

Analyzing data and identifying IT trends

Andrii Dunaiev

21.02.2024

OUTLINE



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

EXECUTIVE SUMMARY



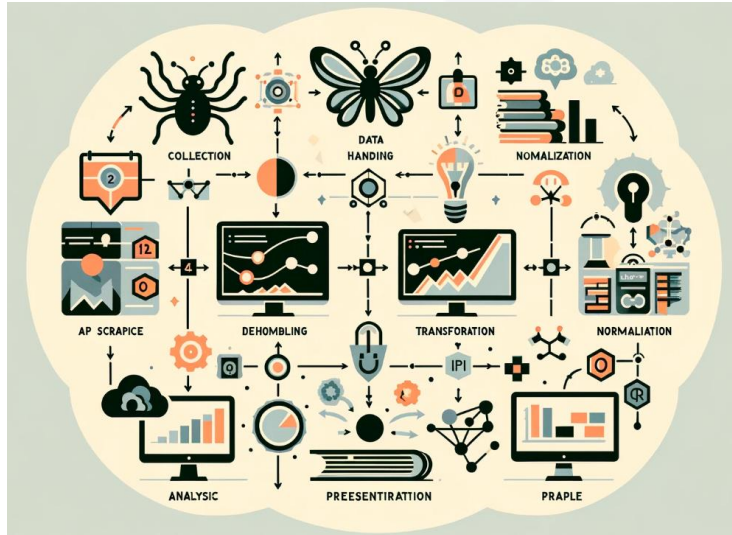
- Purpose of contextual data analysis.
- Methodology description.
 - Data collection.
 - Data analysis.
 - Data visualizations.
- Presentation of results using graphs and trends.
- Discussion of overall findings and implications for the results obtained earlier.
- Final conclusions of the study conducted.

INTRODUCTION



- Stack Overflow's annual Developer Survey is recognized as the most extensive and detailed survey targeting coders worldwide.
- The results are not representative of all members of the development community of the development community.
- Trends to predict where developers are going.
- The actual data set has around 90,000 responses

METHODOLOGY



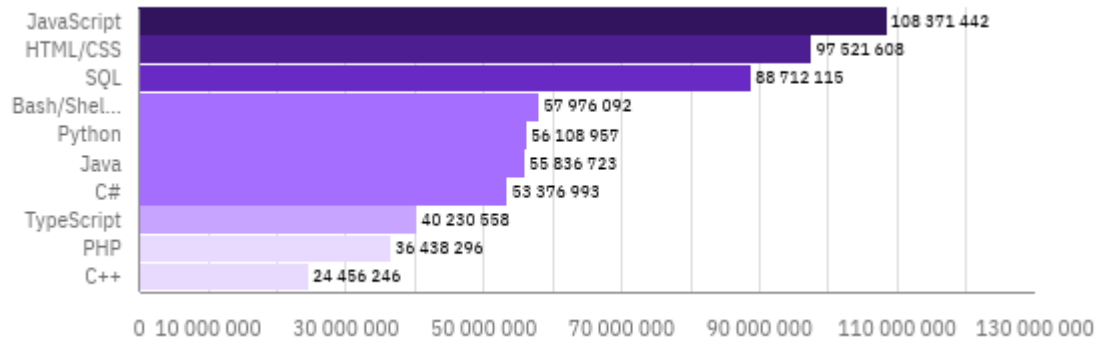
- Data collection and review
 - Web Scraping, API, Request library.
- Data handling, transformation, normalization
- Data analysis (distribution of data and correlation)
- Data visualization
 - Analyzing Data in IBM Cognos Analytics.
 - Presentation preparation

RESULTS



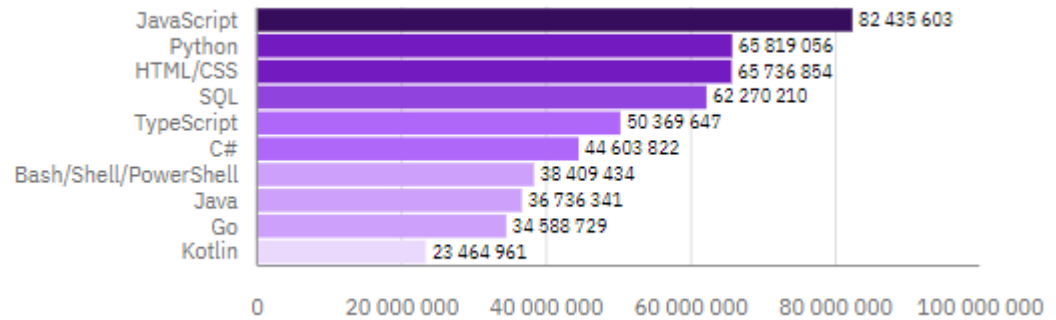
PROGRAMMING LANGUAGE TRENDS

Current Year



- JavaScript
- HTML/CSS
- SQL
- Bash/Shell/PowerShell
- Python

Next Year



- JavaScript
- Python
- HTML/CSS
- SQL
- TypeScript

PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

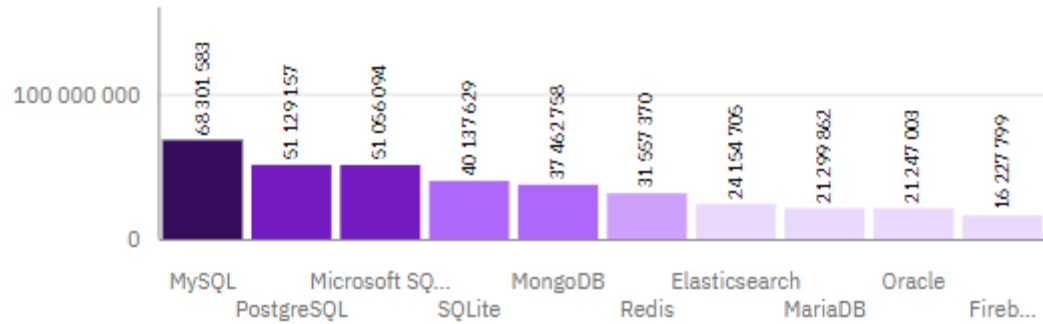
- JavaScript seems to keep as leading language.
- The fastest growing Python
- TypeScript is evolving very fast

Implications

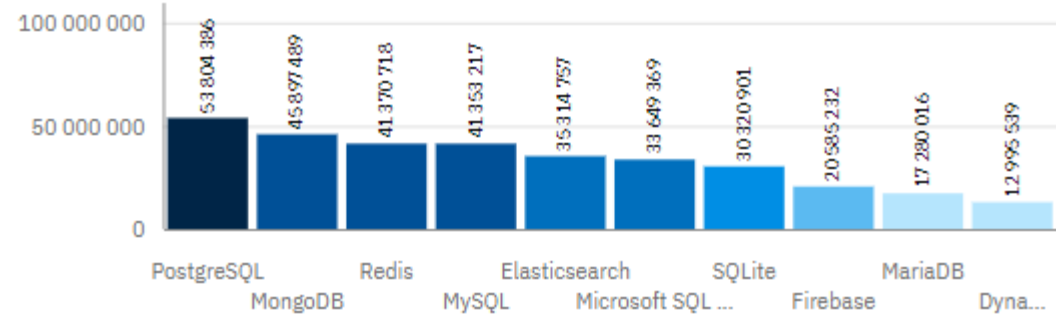
- Possible developers' migration from JavaScript to Python and TypeScript.

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL as most used database.
- Lack of interest in Microsoft SQL Server and SQLite.
- Increasing interest in PostgreSQL and MongoDB

Implications

- Microsoft SQL Server and SQLite are losing market positions.
- PostgreSQL and MongoDB are establishing themselves on the market.

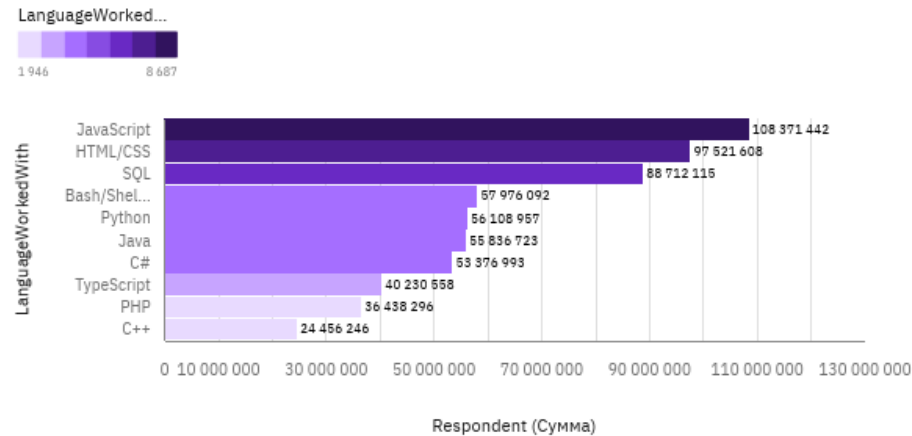
DASHBOARD



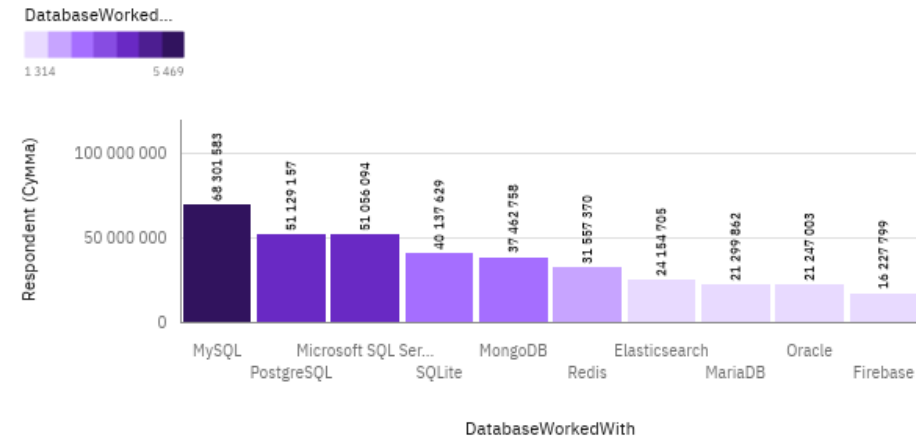
The GitHub link of the Cognos dashboard goes here:
[Link >>>](#)

DASHBOARD TAB 1

Top 10 Language Worked



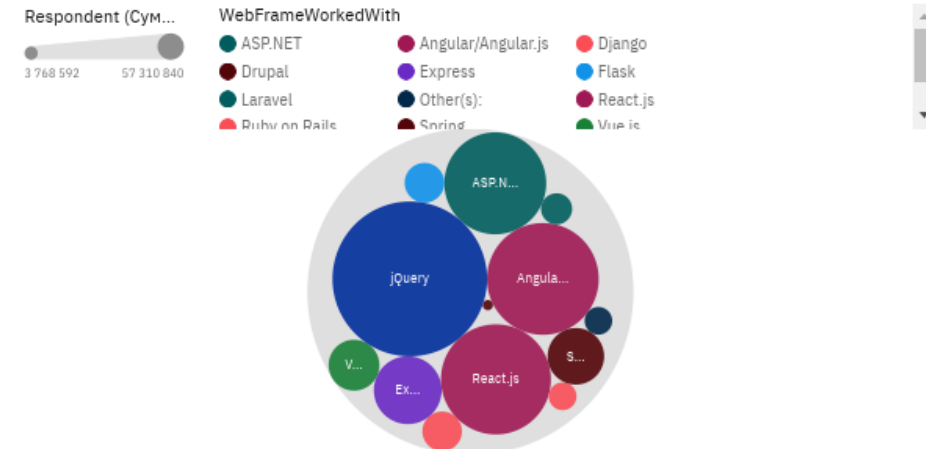
Top 10 Database Worked



Word cloud chart Platform Worked

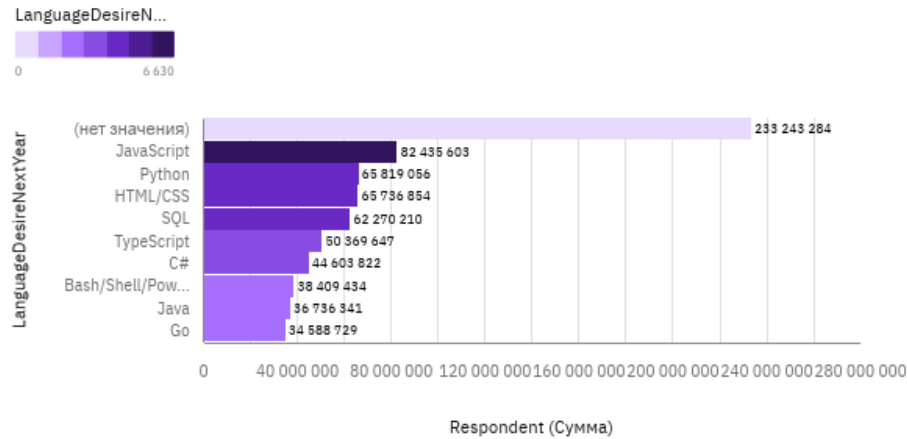


Top 10 Web Frame Worked

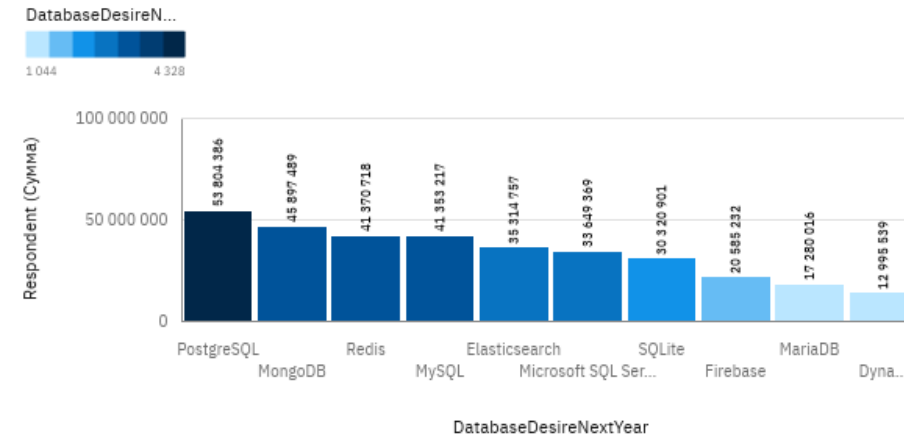


DASHBOARD TAB 2

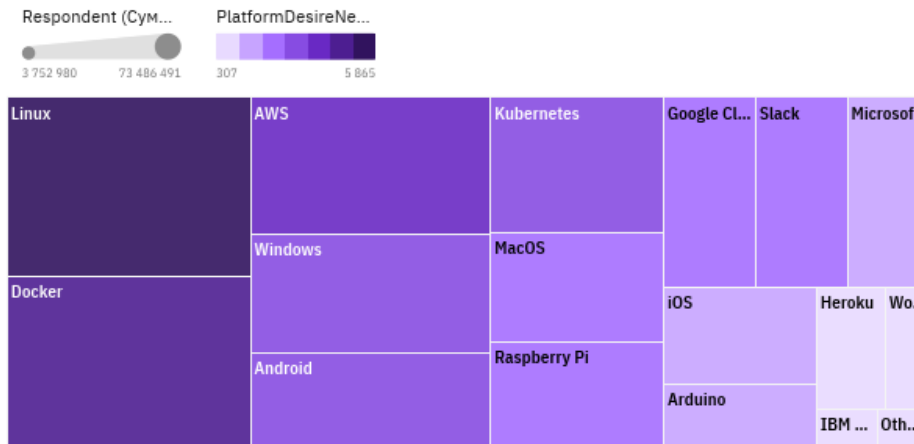
Top 10 Language Desire Next Year



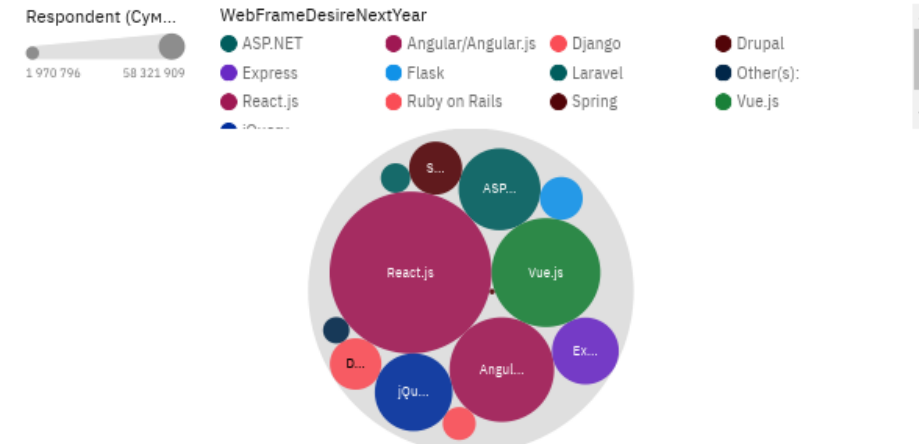
Top 10 Database Desire Next Year



Tree map chart Platform Desire Next Year



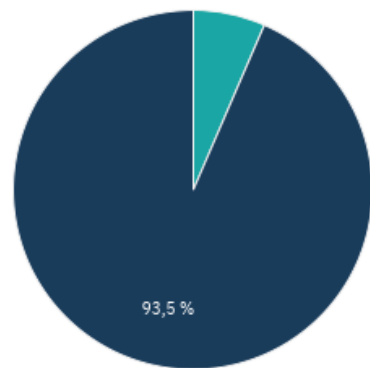
Top 10 Web Frame Desire Next Year



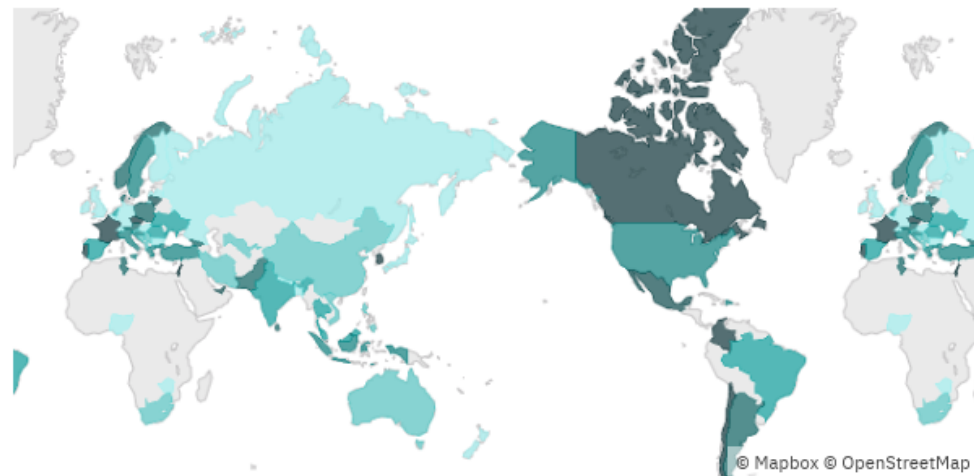
DASHBOARD TAB 3

Respondent classified by Gender

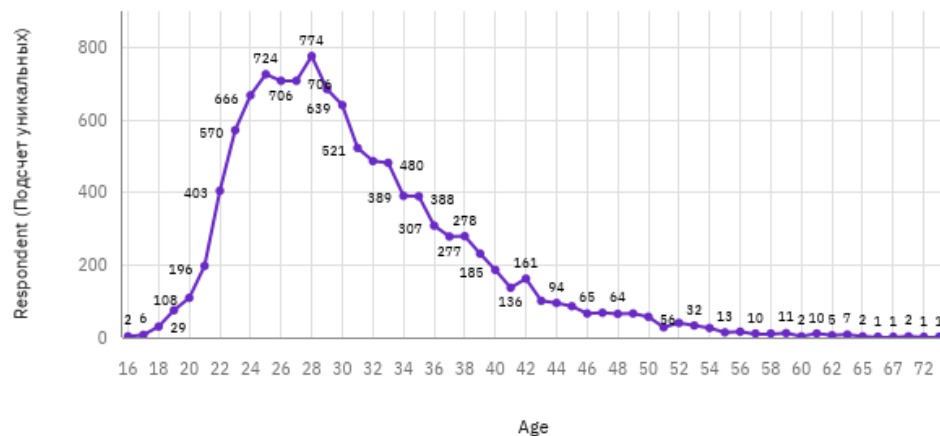
Gender
● Woman ● Man



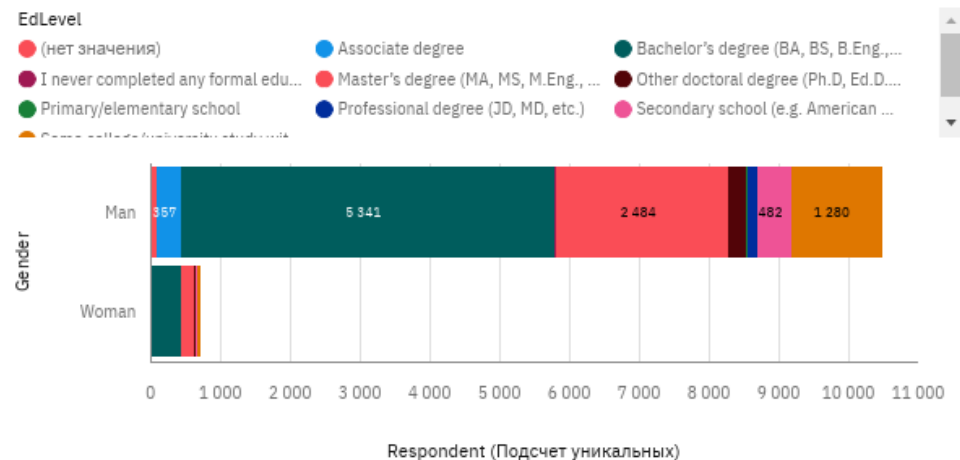
Respondent Count for Countries



Respondent Count by Age



Respondent по столбцу Gender



DISCUSSION



- Any questions?

OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript widely used and Python, TypeScript getting popular.
- 93% young male developers
- Developers are mostly located in developed countries.

Implications

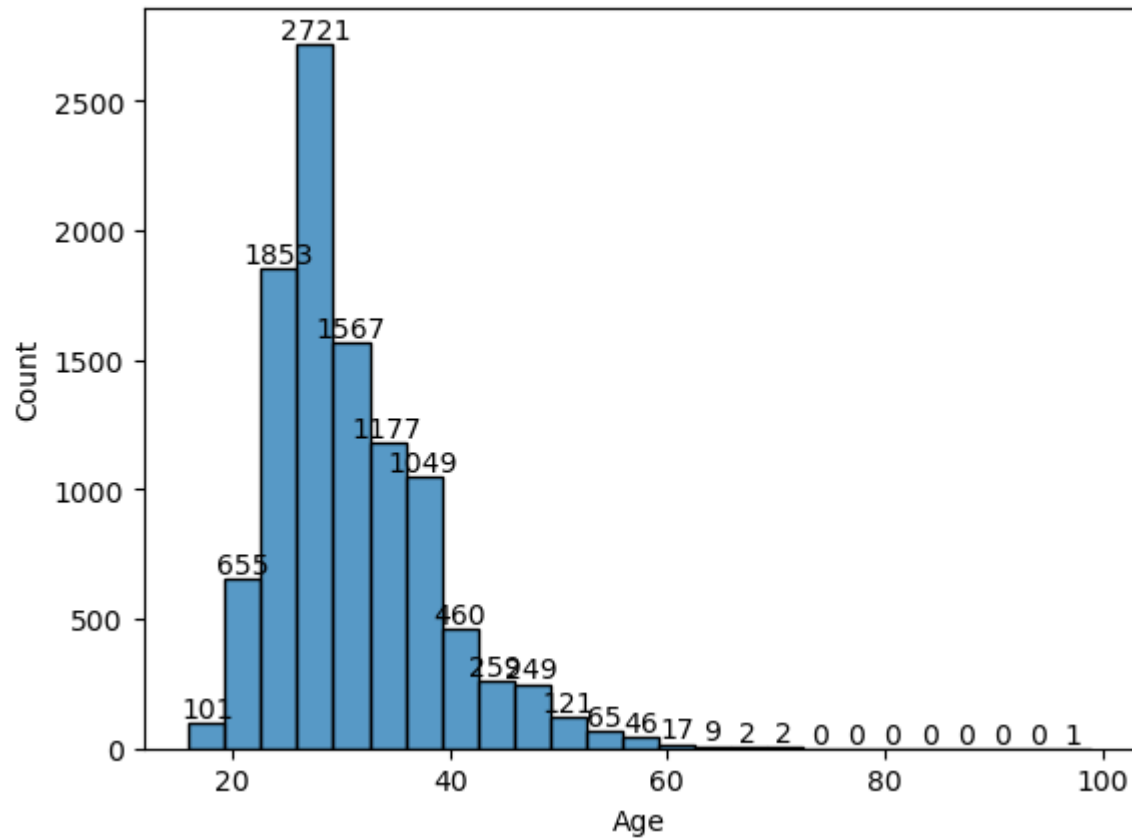
- JavaScript, Python, TypeScript web frames gaining followers.
- Most Developers have bachelor's and master's degrees.

CONCLUSION



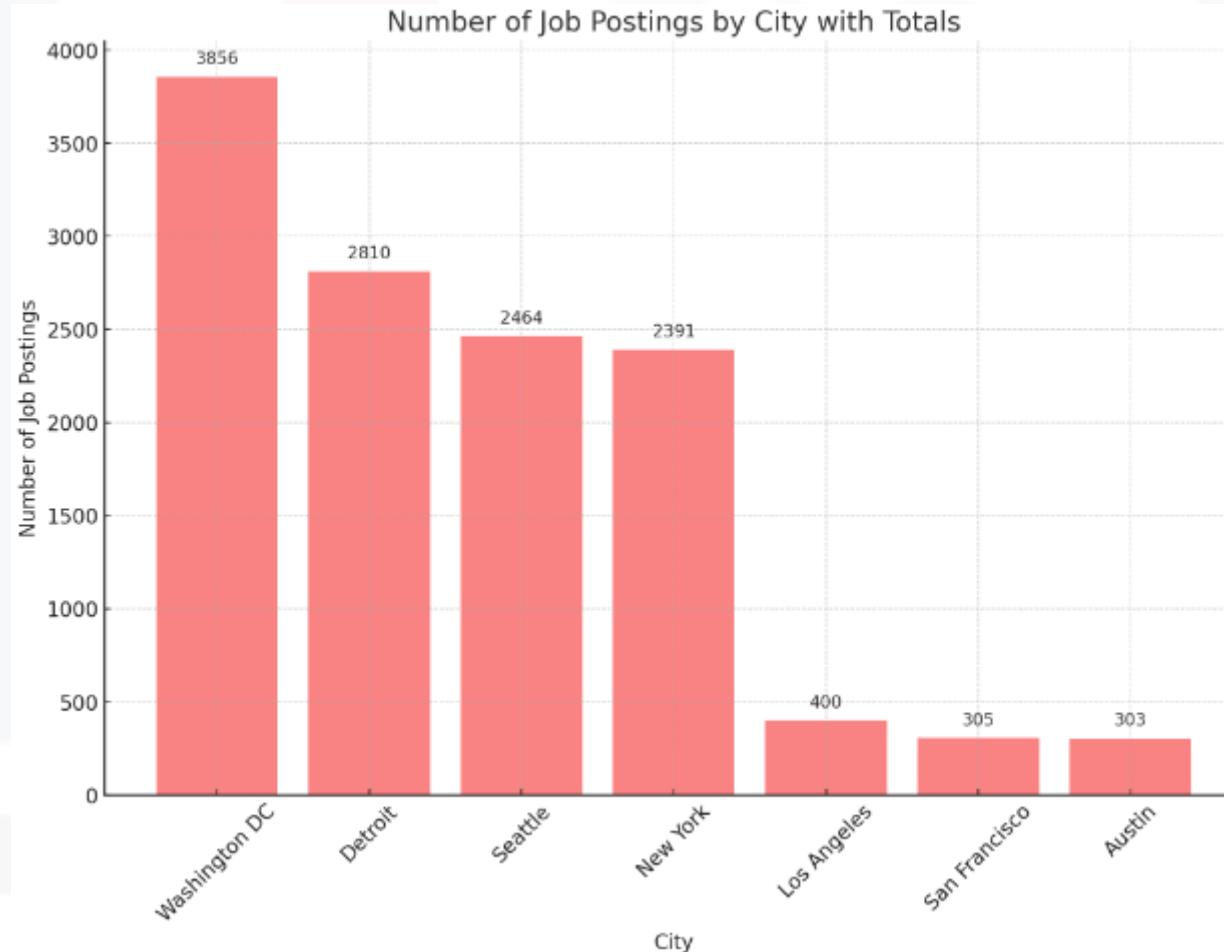
- Developers are individuals possessing distinct traits.
- It's possible to gain a solid understanding of the popularity trends across various tools, platforms, and languages.
- Efforts are needed to make this job market more accessible to developing countries.

APPENDIX



- Number of respondents by age

JOB POSTINGS



POPULAR LANGUAGES

