



Emerging Technology Skills and Trends

Martin Timur Steinhäuser

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OUTLINE



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EXECUTIVE SUMMARY



- Analysis of Stack Overflow's annual Developer Survey
- Data was collected, cleaned, subjected to exploratory analysis and visualized on dashboards
- Main Takes:
 - Java Script is the most popular programming language
 - MySQL has the highest database usage
 - Majority of respondents are male, from USA and 28 on average

INTRODUCTION



- This presentation uses data analysis to highlight current and projected trends in the demand for skills related to programming languages, databases, platforms and web frameworks.
- The following inquiries were investigated using the data:
 - Which programming languages are most in demand today?
 - What are the most in-demand database skills?
 - What popular IDEs or Web frames are there?

METHODOLOGY



- Collect Data & Explore
 - Web Scraping
 - APIs
- Data Wrangling :
 - Python was used to clean and analyze the data. To assess the distribution of data, the presence of outliers, and the correlation between various columns in the dataset, an exploratory data analysis was carried out
- Data Visualization/Dashboards:
 - Charts, graphs and dashboards were created using Python and Cognos analytics to visualize the data. All Python analysis was done on Jupyter notebook.

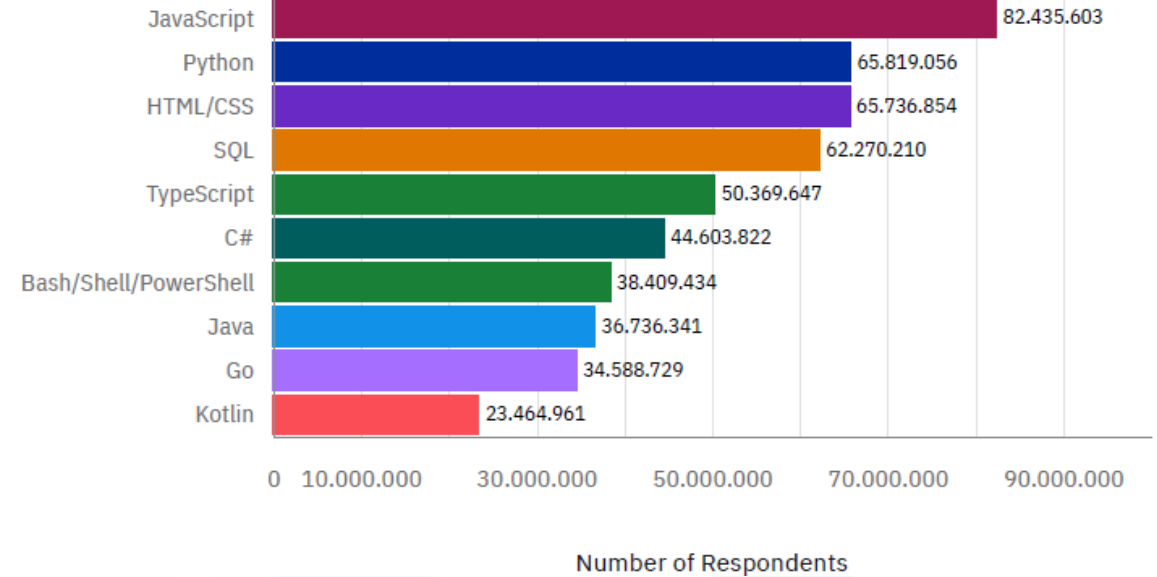
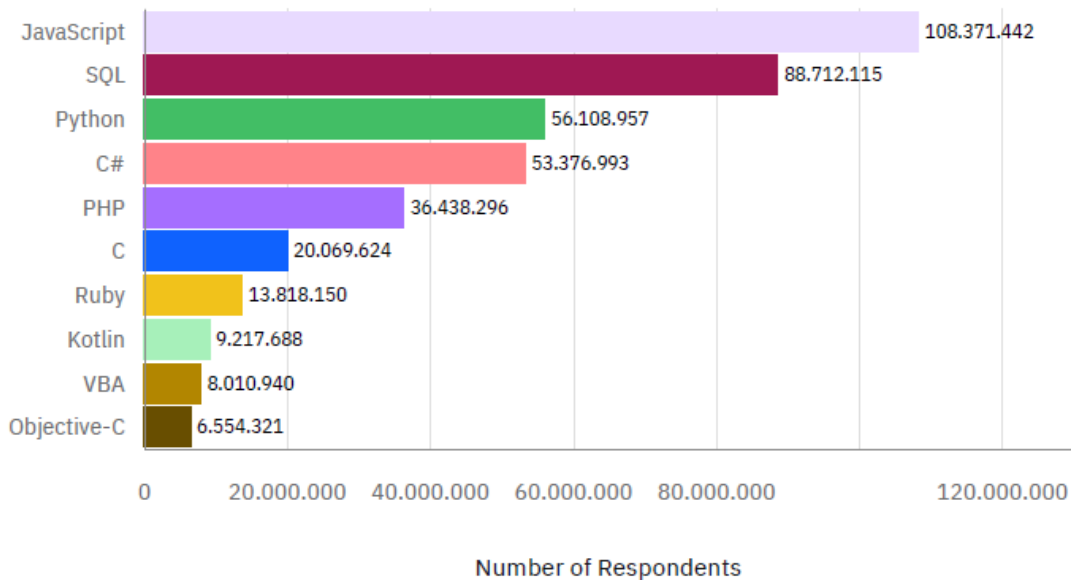
RESULTS



PROGRAMMING LANGUAGE TRENDS

Current Year

Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

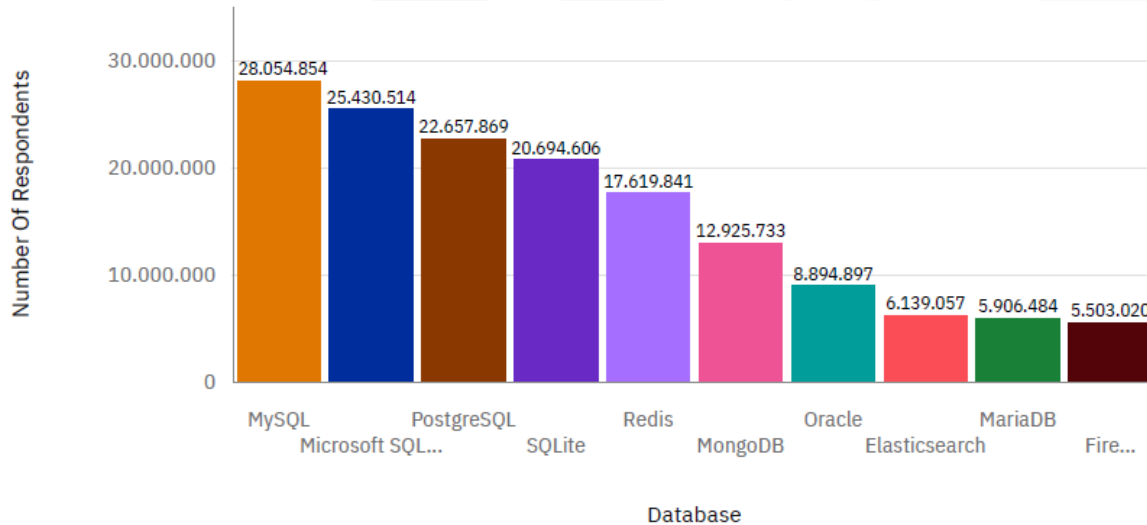
- Javascript, HTML/CSS, SQL, Shell languages and Python are the most used languages currently
- Javascript, HTML/CSS, Python, SQL, and Typescript will be the most used languages next year and future years
- Python is the fastest growing language

Implications

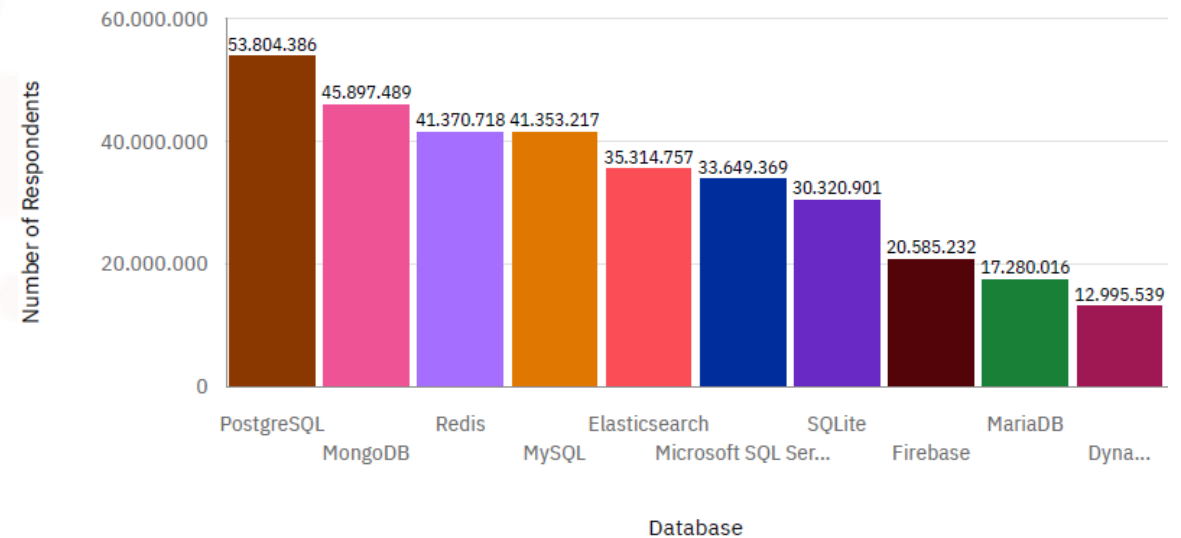
- Javascript and HTML are used for web development which means that web development as a tech skill has the highest demand, especially as Typescript is getting viral
- SQL is still the most relevant language for data professionals
- Possible migration from JavaScript to TypeScript

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL, Microsoft SQL Server, PostgreSQL, SQLite and MongoDB are currently the top 5 most used databases.
- PostgreSQL, MongoDB, Redis, MySQL and Elasticsearch are expected to become more popular in the future.
- Redis and Elasticsearch are relatively new tools and are expected to gain more traction in the IT space.

Implications

- SQL is still a top tool for data specialists.
- Organisations still prefer open source databases.

DASHBOARD

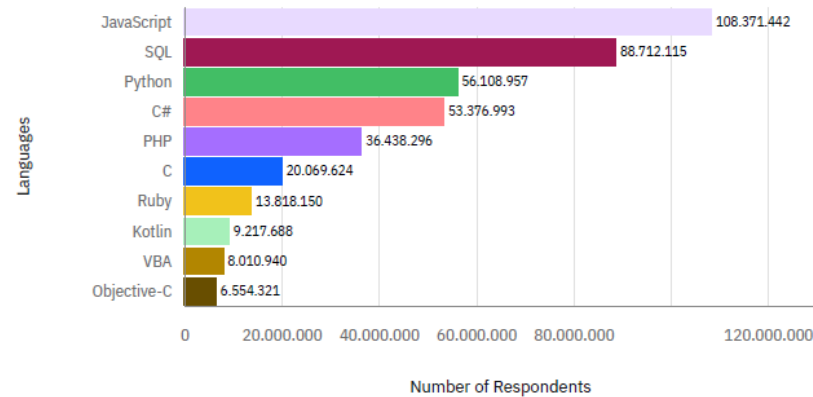


<https://github.com/MTS3000/Data-Analytics-and-Visualization-Capstone-Project/blob/main/Dashboard%20Final%20Cognos%20Analytics.pdf>

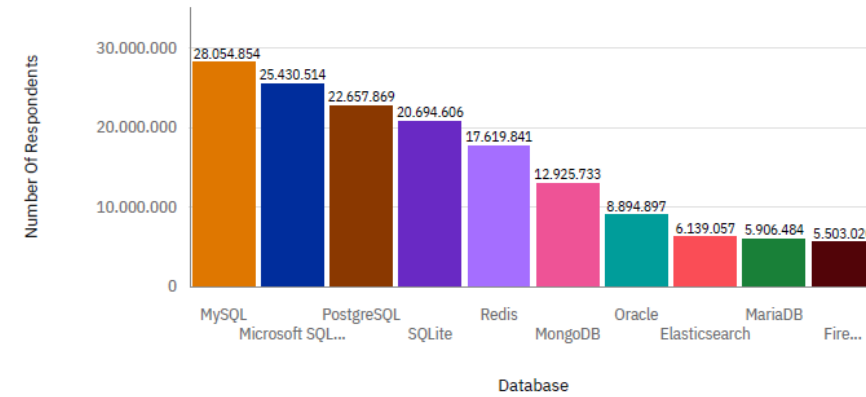
DASHBOARD TAB 1

Current Technology Usage

Top10 Programming Languages



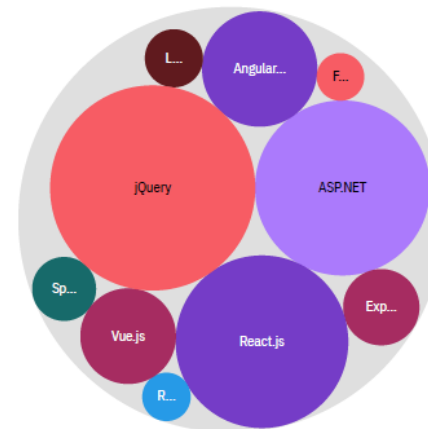
Top10 Databases



Platforms Interacted



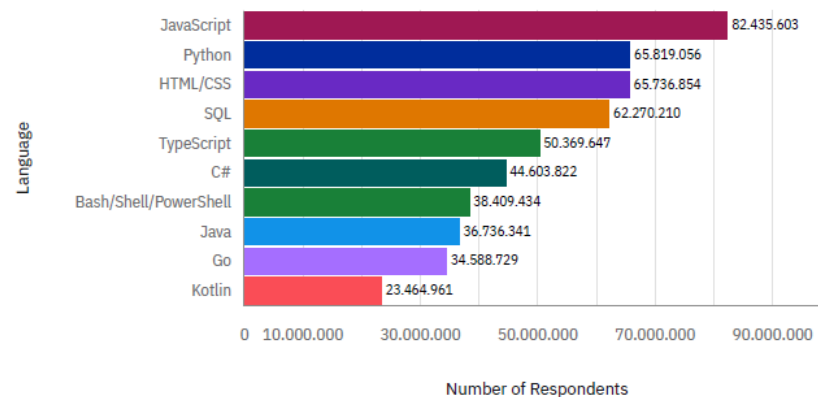
Top10 Webframes



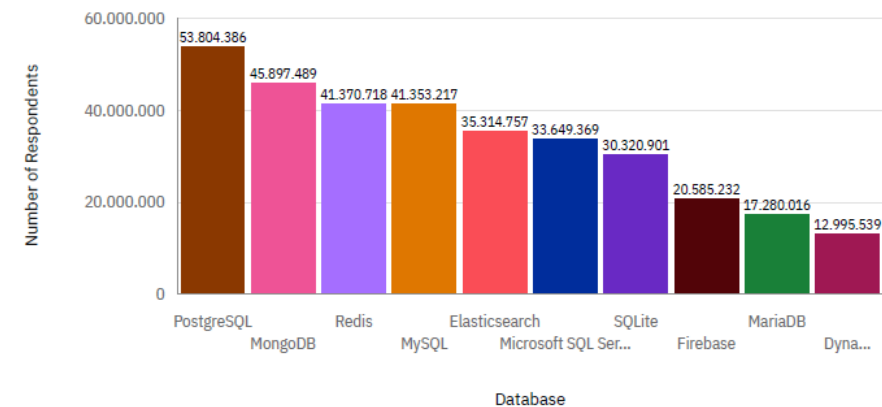
DASHBOARD TAB 2

Future Technology Trend

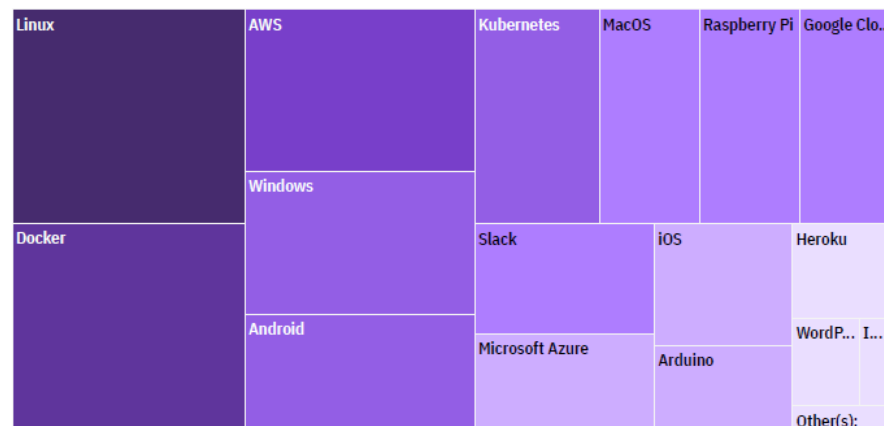
Top10 Desired Programming Languages



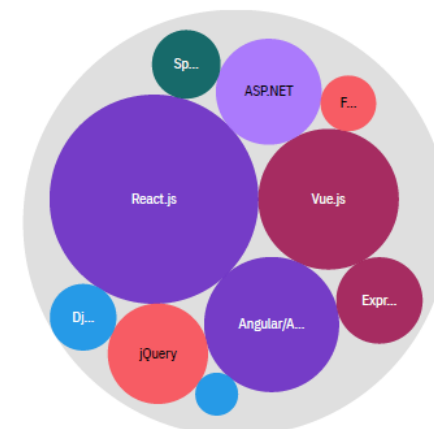
Top10 Desired Databases



Desired Platforms



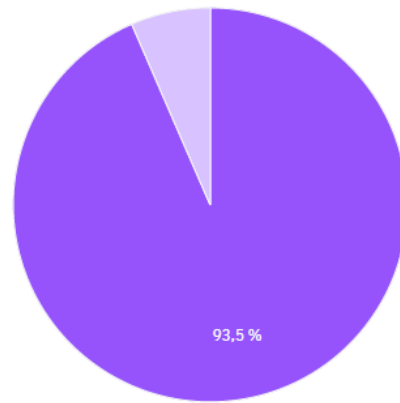
Top10 Desired Web Frames



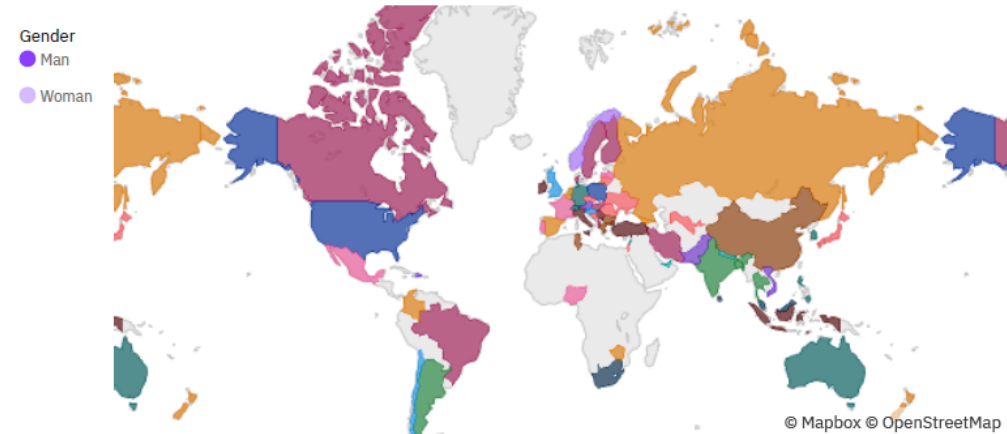
DASHBOARD TAB 3

Demographics

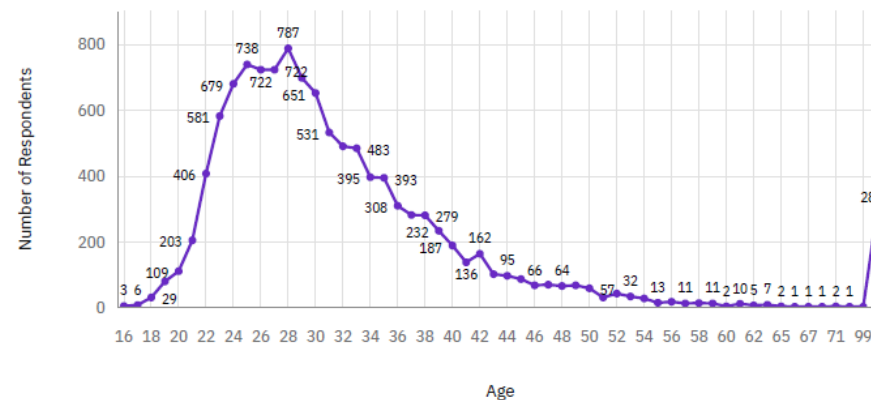
Respondents by Gender



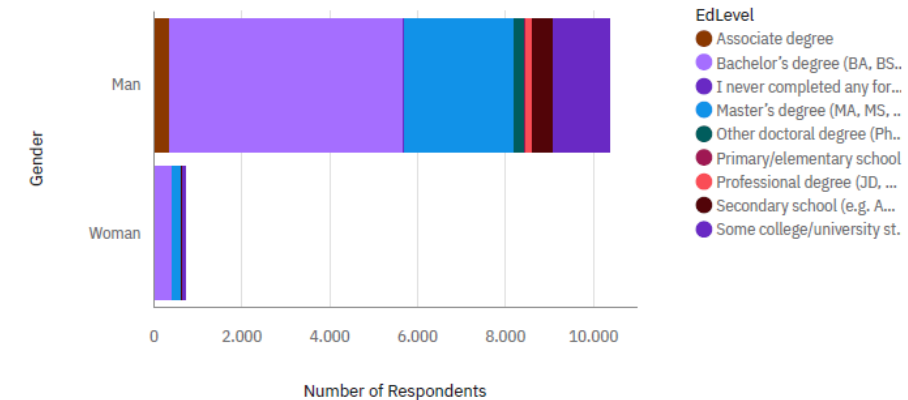
Respondent Locations



Respondents by Age



Respondents nach Gender



DISCUSSION



OVERALL FINDINGS & IMPLICATIONS

Findings

- Developers mostly in developed Countries
- Web development languages are the most popular and on-demand tools in the IT field currently
- The Tech sector is filled with majorly young people under 40 years of age

Implications

- It is important for data professionals to develop proficiencies in NoSQL in addition to SQL databases
- Web development is still a very lucrative skill
- High number of young developers without postgrad studies

CONCLUSION



- It is expedient to stay updated in the Tech sector as the trends keep changing over time.
- Less developed countries need more access to tech trainings and education.

APPENDIX



JOB POSTINGS

In Module 1 you have collected the job posting data using Job API in a file named “job-postings.xlsx”. Present that data using a bar chart here. Order the bar chart in the descending order of the number of job postings.

POPULAR LANGUAGES

In Module 1 you have collected the job postings data using web scraping in a file named “popular-languages.csv”. Present that data using a bar chart here. Order the bar chart in the descending order of salary.