Next Year



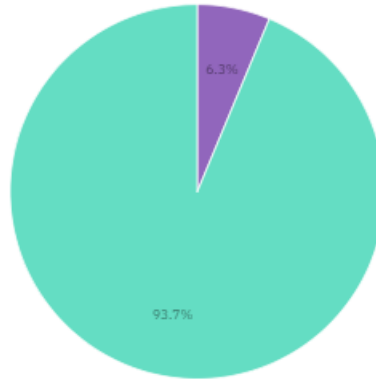
Platform Desire Next Year



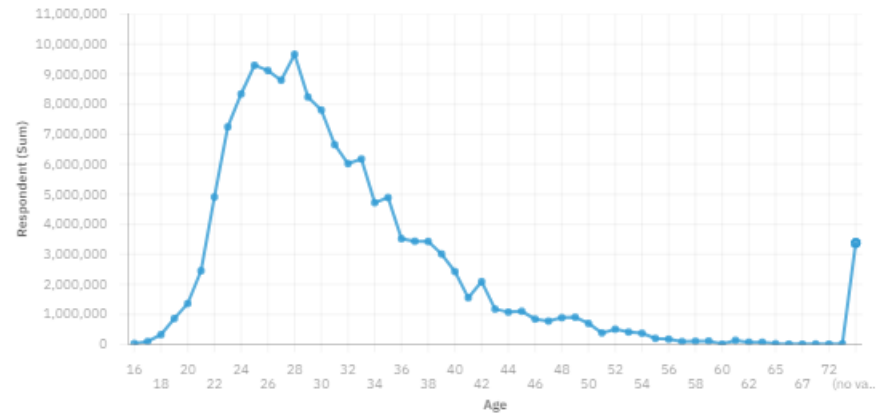
Respondent Counts

Respondent classified by Gender

Gender
Woman Man

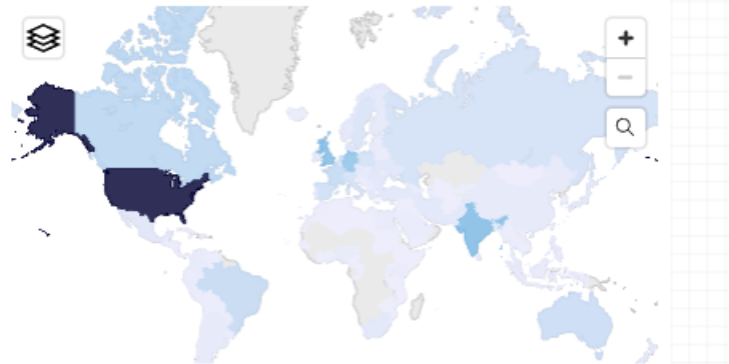


Respondent Count by Age



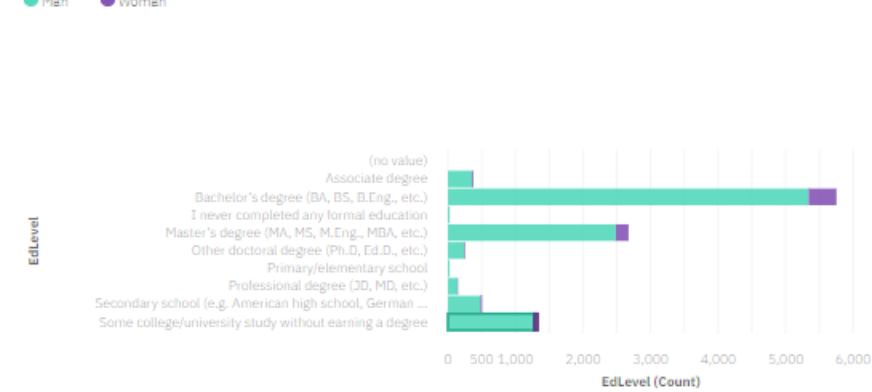
Respondent Count for Countries

Respondent (Sum)
865 38,170,293



Respondent Count by Gender- Formal Education Level

Gender
Man Woman



OVERALL FINDINGS & IMPLICATIONS

- Women have surpassed men in post-secondary degrees despite being only 6.3% of respondents by male/female only.
- The U.S. remains the top tech hiring country overall.
- Three out of the top five jobs posted online are executive or management positions.

Implications -

- Women are more likely to obtain an advanced degree credential possibly as a means of being competitive over the “dug-in” male tech workers.
- U.S. innovation thrives and maintains demand for tech workers.
- Executive and management skills are the top recruited positions which may indicate a surge in new tech products and services and the need for skilled leadership. Retirement may also contribute to the hiring trend.

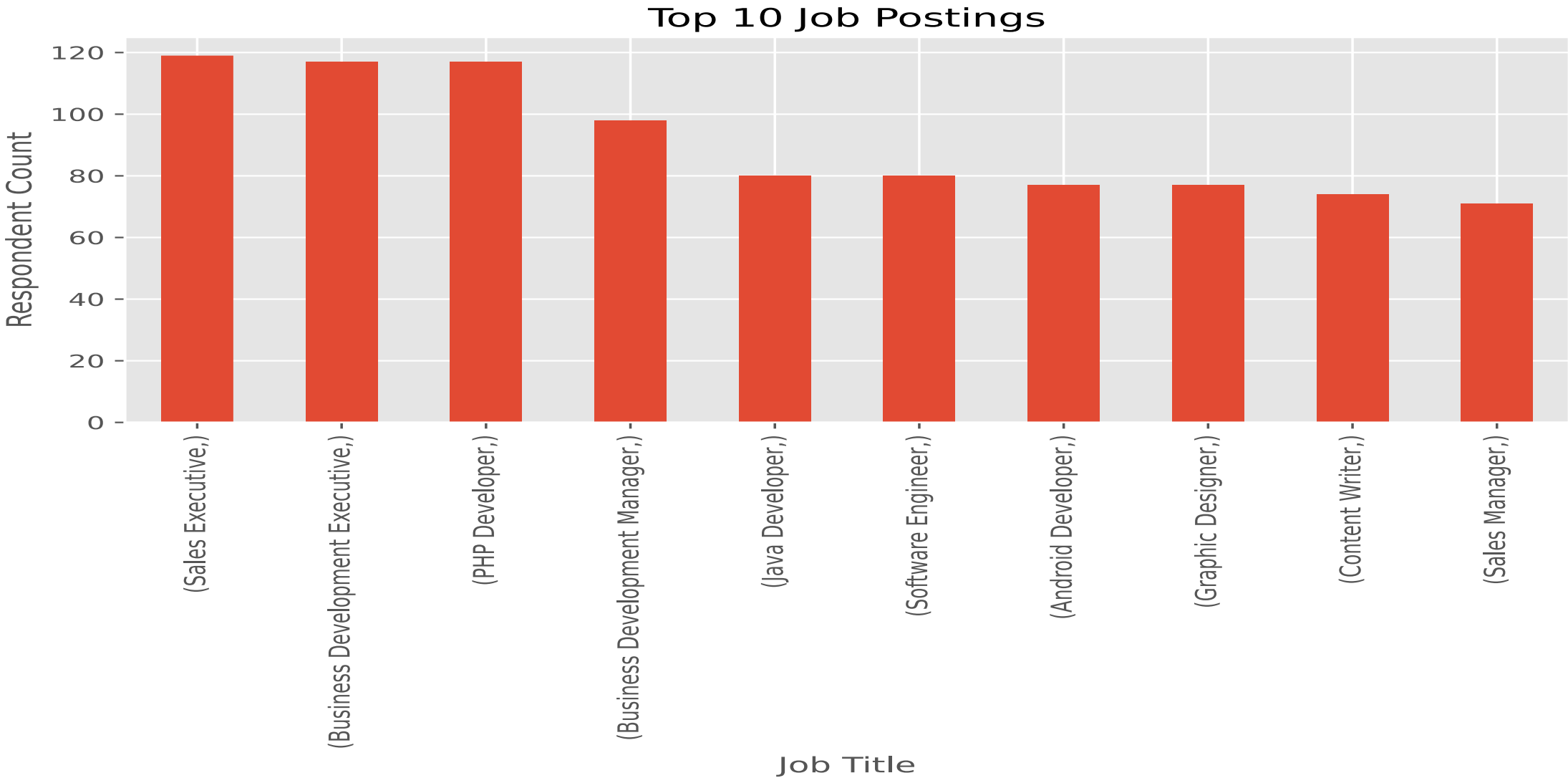
APPENDIX



- Top 10 Tech Job Postings
- Top 10 Popular Languages
- Work Challenges

**See the charts that follow for the results.*

JOB POSTINGS



POPULAR LANGUAGES – Average Annual Salaries



Respondent Work Challenges

