

New Trend in Software Engineering

Created by
JOANNA EDEMEKA

Date: 13th September 2024

Title table:

Executive Summary

Methodology

Introduction

Outline

Results

Visualizations - Charts

Dashboard

Conclusion

Discussion

Findings & Implications

Appendix

Executive Summary

Web Dominates

Web-based languages and technologies remain the most utilized and sought after.

Simplicity Attracts

Languages and technologies with straightforward syntax and minimal error-prone typing are more favored by respondents.

Introduction

Stack Overflow

Using every developer's favorite website's survey to understand trends in technology.

Problem

Software development languages and technologies are changing quickly, in what direction are they trending?

Questions to ASk

What are technology demands of the world and what are the demands of the developer?

What to Look For

Focus on what the developers work with now, what they want, and who they are.

Methodology

Data Collection & Wrangling

Modified GitHub Jobs API¹

Programming language salaries from Web Scraping²

Modified Stack Overflow Survey Results³

Data Analysis & Visualization

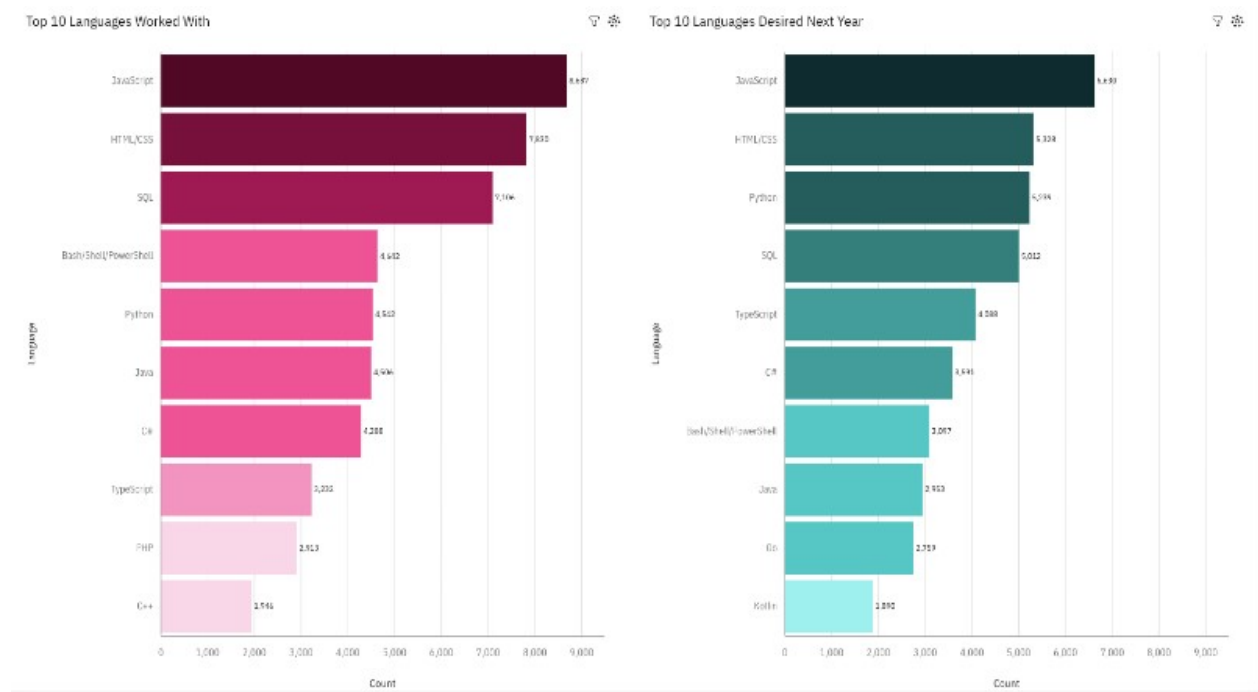
Exploring the data through visualizations

Doing analysis of the data to create meaningful visualizations

Creating dashboards with visualizations of relevant data

Outline

PROGRAMMING LANGUAGE TRENDS



Programming Language Trends -

Findings & Implications

Findings

JavaScript is the most used and most desired language

Python demand is increasing fast

Respondents are losing interest in Bash and Shell scripting

Implications

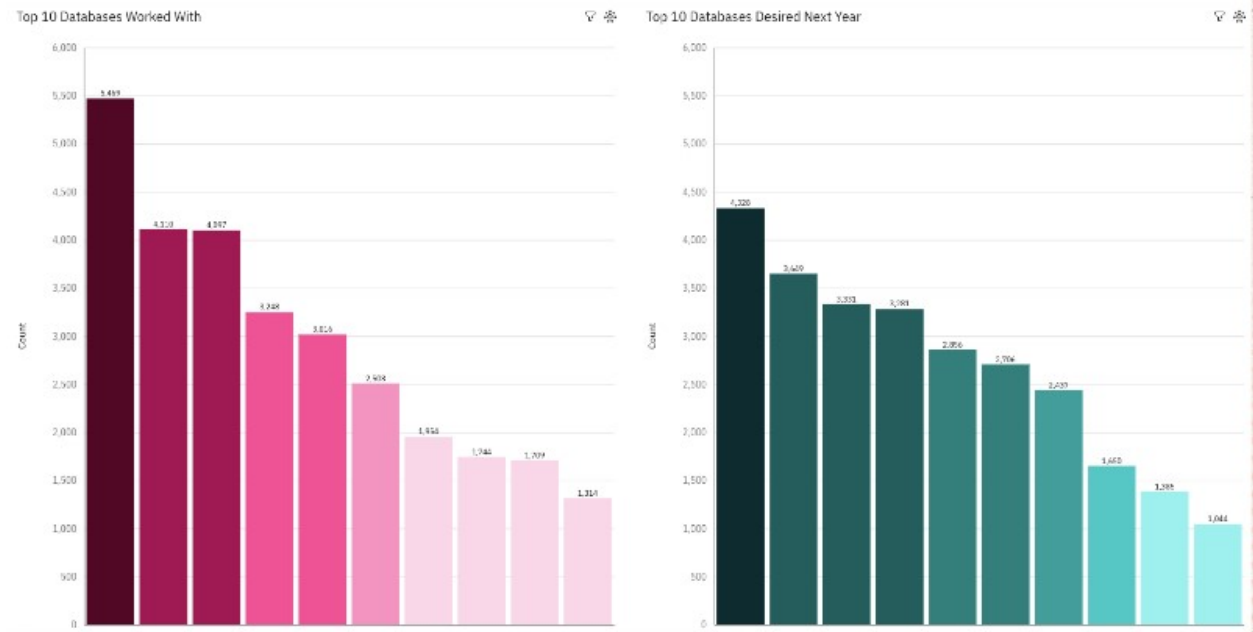
Since the web is such a prominent aspect of the tech world it makes sense that web languages are at the top

JavaScript is being continually upgraded and made more easy to use, a large complaint is the lack of Typing. This could be the reason for the surge in TypeScript

PHP, Java, and C are seen as more archaic and take a little more effort to work with which could be why we're seeing their decrease

Go & Kotlin are languages that also contain Typing and have simple syntaxes along with other features that make it easier to use than languages like C

Database Trends



Database Trends -

Findings & Implications

Findings

NoSQL (Non-relational) databases are increasing in interest such as MongoDB and DynamoDB

Relational Databases are still popular

Services are increasing in popularity such as Elasticsearch and Firebase

Data stores are increasing in demand such as Redis

Oracle is not in the top 10 most desired

Developers losing interest in Microsoft SQL Server

Implications

PostgreSQL has more features and makes working with SQL easier, which shows a similar trend as with programming languages that simplicity and ease-of-use are important

With more complex data the freedom that NoSQL provides is very alluring

PaaS tools are gaining in popularity, again to simplify the developers life

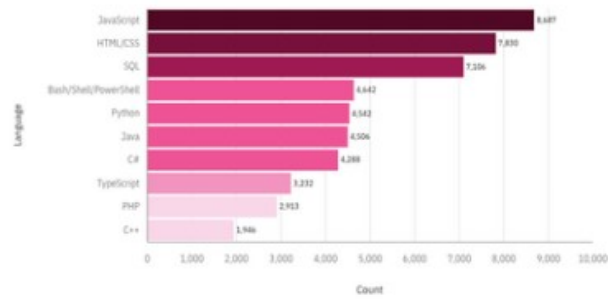
As data becomes more prevalent and valuable storing it becomes more important, thus explaining the increase in data stores

Dashboard

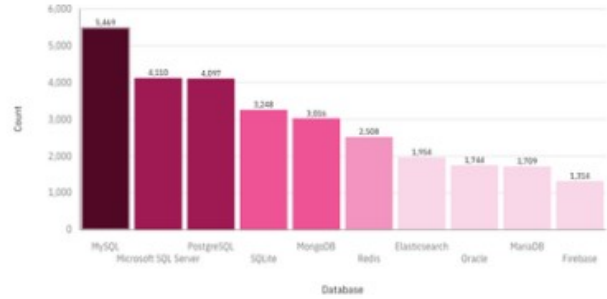
Created with IBM Cognos Analytics

Dashboard Tab 1

Top 10 Languages Worked With



Top 10 Databases Worked With



Top Platforms Worked With



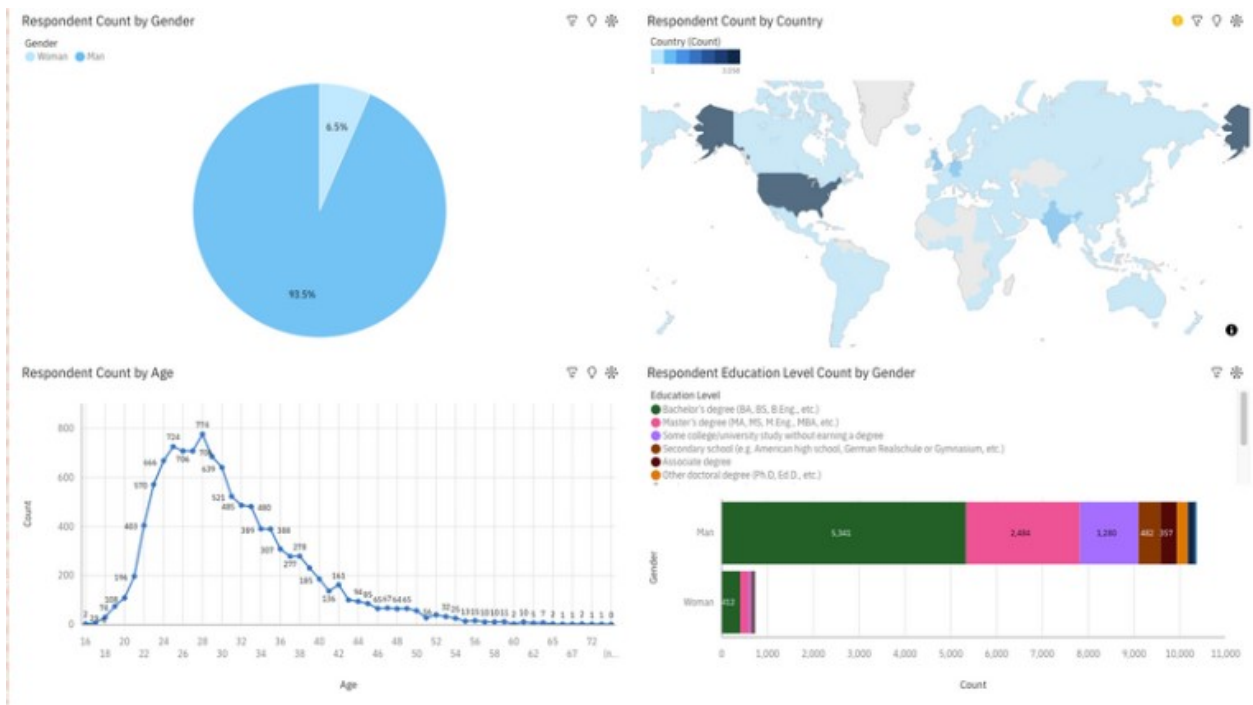
Top 10 Web Frameworks Worked With



Dashboard Tab 2



Dashboard Tab 3



Discussion

Overall Findings & Implications

Findings

Majority of respondents are male

Most of the respondents were between the ages of 22-32

Most of the respondents are from developed english speaking nations

The most important factor for a Job is the Languages and Technologies used

Python has one of the highest salaries and most jobs available, that could be the reason for the surge in desire

Implications

The respondents being more on the young side could explain the tendency to want to adopt newer languages and technologies

All the technologies in the survey are English-based, this could stem from the respondents being predominantly English

Since developers choose jobs based on technologies used it could sway employers to embrace those technologies to draw in talent

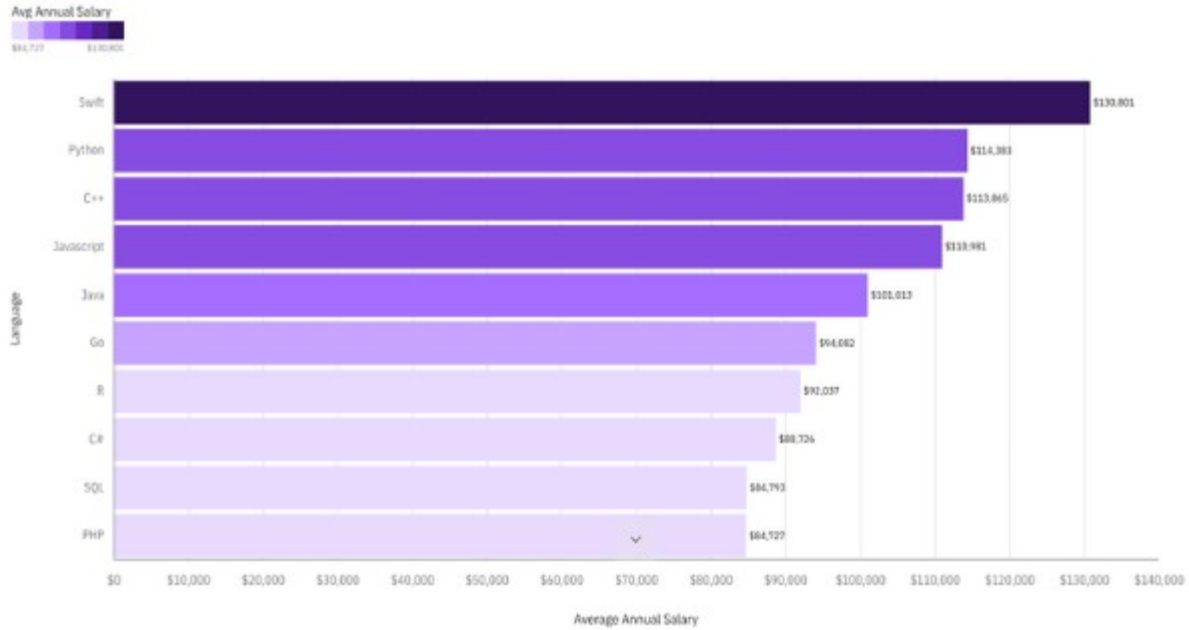
Conclusion

Developers are looking for 3 main factors when choosing languages and technologies

1. Languages that are syntactically simple
2. Tools that require less overhead and are more declarative rather than imperative
3. Tools that are less error-prone which can be accomplished by Typing

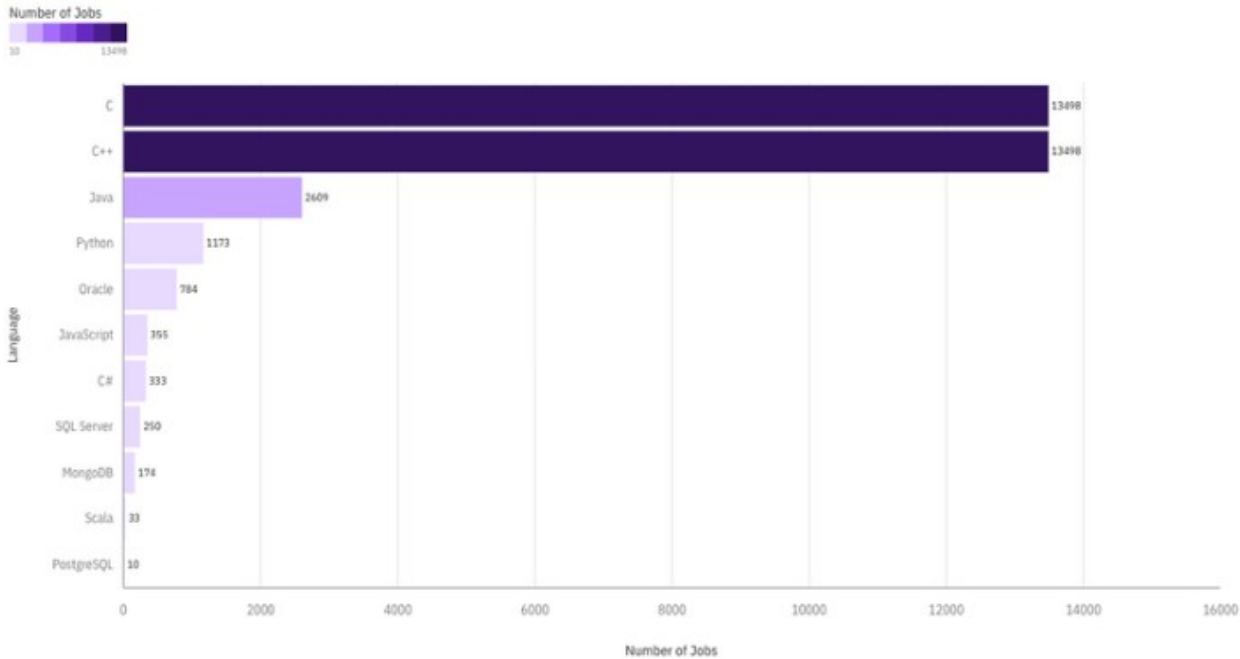
Popular Languages

Average Annual Salary by Language



Job Postings

Number of Jobs by Language



Appendix

Top Factor

Most Important Job Factor is the coding technologies respondents work with

