



TECHNOLOGIES IN DEMAND

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OUTLINE



Executive Summary

Introduction

Methodology

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- Visualization – Charts
- Dashboard

Discussion

- Findings & Implications

Conclusion

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EXECUTIVE SUMMARY



#1

JavaScript is the most in-demand programming language



Python and SQL are getting more and more users



Database users are switching

- From Microsoft SQL Server and MySQL
- In favor of PostgreSQL and MongoDB



Linux and Docker are getting more attention by developers



New technologies like TypeScript, Go and Redis are making their way in the top

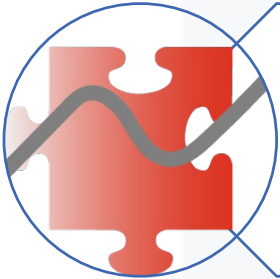


The field of IT is not exclusive for academics

INTRODUCTION



The IT sector is in constant evolution



The change in technologies means a change in skills requirements



Also developers need to improve their skills to stay competitive



So basically everybody needs to know about the future trends in technologies?

- What are the top programming language in demand?
- What are the top database skills in demand?
- What are the popular IDEs?

METHODOLOGY



Collect the top programming skills

- GitHub job posting
- Training portals
- Stack Overflow 2019 survey



Data understanding and preparation

- Respondents demographics
- Work conditions, salaries...



Identify insights and trends

- Current technologies usage
- Future technologies trends

RESULTS



Survey Respondents age and salary distribution

Programming language trends

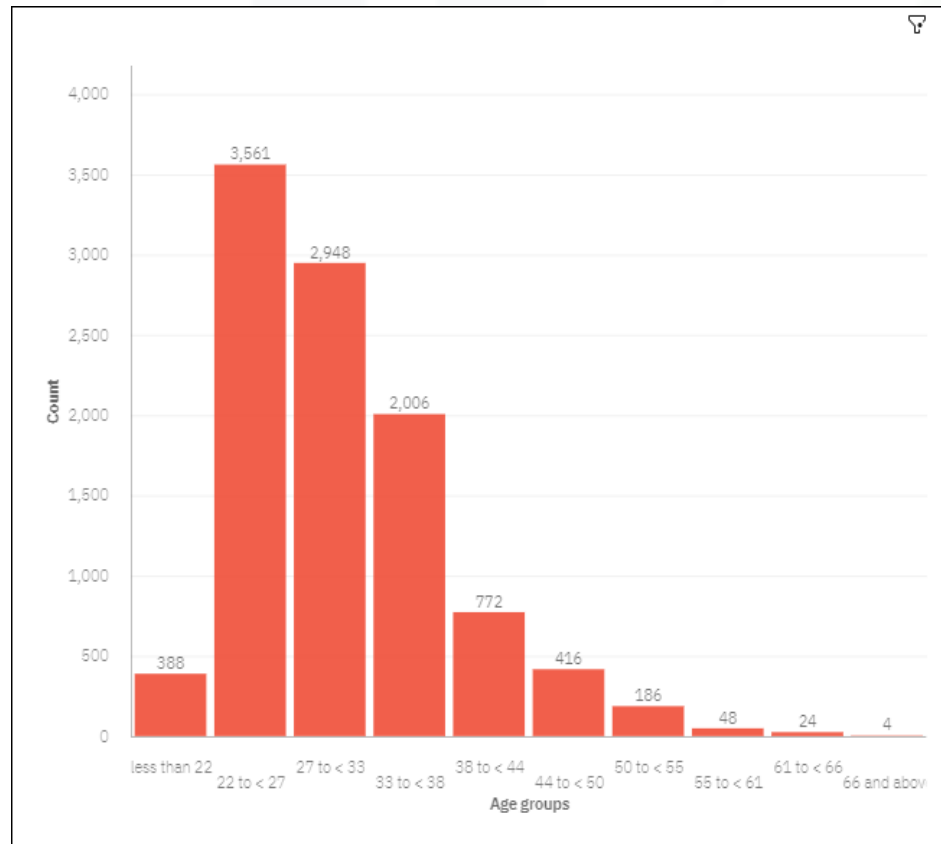
Database trends

Platform trends

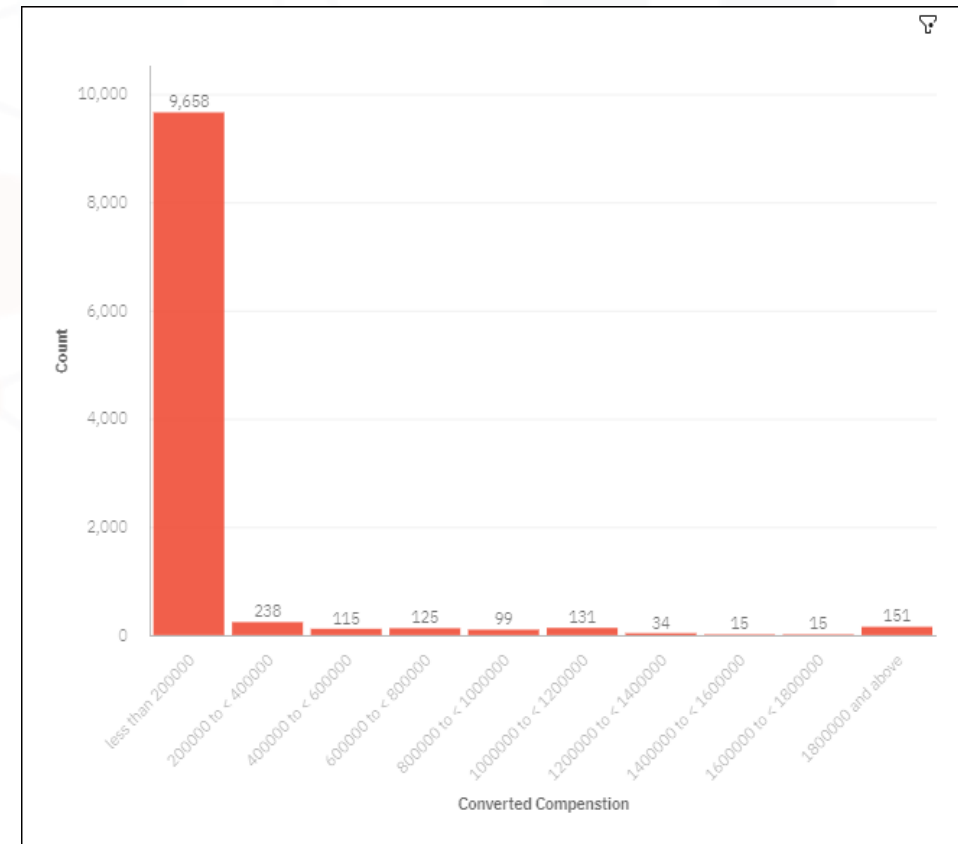
Webframe trends

SURVEY RESPONDENTS

Developers' Age Distribution

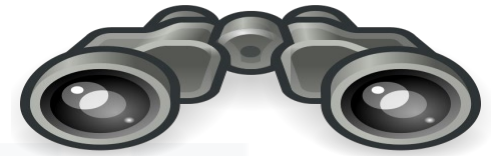


Developers' Compensation



SURVEY RESPONDENTS - FINDINGS & IMPLICATIONS

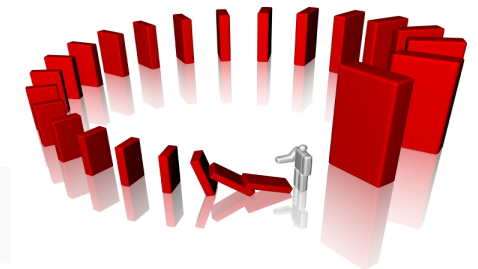
Findings



- Most developers are young ($22 < \text{age} < 33$)
- The majority of developers annual salaries is less than 200k \$

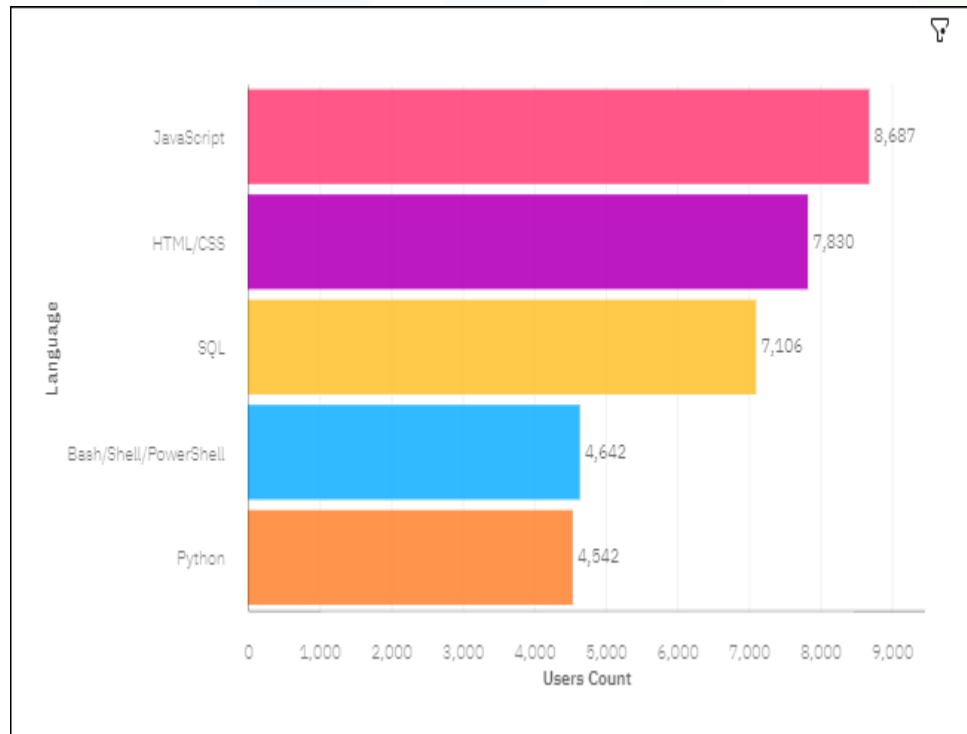
Implications

- Ability to learn new technologies
- Ambition to become versatile
- Intention to improve their income

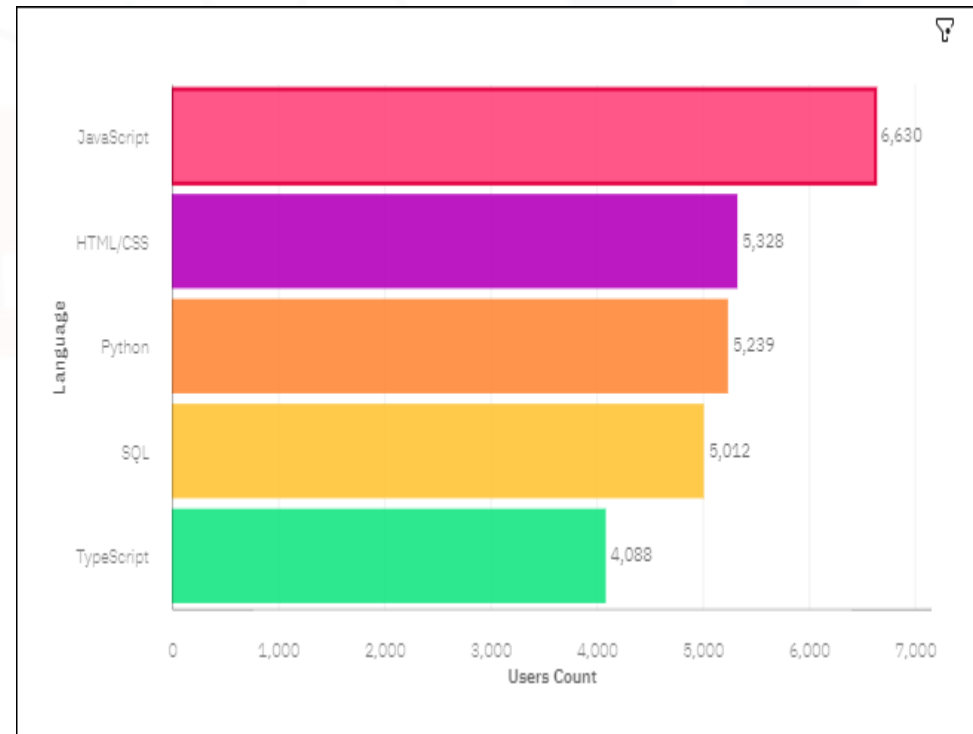


PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

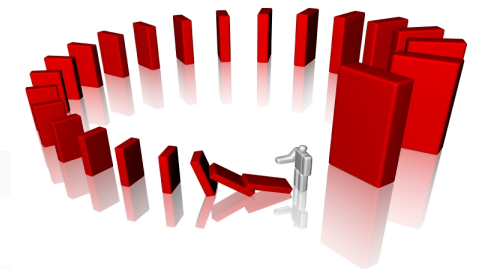
Findings

- JavaScript, HTML and CSS are the most used and desired programming languages
- SQL is the most popular programming language for databases
- A lot of developers want to learn Python and TypeScript



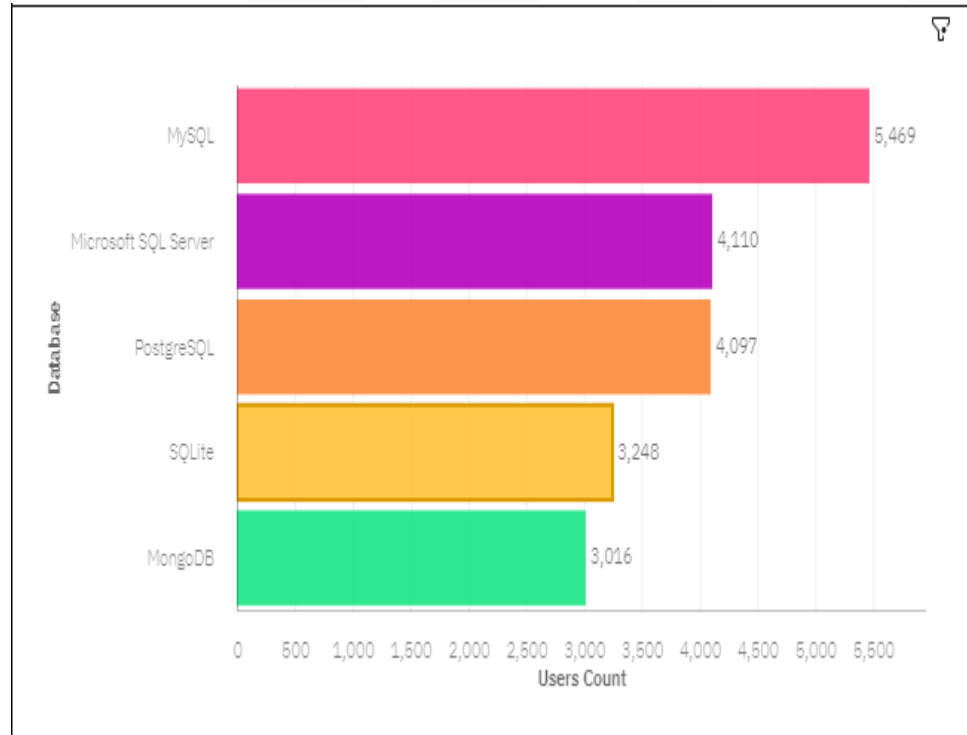
Implications

- Web development sector is increasing
- SQL remains the favorite instead of NoSQL
- Python becomes widely regarded

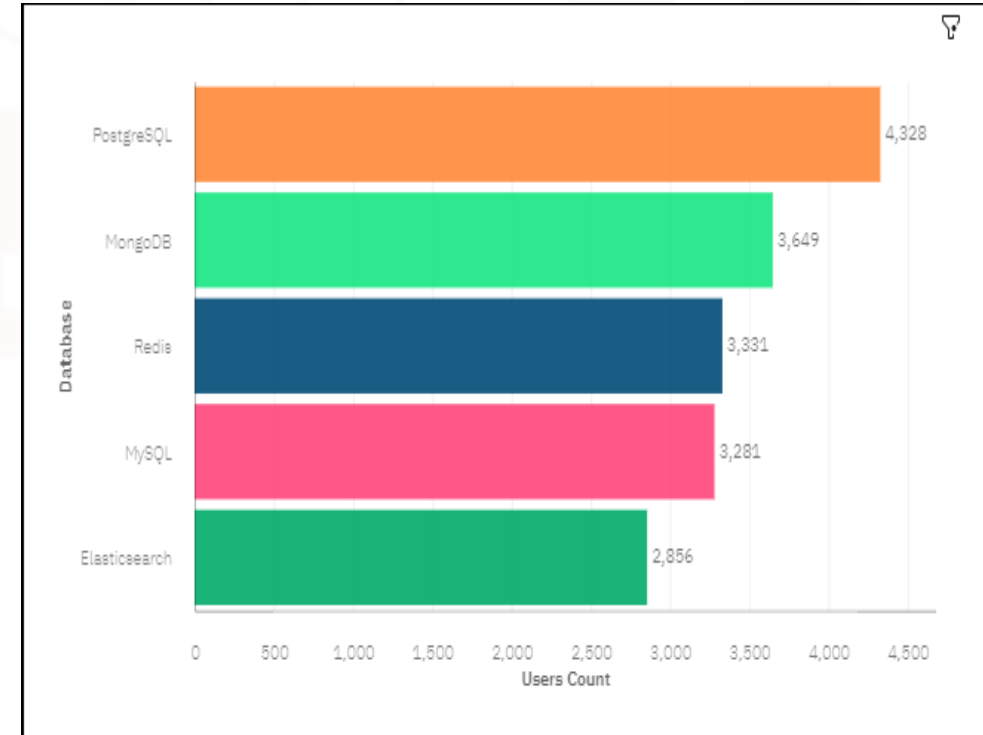


DATABASE TRENDS

Current Year



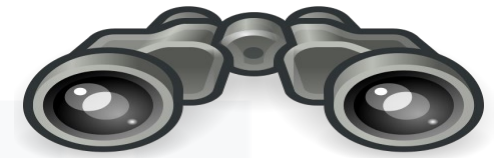
Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

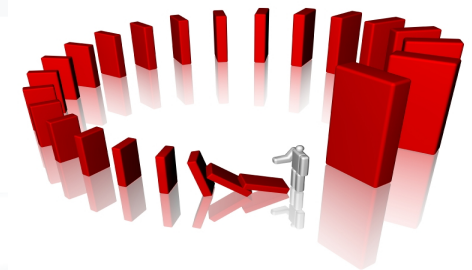
Findings

- MySQL is the most current used database
- Microsoft SQL Server is the second used database but doesn't appear in the top 5 for the next year
- PostgreSQL, MongoDB and Redis are the most desired Databases for the future



Implications

- Developers tends to use PostgreSQL and MongoDB with time
MySQL and Microsoft Server SQL
- Redis and Elasticsearch tends to have a good reputation among developers



DASHBOARD



The results of the survey are summarized in the following dashboard available in this link

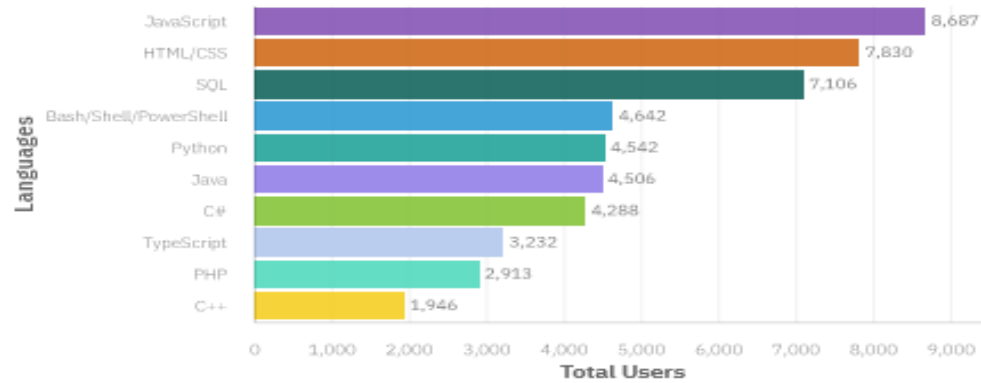


<https://eu-gb.dataplatform.cloud.ibm.com/dashboards/40dafec4-9b2f-461f-9d34-6b54be5350a0/view/4c33db0167906bd41fd6e2e407917a012963740cb6bb8b0bd6d17b495d352097a8681b90c82e430ede420467f0ec150b9d>

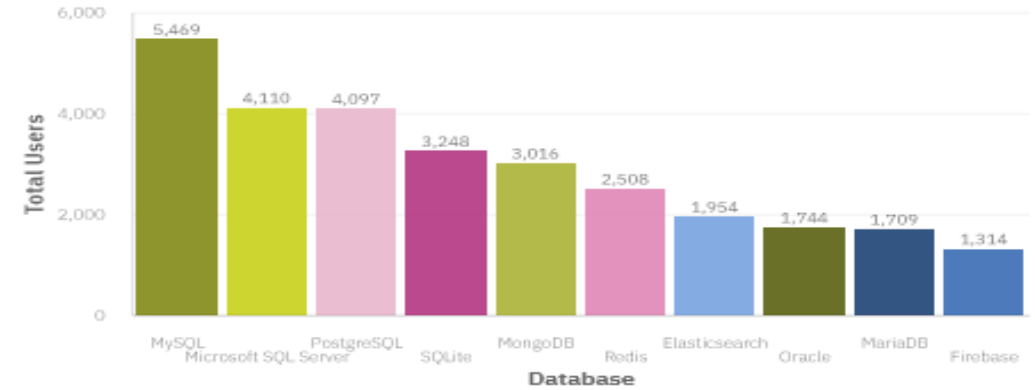
DASHBOARD TAB 1

Current Technology Usage

Top 10 Used Programming Languages



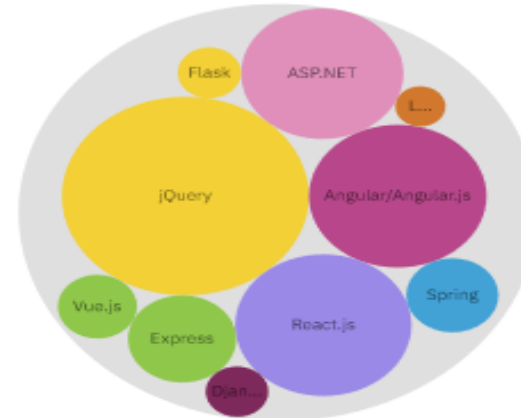
Top 10 Used Databases



Used Platforms



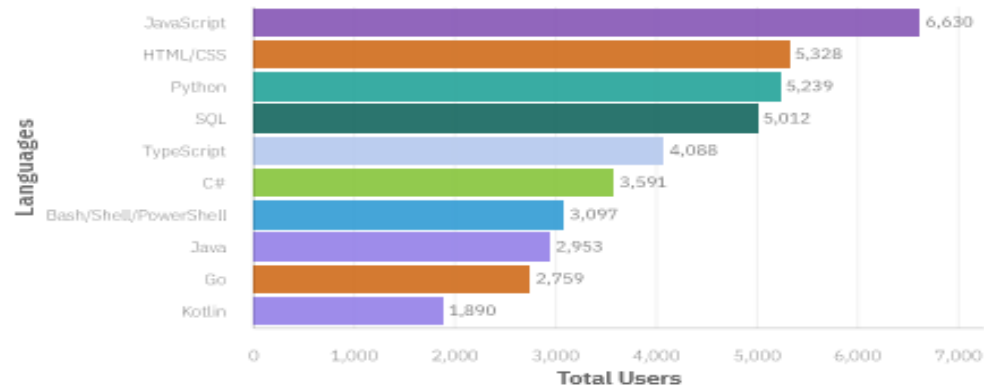
Top 10 Used WebFrames



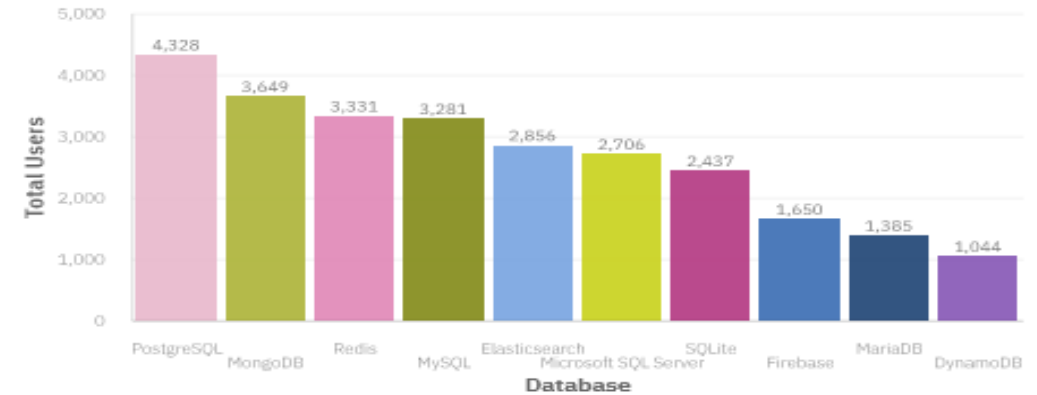
DASHBOARD TAB 2

Future Technology Trend

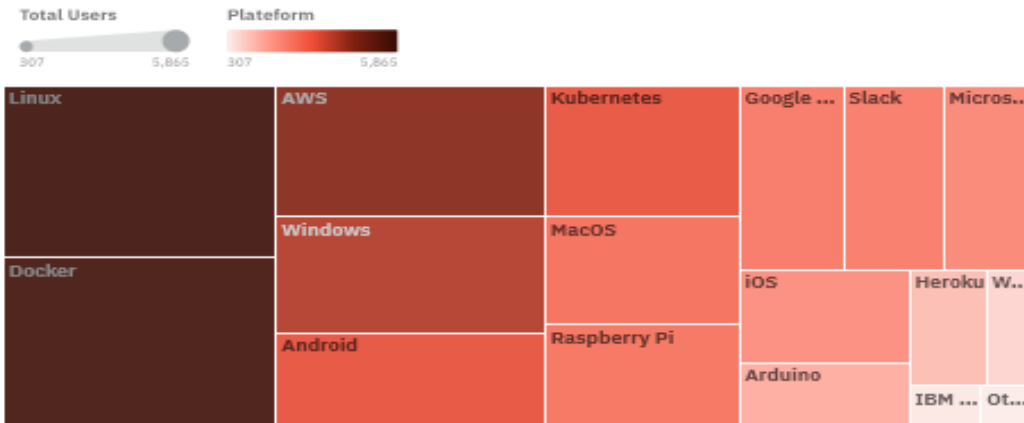
Top 10 Future Desired Programming Languages



Top 10 Future Desired Databases



Future Desired Platforms



Top 10 Future Desired WebFrames



[illegible]

DISCUSSION



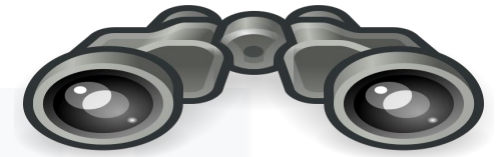
Will the current technologies remains the same for the future?



While some of the popular technologies hold their popularity, other have lost it and some new comes to become the trend

DATABASE TRENDS - FINDINGS & IMPLICATIONS

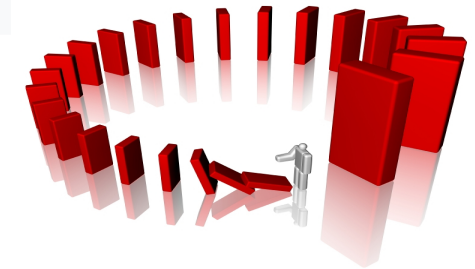
Findings



- JavaScript, HTML, CSS, SQL and Python are the top 5 current and future programming languages
- C#, C++ and java still in use for now
- New languages like TypeScript, Go and Kotlin appears
- MySQL, Postgre SQL and Mongo DB are in the top and new databases like Redis and ElasticSearch are getting their way in
- Windows, Linux, AWS and Docker are the most worked with platforms
- Linux and Docker are the most desired in the future
- Webframes like Angular, ASP.NET and React.js are so popular while JQuery is loosing attention
- Most developers are men and not all of the developers achieved a high education

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Implications



- Some of the well known programming languages and databases are losing their popularity for new ones
- Others prove their effectiveness in the IT domain
- There is a big orientation towards Linux and Docker among the developers
- Webframes don't have so much change
- IT domain is available to anyone who has the ability to learn

CONCLUSION



JavaScript, HTML, CSS and Python are the most required

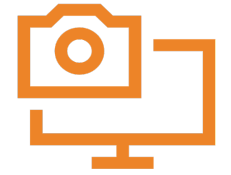
PostgreSQL, MongoDB and Redis will be the most used databases



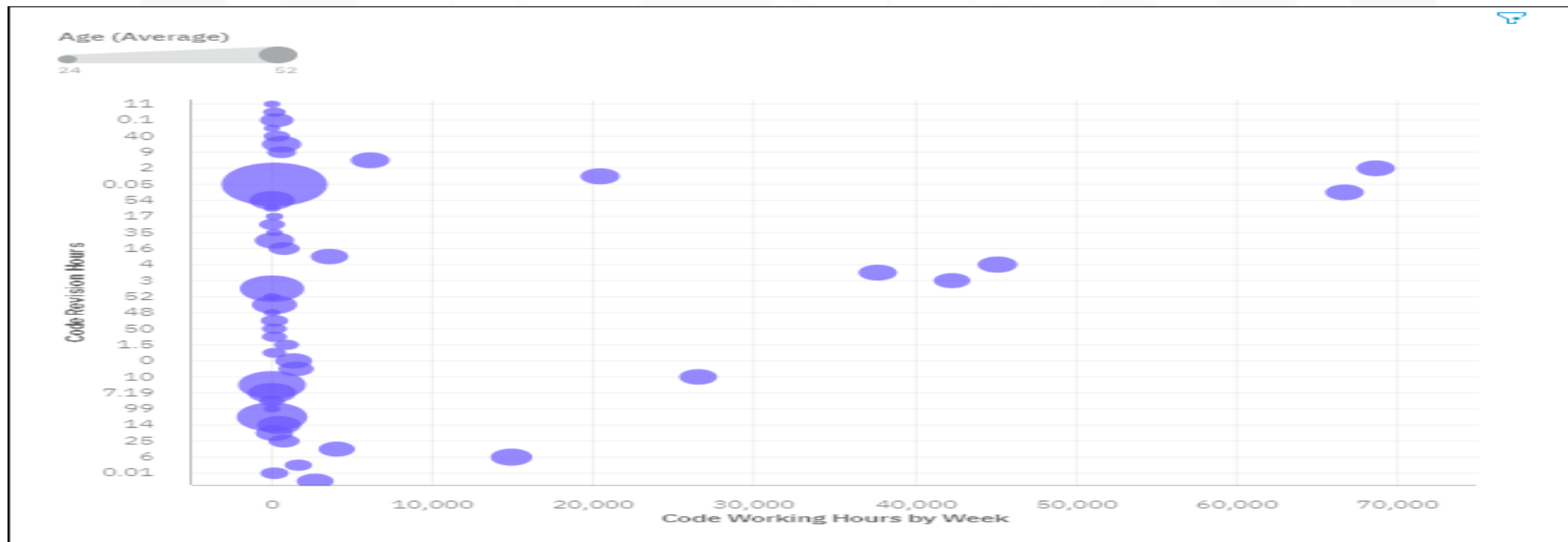
Linux and Docker are getting more and more desired

In the future, we need to understand what makes those technologies so popular and desired (easiness of learn, usage, code revision...)

APPENDIX



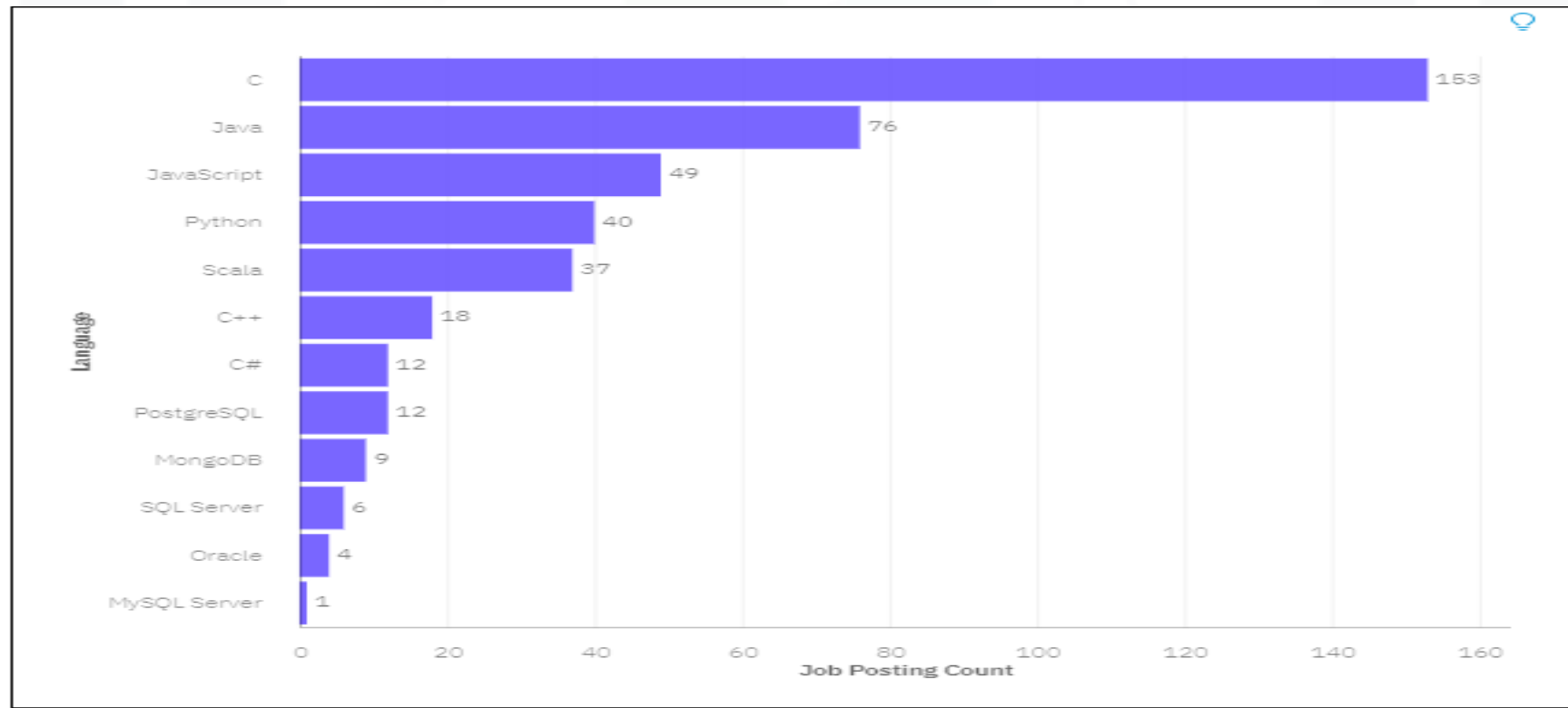
Distribution of code working weekly hours vs code revision hours by age



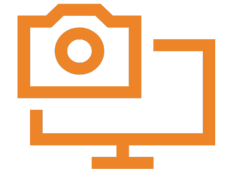
GITHUB JOB POSTINGS



GitHub job posting results [19 Dec 2020]



POPULAR LANGUAGES



Programming languages' average annual salaries

