STACK OVERFLOW DEVELOPER SURVEY 2019

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OUTLINE

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

EXECUTIVE SUMMARY

- Data contextualization and analysis goal.

- Methodology description.
  - Data gathering.
  - Data analysis.
  - Data visualizations.

- Results presentation supported with graphs and trends.

- Discussion of overall findings and implications regarding the results previously exposed.

- Final conclusions of the carried out research.

INTRODUCTION

- Stack Overflow's annual Developer Survey is the largest and most comprehensive survey of people who code around the world.

- Results don't represent everyone in the developer community evenly.

- Nearly 90,000 developers.

- Trends to predict where the developers are going.

- Characterization of developers around the globe.

METHODOLOGY

- Collect survey data & explore its content
  - Web Scraping
  - APIs.
  - Request library.
- Data Wrangling
- Exploratory data analysis
  - Analyzing data distribution.
  - Handling outliers.
  - Correlations.
- Data Visualization
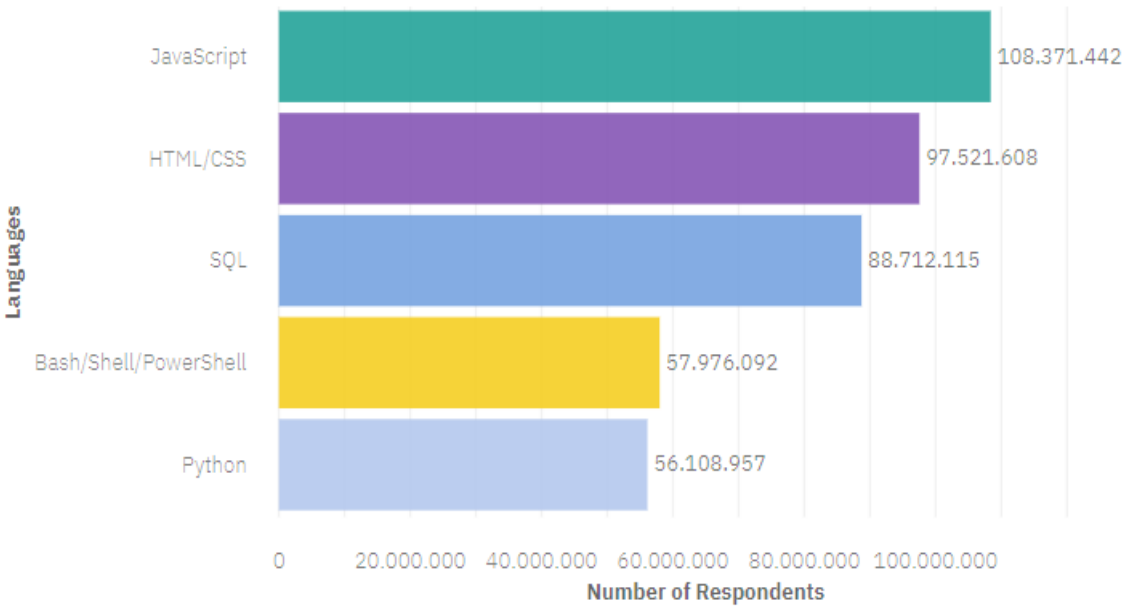 - Highlight distribution of data, relationships, the composition and comparison of data.
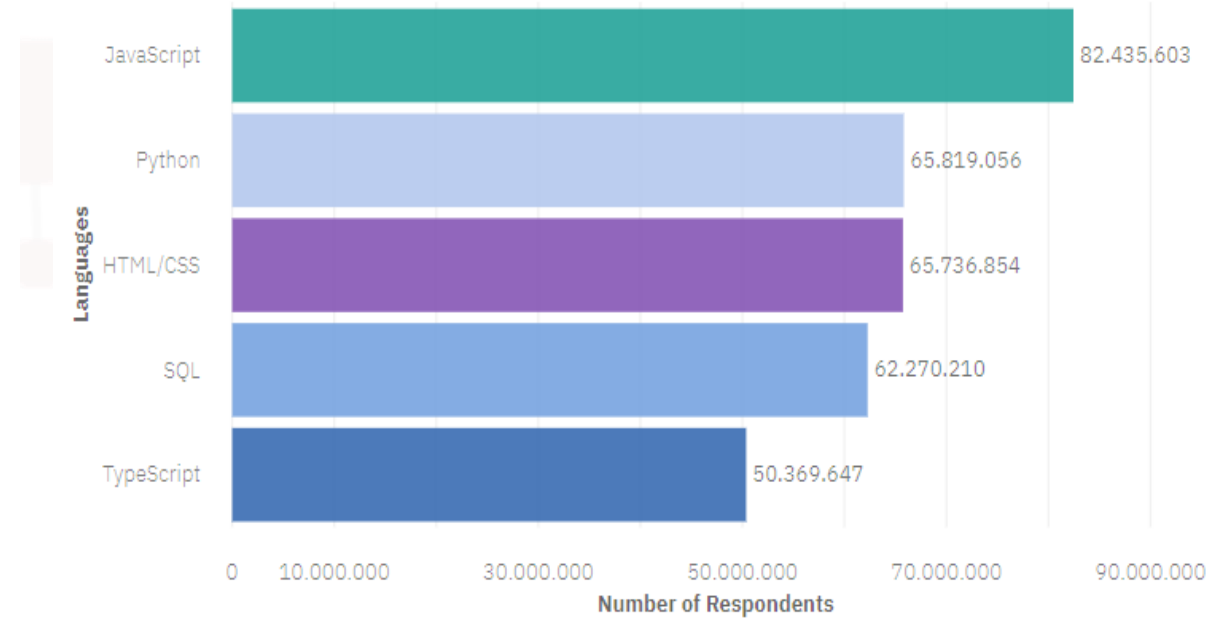- Dashboards

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RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year

Next Year

PROGRAMMING LANGUAGE TRENDS – FINDINGS & IMPLICATIONS

Findings

- JavaScript seems to keep as leading language.

- Python fastest-growing.
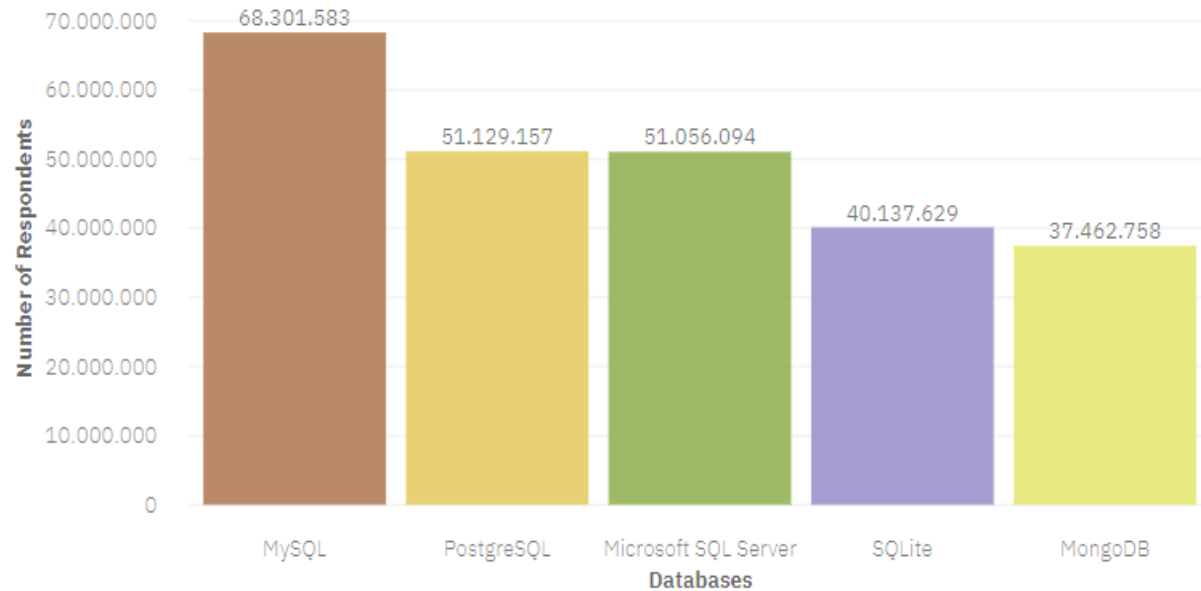
- Great interest in TypeScript

Implications

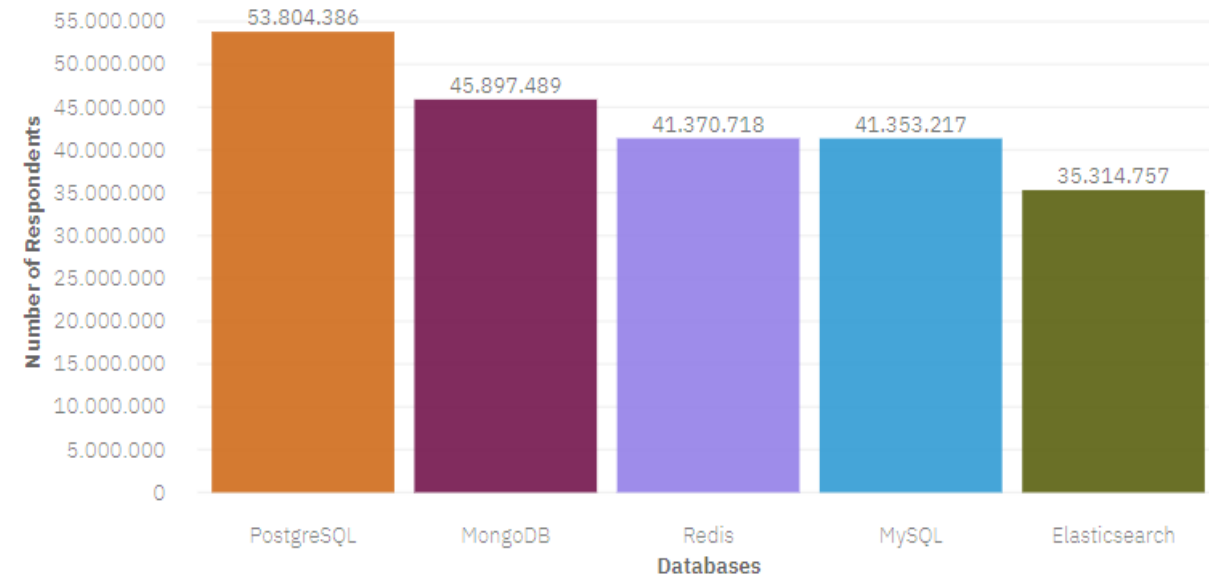- Possible developers migration from JavaScript to TypeScript.

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DATABASE TRENDS

Current Year

Next Year

Top 5 Databases Worked with

Number of Respondents

Database	Value
MySQL	68.301.583
PostgreSQL	51.129.157
Microsoft SQL Server	51.056.094
SQLite	40.137.629
MongoDB	37.462.758

Databases

Top 5 Desired Database to Learn

Number of Respondents

Database	Value
PostgreSQL	53.804.386
MongoDB	45.897.489
Redis	41.370.718
MySQL	41.353.217
Elasticsearch	35.314.757

Databases

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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 losing ground in the market.
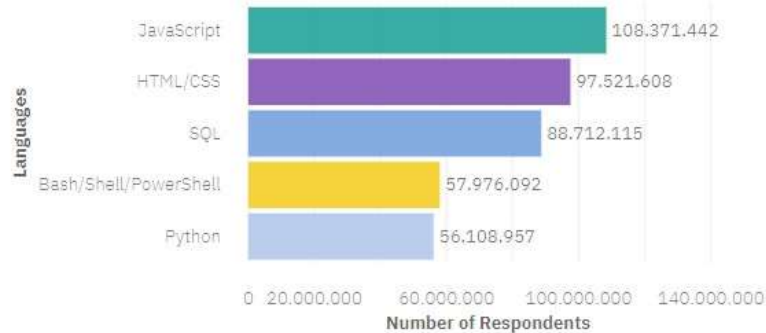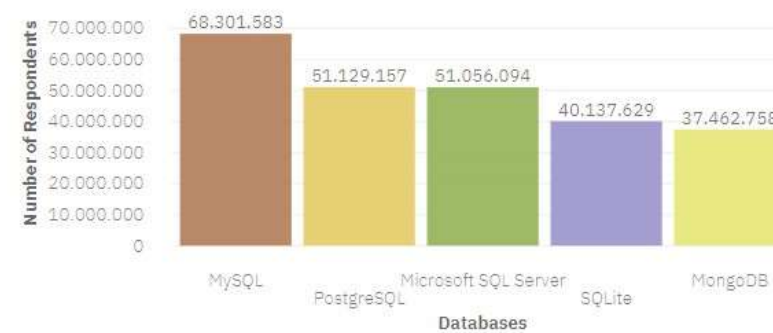- PostgreSQL and MongoDB establishment in the market.

DASHBOARD

https://dataplatform.cloud.ibm.com/dashboards/380a93e5-f4a1-4e4d-9841-4966b65d676b/view/4c21e17d12b36af74bfcc0e407cf7a0f7d35250fbabb8456d6d77b490a327397f33b1590c87c1d5b89130561a5bf110acc

CURRENT TECHNOLOGY USAGE
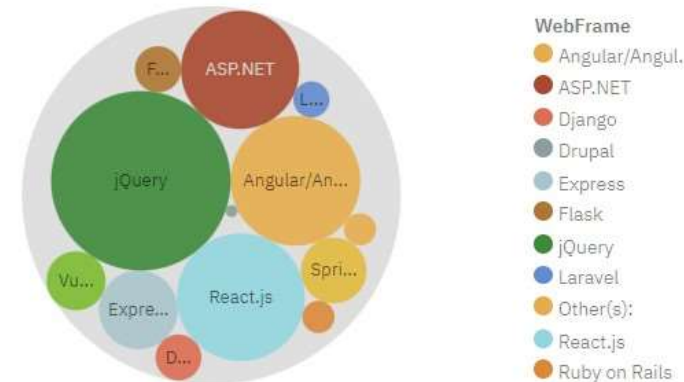

Top 5 Programming Language Experience

Languages	Number of Respondents
JavaScript	108.371.442
HTML/CSS	97.521.608
SQL	88.712.115
Bash/Shell/PowerShell	57.976.092
Python	56.108.957

Top 5 Databases Worked with

Databases	Number of Respondents
MySQL	68.301.583
PostgreSQL	51.129.157
Microsoft SQL Server	51.056.094
SQLite	40.137.629
MongoDB	37.462.758

Platforms Interacted

AWS Slack Android Microsoft Azure WordPress Windows Docker Linux Google Cloud Platform iOS Arduino Heroku MacOS Kubernetes Raspberry Pi

Top 10 WebFrames Used

WebFrame
- Angular/Angul...
- ASP.NET
- Django
- Drupal
- Express
- Flask
- jQuery
- Laravel
- Other(s):
- React.js
- Ruby on Rails

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FUTURE TECHNOLOGY TREND

Top 5 Desired Language to Learn

Languages	Number of Respondents
JavaScript	82.435.603
Python	65.819.056
HTML/CSS	65.736.854
SQL	62.270.210
TypeScript	50.369.647

Top 5 Desired Database to Learn

Databases	Number of Respondents
PostgreSQL	53.804.386
MongoDB	45.897.489
Redis	41.370.718
MySQL	41.353.217
Elasticsearch	35.314.757

Platform Next Year

Linux, AWS, Kubernetes, Slack, Micro...
MacOS
Windows, iOS, Ardu...
Docker, Raspberry Pi
Android, Google Cloud Pla..., Heroku, Word...
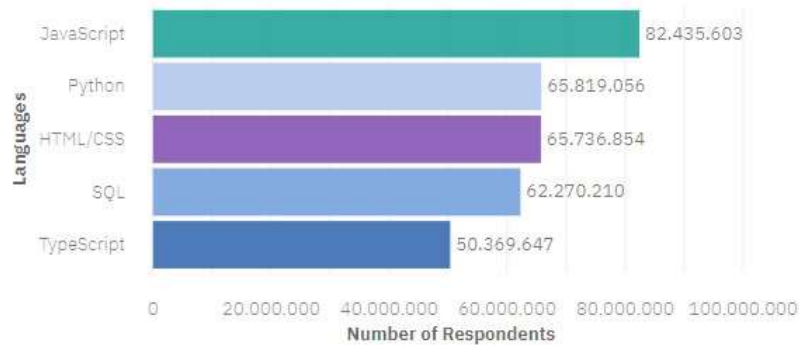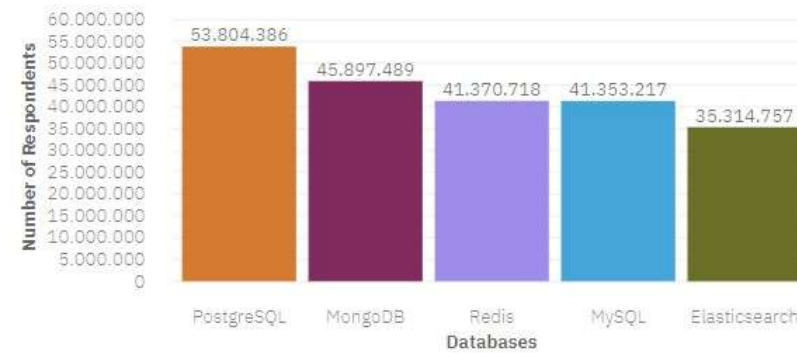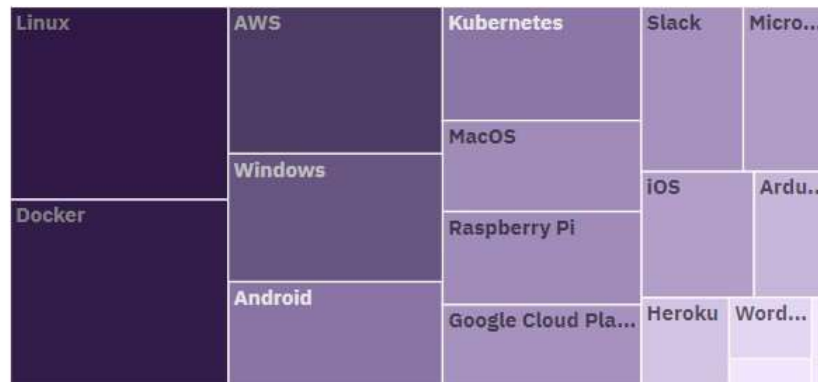
Top 10 WebFrame Next Year
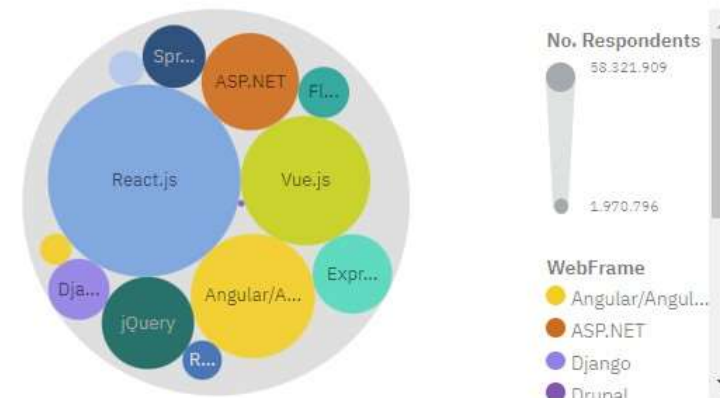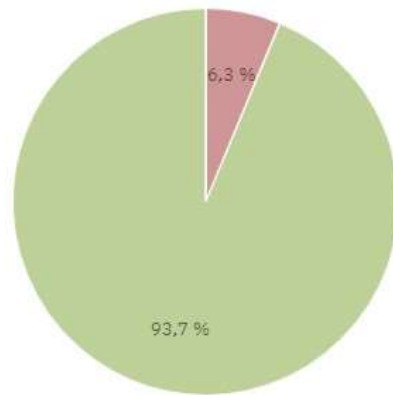
Spr..., ASP.NET, Fl...
React.js, Vue.js
Dja..., Angular/A..., Expr...
jQuery
R...

No. Respondents
58.321.909
1.970.796

WebFrame
- Angular/Angul...
- ASP.NET
- Django
- Drupal

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DEMOGRAPHICS
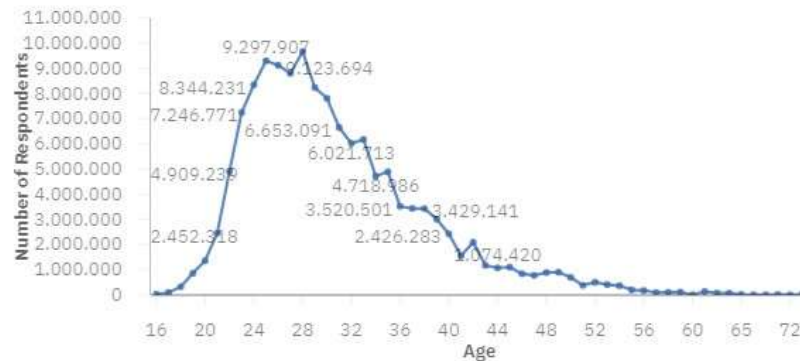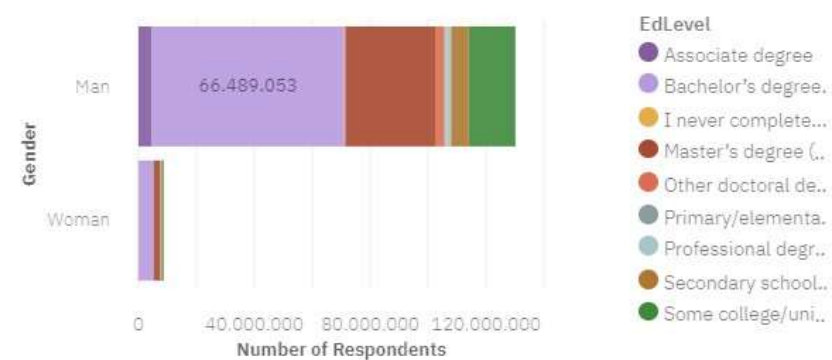
DISCUSSION

OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript widely used and TypeScript getting popular.

- Over 90% young male developers.

- Developers mostly located in developed countries.

Implications

- JavaScript and TypeScript web frames gaining followers.

- Global polarization of developers location and gender.

- Young developers without postgrad studies on its majority.
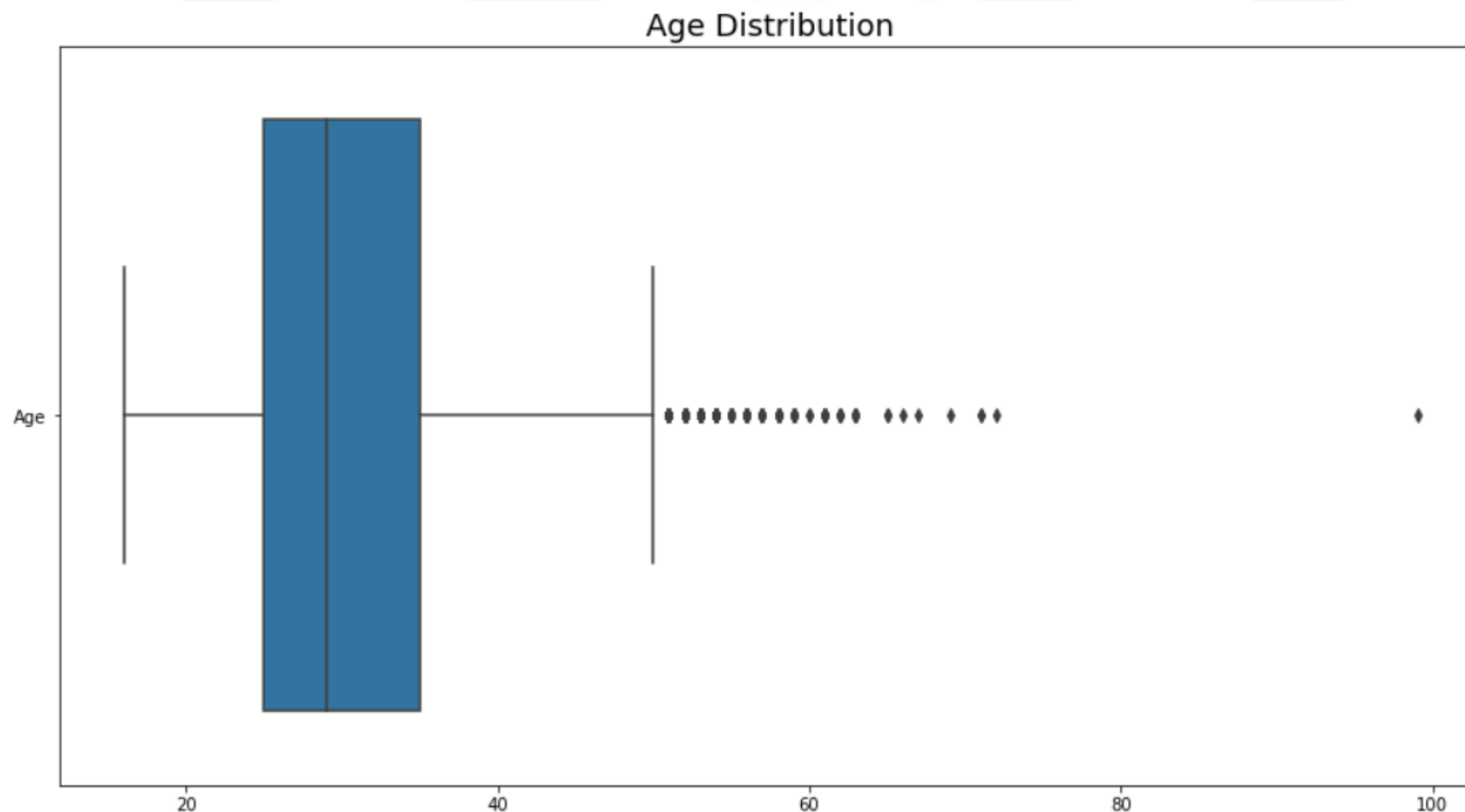
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CONCLUSION

- Developers are people with very marked characteristics.

- A good idea of popularity trends of different tools, platforms and languages can be obtained.

- There is a job to be done to spread accessibility of this labor market to countries in development.
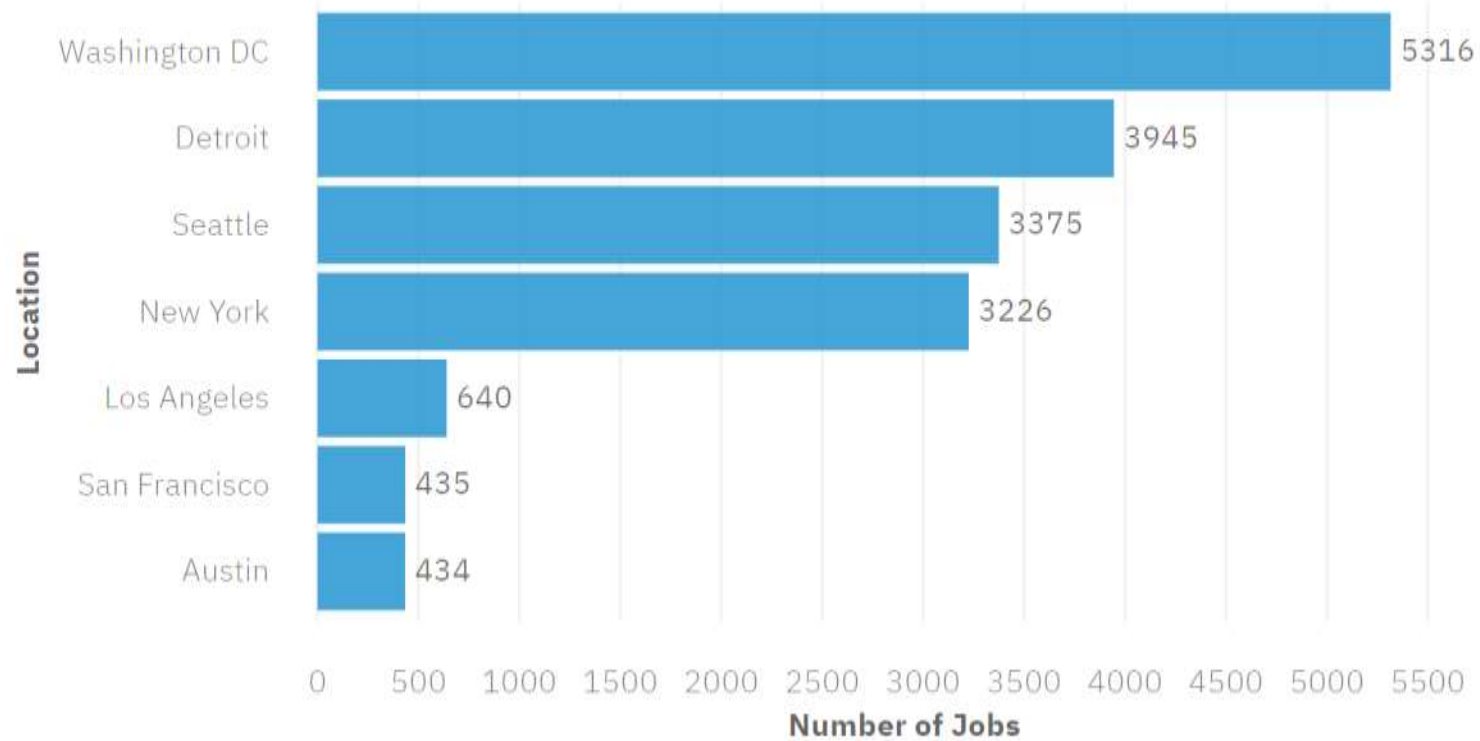
APPENDIX
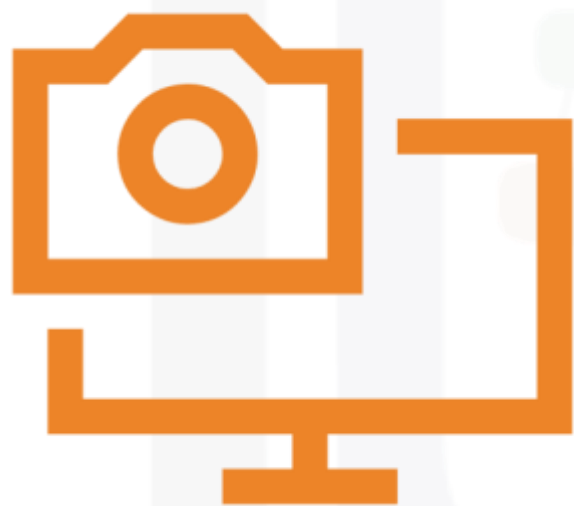
AGE DISTRIBUTION BOXPLOT

Age Distribution

JOB POSTINGS

POPULAR LANGUAGES