



Stack Overflow Developer Survey 2019: Key Findings

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EXECUTIVE SUMMARY



Summary of key findings from analysis of 2019 Stack Overflow Developer Survey is given below.

- Using data collection, most popular languages, databases, and other technologies are discussed
- Popularity of technology in future is elaborated.
- The gender gap among developers is shown by demographics is described briefly

Final conclusions of the carried out research which is helpful to the developers, recruiters, educators, and students.

INTRODUCTION



- Stack Overflow Annual Developer Survey is recognized widely among programming coding and knowledge sharing community.
- The main goal of surveys is data collection to represent that which technology is most popular among developers .
- Nearly 90,000 developers was the part of survey globally .

METHODOLOGY

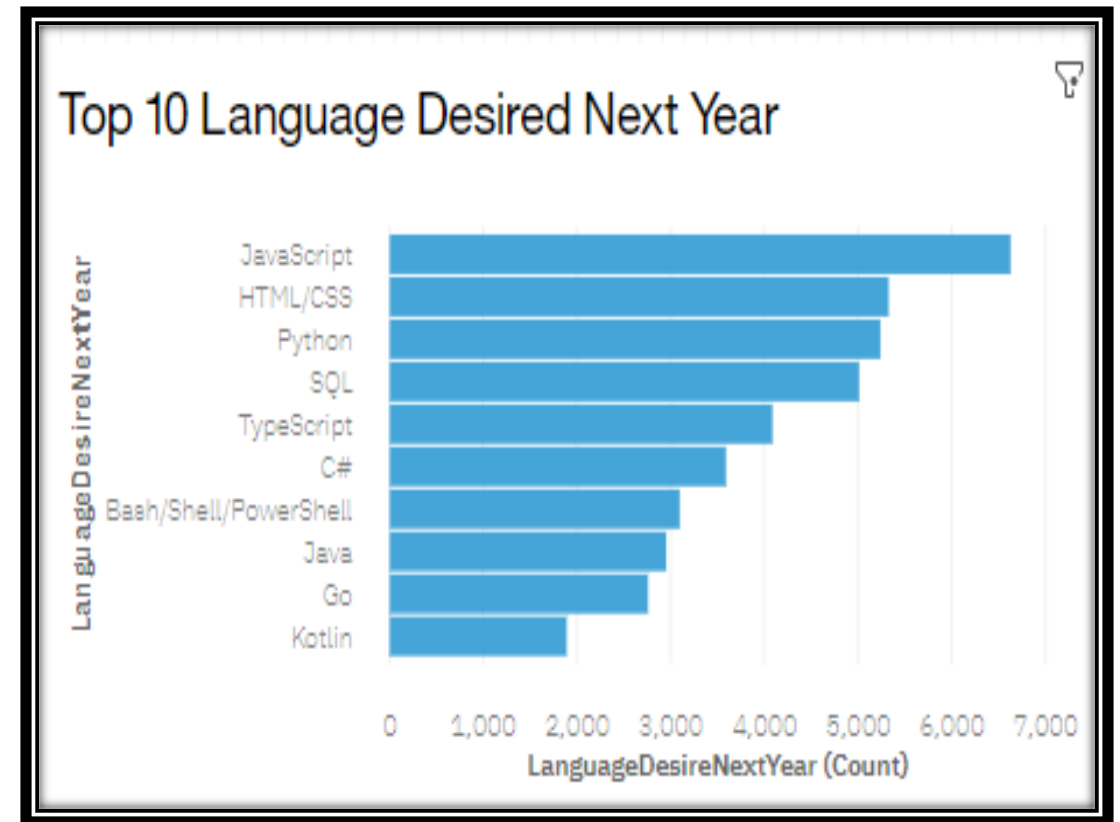
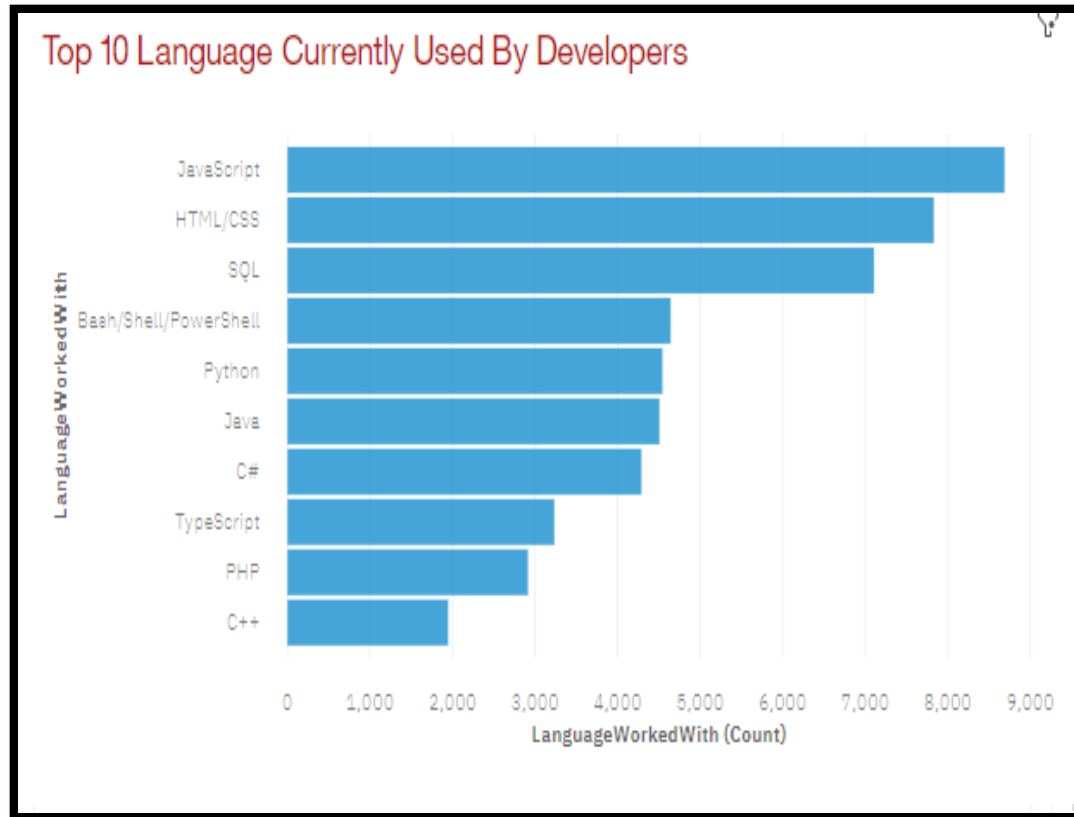


- Data collection techniques during survey
 - Web Scraping
 - APIs.
 - Request library.
- Data Wrangling
 - Duplicates removal
 - data imputation data and normalization
- Exploratory data analysis
 - Analyzing data distribution.
 - Handling outliers.
 - Correlations.
- Data Visualization
 - Highlight distribution of data, relationships, the composition and comparison of data.
- Dashboards

RESULTS



RESULTS: PROGRAMMING LANGUAGE TRENDS



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

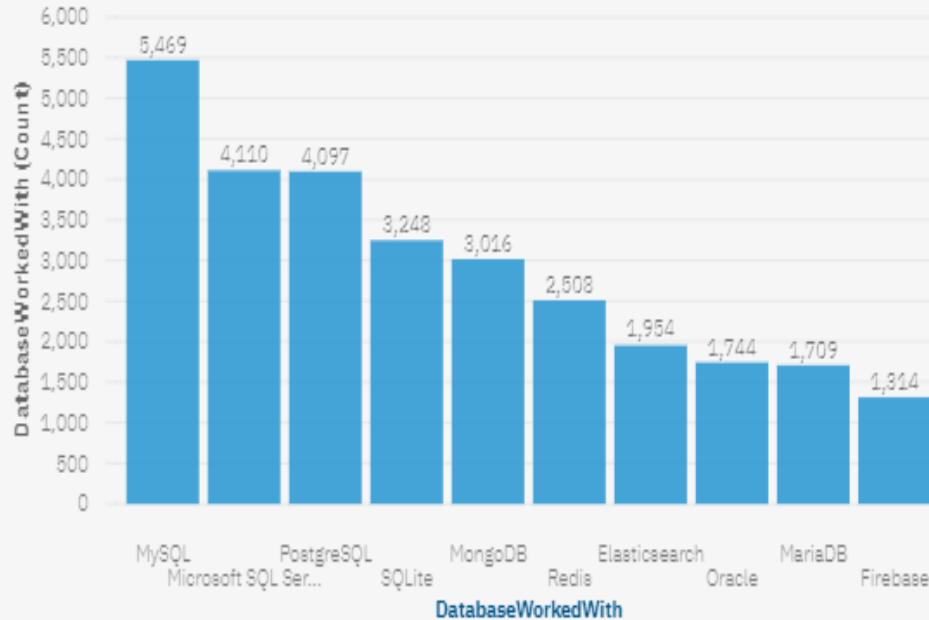
- JavaScript most popular in according survey results
- Python and TypeScript are the fast growing languages according to trends .
- From database point of view SQL was popular database query language .

Implications

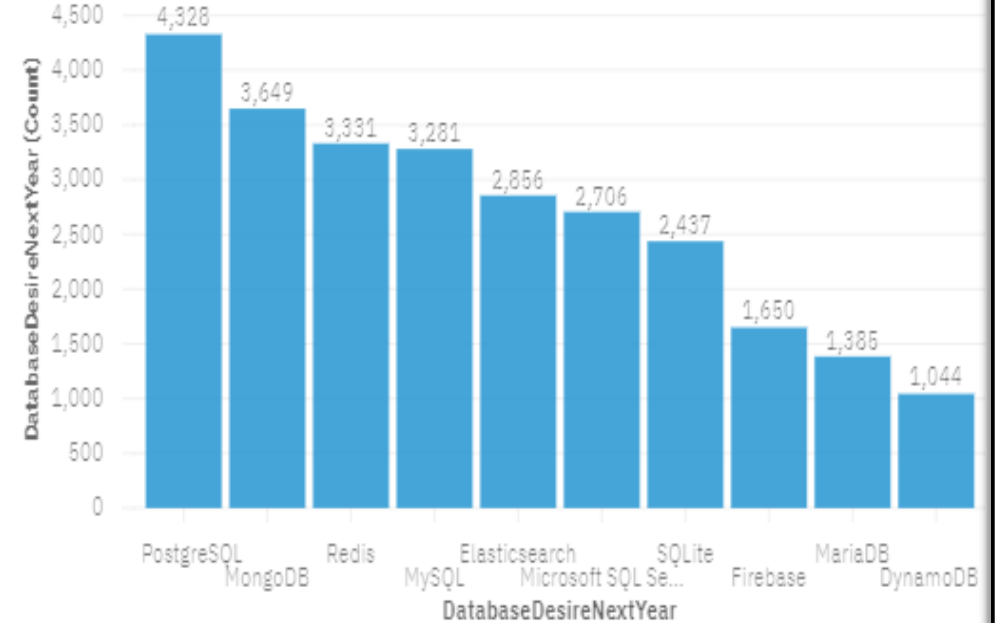
- SQL popularity will not be reduced according to trends in the field of database and querying
- Due to rapid growth in Artificial Intelligence (AI) and Machine Learning (ML), Popularity of python keep increasing
- Although is most popular but it seems that developers may migrate from JavaScript to TypeScript in future.

RESULTS: DATABASE TRENDS

Top 10 Databases Currently Used By Developers



Top 10 Databases Desired Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- PostgreSQL and MongoDB is gaining popularity over database programs.
- Microsoft SQL Server and SQLite are losing their interest .
- From database point of view SQL was popular database query language with MySQL.

Implications

- For non- relational and unstructured data, NoSQL database programin establishing market .
- PostgreSQL and MongoDB is establishing ground for developers as well as in market.

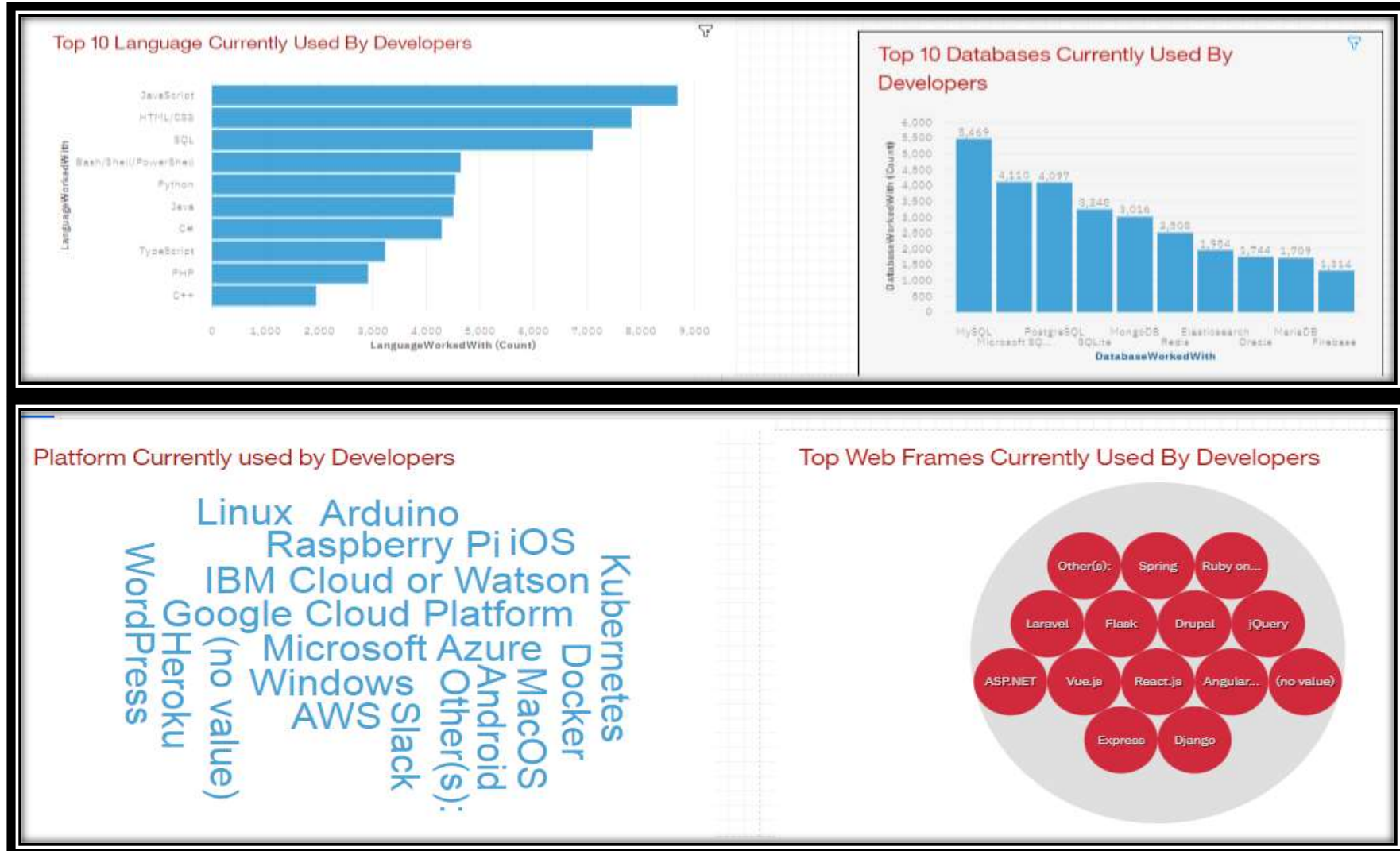
DASHBOARD



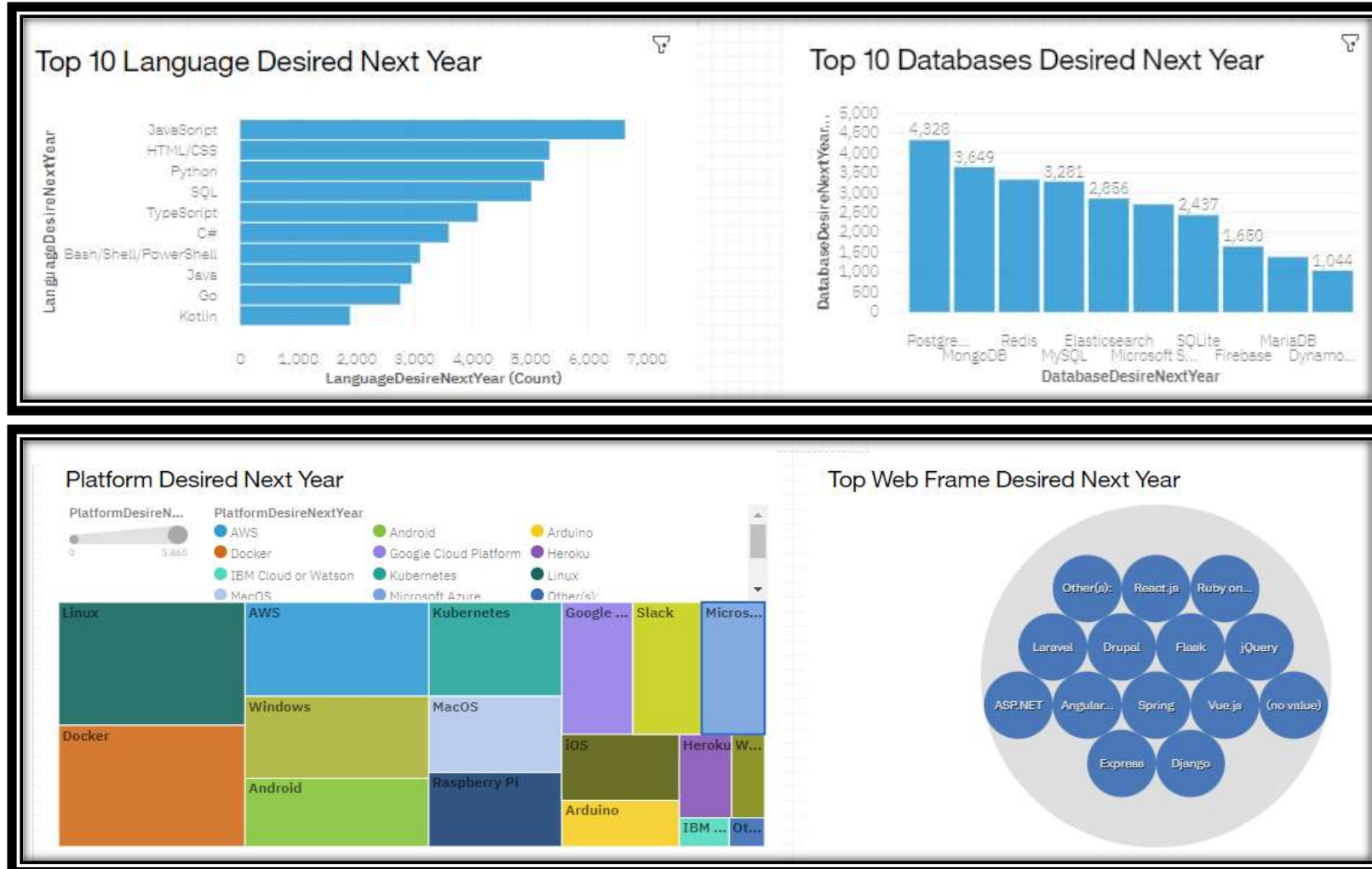
The following link contains the full, interactive *Cognos* dashboard summarizing (1) **current technology use**, (2) **future technology trend**, and (3) **demographics** of the survey respondents:

<https://dataplatfom.cloud.ibm.com/dashboards/86b5541e-f975-4f81-a9cd-541dfb383d9c/view/6306f8600cf163f065edf6e407997d502c61740fe4bb8750d5877b495a617797f06f1495c82d4f098f140163a2eb135cc8>

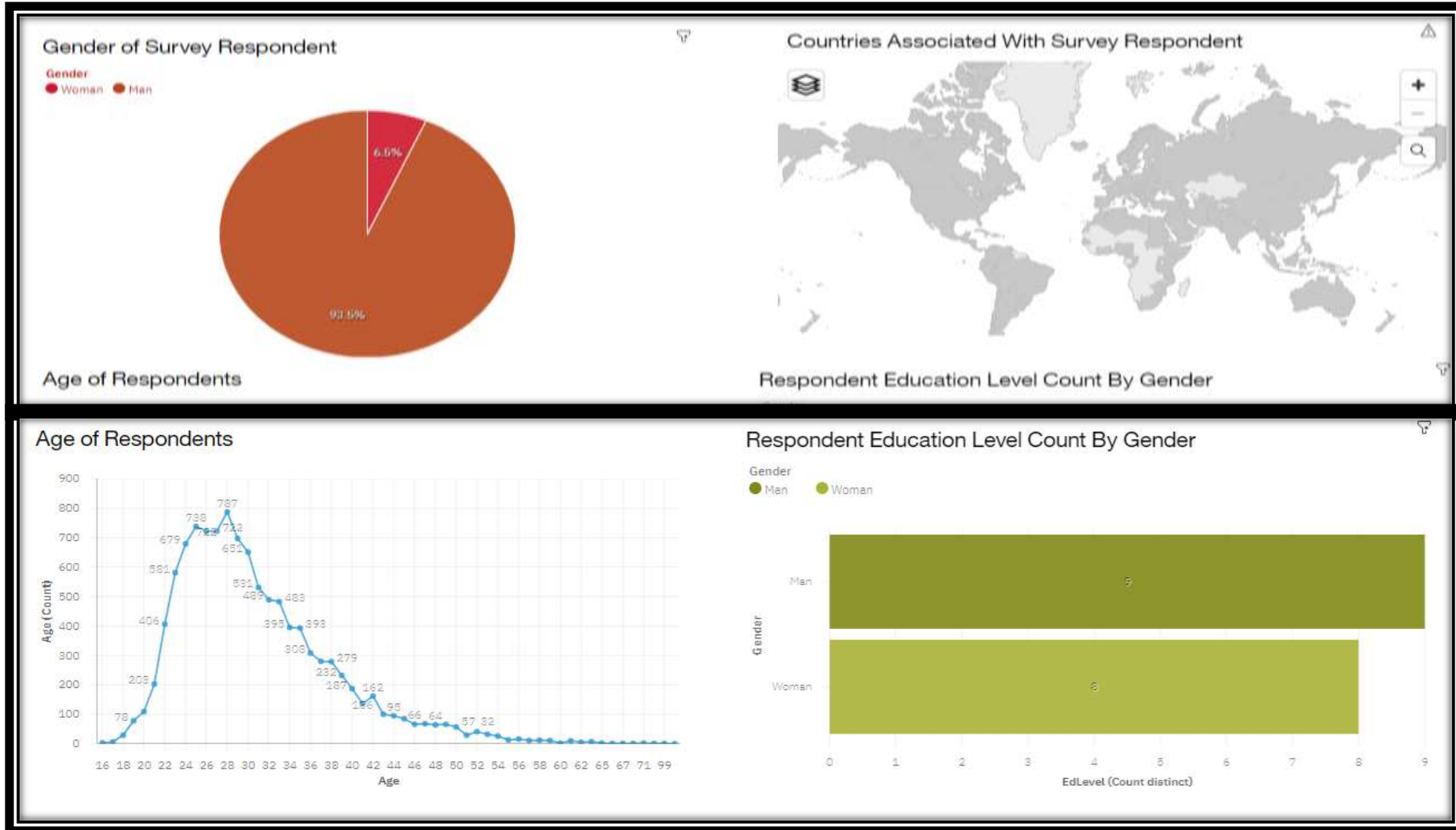
DASHBOARD A: CURRENT TECHNOLOGY USE



DASHBOARD B: FUTURE TECHNOLOGY TREND



DASHBOARD C: DEMOGRAPHICS



DISCUSSION



OVERALL FINDINGS & IMPLICATIONS

Findings

- Increasing popularity in Python language .
- Popularity of Javascript and HTML/CSS is high but in future Typescript will be more popular.
- From database point of view SQL was popular database query language with MySQL
- PostgreSQL and MongoDB is gaining popularity over database programs.
- There is high gender gap which shows men having more access and usage of programming technologies as over 90% young male developers.

Implications

- Due to rapid growth in Artificial Intelligence (AI) and Machine Learning (ML), Popularity of python keep increasing
- Although is most popular but it seems that developers may migrate from JavaScript to TypeScript in future.
- For non- relational and unstructured data, NoSQL database programin establishing market .
- PostgreSQL and MongoDB is establishing ground for developers as well as in market.
- Gender gap and technology divide between countries should be minimized .

CONCLUSION



Data analysis was performed on the Stack Overflow Developer Survey.

The insight and findings from popularity trends of different tools, platforms and languages are made showing interest of developers .

For upskill their talent, business market , accessibility in labor market these insights and findings are helpful.