

IBM DATA ANALYST CAPSTONE PROJECT



Future Tech Review

BY

IGEMHOKHAI SHEDRACH

2022-08-11

OUTLINE



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

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 languages used.
 - Top databases used.
 - Top platforms used.
 - Top web frames used.

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 was used to analyses data and create visualization.

RESULTS

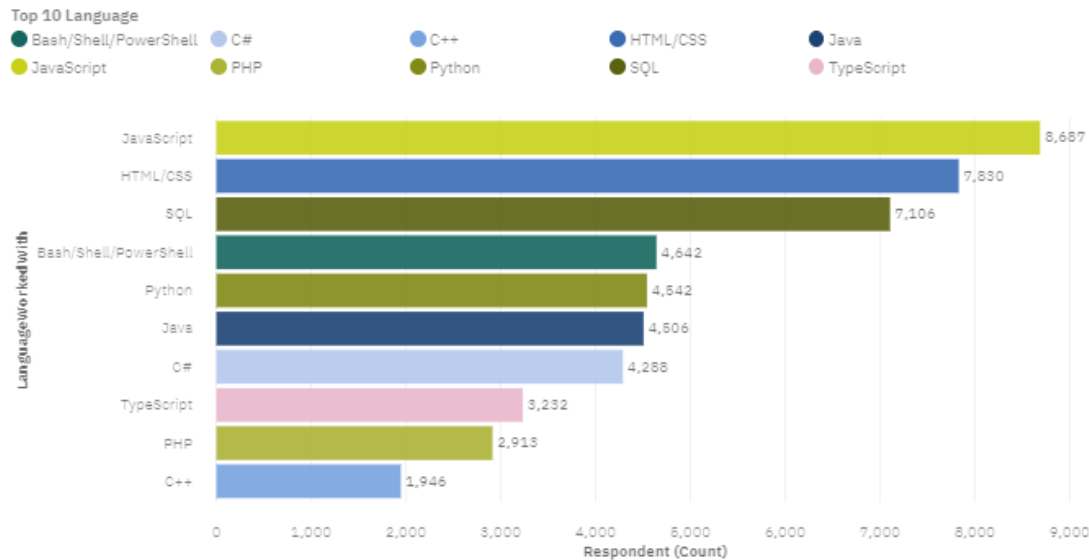
The results consists of 4 main parts:

- Programming languages trend
- Databases trend
- Platforms trend
- Web frames trend

PROGRAMMING LANGUAGE TRENDS

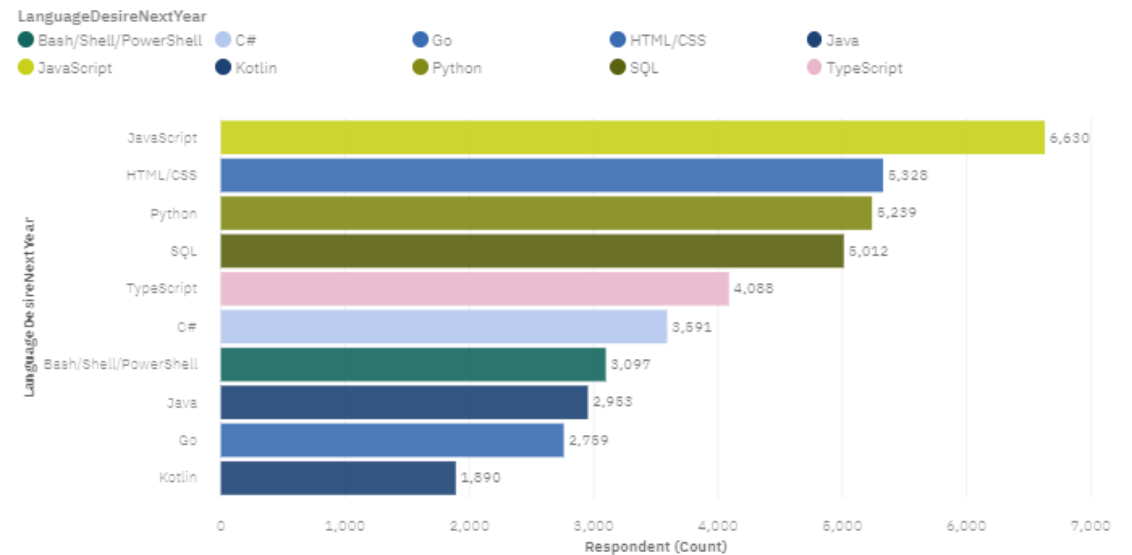
Current Year

Top 10 Language Worked With



Next Year

Top 10 Language Desire Next Year



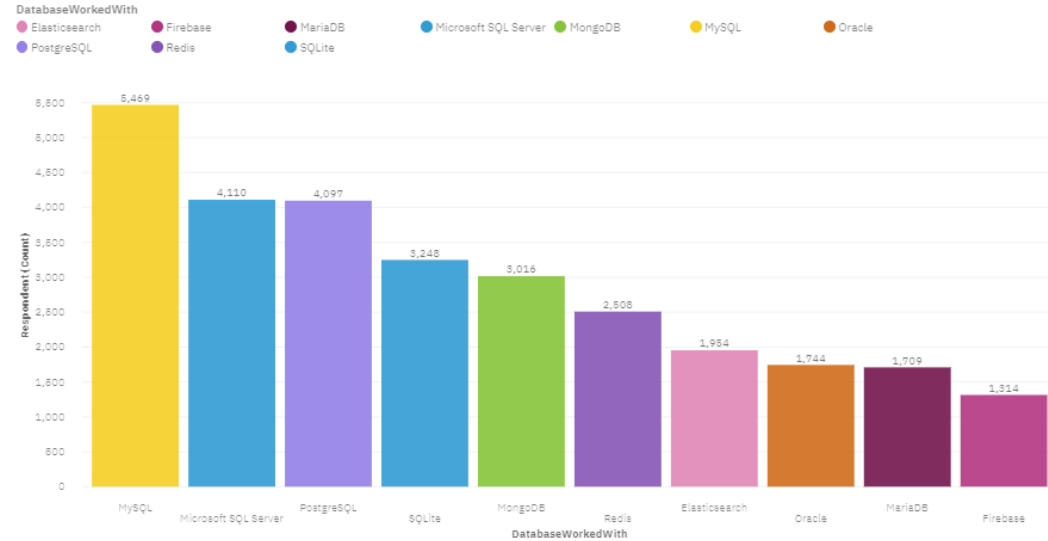
PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

FINDINGS	IMPLICATIONS
JavaScript & HTML/CSS are top programming languages for both current and future trend.	Web programming languages will still stay dominant in the near future.
Python moves from 5 th position in current languages used, to 3 rd position in top 10 of preferred future programming languages. .	Python & Data science is becoming more and more important.
C++ and PHP are disappearing from top 10	Legacy language such as C++, PHP are gradually falling out of interest.

DATABASE TRENDS

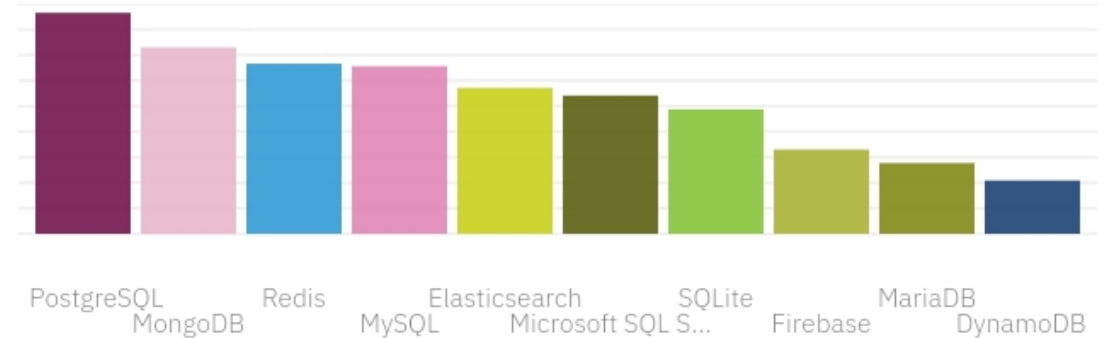
Current Year

Top 10 Database Worked With



Next Year

Top 10 Database Desire Next Year



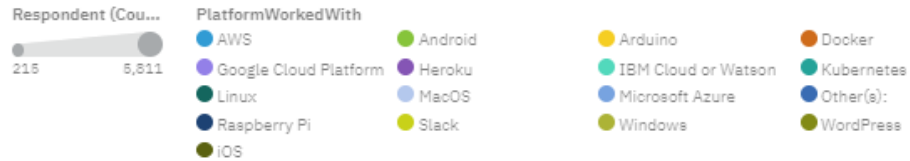
DATABASE TRENDS - FINDINGS & IMPLICATIONS

FINDINGS	IMPLICATIONS
MongoDB & Redis are becoming of more interest to Database Users, while PostgreSQL moves to top.	Open source database becomes more and more popular compared with commercial one. Web programming languages will still stay dominant in the near future.
PostgreSQL moves from third on current used database to top most preferred database in the foreseeable future.	Relational database still takes a leading position in the near future.
Oracle disappear from top most preferred database for the following year.	The Emergence of open source databases like MongoDB & Redis is resulting in Oracle losing Market Share.

PLATFORM TRENDS

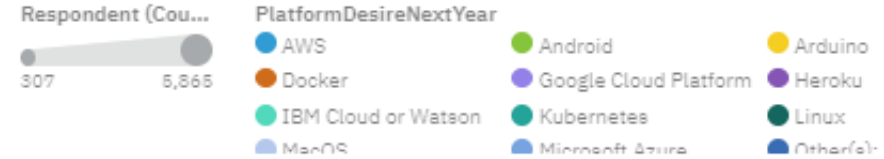
Current Year

Platform Worked With



Next Year

Platform Desire Next Year



PLATFORM TRENDS - FINDINGS & IMPLICATIONS

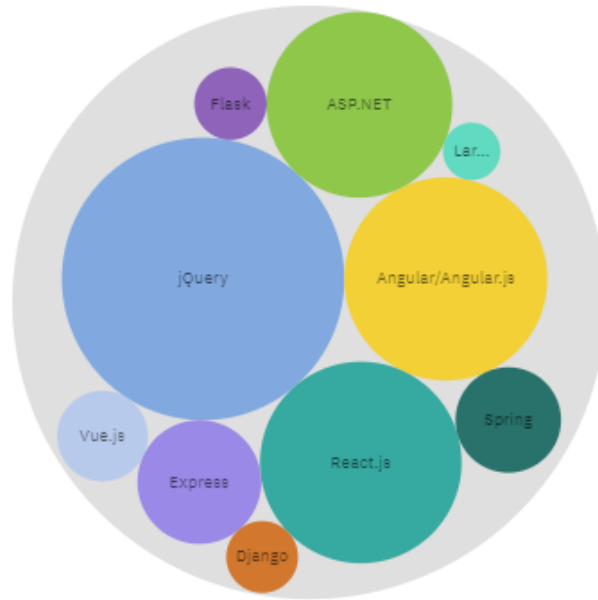
FINDINGS	IMPLICATIONS
Windows and Linux still dominates the platform trend	Windows and Linux are still main developing platform in a foreseeable future.
Cloud platform such as Kubernetes, Docker, AWS is getting more and more market share.	The transformation to cloud computing is becoming very imperative.
Android remains number one Mobile Platform.	Android still remains most popular due to its ease of usage, and affordability.

WEB FRAME TRENDS

Current Year

Top 10 Web Frame Worked With

Respondent (Cou...
939 4,629
WebFrameWorkedWith

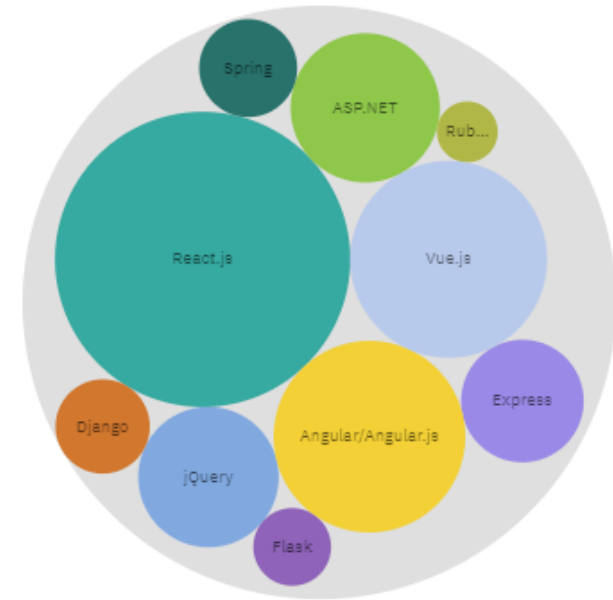


Next Year

Top 10 Web Frame Desire Next Year

Respondent (Cou... 970 4,714
WebFrameDesireNextYear

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



WEB FRAME TRENDS - FINDINGS & IMPLICATIONS

FINDINGS	IMPLICATIONS
jQuery moves down from the very top spot of currently used web frames to number 4 of web frames preferred in a foreseeable future.	jQuery quickly loses market share due to lack of interest in its future development.
React.js moves up from No.3 in current top ten used web frames to top spot in most preferred in the following year while Vue.js moves from No.9 to No.3.	React.js and Vue.js becomes the new standard frameworks for web frame development

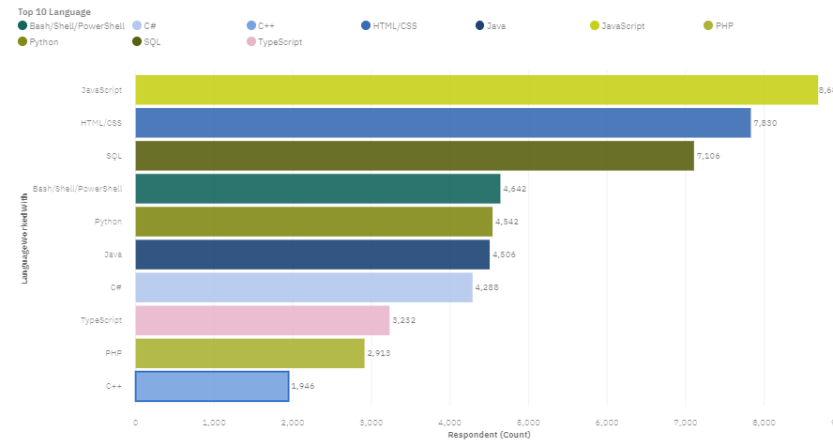
DASHBOARD



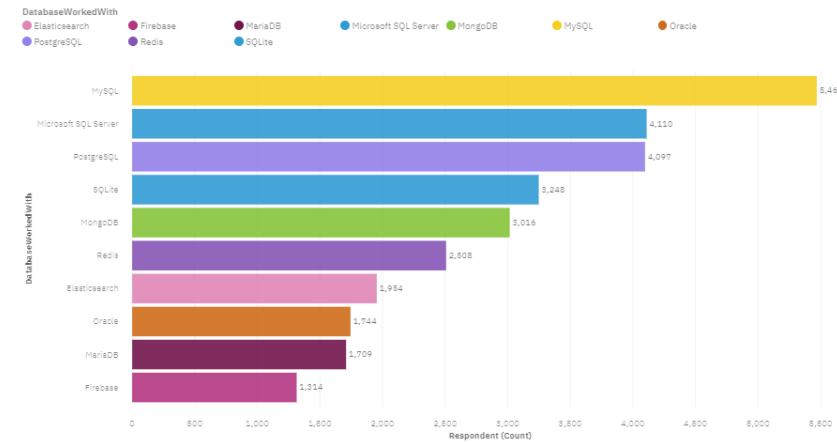
- <https://dataplatform.cloud.ibm.com/dashboards/3a86d8bc-a3d3-427f-b62f-5e6452da52f1/view/4729d72b109f1ce477d5b5e4079e25557466240cbbbb8702d1837b490d637197f03b1697c8791f088f16076bf5e5115b9f>

DASHBOARD TAB 1 (Current Technology usage)

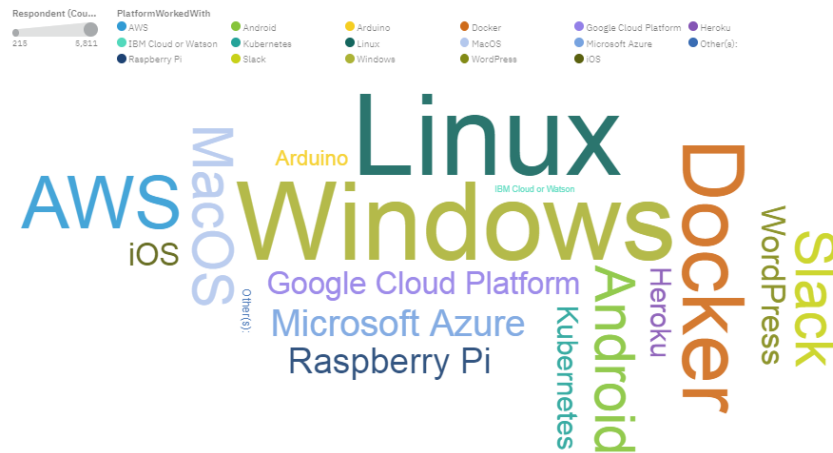
Top 10 Language Worked With



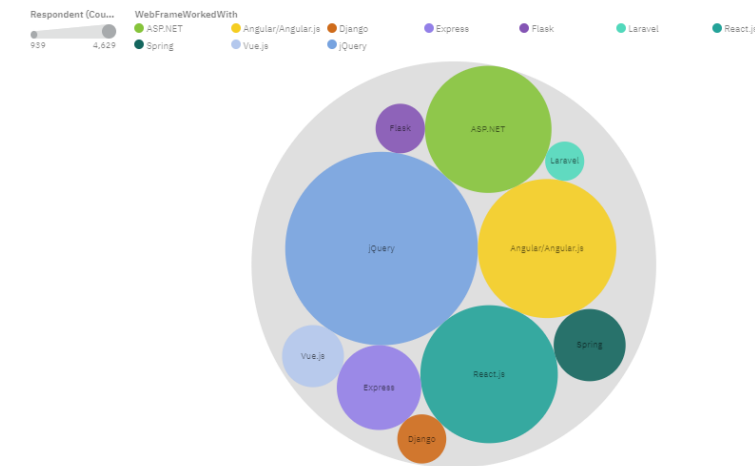
Top 10 Database Worked With



Platform Worked With

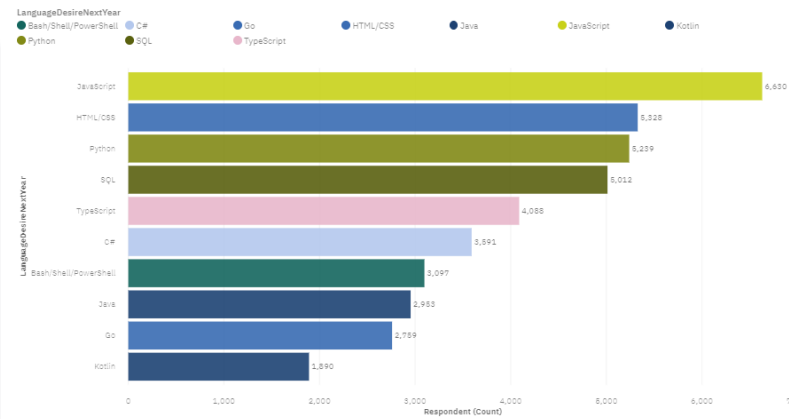


Top 10 Web Frame Worked With

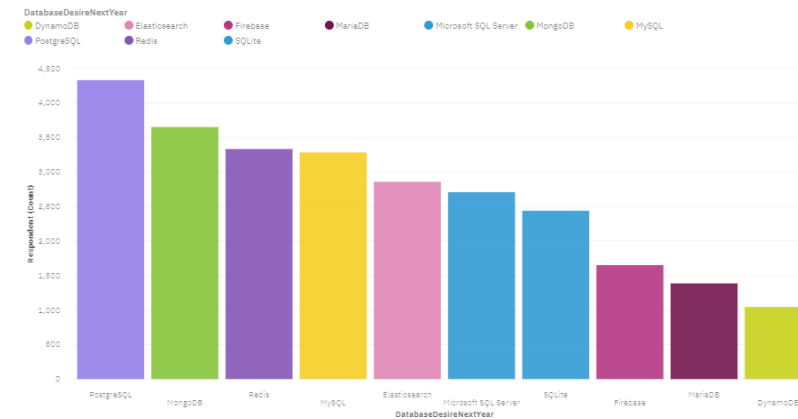


DASHBOARD TAB 2 (Future technology trend)

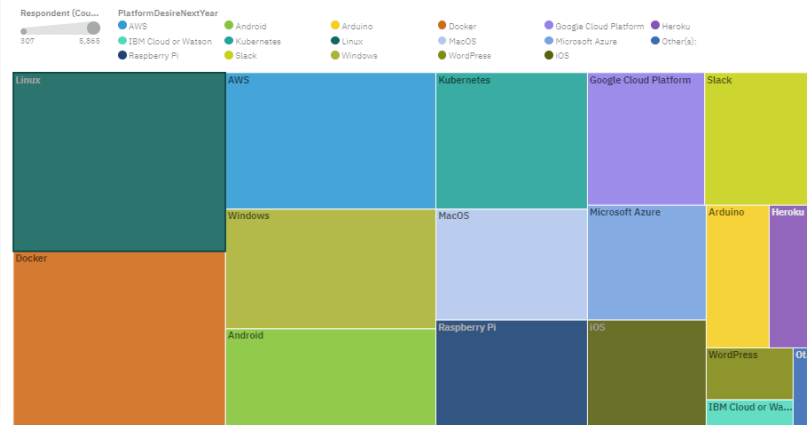
Top 10 Language Desire Next Year



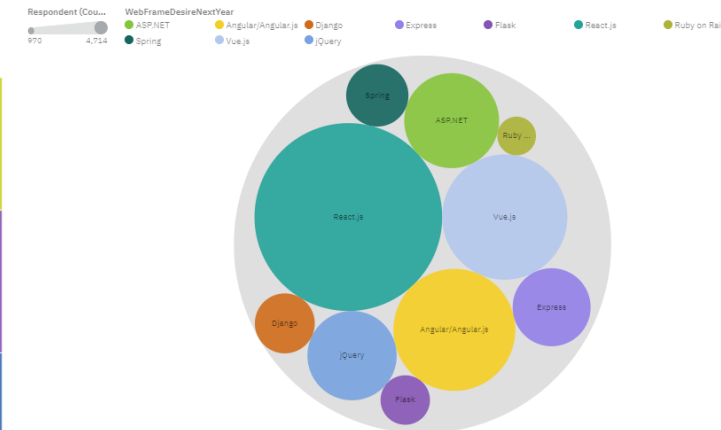
Top 10 Database Desire Next Year



Platform Desire Next Year



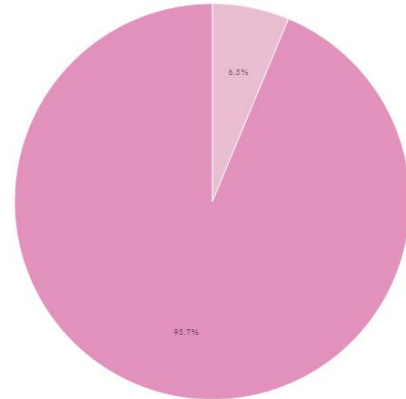
Top 10 Web Frame Desire Next Year



DASHBOARD TAB 3 (Demographics)

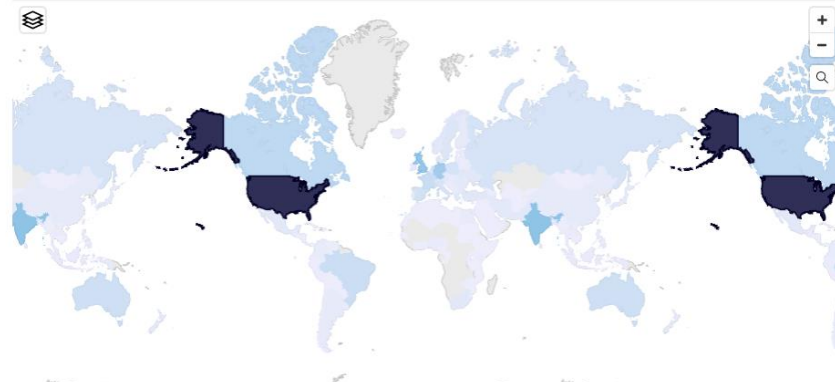
Respondent Classified by Gender

Gender
Woman Man

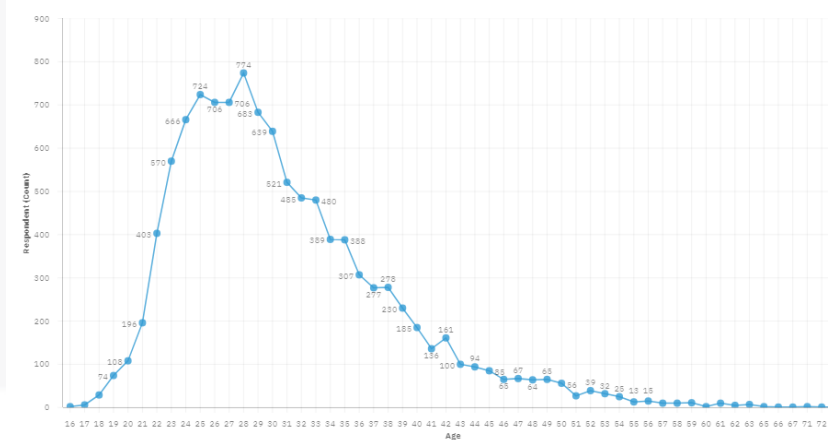


Respondent Count for Countries

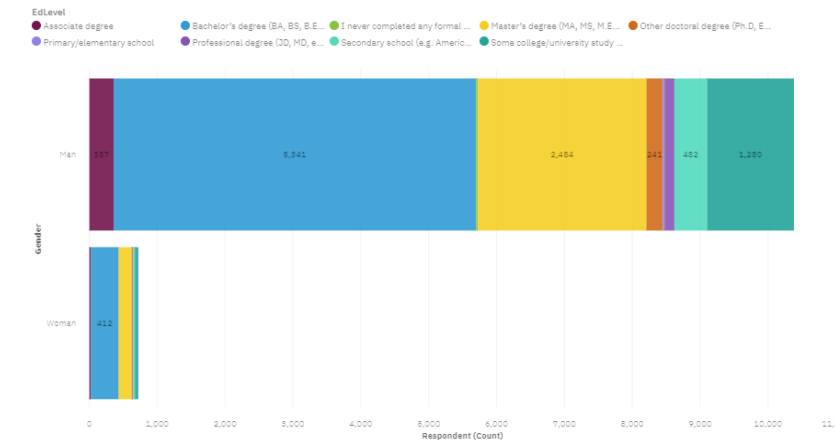
Respondent (Cou...
1 3,058



Respondent Count by Age



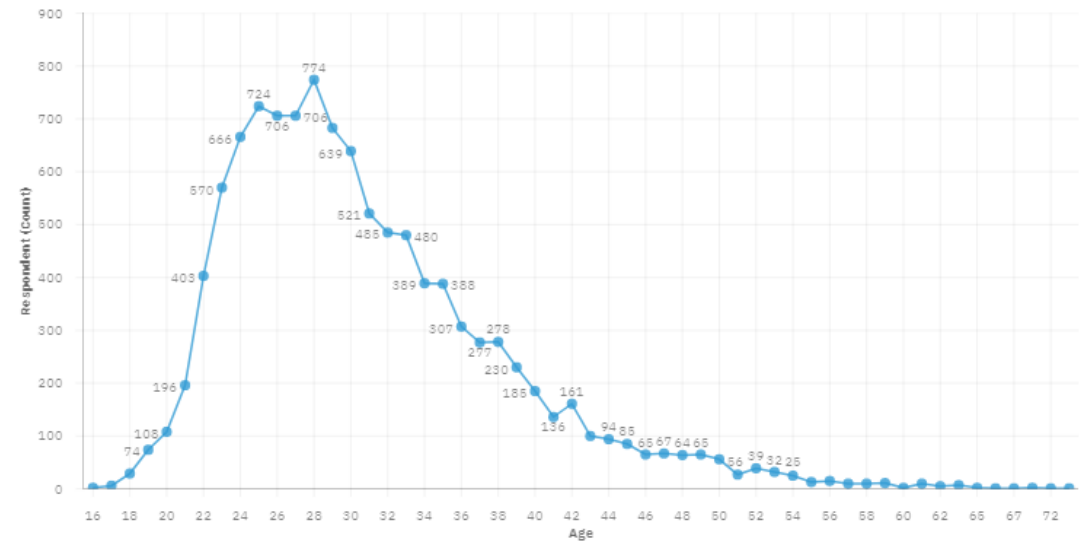
Respondent Count by Gender, classified by Ed Level



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	IMPLICATIONS
Web based languages remains on top.	Web based application is taking over the traditional applications.
Non-relational database takes top usage preference trend.	Non-relational database increasingly becomes the database of choice.
Cloud-based platform moves to top spot.	Cloud-based services become top-choice for platform development.
React.js stays remains top on web frameworks.	The development of React.js is still of great interest to web developers.

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

