



# Capstone Project: Trends in tech

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# OUTLINE

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

# EXECUTIVE SUMMARY

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- Trends in programming languages and databases
- Changes in **importance of languages**
- Changes in **trends for data storage**: relational, non-relational and abstract data

# INTRODUCTION

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- **Purpose:**
- Analysis of current trends in software development to improve education and outreach accordingly
- **Audience:**
- HR managers, company leaders
- **Questions:**
  - Which programming languages are and will be relevant?
  - Which databases are and will be relevant?
  - Which implications can be drawn from this?

# METHODOLOGY

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- **Sources:**

- Stack Overflow Developer 2019 survey
- Github Job Postings
- Annual Salary for specific programming languages

- **Methods**

- Quantitative analysis of the data with the use of the programming languages Python and SQL

- **Data collected through**

- APIs
- Web scraping

# RESULTS: Programming languages

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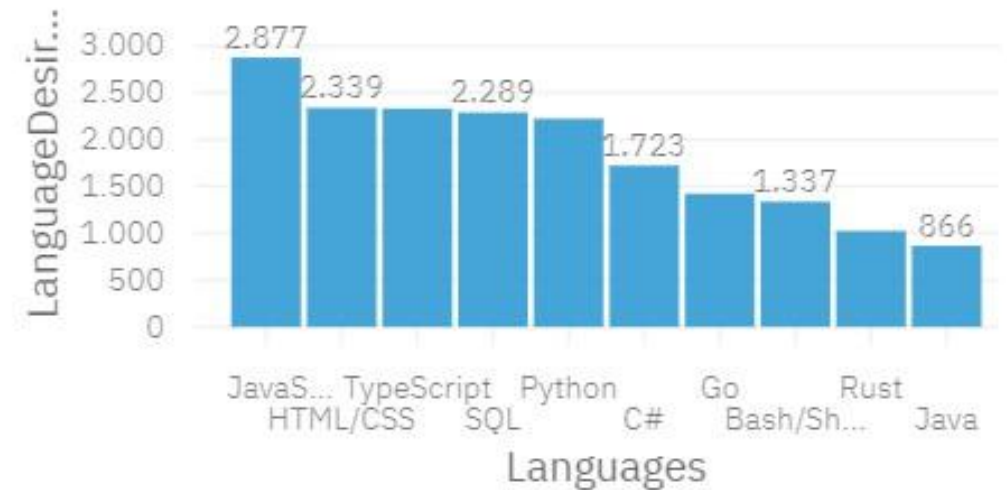


# PROGRAMMING LANGUAGE TRENDS

Top 10 Languages



Top 10 desired languages next year



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- Java Script, HTML and SQL are the most sought after languages
- TypeScript will rise in importance next year
- C++ and Java are still relevant, but not in the top 3

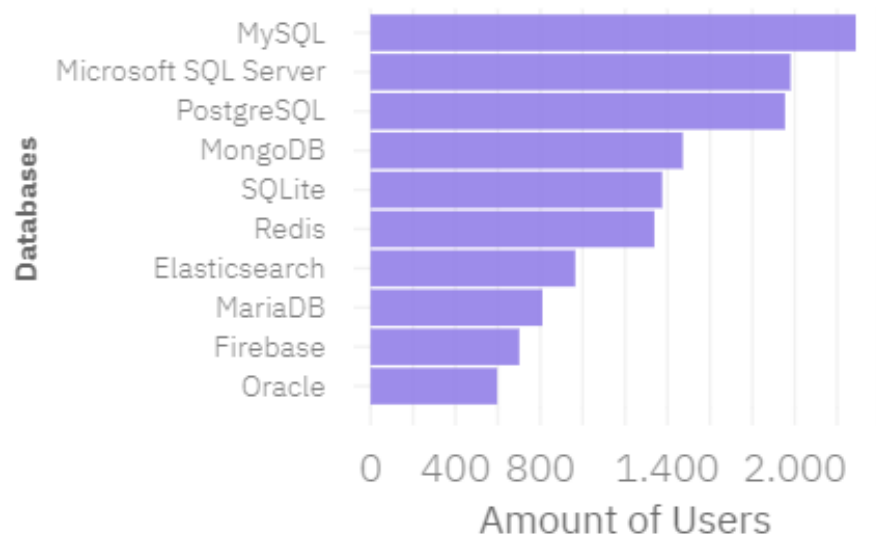
## Implications

- Python and SQL are still solid choices
- As can be seen with TypeScrips, the importance of languages can change between years
- Is is therefore important to monitor trends continuously

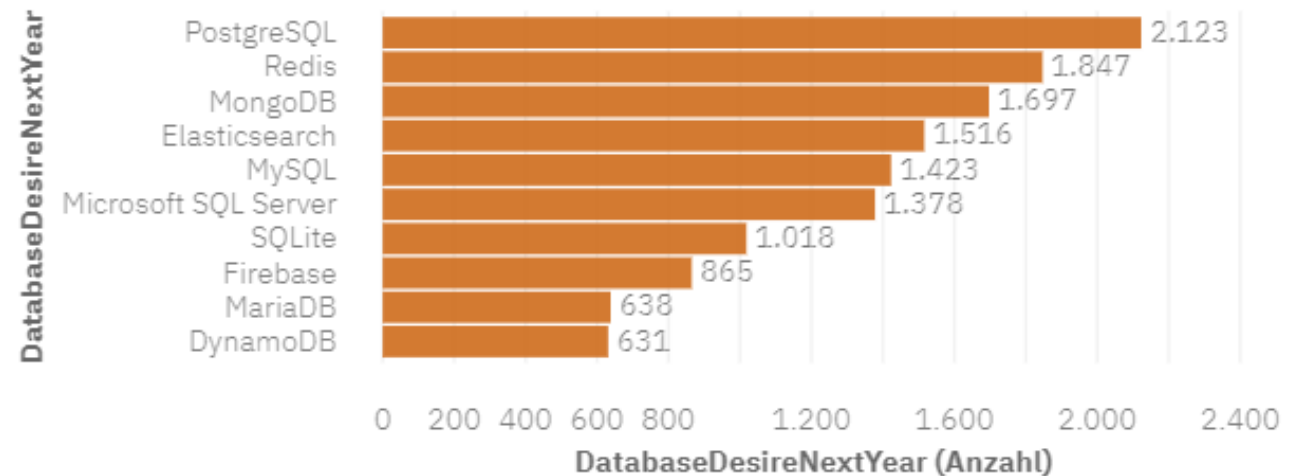


# DATABASE TRENDS

Top 10 Databases



Top 10 databases next year



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- Currently, SQL-based databases are most prominent
- MongoDB and Redis will become more important
- Oracle will lose importance

## Implications

- Open-source databases are valuable tools
- Abstract data and non-relational databases are as important as relational databases
- A versatile approach to saving data is preferable

# DASHBOARD

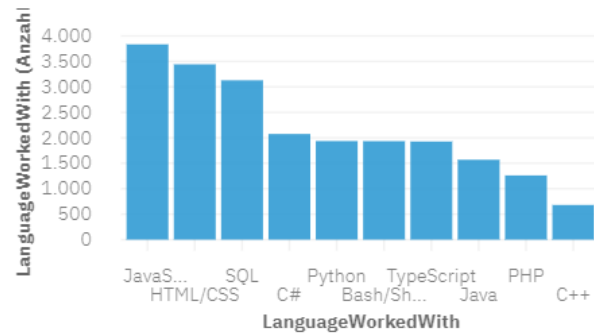
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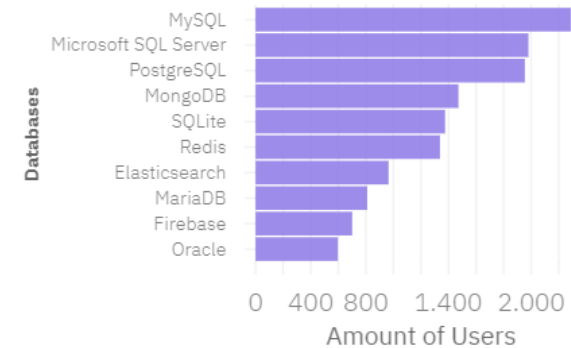
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# DASHBOARD TAB 1

Top 10 Languages



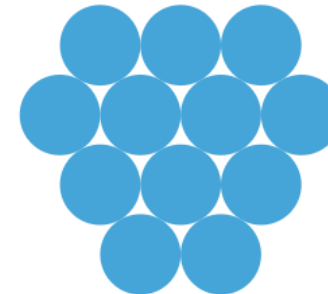
Top 10 Databases



Platforms in use

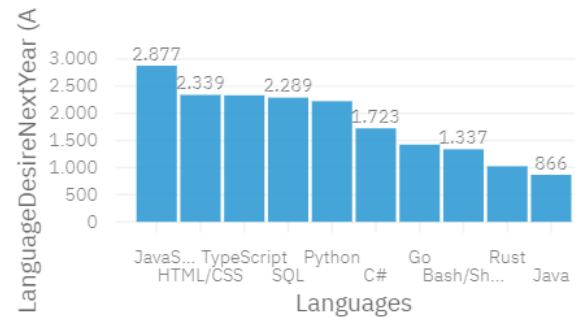


Top 10 Tools

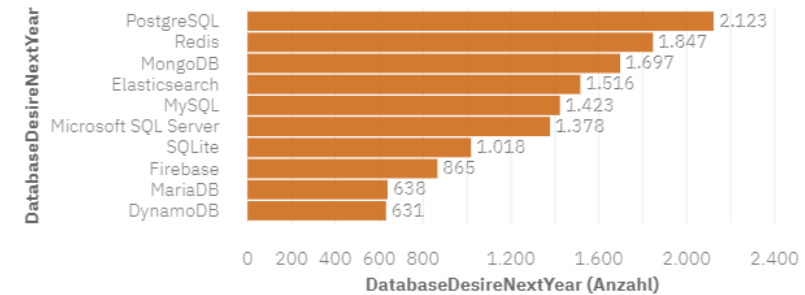


# DASHBOARD TAB 2

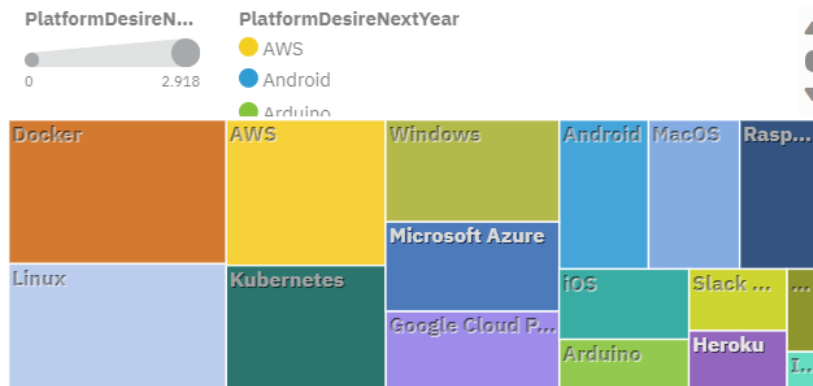
Top 10 desired languages next year



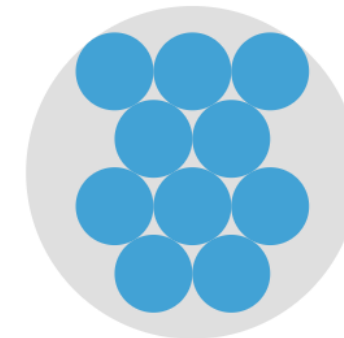
Top 10 databases next year



Desired platforms for next year

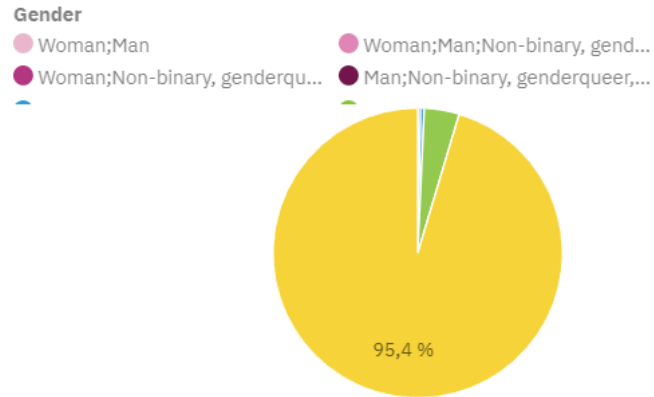


Top ten collab tools for next year

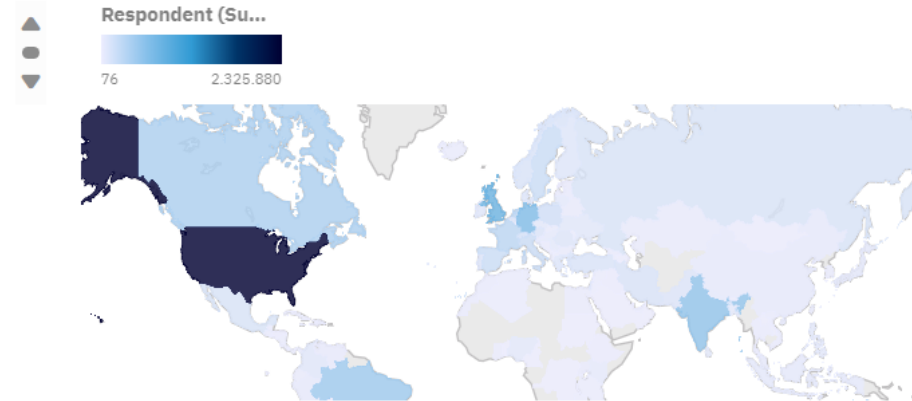


# DASHBOARD TAB 3

## Respondents by gender



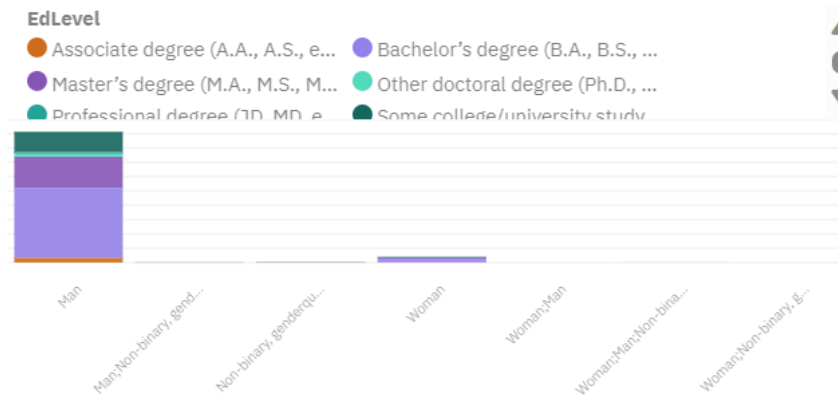
## Respondents by Country



## Age of Respondents



## Respondents by gender and education



# DISCUSSION

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- Gender gap?
  - Ways to eliminate it
- Developed vs developing countries?
  - Different challenges in tech
- Age and education discrimination?
  - Where is more support needed?

# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- The importance of programming languages and databases can change from one year to another
- Gender Gap
- Age and Education play a relevant role

## Implications

- Companies need strategies to help women and elderly people to participate in this field
- Importance of keeping up with trends
- Potential of untapped resources in as yet underdeveloped countries if companies are willing to assist with learning



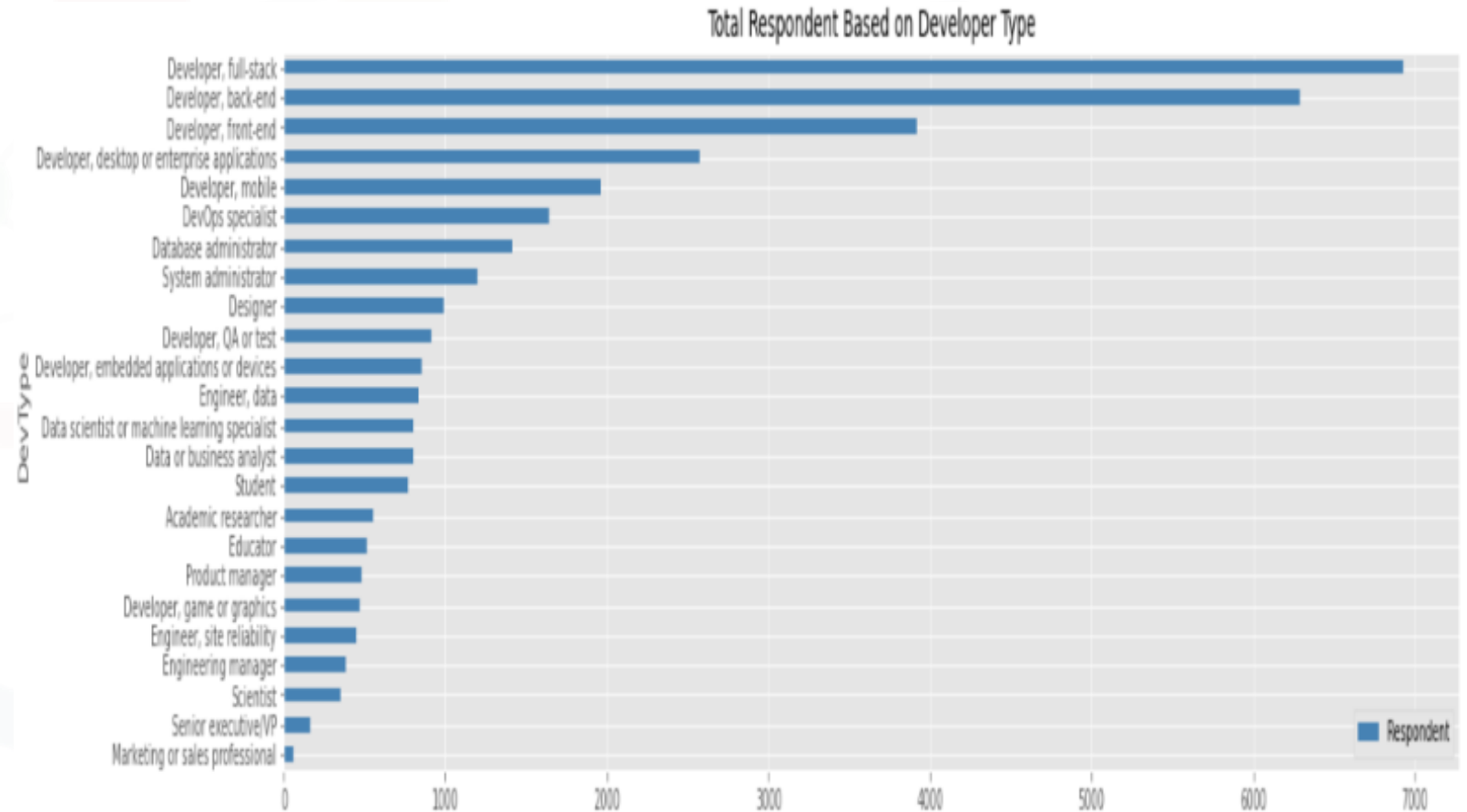
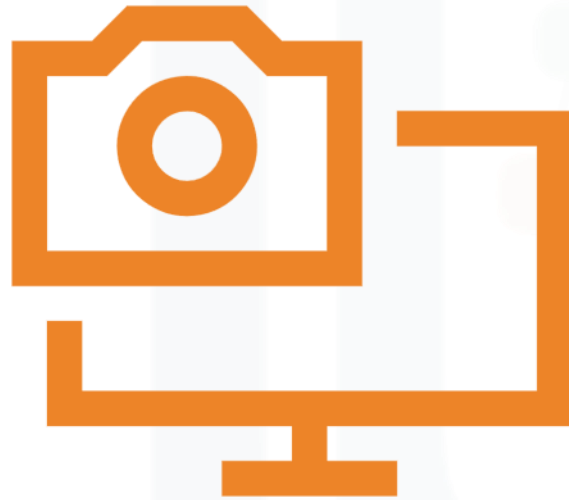
# CONCLUSION

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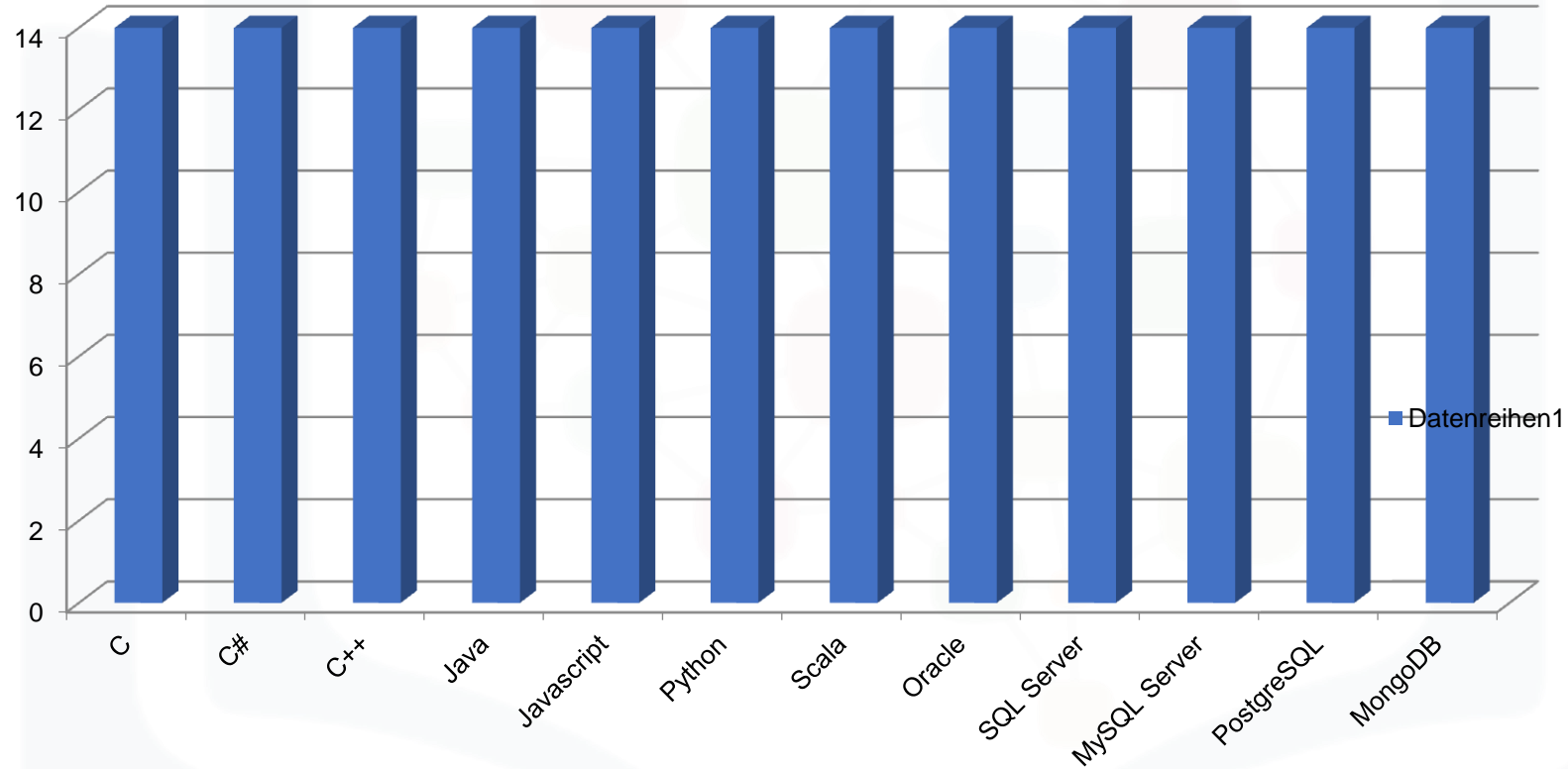


- Changing trends in programming languages
- Changing trends regarding the best way to store data
- Gender gap
- Importance of keeping up with trends

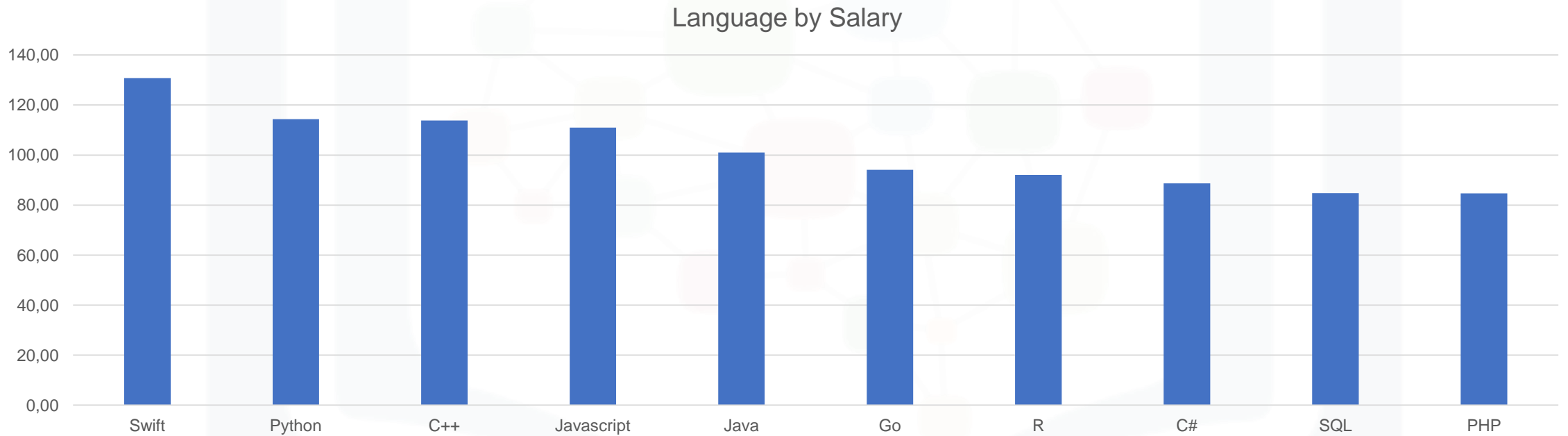
# APPENDIX



# JOB POSTINGS



# POPULAR LANGUAGES



# Appendix: innovative ideas and creative choices

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- Enhancing of the presentation by reasearching which type of data the databases store (open-source database, abstract database...)
- Separational lines between the graphs of present and future for greater readability