Q1
Q2
Q3
Q2
Q3
Q4

DEVELOPER SURVEY 2019 – STACK OVERFLOW

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Date: 27 – 03 - 2024

OUTLINE

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

EXECUTIVE SUMMARY

- The goal is to perform data contextualization and analysis
- Methodology description
  - Data gathering
  - Data Analysis
  - Data Visualization
- Results displayed with graphs and trends
- Overall findings and implications regarding the results previously portrayed
- Final conclusions of the research

INTRODUCTION

- Annual Developer survey is the largest survey where people code around the world.
- Nearly 90000 developers.
- The results DO NOT interpret everyone in the developer community.
- The trends and results provide insight on where the developers are going.

METHODOLOGY

- Collect survey data and explore contents
  - Web Scraping
  - APIs
  - Request Library
- Data Wrangling
- Exploratory Data analysis
  - Outliers
  - Analyzing data distribution
  - Correlations
- Data Visualization
- Dashboards

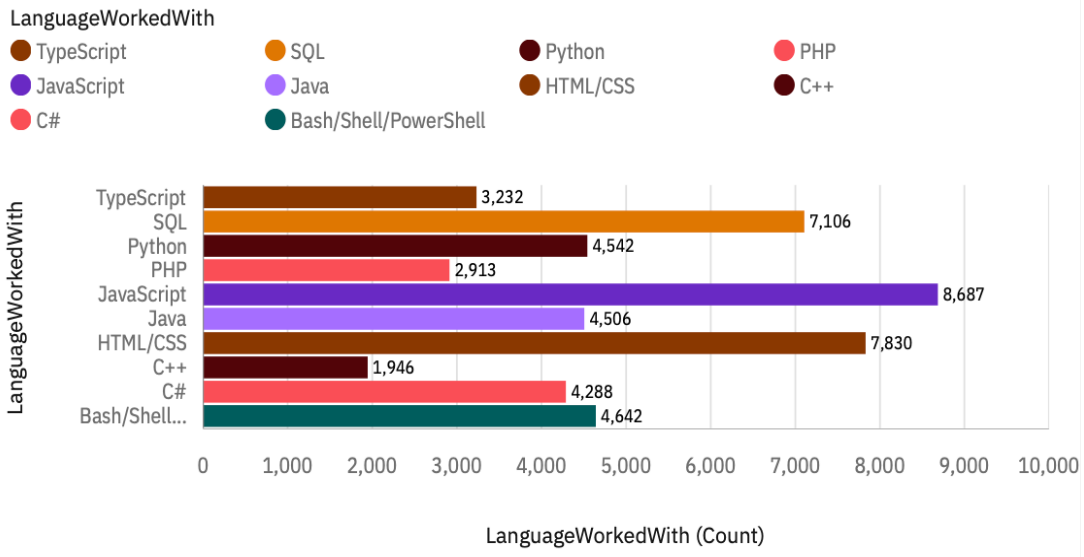
RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year

Current Technology Usage

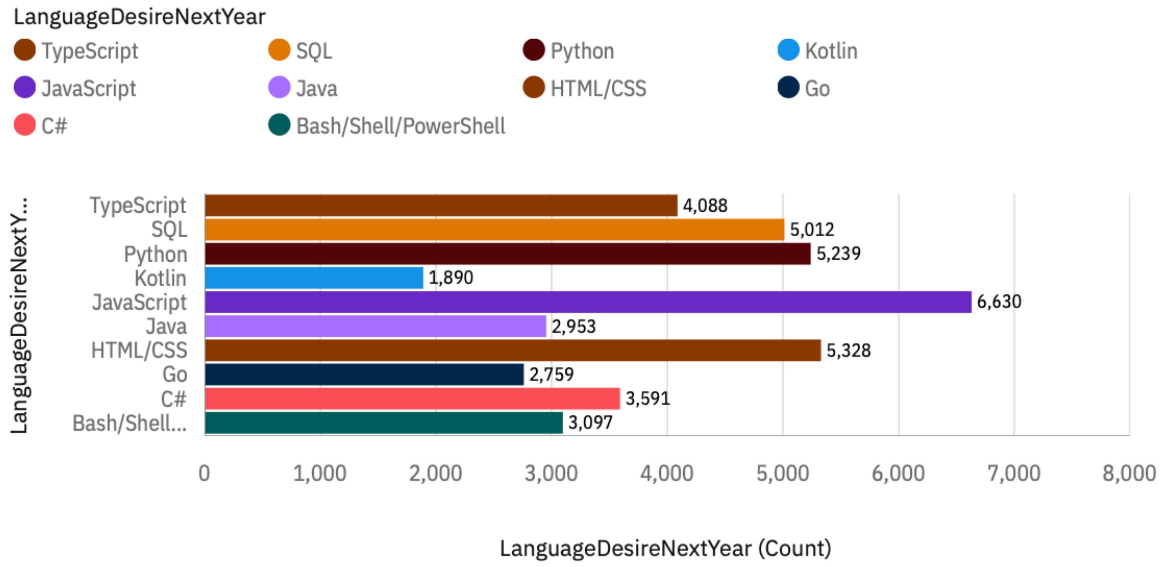
Bar Chart - Top 10 Languages worked with



Next Year

Future Technology Trend

Bar Chart - Top 10 Languages Desired Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

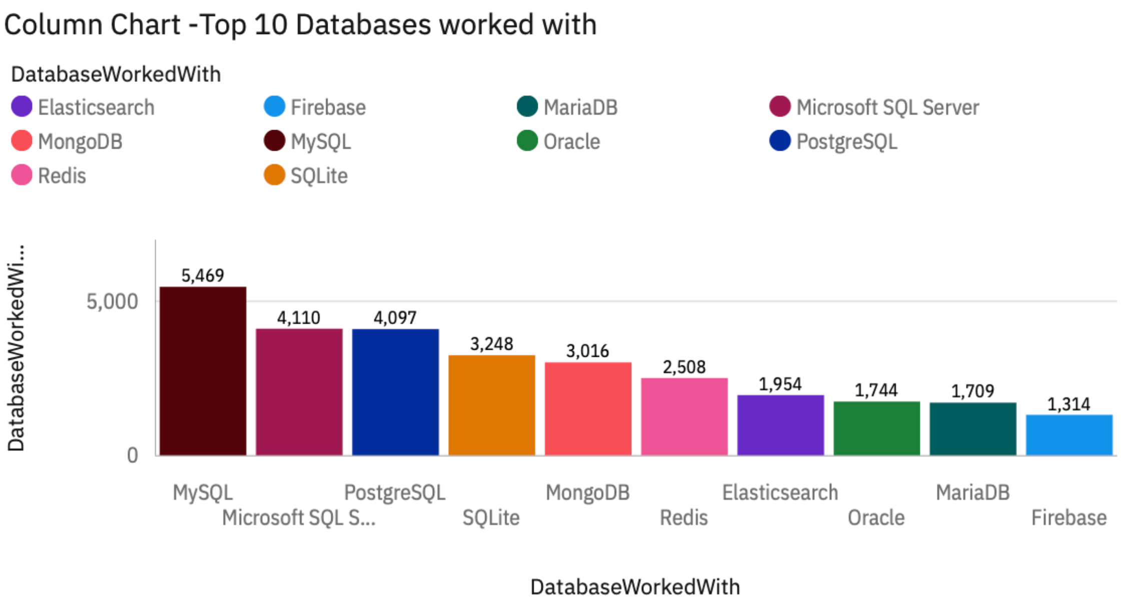
- JavaScript is the most used language
- Python appears to be the most improving language
- Great demand in TypeScript

Implications

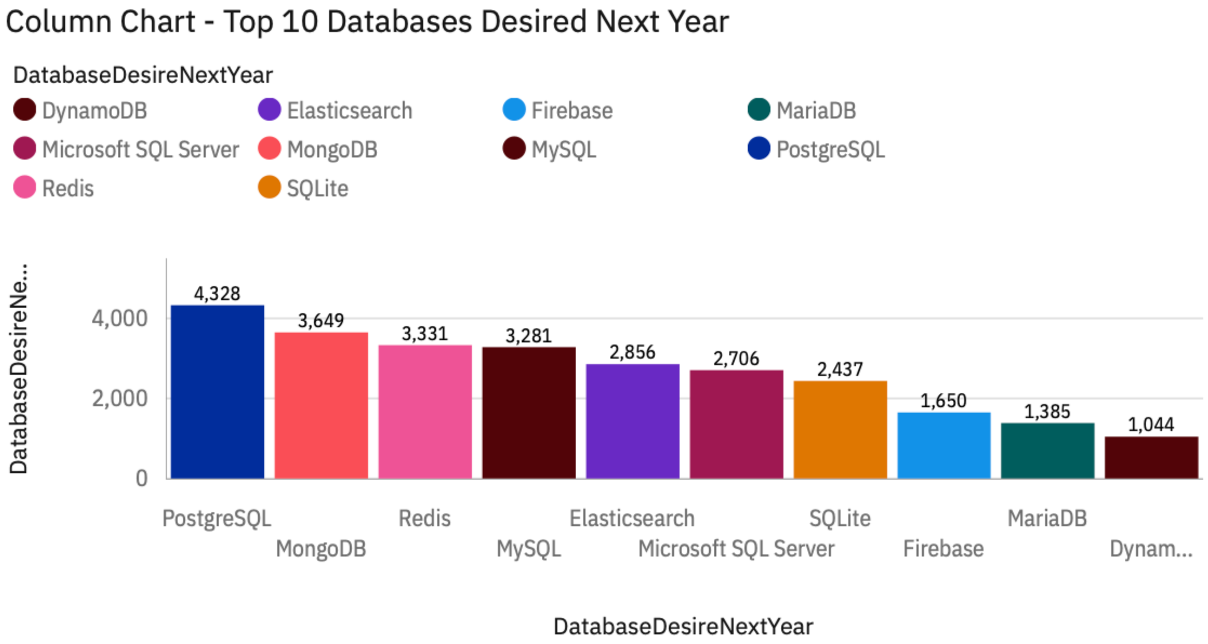
- Developers can shift from JavaScript to TypeScript

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL is the most frequently used database among the top 10
- PostgreSQL and MongoDB displays good improvements
- Lack of interest in Microsoft SQL Server and SQLite

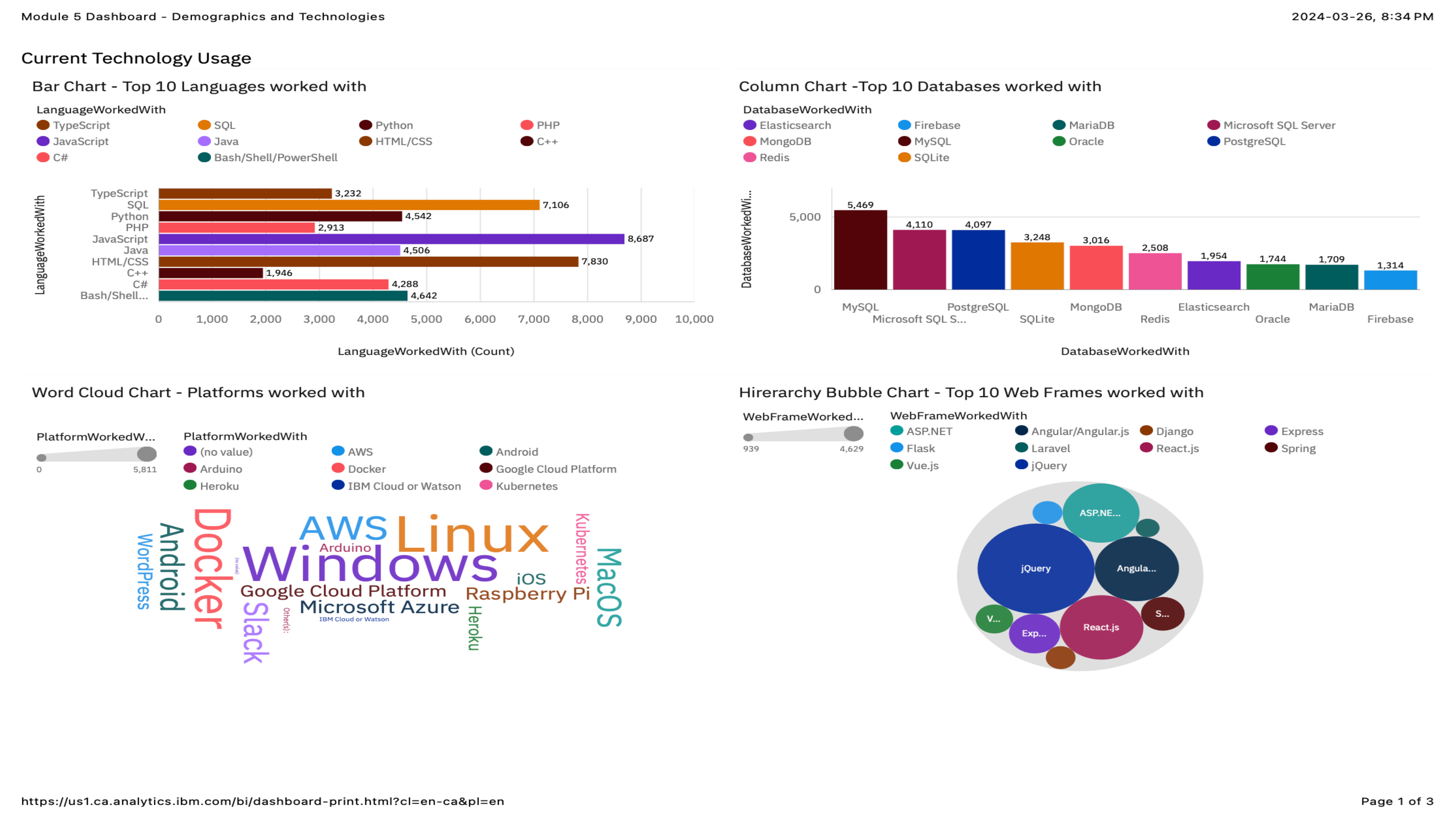
Implications

- Microsoft SQL Server and SQLite losing pace in the market
- PostgreSQL and MongoDB showing establishment in the market

DASHBOARD

https://github.com/Arvin6995/Arvin-s-Python-Repo/blob/364017d65aceab91ef3e66eff3d0975c3d97301a/Dashboard%20-%20Demographics%20and%20Technologies%20-%20Arvin%20Patrik.pdf

DASHBOARD TAB 1



Module 5 Dashboard - Demographics and Technologies

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Current Technology Usage

Bar Chart - Top 10 Languages worked with

LanguageWorkedWith
TypeScript
SQL
Python
PHP
JavaScript
Java
HTML/CSS
C++
C#
Bash/Shell/PowerShell
LanguageWorkedWith
TypeScript 3,232
SQL 7,106
Python 4,542
PHP 2,913
JavaScript 8,687
Java 4,506
HTML/CSS 7,830
C++ 1,946
C# 4,288
Bash/Shell... 4,642
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000
10,000
LanguageWorkedWith (Count)

Column Chart -Top 10 Databases worked with

DatabaseWorkedWith
Elasticsearch
Firebase
MariaDB
Microsoft SQL Server
MongoDB
MySQL
Oracle
PostgreSQL
Redis
SQLite
DatabaseWorkedWi...
5,000
0
MySQL 5,469
Microsoft SQL S... 4,110
PostgreSQL 4,097
SQLite 3,248
MongoDB 3,016
Redis 2,508
Elasticsearch 1,954
Oracle 1,744
MariaDB 1,709
Firebase 1,314
DatabaseWorkedWith

Word Cloud Chart - Platforms worked with

PlatformWorkedW...
0
5,811
PlatformWorkedWith
(no value)
AWS
Android
Arduino
Docker
Google Cloud Platform
Heroku
IBM Cloud or Watson
Kubernetes
WordPress
Android
Docker
AWS
Linux
Arduino
Windows
iOS
Kubernetes
MacOS
Google Cloud Platform
Raspberry Pi
Microsoft Azure
IBM Cloud or Watson
Slack
Heroku
Other(s):

Hirerarchy Bubble Chart - Top 10 Web Frames worked with

WebFrameWorked...
939
4,629
WebFrameWorkedWith
ASP.NET
Angular/Angular.js
Django
Express
Flask
Laravel
React.js
Spring
Vue.js
jQuery
ASP.NE...
jQuery
Angula...
V...
Exp...
React.js
S...

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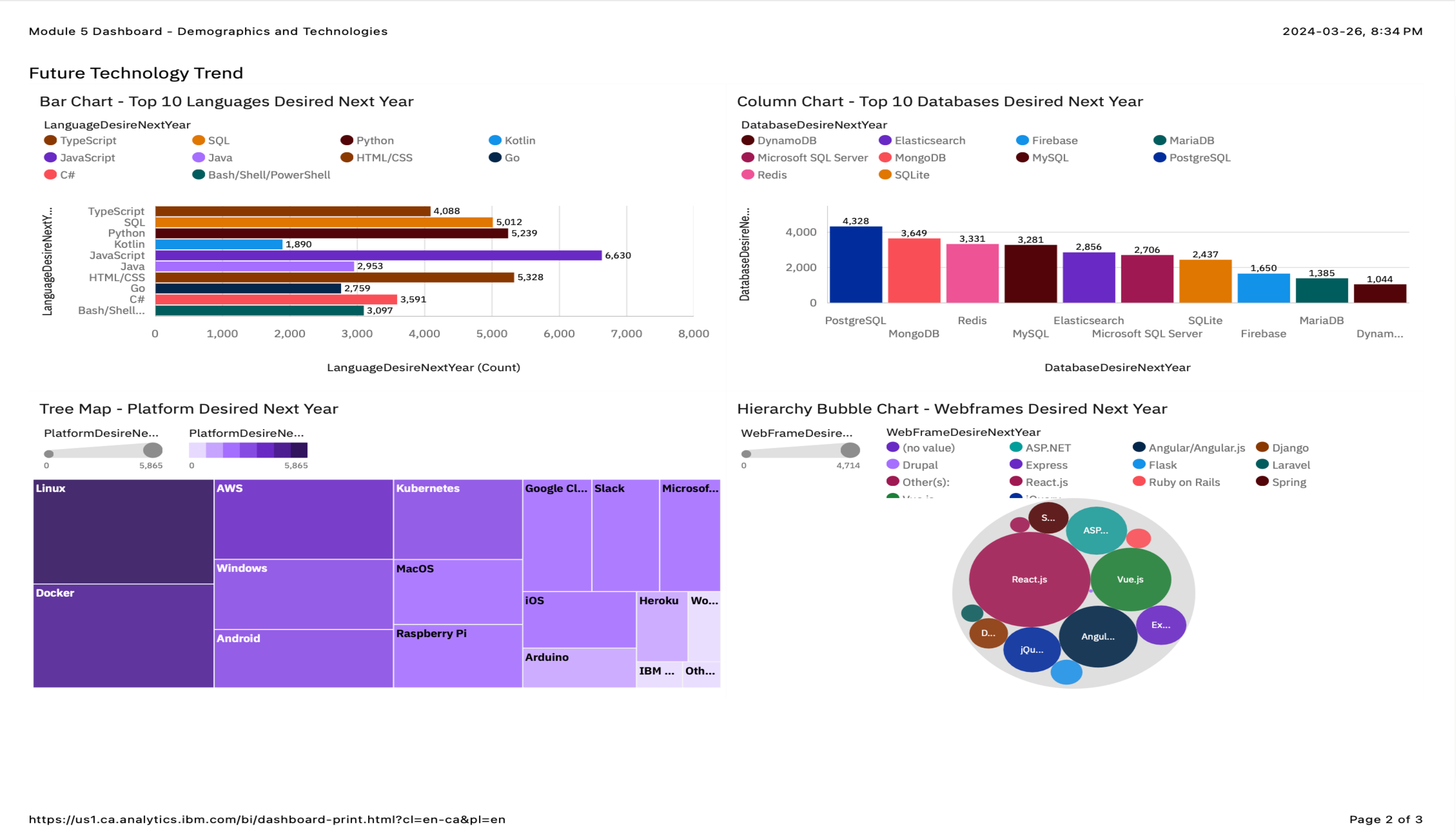
DASHBOARD TAB 2



Module 5 Dashboard - Demographics and Technologies

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Future Technology Trend

Bar Chart - Top 10 Languages Desired Next Year

LanguageDesireNextYear
TypeScript
SQL
Python
Kotlin
JavaScript
Java
HTML/CSS
Go
C#
Bash/Shell/PowerShell
LanguageDesireNextY...
TypeScript 4,088
SQL 5,012
Python 5,239
Kotlin 1,890
JavaScript 6,630
Java 2,953
HTML/CSS 5,328
Go 2,759
C# 3,591
Bash/Shell... 3,097
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
LanguageDesireNextYear (Count)

Column Chart - Top 10 Databases Desired Next Year

DatabaseDesireNextYear
DynamoDB
Elasticsearch
Firebase
MariaDB
Microsoft SQL Server
MongoDB
MySQL
PostgreSQL
Redis
SQLite
DatabaseDesireNe...
4,000
2,000
0
PostgreSQL 4,328
MongoDB 3,649
Redis 3,331
MySQL 3,281
Elasticsearch 2,856
Microsoft SQL Server 2,706
SQLite 2,437
Firebase 1,650
MariaDB 1,385
Dynam... 1,044
DatabaseDesireNextYear

Tree Map - Platform Desired Next Year

PlatformDesireNe...
0
5,865
PlatformDesireNe...
0
5,865
Linux
AWS
Kubernetes
Google Cl...
Slack
Microsof...
Docker
Windows
MacOS
iOS
Heroku
Wo...
Android
Raspberry Pi
Arduino
IBM ...
Oth...

Hierarchy Bubble Chart - Webframes Desired Next Year

WebFrameDesire...
0
4,714
WebFrameDesireNextYear
(no value)
ASP.NET
Angular/Angular.js
Django
Drupal
Express
Flask
Laravel
Other(s):
React.js
Ruby on Rails
Spring
S...
ASP...
React.js
Vue.js
Ex...
D...
jQu...
Angul...

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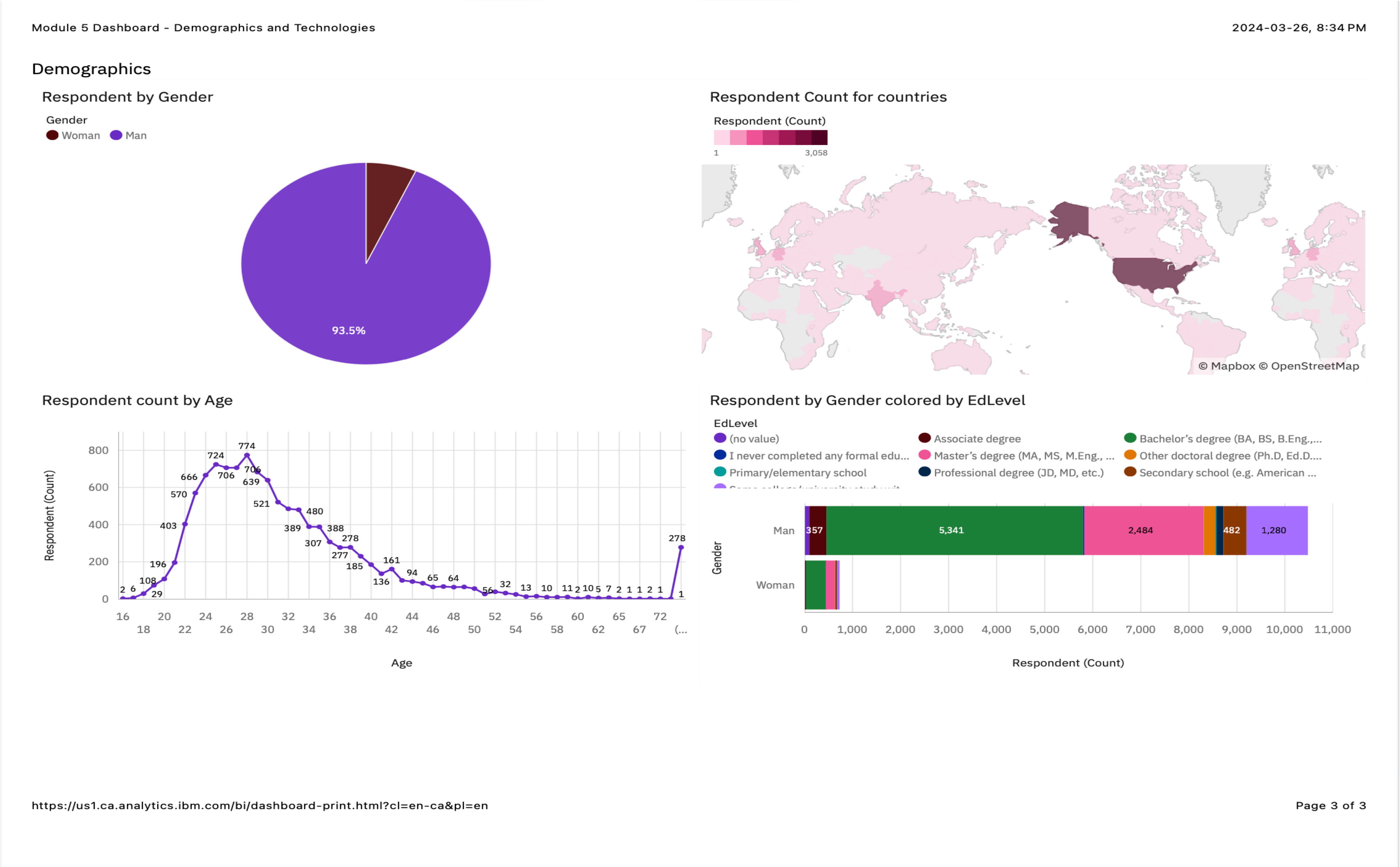
DASHBOARD TAB 3



Module 5 Dashboard - Demographics and Technologies

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Demographics

Respondent by Gender

Gender
● Woman ● Man
93.5%

Respondent Count for countries

Respondent (Count)
1
3,058
© Mapbox © OpenStreetMap

Respondent count by Age

Respondent (Count)
0
200
400
600
800
2
6
29
108
196
403
570
666
724
706
774
706
639
521
480
389
388
307
278
277
185
161
136
94
65
64
56
32
13
10
11
2
10
5
7
2
1
1
2
1
278
1
16
18
20
22
24
26
28
30
32
34
36
38
40
42
44
46
48
50
52
54
56
58
60
62
65
67
72
(...
Age

Respondent by Gender colored by EdLevel

EdLevel
● (no value)
● Associate degree
● Bachelor’s degree (BA, BS, B.Eng.,...
● I never completed any formal edu...
● Master’s degree (MA, MS, M.Eng., ...
● Other doctoral degree (Ph.D, Ed.D....
● Primary/elementary school
● Professional degree (JD, MD, etc.)
● Secondary school (e.g. American ...
Gender
Man
Woman
357
5,341
2,484
482
1,280
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000
10,000
11,000
Respondent (Count)

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DISCUSSION

OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript is widely used, and TypeScript is getting on-demand.
- 90% are young developers.
- Developers mostly located in developed countries.

Implications

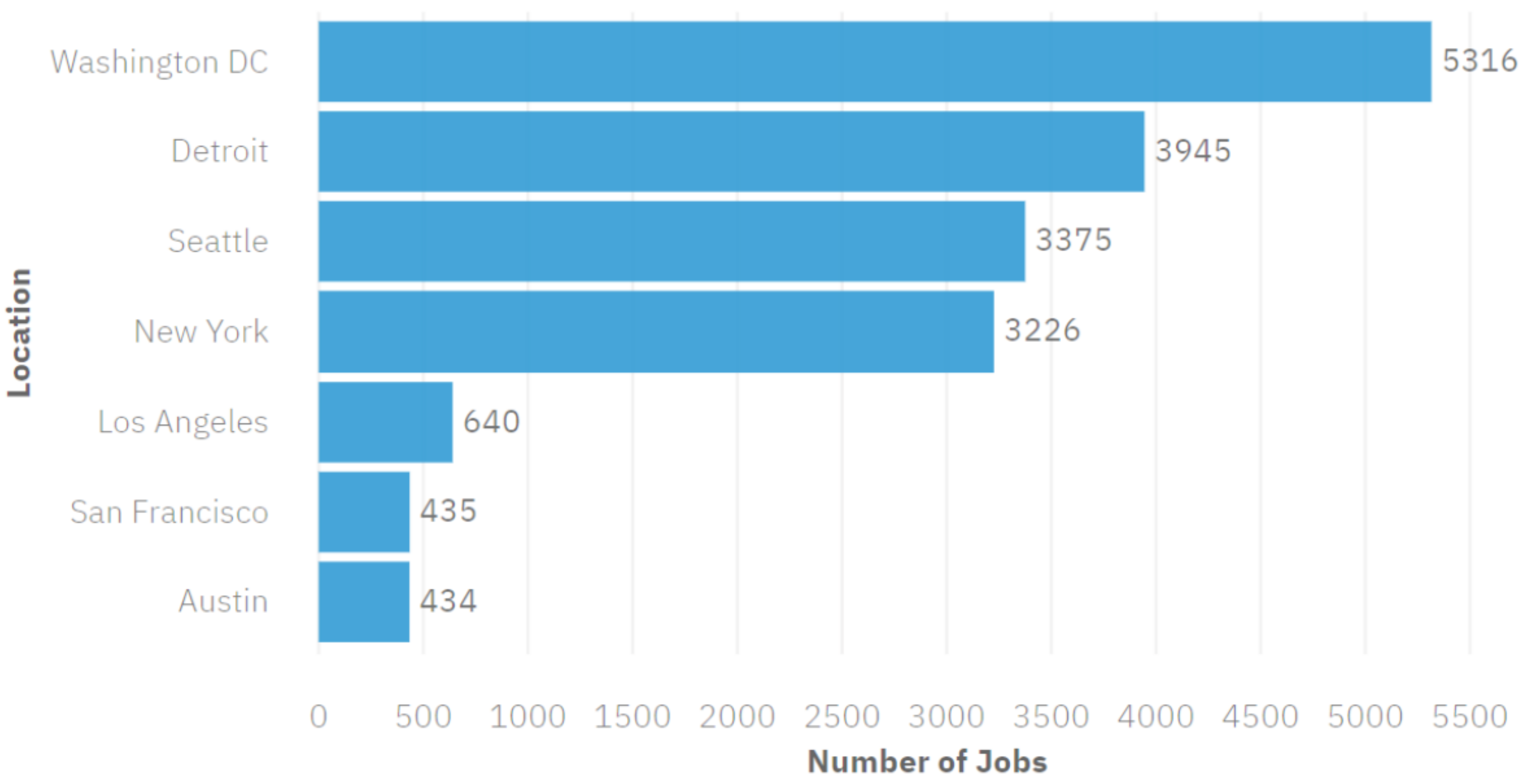
- JavaScript and TypeScript web frames gaining followers.
- Global polarization of developer's location and gender.
- Young developers without postgrad studies on its majority

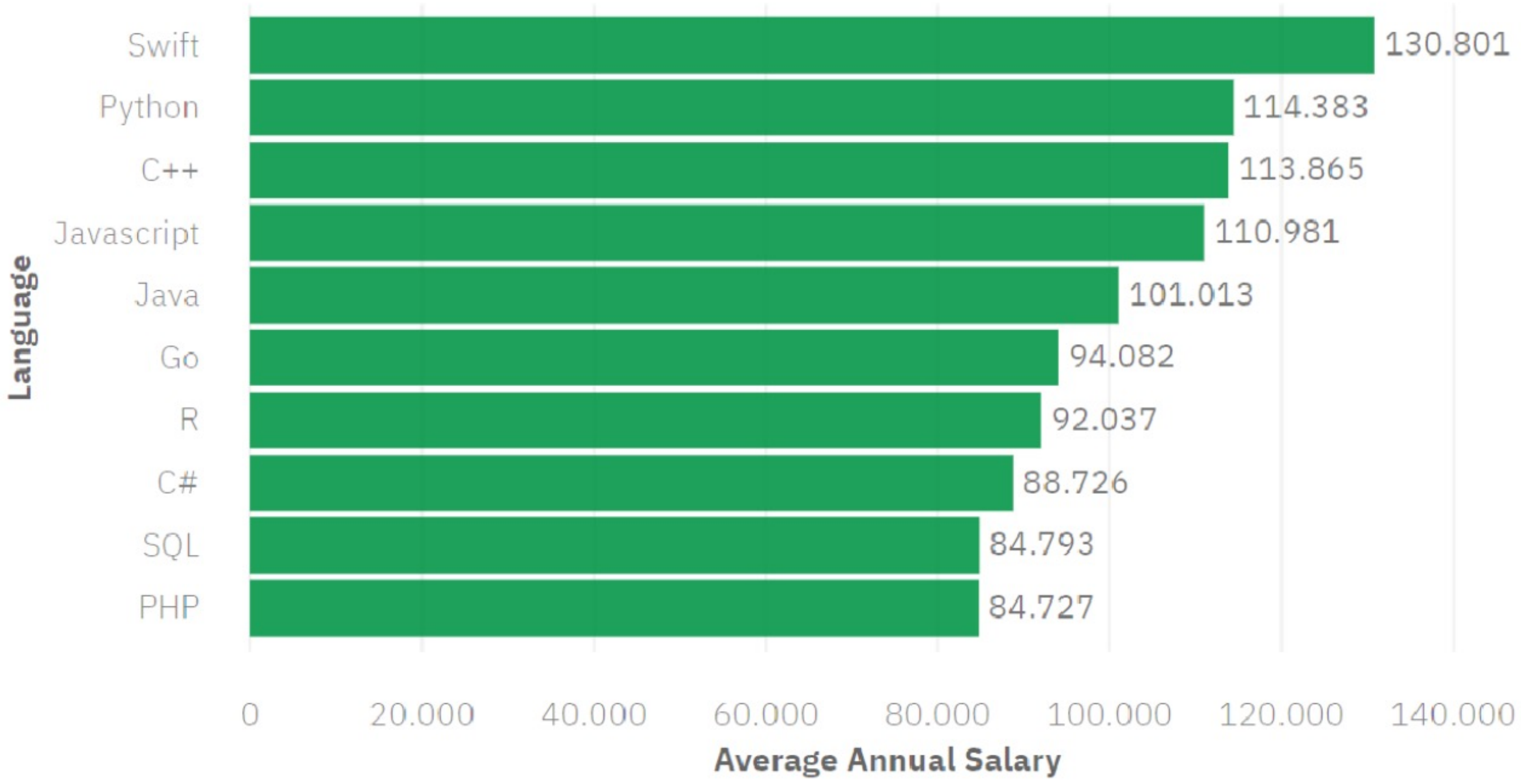
CONCLUSION

- Developers are the group with very marked characteristics.
- Accessibility of this labor market must be made visible to developing countries.
- Popularity of tools, trends and platforms can be made obtained.

APPENDIX

JOB POSTINGS



POPULAR LANGUAGES