Identify trends for emerging technologies

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EXECUTIVE SUMMARY

- **Survey Overview:** Engaged 11,400 developers globally across 135 countries to discern emerging technology trends.

- **Demographic Insights:** Notable demographics include 93.7% male respondents, predominant age group of 28, and top respondent locations being the US (42.1%), India (12.0%), UK (11.1%), Germany (10.1%), and Canada (5.5%).

- **Programming Language Trends:** JavaScript leads both in current utilization (17.5%) and future desirability (16.3%), indicating sustained interest. Python, holding 9.1% in current utilization and 12.9% in future desirability, demonstrates significant growth in preference.

- **Database & Platform Preferences:** MySQL (18.7%) and PostgreSQL (16.2%) top current and desired database utilization, while Linux (18%) and Docker (16%) lead in current and anticipated platform choices.

- **Web Framework Trends:** Jquery (20.3%) and ReactJS (20.7%) dominate in current and desired web frameworks, showcasing evolving preferences among developers.

- **Implications:** Identified trends suggest a continued reliance on JavaScript, significant growth in Python's appeal, and a rising interest in TypeScript, reflecting potential shifts in technology preferences and industry directions for the upcoming year.

INTRODUCTION

- **Survey Objective:** The survey aimed to uncover emerging technology trends among developers, engaging 11,400 participants globally from 135 countries.
- **Purpose:** The primary goal was to analyze and identify prevalent preferences in programming languages, databases, platforms, and web frameworks, providing insights into current usage and future projections.
- **Demographic Focus:** The survey delves into crucial demographics, including the predominant age group of 28, a gender distribution of 93.7% male respondents, and top respondent locations such as the US (42.1%), India (12.0%), UK (11.1%), Germany (10.1%), and Canada (5.5%).
- **Scope:** Analysis spans the utilization and desired preferences of programming languages, databases, platforms, and web frameworks, intending to decipher evolving trends and potential shifts in developer preferences for the upcoming year.
- **Target Audience:** Open to all intrigued by tech advancements.
- **Expected Insights:** Revealing current/future tech landscapes and highlighting gender disparities in the industry.

METHODOLOGY

Collection and Sources

•**Data Collection:** Respondent data compiled via research and stored in a CSV. Technology job market insights gathered through Python-based web scraping and APIs.
•**Sources:** Respondent data sourced from Stack Overflow. Technology job market insights obtained from Github.

Approach and Scope

•**Participants:** Engaged 11,400 diverse global developers across 135 countries.
•**Data Collection:** Employed online surveys across developer networks, focusing on programming languages, databases, platforms, and web frameworks.
•**Demographics:** Captured location, gender, age, and education for comprehensive insights.

Analysis and Considerations

•**Analysis:** Intensive analysis aimed at discerning prevailing trends and forecasting future technology preferences among developers.
•**Considerations:** Acknowledged limitations in sample representation and self-reported data, addressed through diverse data collection channels.

RESULTS

Key Highlights

- **Python's Surge:** Python ranks 3rd in current use (9.1%) and 2nd in future desirability (12.9%), showing consistent popularity.
- **JavaScript's Continuation:** Maintains lead in current use (17.5%) and future desire (16.3%), signaling sustained relevance.
- **Database Trends:** MySQL leads in current use (18.7%), while PostgreSQL tops future desirability (16.2%).
- **Platform & Framework Shift:** Linux dominates current use (18%), while ReactJS emerges as top for the future (20.7%).

Demographics

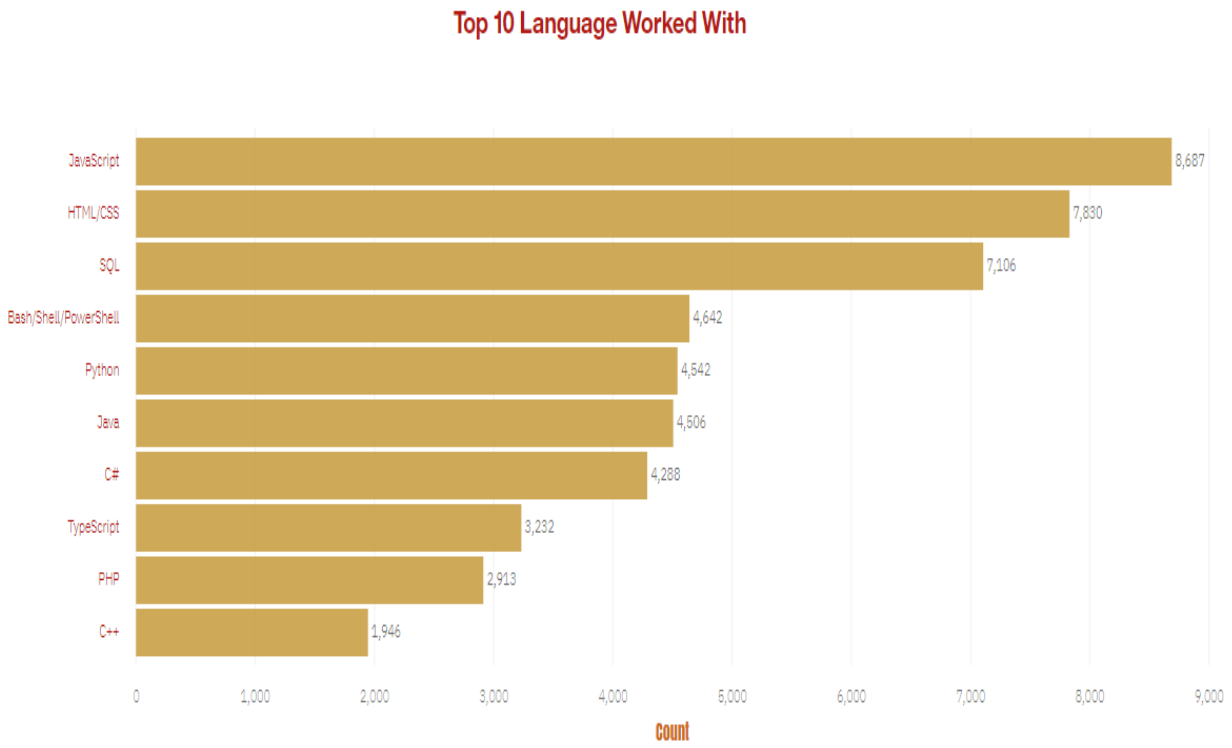
- **Gender Gap:** Males dominate respondents (93.7%), spotlighting gender imbalance.
- **Age & Education:** Varied age groups; educational diversity with a focus on Bachelor's degrees.

Key Observations

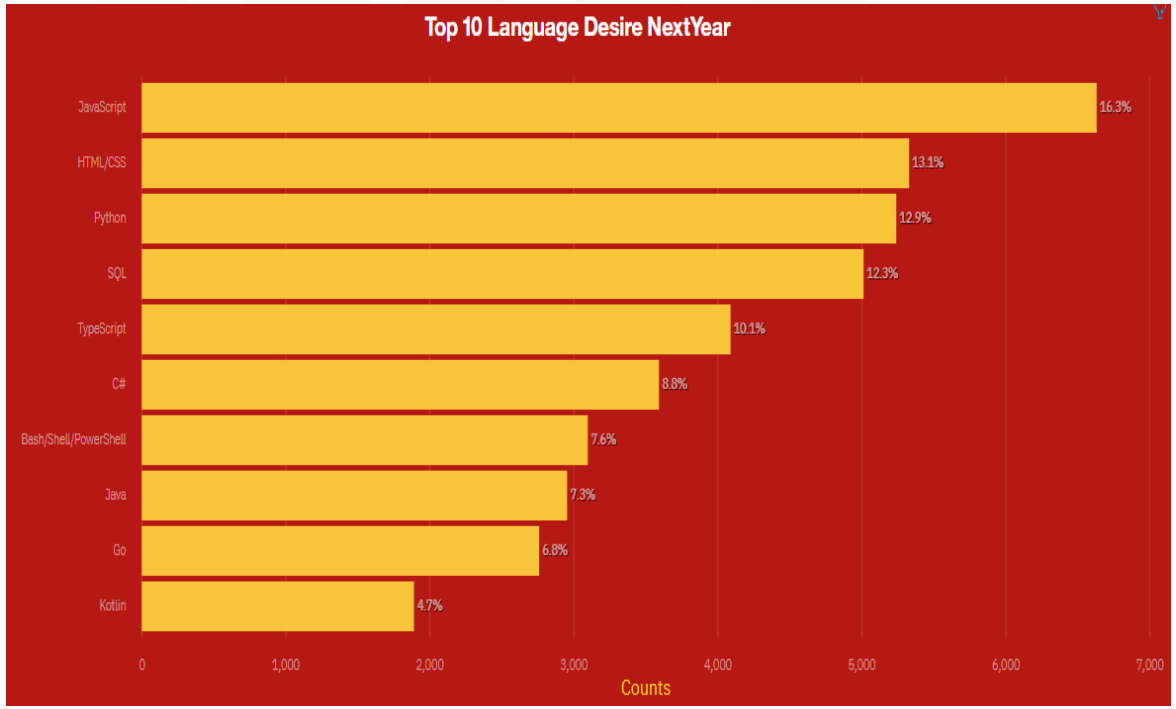
- **Stability in Tech Trends:** Consistency observed in current and future tech trends.
- **Rising Languages:** Two new languages show potential for future demand.
- **Gender Disparity:** Only 6% female respondents highlight gender inequality in tech participation.

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



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PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

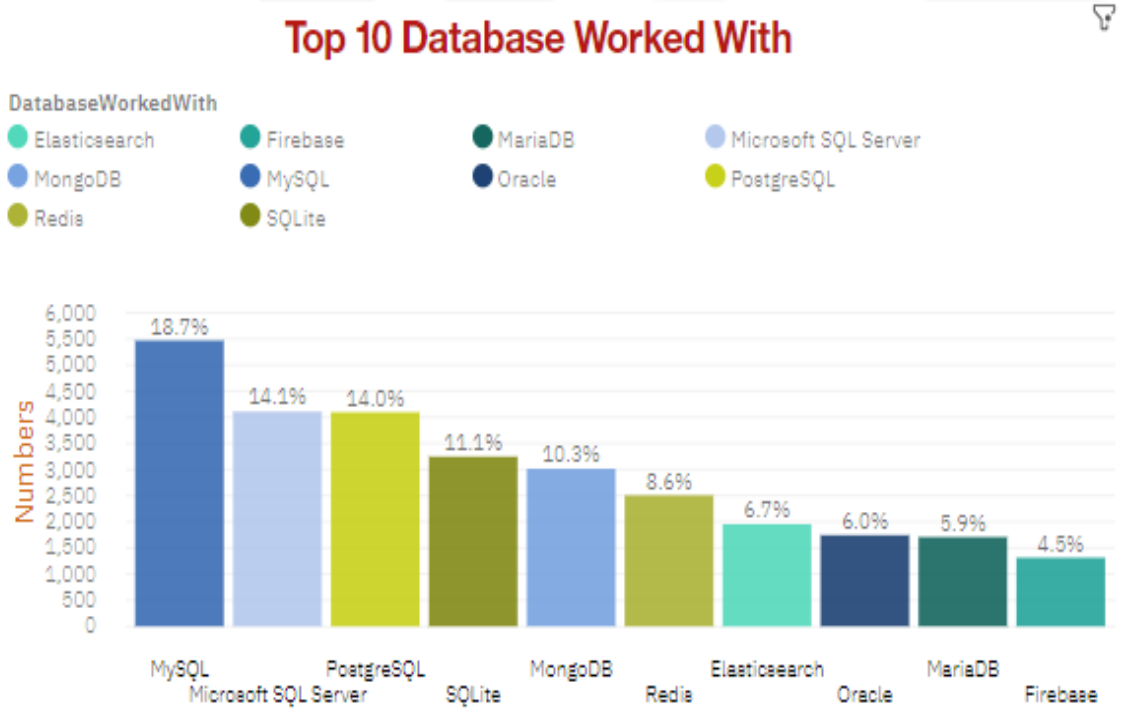
1. **JavaScript Dominance:** JavaScript leads in utilization (17.5%) and remains the top desired language for the following year (16.3%).
2. **Python's Surge:** Python demonstrates significant growth, ranking third in utilization (9.1%) and second in desired usage for the next year (12.9%).
3. **TypeScript's Growth:** TypeScript gains traction, showing increased desirability (10.1%) and potential for further adoption.

Implications

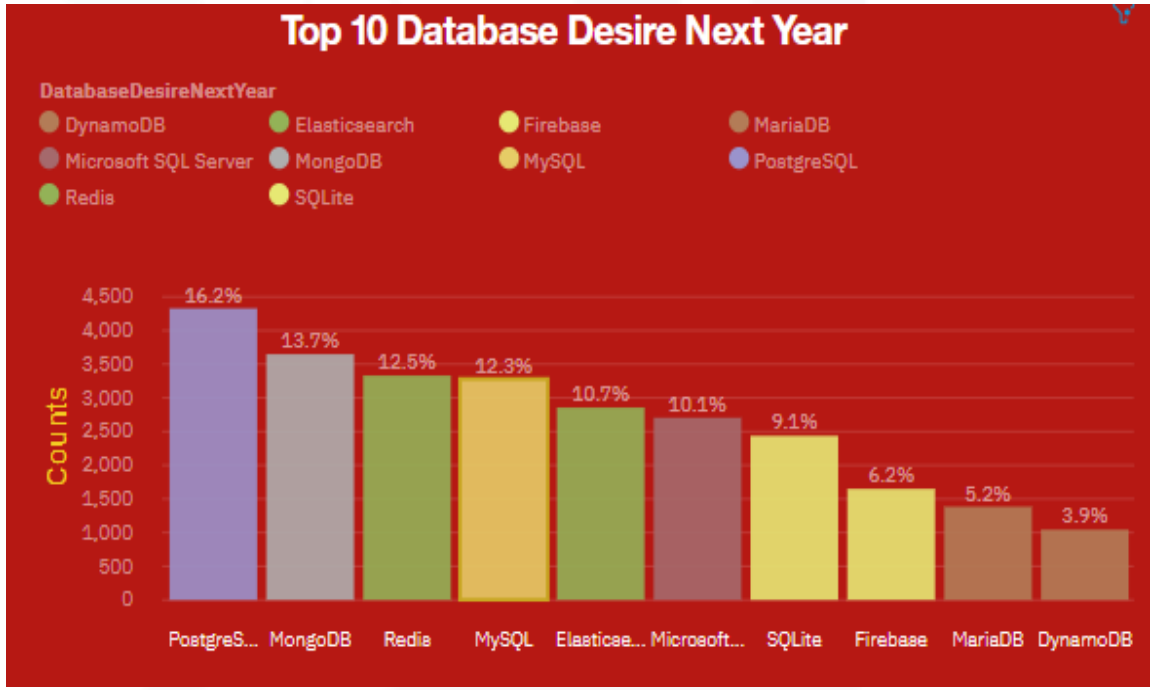
1. **Industry Stability with JavaScript:** Continued dominance of JavaScript ensures stability in web development practices.
2. **Python's Versatility:** Python's rising popularity across domains reflects its versatile application beyond web development.
3. **Potential Rise of TypeScript:** Growing interest in TypeScript signals its potential to influence future development trends and standards.

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

1. **MySQL's Utilization:** MySQL leads in current database utilization (18.7%), maintaining a prominent position in developer choices.
2. **PostgreSQL's Surging Preference:** PostgreSQL exhibits significant growth, ranking as the top desired database for the next year (16.2%), showcasing rising developer interest.
3. **Diverse Database Preferences:** Developers exhibit varied preferences with MongoDB (10.3%), SQLite (11.1%), and Redis (8.7%) securing notable usage percentages.

Implications

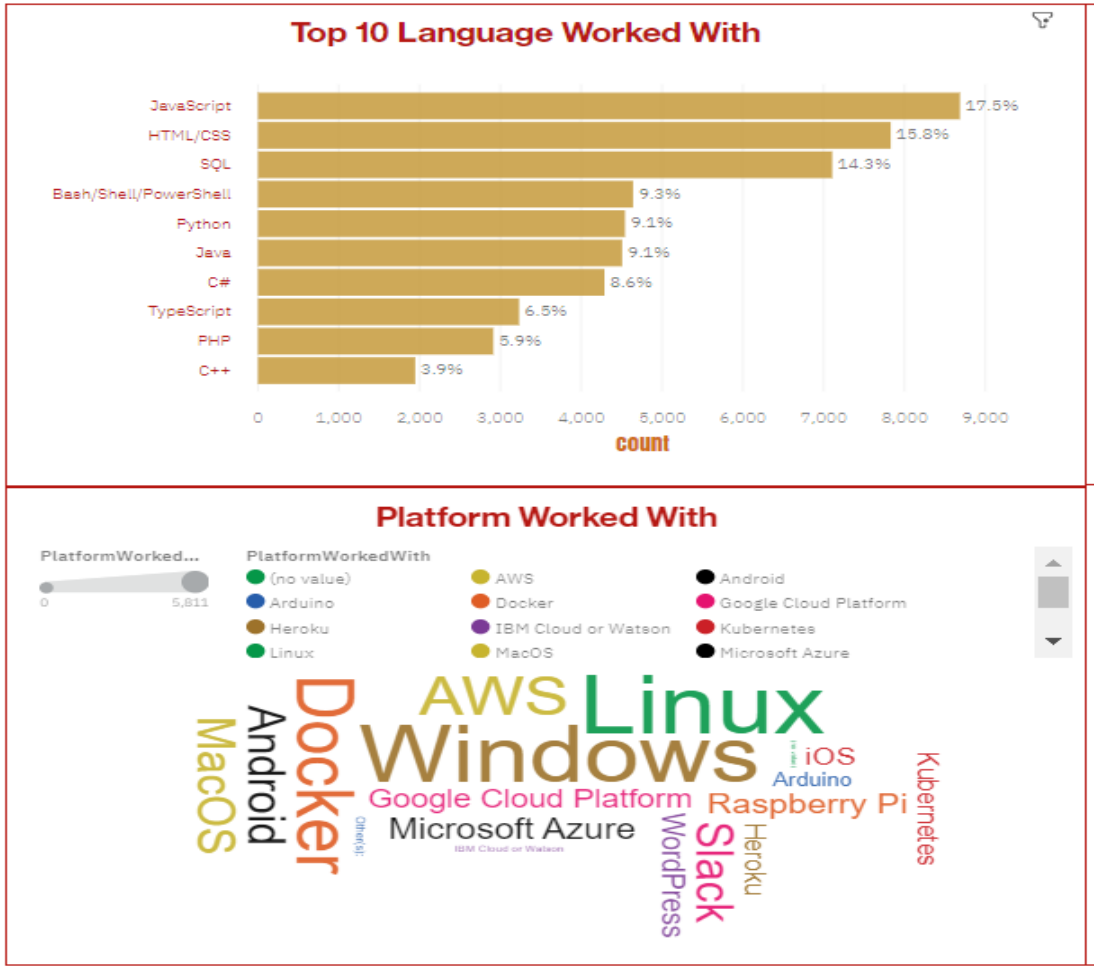
1. **MySQL's Ongoing Relevance:** Continued utilization of MySQL signifies its enduring relevance and reliability in diverse application scenarios.
2. **PostgreSQL's Emerging Appeal:** Rising demand for PostgreSQL indicates a potential shift towards its adoption, likely due to its robust features and flexibility.
3. **Diverse Database Landscape:** The diverse preferences among developers suggest a need for flexibility and specialized functionalities, catering to varying project requirements and scaling needs.

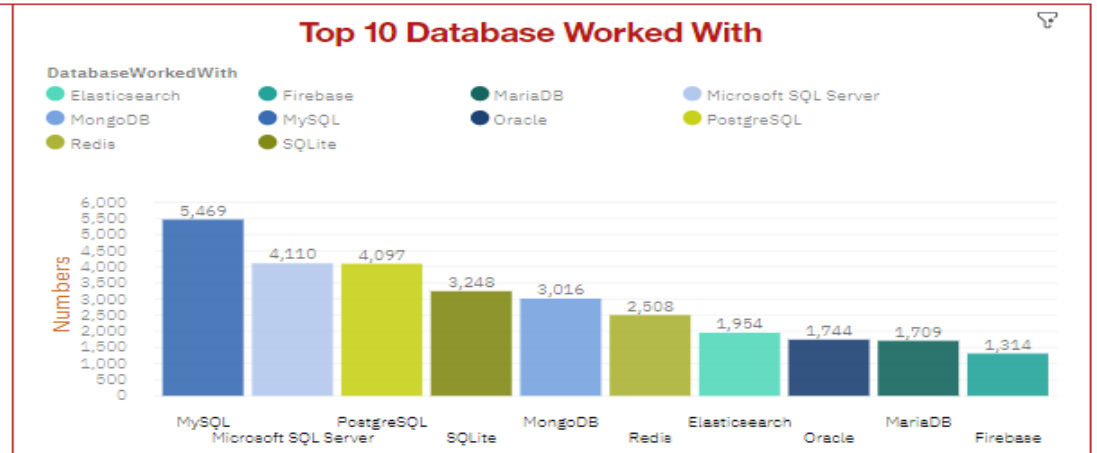
DASHBOARD

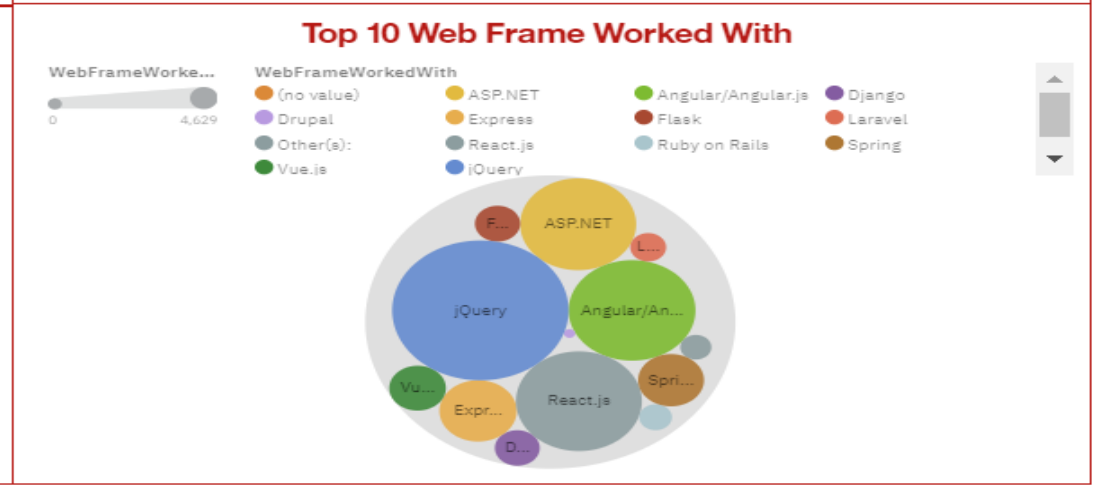
The permanent link of the read-only view of the Cognos dashboard :

https://eu-de.dataplatform.cloud.ibm.com/dashboards/dad72b41-e043-4e18-8d4b-1ba0118dacb6/view/703ede35059e17e969efe6e4079c2e552c622654e6bbd755d2d17b490b697097f06d4796c8264a5bd914506ba7ba460ace

DASHBOARD TAB 1







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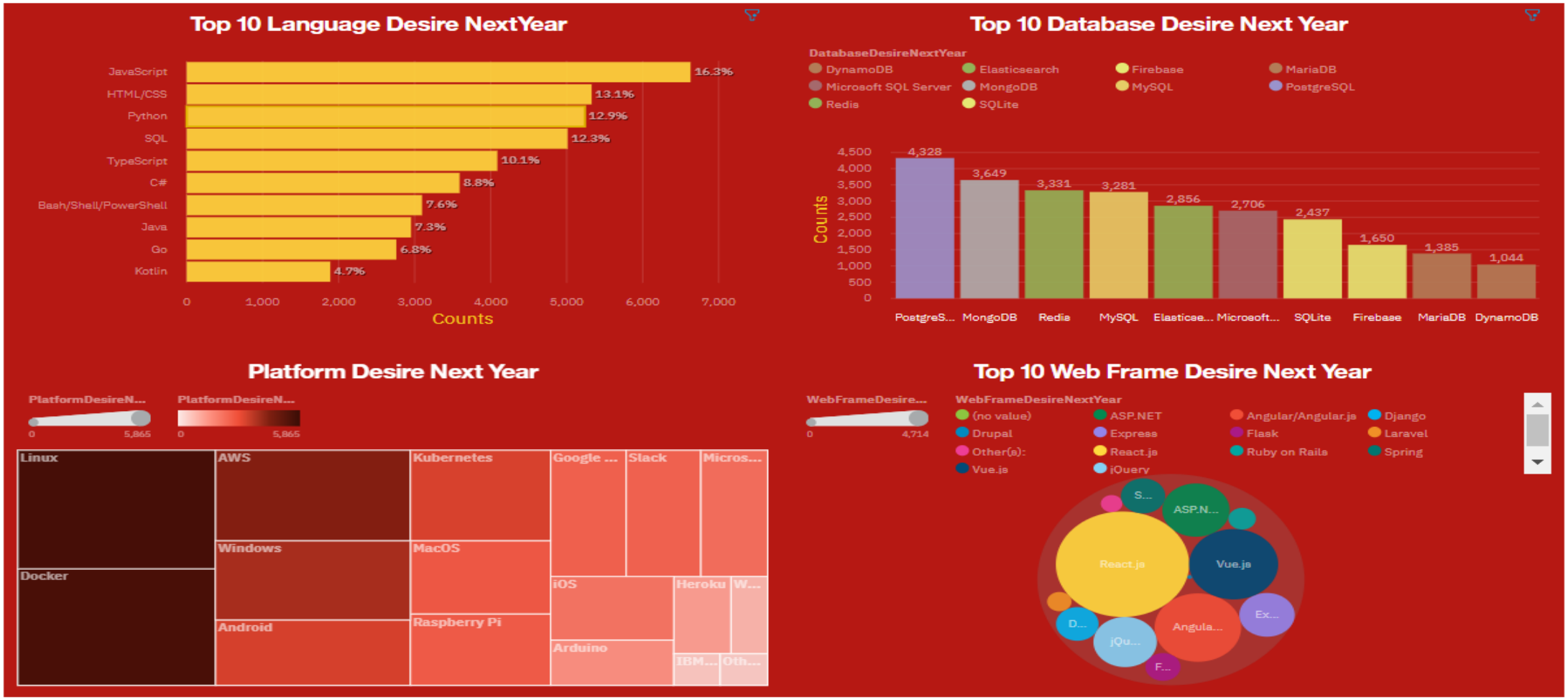

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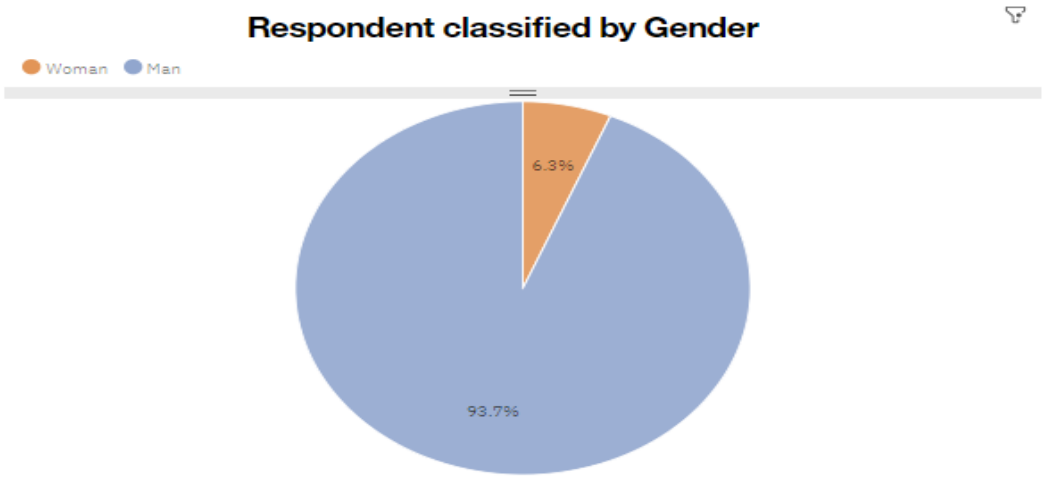
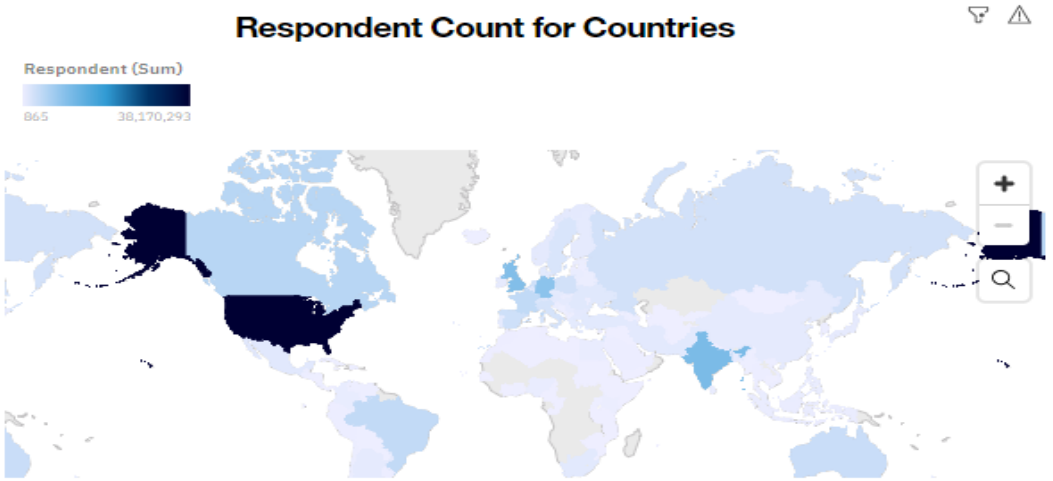
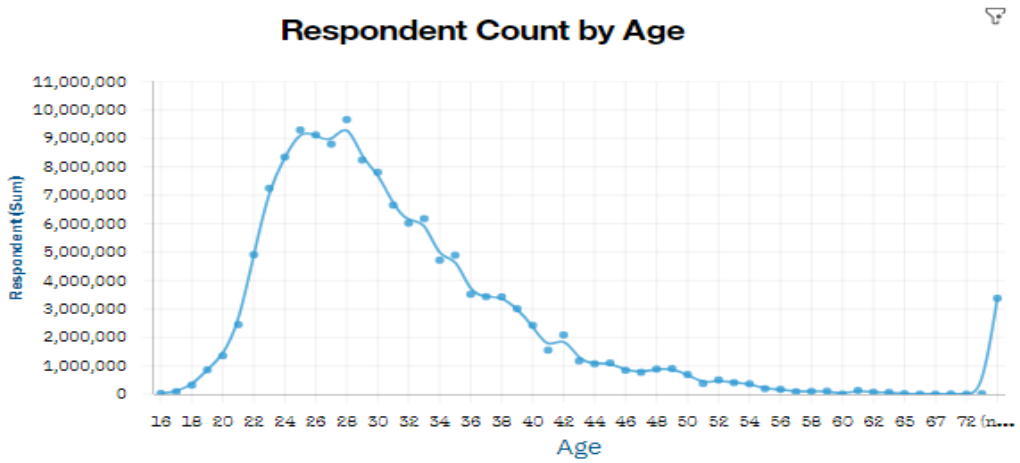
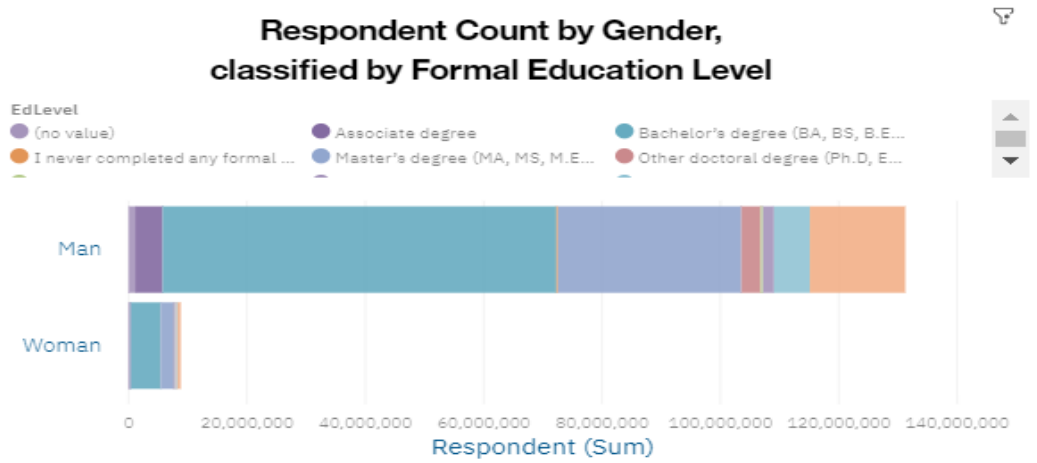
DASHBOARD TAB 3









DISCUSSION

- The study aimed to understand developer preferences in tech domains. JavaScript's sustained dominance and Python's rapid rise in popularity showcase evolving trends. PostgreSQL's surge hints at changing database preferences.
- These insights offer a glimpse into current trends, yet they present a partial picture. Despite limitations, they provide crucial insights, highlighting the need for further exploration to grasp the intricate dynamics shaping developer technology preferences.

OVERALL FINDINGS & IMPLICATIONS

Findings

1. **JavaScript Continues Lead:** JavaScript maintains dominance as the most utilized and desired language.
2. **Python's Steady Growth:** Python's ascent signifies its expanding role beyond traditional web applications.
3. **Database Preference Shift:** PostgreSQL's rise suggests evolving database preferences.
4. **Gender inequality in technology**

Implications

1. **Stability with JavaScript:** JavaScript's dominance ensures stability in web development practices.
2. **Python's Versatility:** Python's growth showcases its adaptability across diverse domains.
3. **Adapting to Database Trends:** Evolving preferences call for flexible solutions to meet changing project needs.
4. **Technology needs gender equality**

CONCLUSION

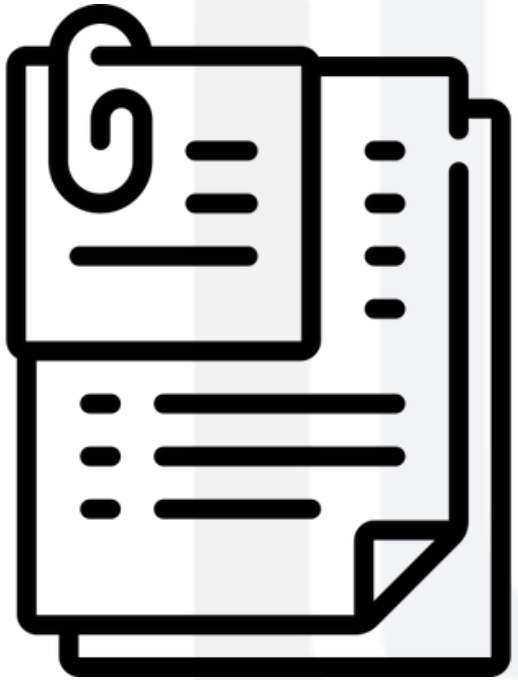
1.Dynamic Developer Preferences: The study reveals the dynamic nature of developer preferences, exemplified by JavaScript's consistency and Python's rapid growth.

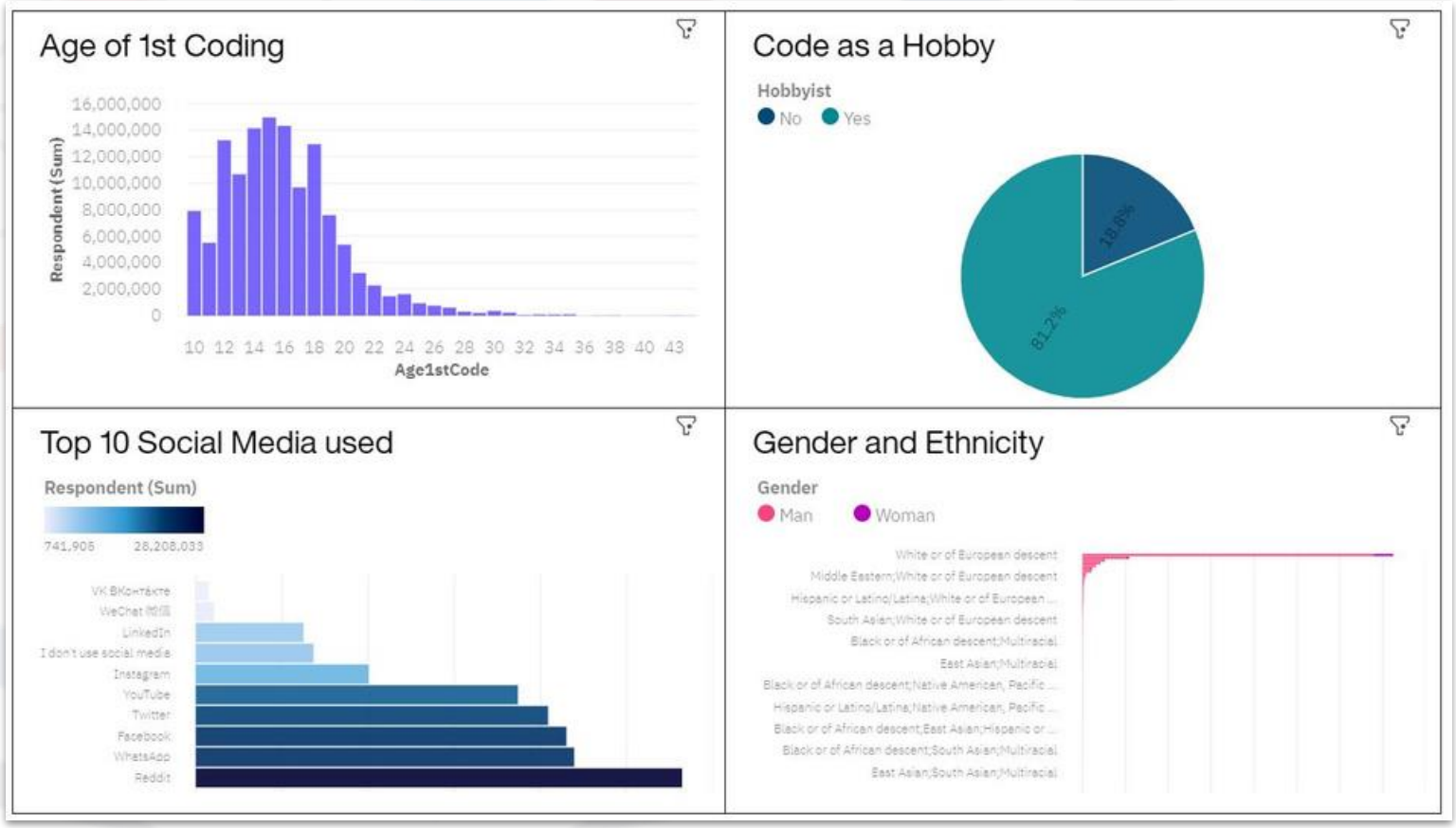
2.Stability in Web Development: JavaScript's enduring dominance ensures stability in web development practices.

3.Python's Versatility: Python's swift ascent signifies its adaptability across diverse domains.

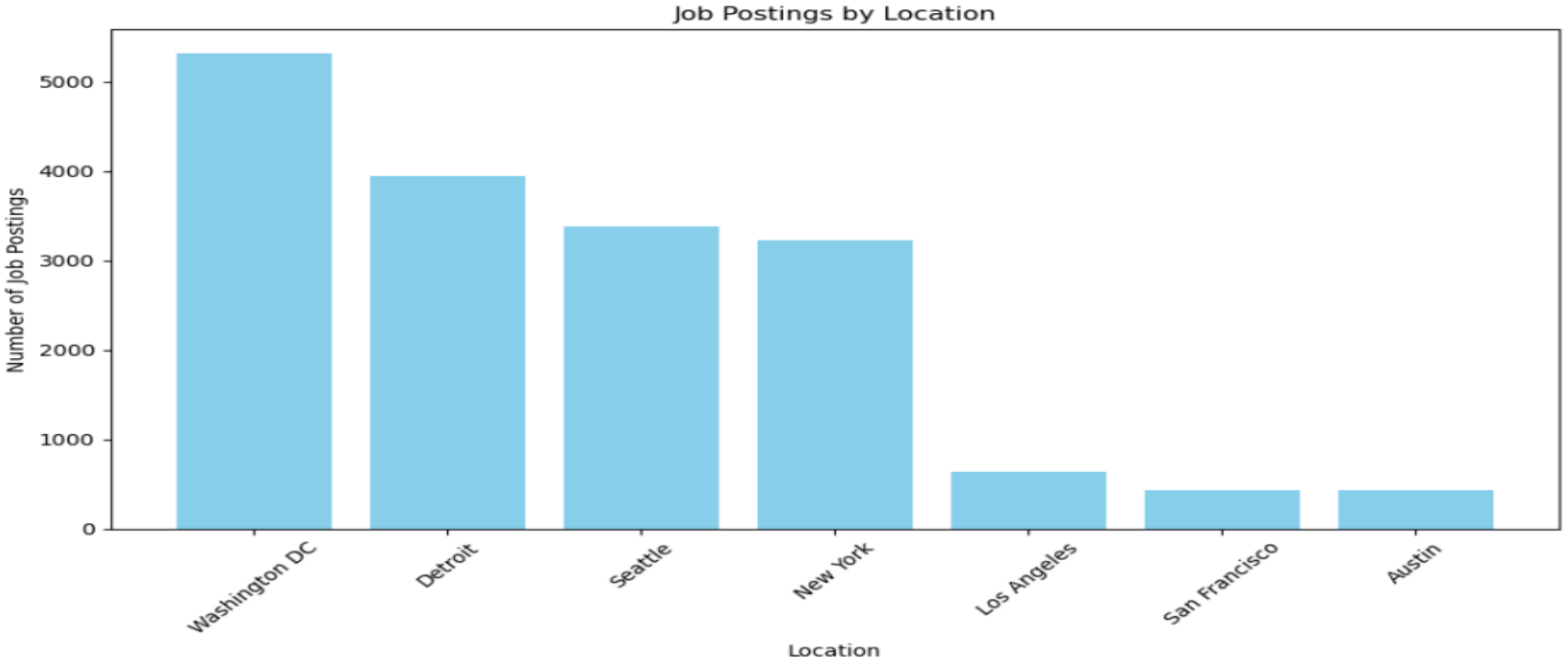
4.Adapting to Change: Evolving database trends, notably PostgreSQL's rise, call for adaptable strategies to meet evolving project needs.

APPENDIX




Age of 1st Coding
Respondent (Sum)
16,000,000
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 43
Age1stCode
Code as a Hobby
Hobbyist
No
Yes
18.8%
81.2%
Top 10 Social Media used
Respondent (Sum)
741,905
28,208,033
VK ВКонтакте
WeChat 微信
LinkedIn
I don't use social media
Instagram
YouTube
Twitter
Facebook
WhatsApp
Reddit
Gender and Ethnicity
Gender
Man
Woman
White or of European descent
Middle Eastern;White or of European descent
Hispanic or Latino/Latina;White or of European ...
South Asian;White or of European descent
Black or of African descent;Multiracial
East Asian;Multiracial
Black or of African descent;Native American, Pacific ...
Hispanic or Latino/Latina;Native American, Pacific ...
Black or of African descent;East Asian;Hispanic or ...
Black or of African descent;South Asian;Multiracial
East Asian;South Asian;Multiracial

JOB POSTINGS



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