Stack Overflow Developer Survey

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OUTLINE

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EXECUTIVE SUMMARY

- This presentation summarizes findings from an analysis of survey data collected from software developers on Stack Overflow.

- The analysis covered the following areas:
  - Popular languages
  - Future outlooks
  - Demographical changes and data summary.

- This report showcases the perception and future trends in various technologies.

- This analysis helps identify opportunities and showcases an inventory of skillsets available in the market.

INTRODUCTION

- Stack Overflow is a poplar website for developers.
- An online survey was conducted and later open sourced by Stack Overflow.
  - 90,000 responses.
- Technology usage and future outlooks were gathered from the developers.
  - What are the top programming languages in demand?
  - What are the top database skills?
  - What do the demographics look like?

METHODOLOGY

- Data Wrangling – 1/10 of the data source provided by IBM and cleaned up using SQL and Python formulas.
  - Duplication removal, data verification, outlier removal.
- Analysis – Various functions used in Python using pandas, seaborn, and other libraries to perform analyses on the data to draw insights.
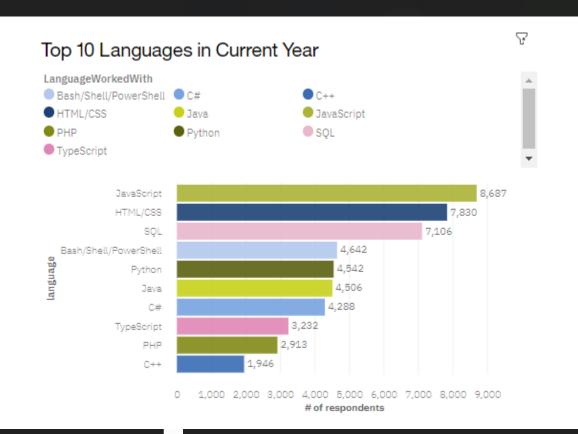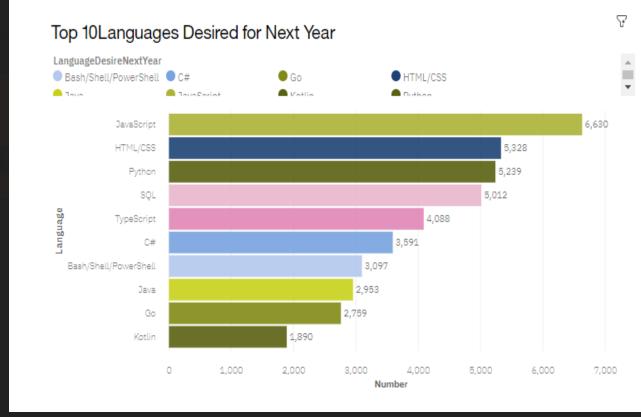- Visualization – Creation of charts and graphs using matplotlib and seaborn to visually represent data.

RESULTS

PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Javascript and HTML/CSS were the most popular in 2019 and appears to be in demand for 2020.

- Python appears to be growing in interest from 2019 to 2020.

- Bash/Shell/Powershell appears to be dropping in interest year over year.
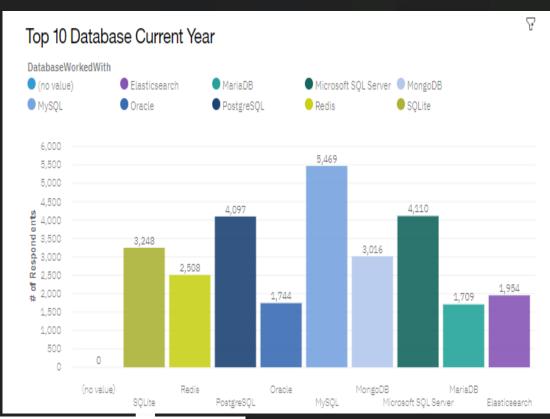
Implications

- Web development appears to have a high interest and Javascript + HTML programmers will be in demand.

- Python's growing demand opens the door for more automation in the future.

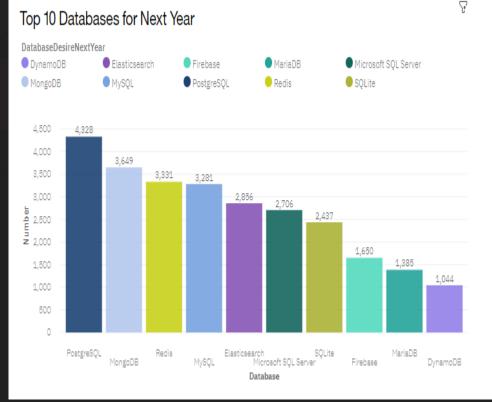- These programming languages may not be used for major tasks down the line.

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DATABASE TRENDS

Current Year   Next Year

Top 10 Database Current Year

Top 10 Databases for Next Year

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Implications

Findings

- SQL querying skills are likely to be in demand for 2020.

- MySQL is the most dominant database in 2019 and remains in the top 5 for 2020.

- Relational database querying is likely to be a valuable skill in the foreseeable future.

- Postgre-SQL is increasing in demand.

- MongoDB skills are growing in demand as well.

- MongoDB also increasing in demand.

DASHBOARD
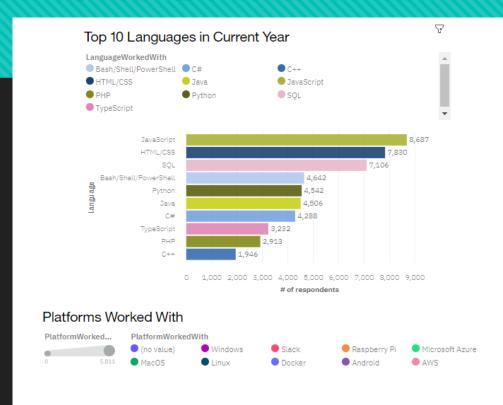
Link for the read-only dashboard:

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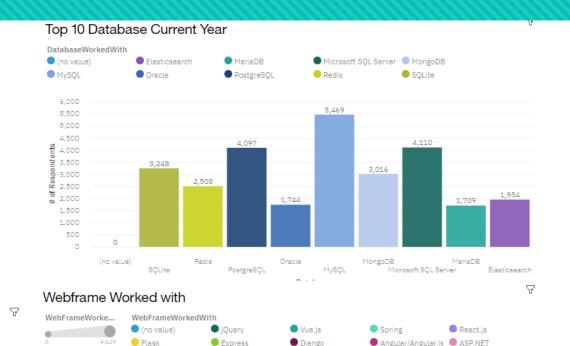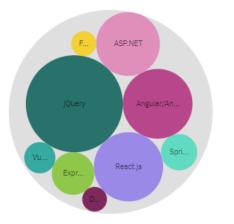4194c8274252df195663f5bf4051cb
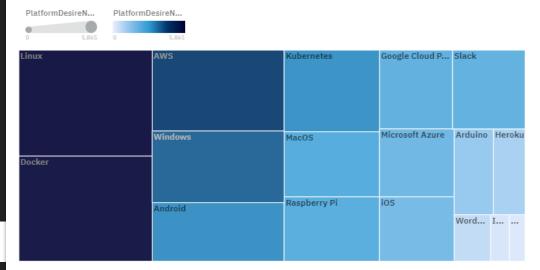
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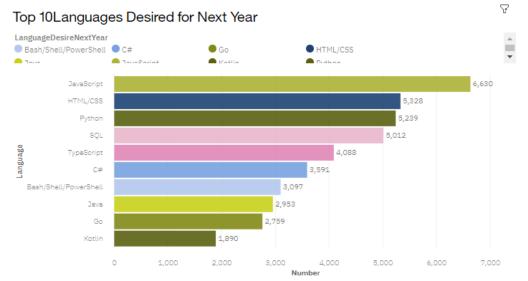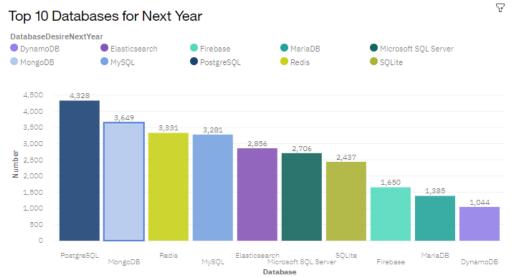
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DASHBOARD TAB 1

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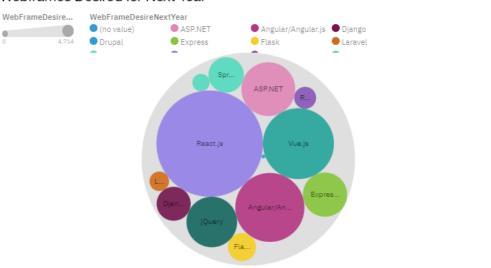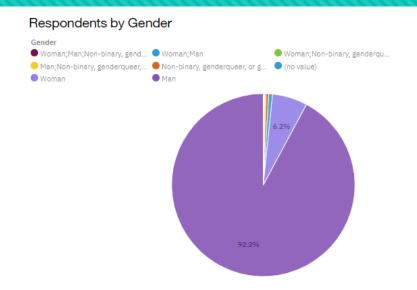
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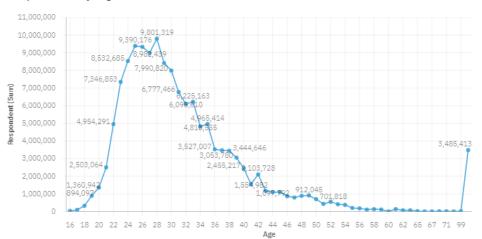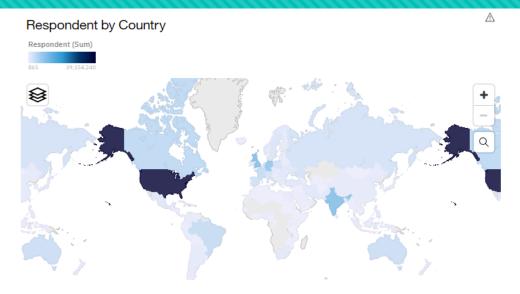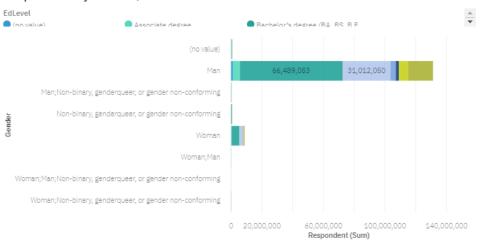
DISCUSSION

- The findings reveal insights to the following areas:
- Which programming languages, databases and technologies are currently in the market?
- Which of the above have positive prospects?
  - Career and educational considerations.
- What is the demographic distribution of respondents?

OVERALL FINDINGS & IMPLICATIONS

Implications

Findings

- The prospect for the job market in web development is positive.

- JavaScript and HTML are dominant skillsets both in the current year and in the outlook for the next year.

- Data querying skills such as SQL may prove to be valuable in the near future. Developers should think about incorporating this language into their strong existing language skillset.

- SQL Remains relevant in both the current year and the next.

- The current developer market is predominantly male at 92%.

- Employers should try to push for more equal representation in the developer job market. Although this may not be entirely representative of the overall data.

- The majority of developers are 24-30 years old.

- Organizations should consider the aging of the current developer market and how age plays a role in performance, both now and in the future.
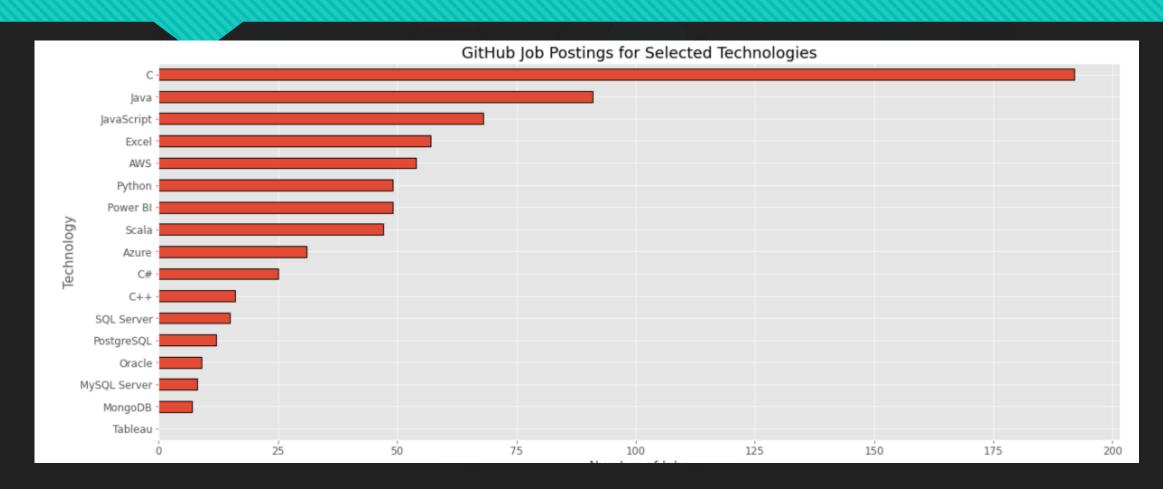
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CONCLUSION

- A 1/10 portion of the stack overflow survey data was analyzed.

- Insights were generated on the current state of the developer market and what skills they believe the job market holds valuable in the future.

- Demographics of the current developer market were also generated. Organizations should consider the younger population dominance as well as the male overrepresentation.

JOB POSTINGS

GitHub Job Postings for Selected Technologies

POPULAR LANGUAGES

Popular Programming Languages by Average Annual Salary