



<Data Analysis Capstone>

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OUTLINE



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



- The most popular technologies are web-based one such as JavaScript, HTML.
- Among all web-based frame works, the hottest areas area React.js and jQuery.
- Windows and Linux still dominate all developing platforms.
- For mobile platform, Android wins by no contest.
- Although MySQL is still the most used database, MongoDB and PostgreSQL show increasing trend of applying in the future.

INTRODUCTION



- The technology market changes quickly every year.
- It is important to catch-up with the latest technology in each field.
- The comparison between current & next year technology trend will provide great inside into the market.
- The study consist of 4 main parts:
 - Top language using
 - Top database using
 - Top platform using
 - Top web frame using

METHODOLOGY



- The technology trend is studied by comparing current and future technology usage.
- The data was from the 'Stack Overflow Developer Survey 2019'.
- Different type of charts, such as bar, line, pie, tree-map ... will be used to visualize the result.
- The IBM dashboard is used to analyses data and create visualization.

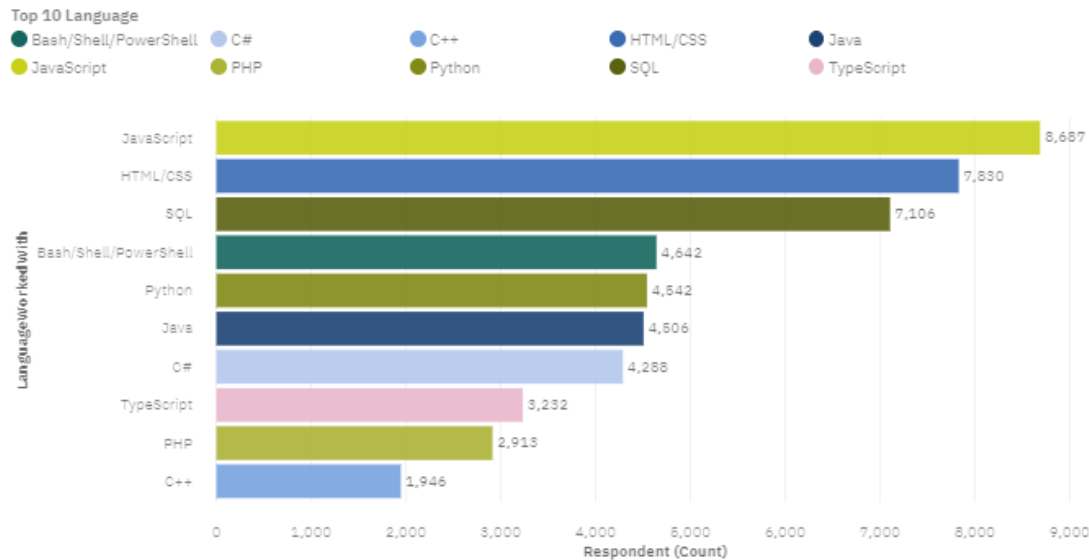
RESULTS

- The results consists of 4 main parts:
 - Programming language trend
 - Database trend
 - Platform trend
 - Web frame trend

PROGRAMMING LANGUAGE TRENDS

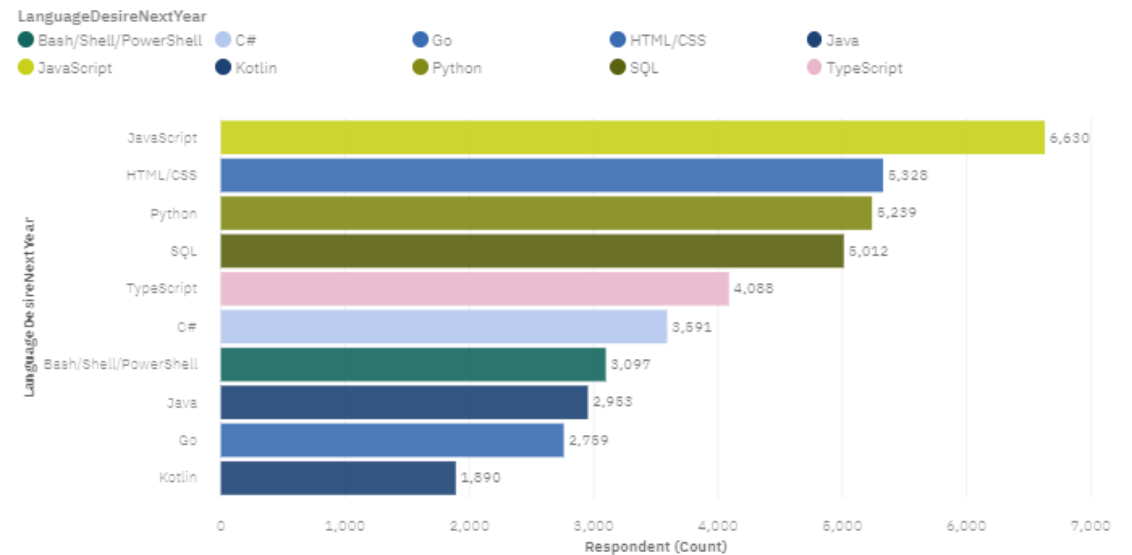
Current Year

Top 10 Language Worked With



Next Year

Top 10 Language Desire Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript & HTML/CSS are top programming languages for both current and future trend.
- Python moves from 5th position to 3rd position in top 10.
- C++ and PHP are disappearing from top 10.

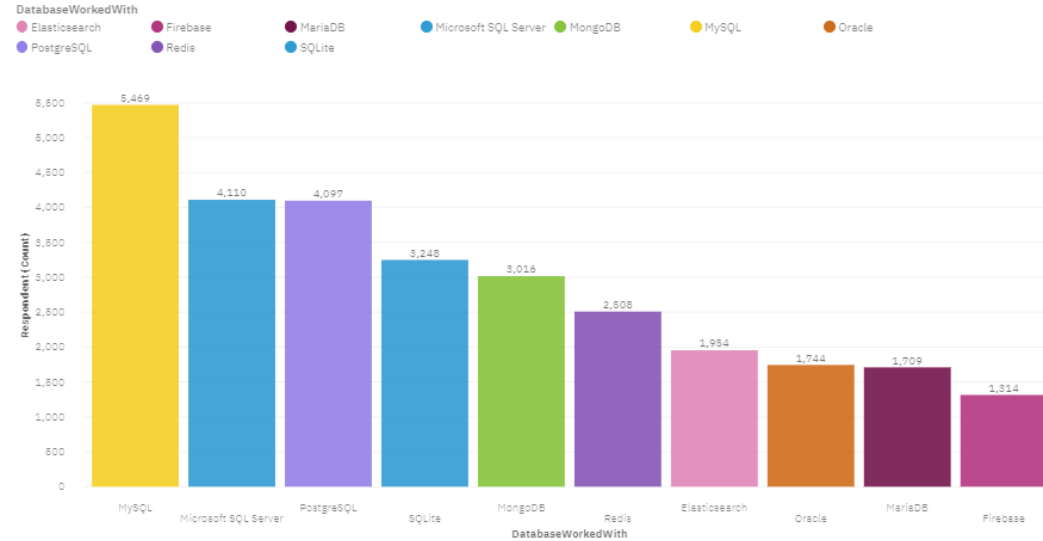
Implications

- Web programming languages still stay dominance in near future.
- Python & data science is becoming more and more important.
- Legacy language such as C++, PHP ... are gradually falling out of interest.

DATABASE TRENDS

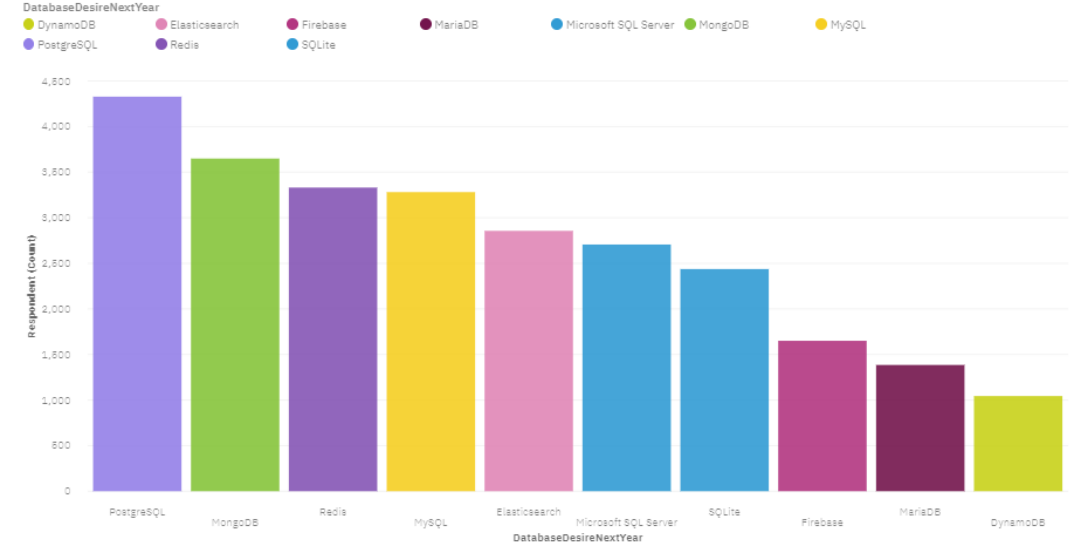
Current Year

Top 10 Database Worked With



Next Year

Top 10 Database Desire Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MongoDB & Redis quickly moves up to No.2 and No.3
- PostgreSQL moves from No.3 to No.1
- MS SQL server drops from No.2 to No.5
- Oracle disappear from top

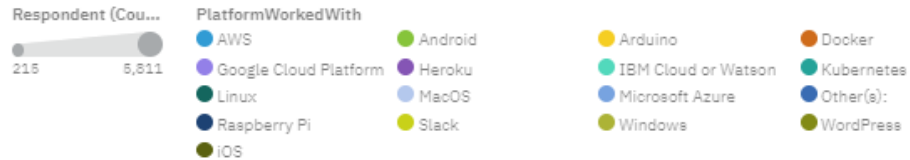
Implications

- Open source database becomes more and more popular compared with commercial one.
- Non-relational database see increasingly usage in the future.
- Relational database still takes a leading position in the near future.

PLATFORM TRENDS

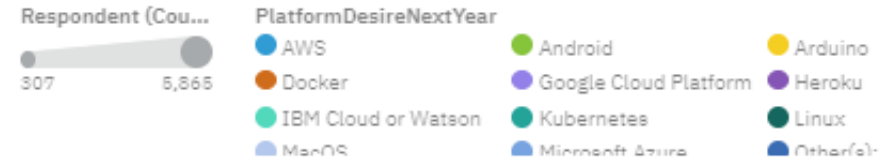
Current Year

Platform Worked With



Next Year

Platform Desire Next Year



PLATFORM TRENDS - FINDINGS & IMPLICATIONS

Findings

- Windows and Linux still dominates the platform trend.
- Android is No.1 in mobile platform.
- Cloud platform such as Kubernetes, Docker, AWS is getting more and more market share.

Implications

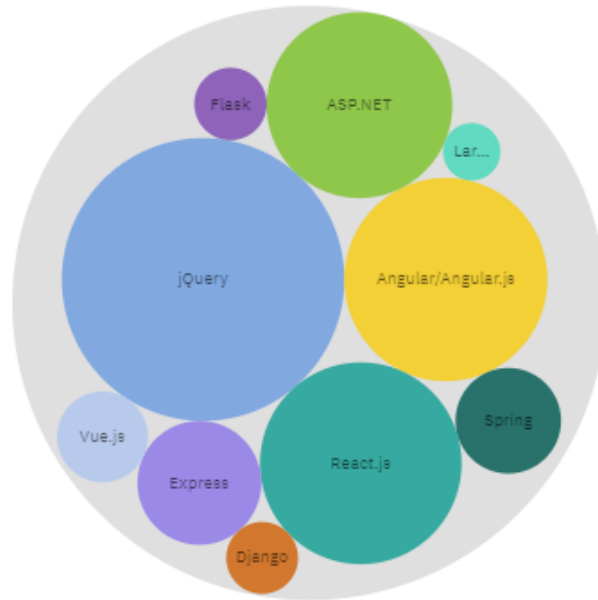
- Windows and Linux are still main developing platform in a foreseeable future.
- The transformation to cloud computing is a non-reversible process.

WEB FRAME TRENDS

Current Year

Top 10 Web Frame Worked With

Respondent (Cou...
939 4,629
WebFrameWorkedWith



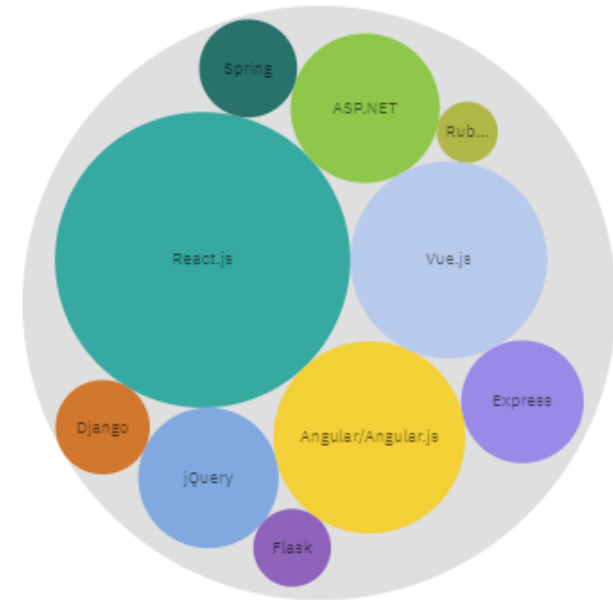
Next Year

Top 10 Web Frame Desire Next Year

Respondent (Cou...
970 4,714
WebFrameDesireNextYear

Legend:

- ASP.NET
- Angular/Angular.js
- Django
- Express
- Flask
- Ruby on Rails
- Spring
- Vue.js
- jQuery



WEB FRAME TRENDS - FINDINGS & IMPLICATIONS

Findings

- jQuery decreases from No.1 to No.4.
- React.js moves up from No.3 to No.1
- Vue.js moves from No.9 to No.3.
- Angular.js stays at same position.

Implications

- jQuery quickly loses market share show lack of interest in its future development.
- React.js and Vue.js becomes the new standard for web frame development.

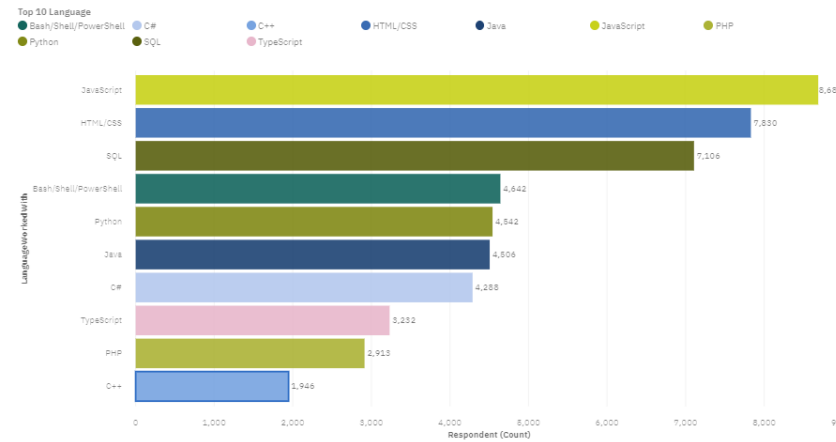
DASHBOARD



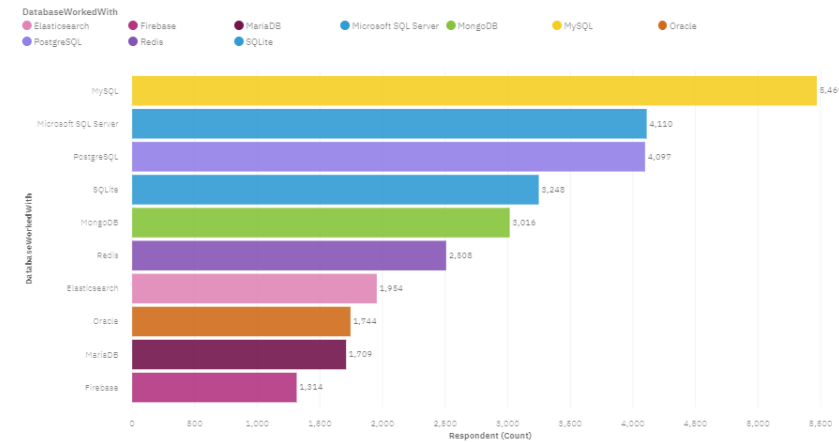
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DASHBOARD TAB 1

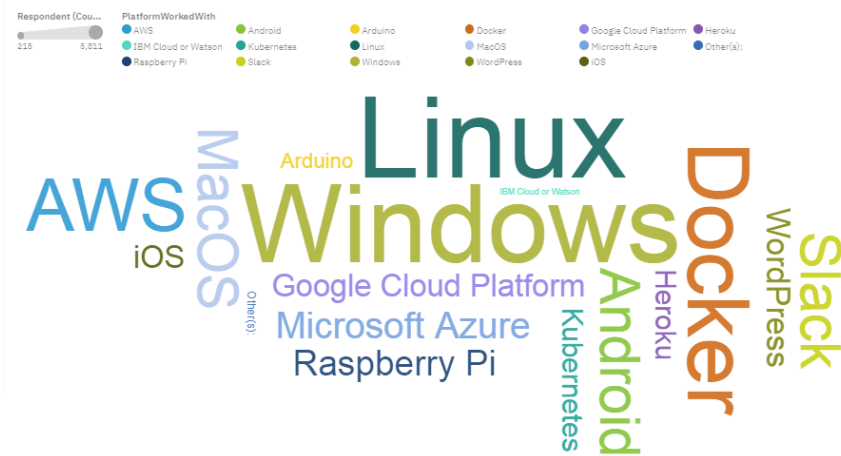
Top 10 Language Worked With



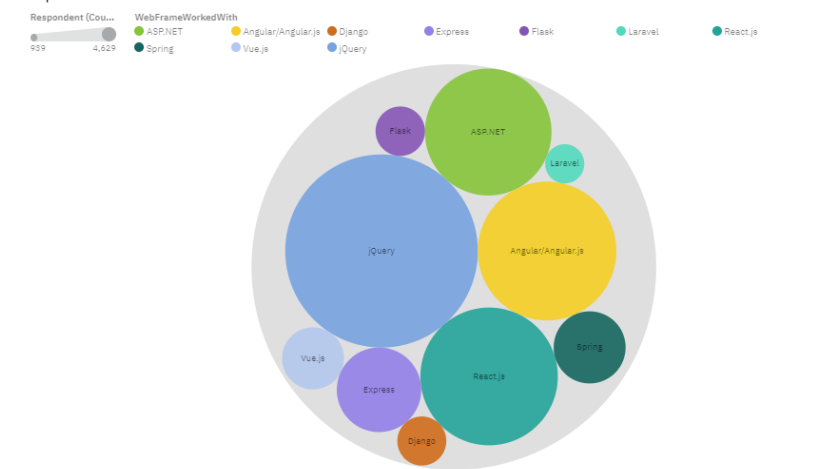
Top 10 Database Worked With



Platform Worked With

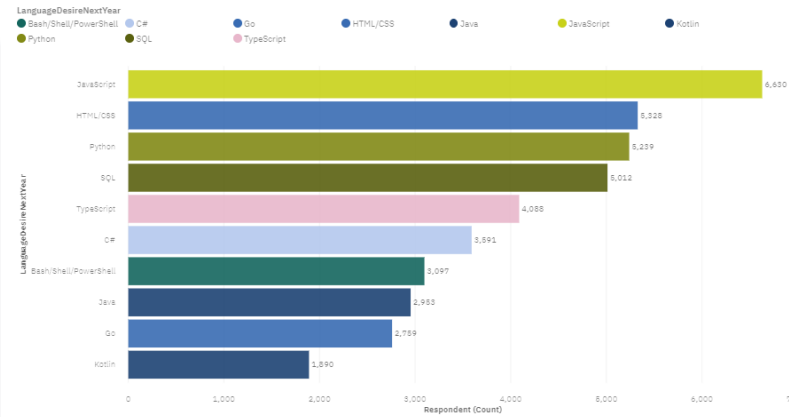


Top 10 Web Frame Worked With

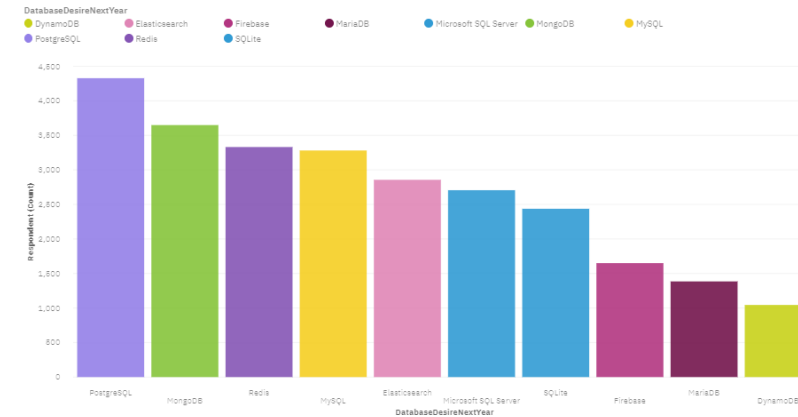


DASHBOARD TAB 2

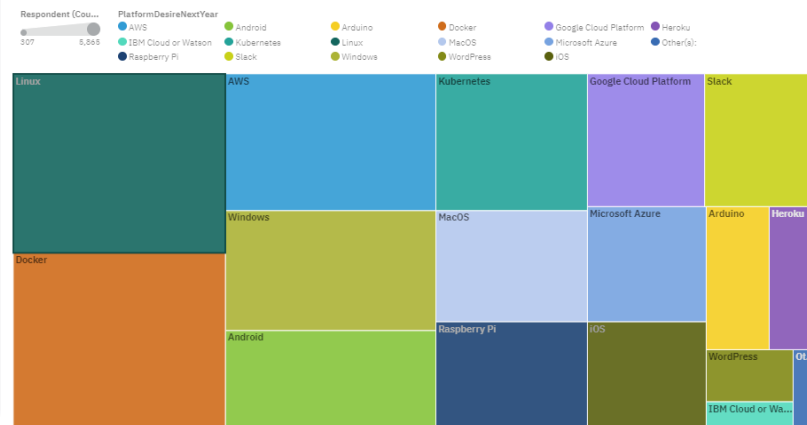
Top 10 Language Desire Next Year



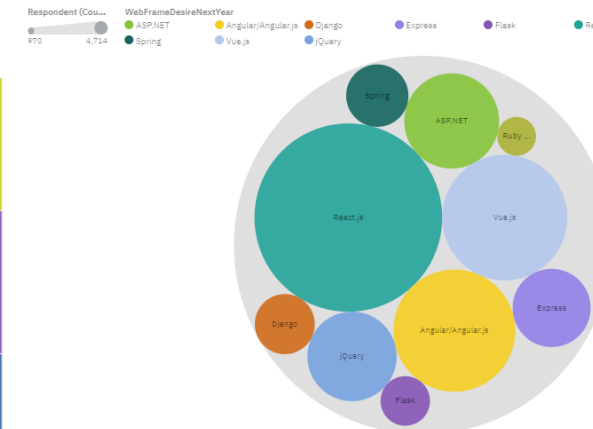
Top 10 Database Desire Next Year



Platform Desire Next Year



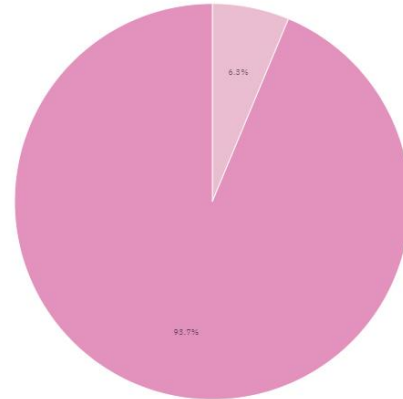
Top 10 Web Frame Desire Next Year



DASHBOARD TAB 3

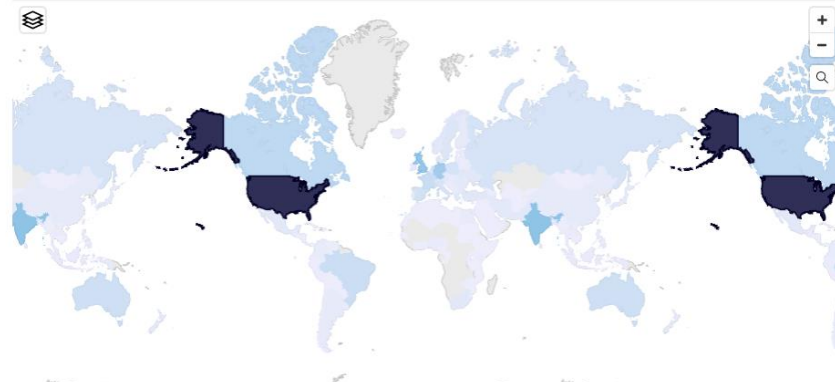
Respondent Classified by Gender

Gender
Woman Man

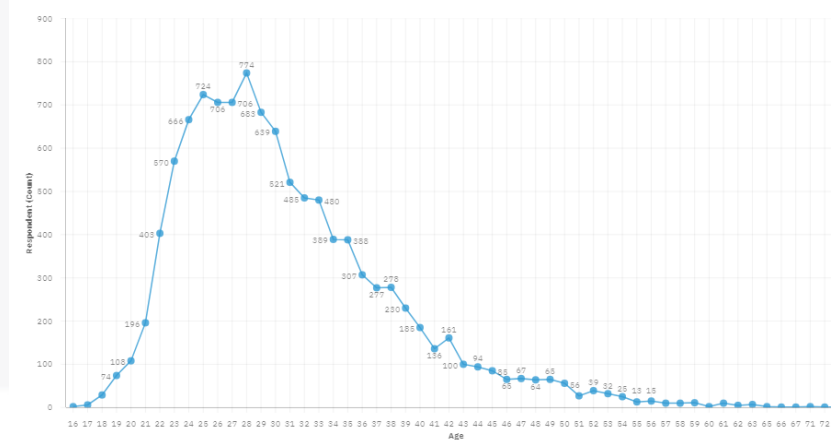


Respondent Count for Countries

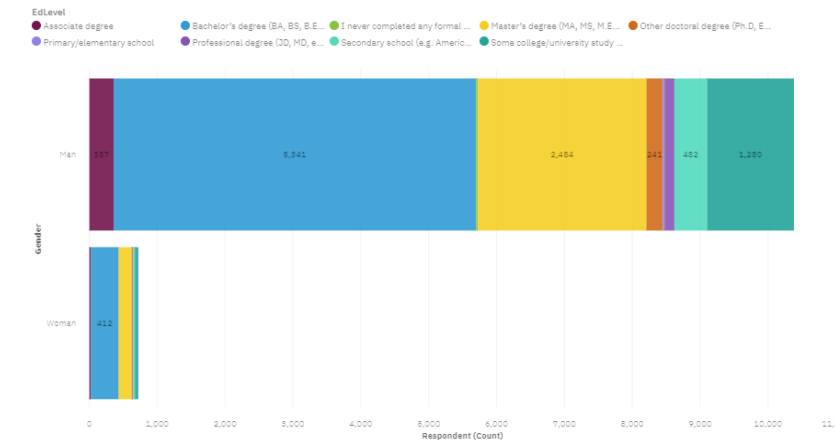
Respondent (Cou...
1 3,058



Respondent Count by Age



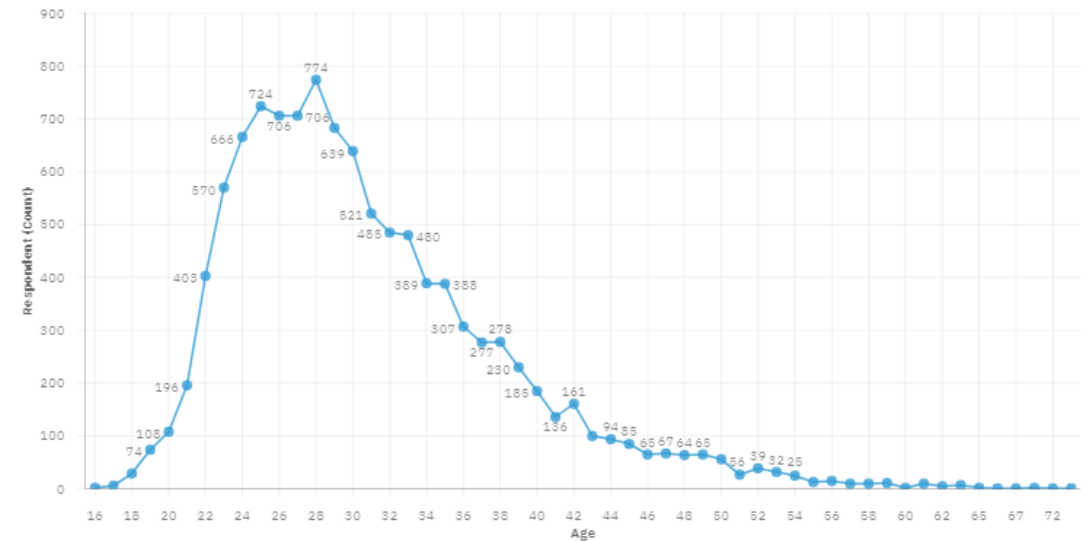
Respondent Count by Gender, classified by Ed Level



DISCUSSION



Respondent Count by Age



- Majority of respondents are at young age (20, 30s) → this could skew the result in favor of new technology.

OVERALL FINDINGS & IMPLICATIONS

Findings

- Web based language stays at No.1
- Non-relational database moves to No.2 & No.3
- Cloud-based platform moves to No.1
- React.js stays at No.1 on web framework.

Implications

- Web based application is taking over the traditional application.
- Non-relational database sees increasing adoption.
- Cloud-based services become top-choice for platform development.

CONCLUSION



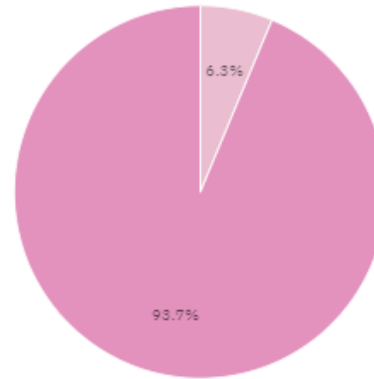
- To stay relevant in the technology field, it's important to learn web-based language & non-relational database.
- Among web framework, React.js is the best to learn for your future.
- Cloud-based service is the right direction for IT investment.

APPENDIX



Respondent Classified by Gender

Gender
● Woman ● Man

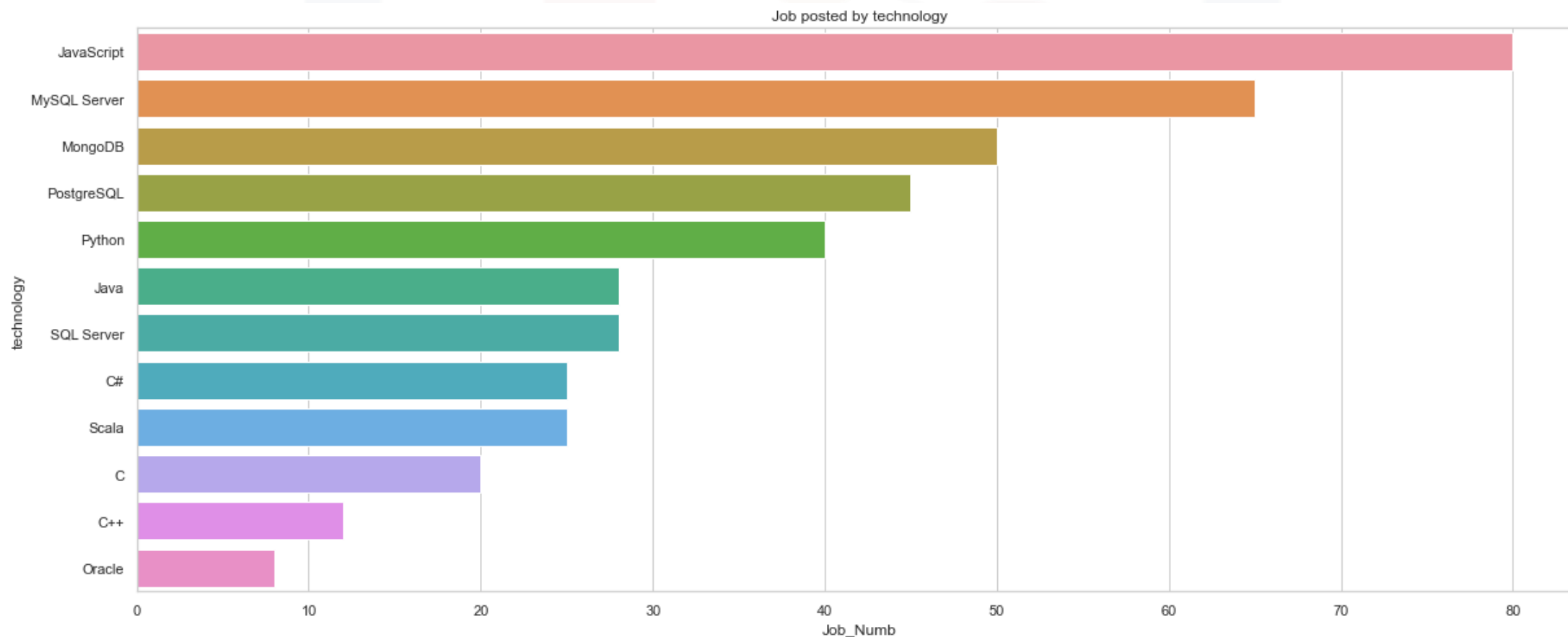


Respondent Count for Countries

Respondent (Cou...
1 3,058



GITHUB JOB POSTINGS



POPULAR LANGUAGES

