



Developer Trends

Stack Overflow Developer Survey

Robert Caig

12th of April 2024

IBM Developer

SKILLS NETWORK 

OUTLINE



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

EXECUTIVE SUMMARY



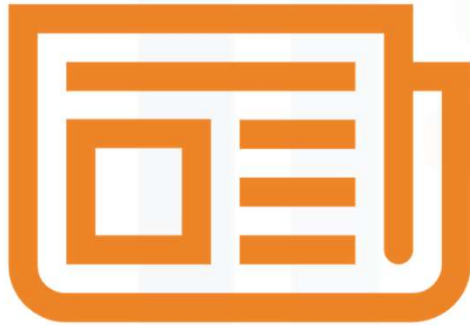
- Analysis goal
- Methodology description
 - Data gathering
 - Data analysis
 - Data visualisations
- Present results using graphics to indicate trends
- Discussion of findings
- Final conclusions based on survey results

INTRODUCTION



- The data is obtained from Stack Overflow's annual Developer Survey
- Nearly 90,000 respondents from the community
- Certain overrepresentation is present in the data
- Attempts to identify trends
 - In current language and technology preferences
 - Where the industry is moving in the near future

METHODOLOGY



- Collect survey data
 - Data collected from Stack Overflow Developer Survey
- Data wrangling
- Exploratory data analysis
- Data visualisation
 - Creation of charts and dashboards
 - Presentation of findings

RESULTS



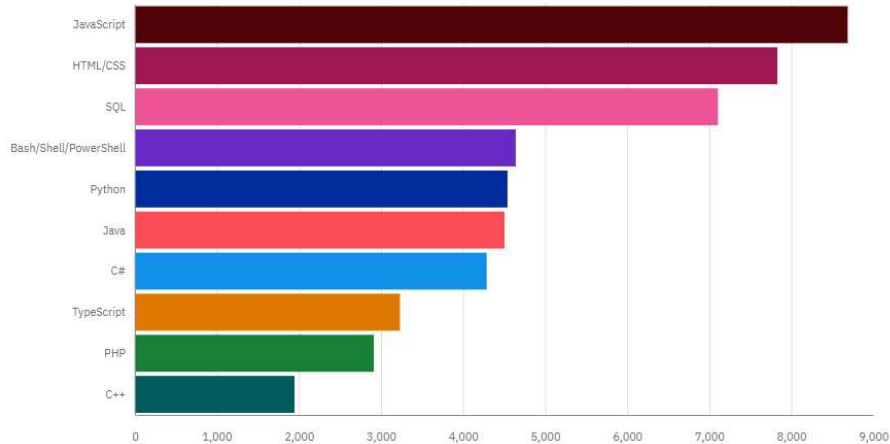
IBM Developer

SKILLS NETWORK 

PROGRAMMING LANGUAGE TRENDS

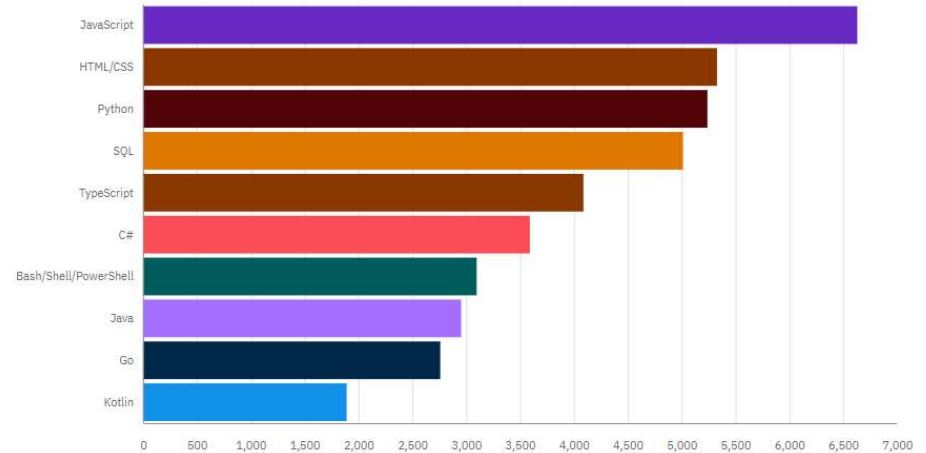
Current Year

Top 10 Languages



Next Year

Top 10 Most Desired Languages to Learn Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript and HTML/CSS have market dominance
- Interest in Python increasing
- SQL may be experiencing a drop in interest

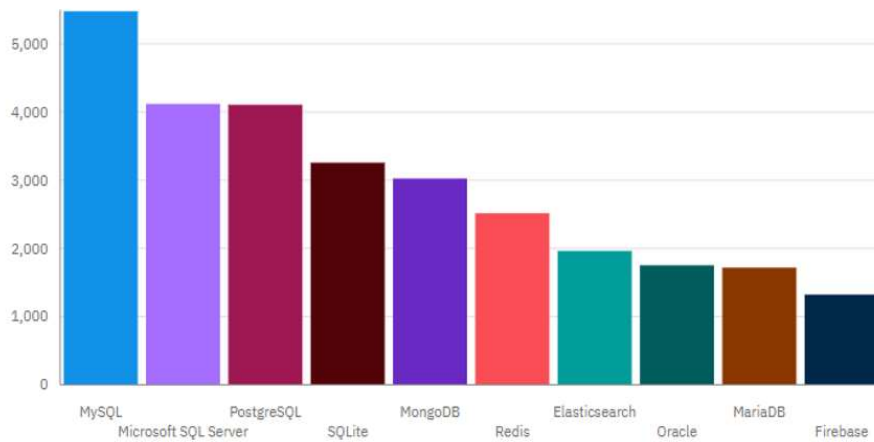
Implications

- Languages around data are gaining traction
- Reduced interest in historically popular programming languages (C++ / C#)

DATABASE TRENDS

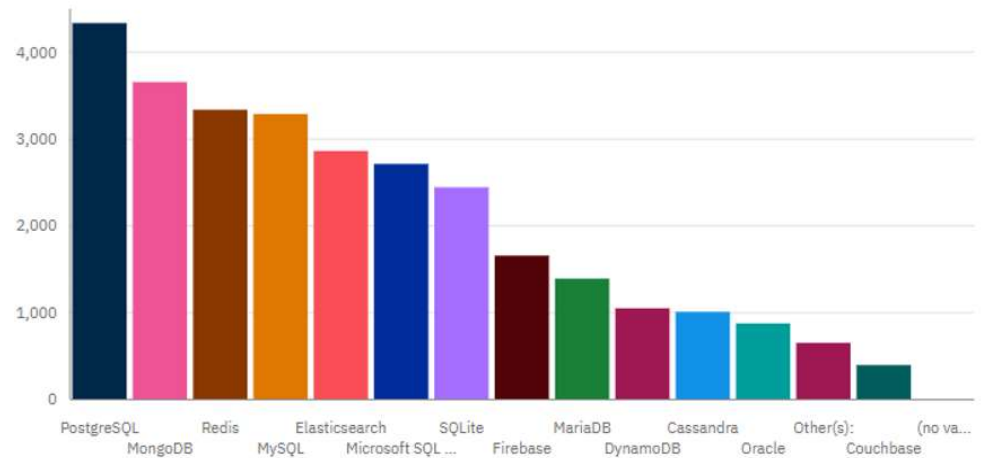
Current Year

Top 10 Databases



Next Year

Top 10 Most Desired Databases to Learn Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL currently the most popular database
- Microsoft SQL Server losing traction in the market
- Great interest in PostgreSQL and MongoDB

Implications

- Potential movement from Microsoft SQL Server and MySQL to PostgreSQL and MongoDB

DASHBOARD

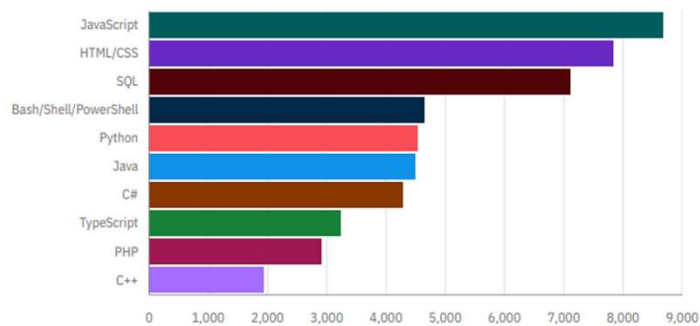


<https://github.com/RJCtra/DataAnalysisLearning>

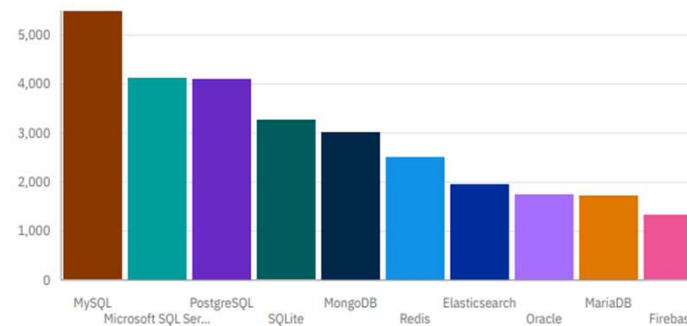
DASHBOARD TAB 1

Current Technology Use

Top 10 Languages



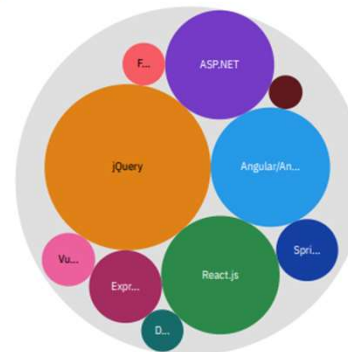
Top 10 Databases



Most Used Platforms



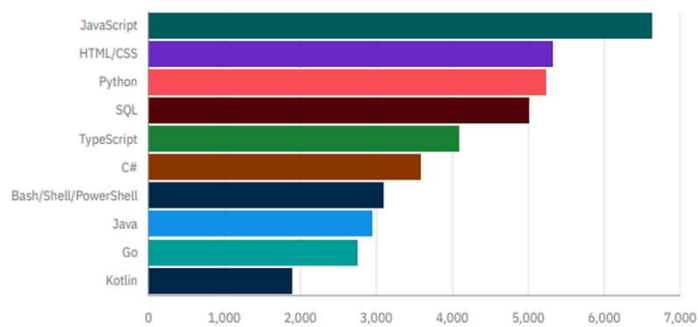
Top 10 Web Frames



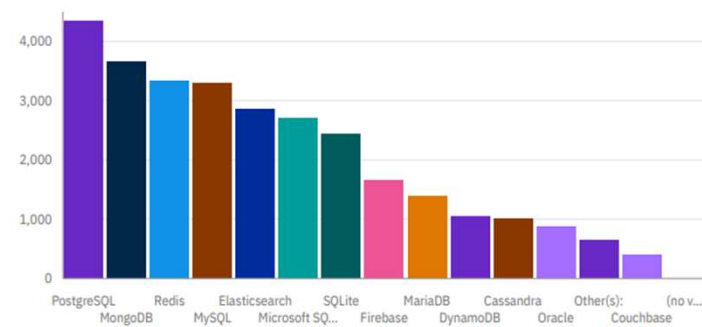
DASHBOARD TAB 2

Future Technology Use

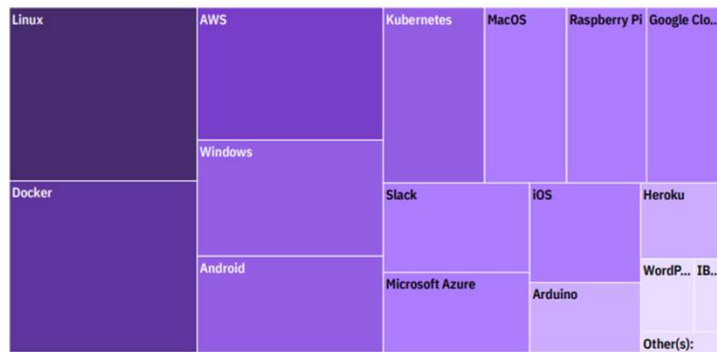
Top 10 Most Desired Languages to Learn Next Year



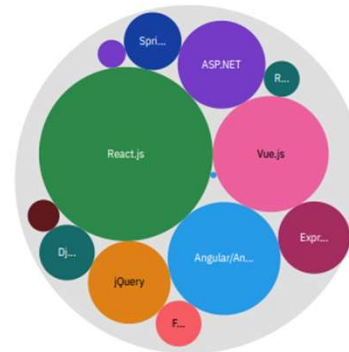
Top 10 Most Desired Databases to Learn Next Year



Desired Platforms Next Year



Top 10 Most Desired Web Frames to Learn Next Year

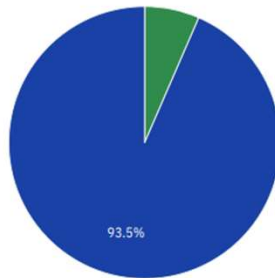


DASHBOARD TAB 3

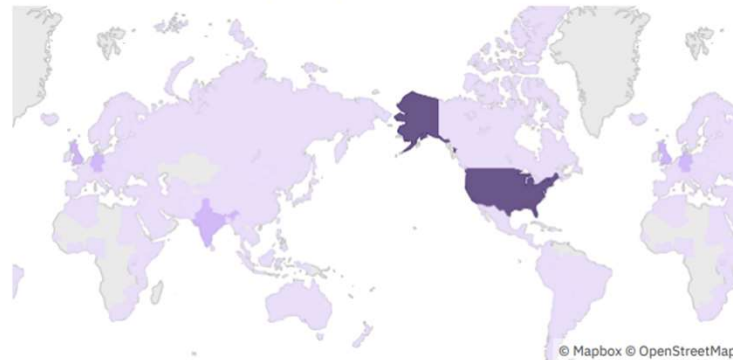
Demographics

Respondent as Classified by Gender

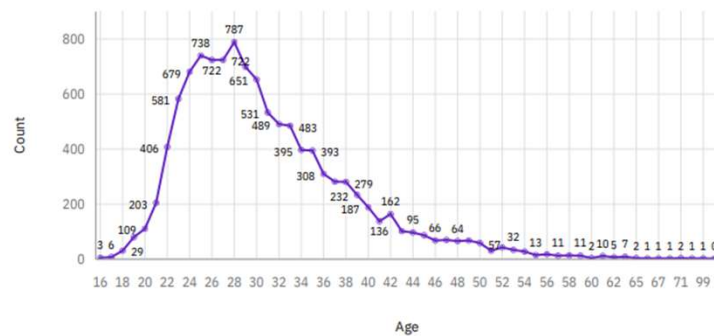
Gender
● Woman ● Man



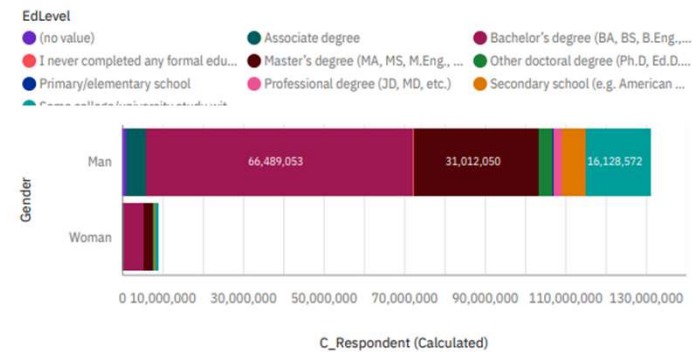
Respondent Location Count by Country



Respondent Count by Age



Respondent Count by Gender, classified by Formal Education Level



DISCUSSION



IBM Developer

SKILLS NETWORK 

OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript is the most widely used language
- Majority of respondents are male and between 20-38 years of age
- Respondents to survey mostly in United States and other developed nations

Implications

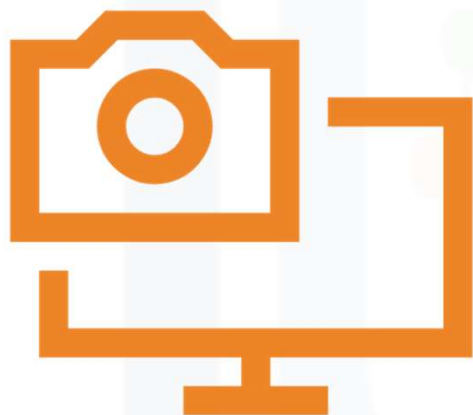
- High demand in near future for JavaScript will continue
- Highly male dominated field
- Relatively low engagement with Stack Overflow outside of the United States

CONCLUSION



- There is a great deal of movement within the field with technology and language preferences
- Certain languages such as JavaScript, Python, HTML/CSS, and SQL enjoy high adoption
- The industry has not attracted great interest from women
- Greater engagement with developing countries markets will likely see field growing in near future

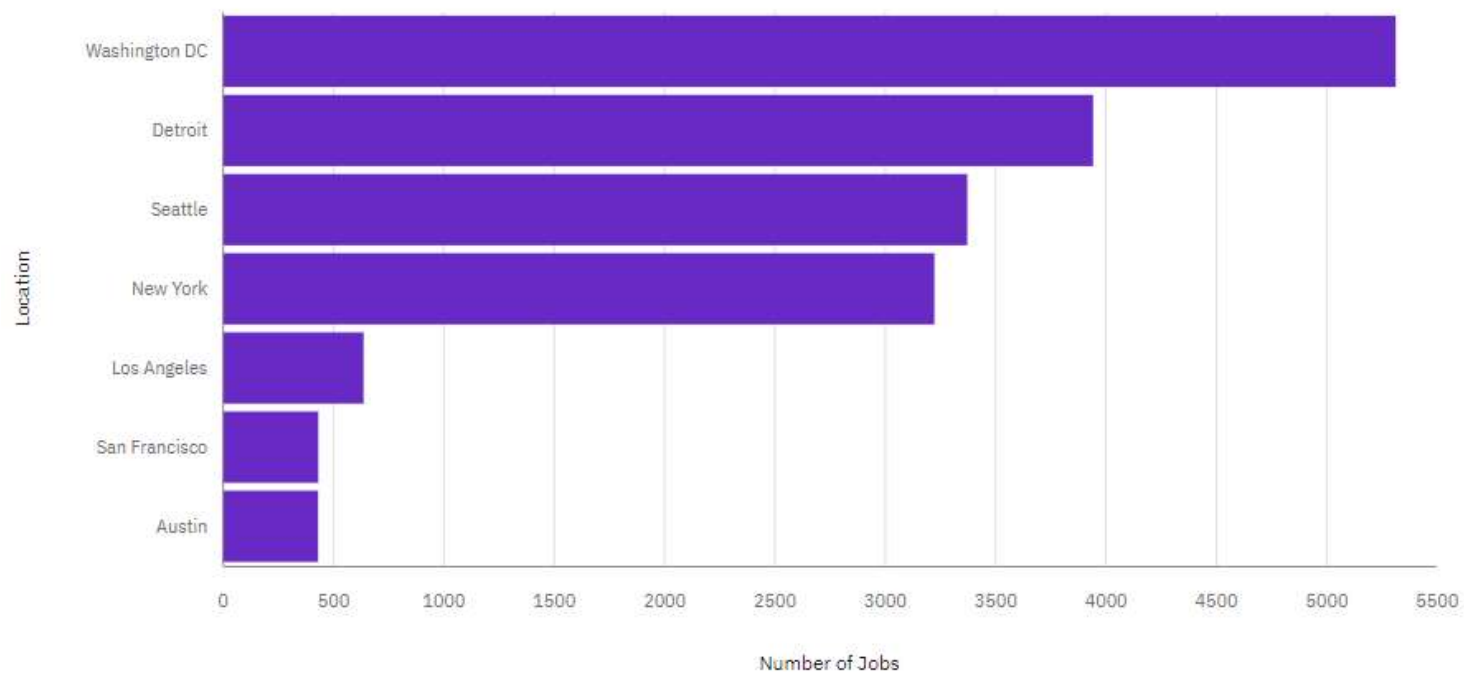
APPENDIX



- Job Postings
- Popular Languages

JOB POSTINGS

Number of job postings by Location



POPULAR LANGUAGES

Average Annual Salary by Language

