



Analyzing Emerging Technology and Skills Trend

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OUTLINE



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

EXECUTIVE SUMMARY

❑ **Staying Competitive in IT Industry**

❑ **Study Overview:**

- ❖ Utilizes data analytics and spotlights present and projected trends in coding languages, databases, and tech areas.
- ❖ Delves into demographics of technology professionals.

❑ **Data Sources:**

- ❖ Stack Overflow survey, IBM website, Job postings on GitHub.

❑ **Data Analysis Process:**

- ❖ Collection -> Cleaning -> Exploratory analysis -> Visualization through dashboards

❑ **Key Findings:**

- ❖ JavaScript reigns as the most popular programming language and it is also most sought out in future.
- ❖ MySQL is currently the most utilized database. While, demand for PostgreSQL is expected to increase.

❑ **Demographics of Technology Professionals:**

- ❖ Majority is male and belongs to the USA with average age of 28 years

INTRODUCTION



- ❑ This analytical presentation delves into the contemporary and prospective trajectories of skill demand within the realms of programming languages, databases, platforms, and web frameworks, utilizing the tools of data analytics.
- ❑ The inquiry pursued within this study encompasses several pivotal questions:
 - Which programming languages currently command the highest demand?
 - What constitutes the most sought-after database proficiencies?
 - Which prevailing Integrated Development Environments (IDEs) or web frameworks is famous?
- ❑ With an intended audience spanning IT professionals, HR managers, and individuals with a vested interest in the IT sector, this research endeavors to elucidate the premier, future-proof IT competencies within their respective domains of expertise.

METHODOLOGY



➤ **Data Collection:**

- Gathered survey and website data through web scraping and APIs using the Request library in Python.

➤ **Data Wrangling:**

- Performed data wrangling tasks such as remove unnecessary separators, handling missing values either by removing them or using other criterions.

➤ **Exploratory data Analysis:**

- Analyzed data distribution, handling outliers, and identifying correlations.

➤ **Data Visualization:**

- Visualized the collected data to highlight distribution, relationships, composition, and comparisons using various visualization techniques.

➤ **Dashboards :**

- Developed interactive dashboards to present the analyzed data in a user-friendly and insightful manner.

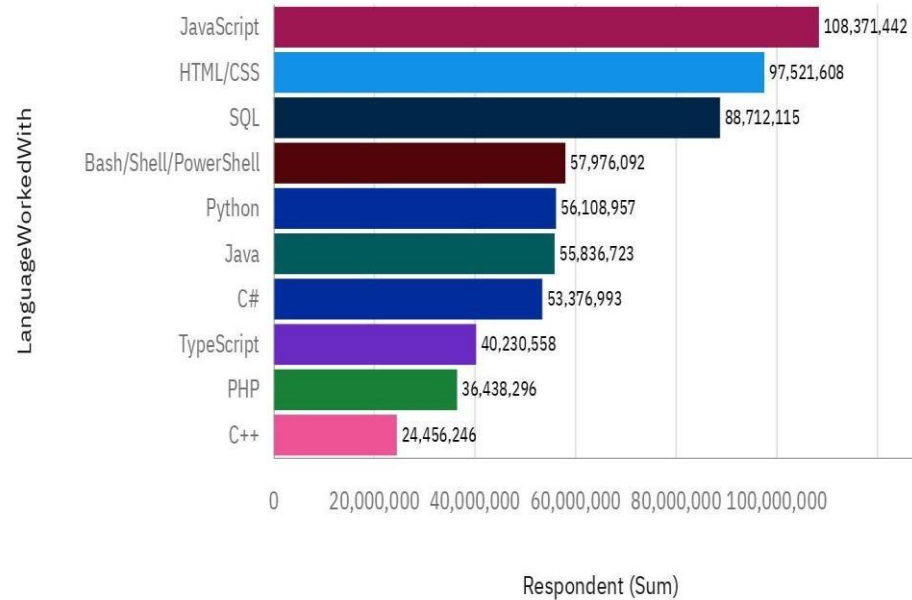
RESULTS



PROGRAMMING LANGUAGE TRENDS

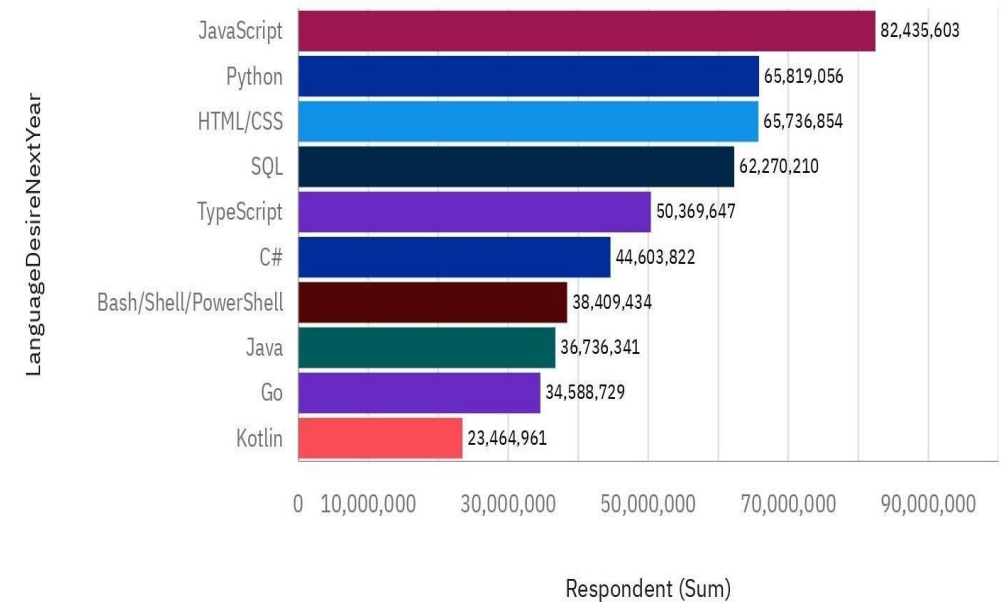
Current Year

Top 10 Languages Worked With



Next Year

Top 10 Languages Desired For Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

➤ Findings

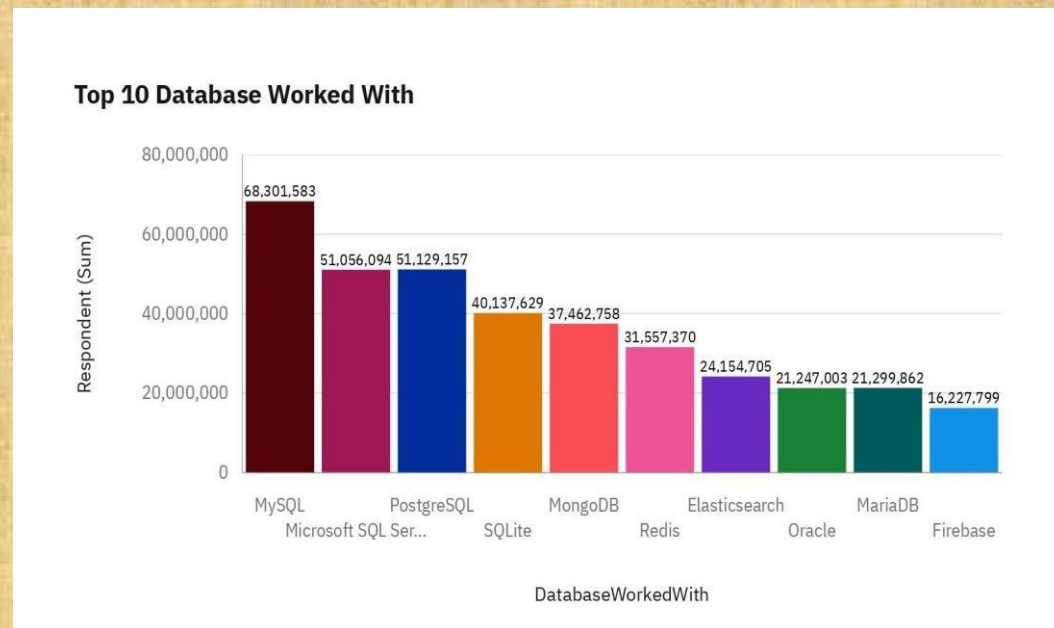
- Currently, the most famous languages are HTML/CSS, JavaScript, SQL, Python, and Shell Languages.
- JavaScript, HTML/CSS, Python, SQL, and TypeScript are most desired languages for future.
- Python is growing at faster pace than SQL.

➤ Implications

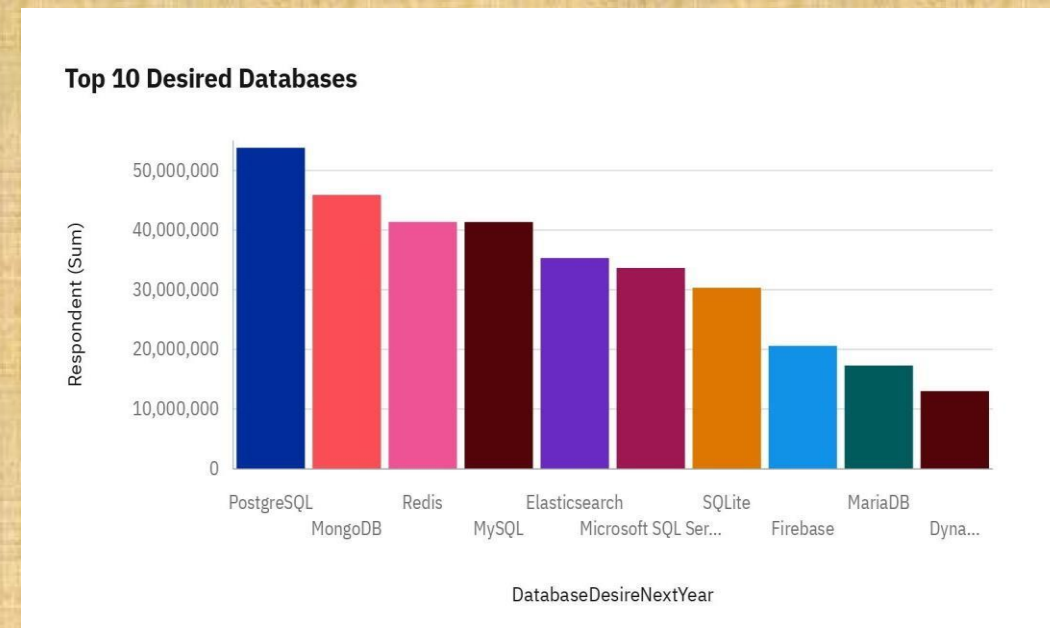
- JavaScript and HTML/CSS are popular due to high demand of web development. Also, TypeScript is getting attention of masses.
- Python growth is associated with Artificial Intelligence and Machine Learning. Modeling and model training is quite fast with it.
- SQL, despite losing its demand to Python in future, is still valuable for Data Professionals like Data Analysts, Data Scientists, etc.

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

➤ Findings

- MySQL is the most preferred database currently.
- Demand for Microsoft SQL Server and SQLite is declining.
- PostgreSQL and MongoDB are most desired in the future.

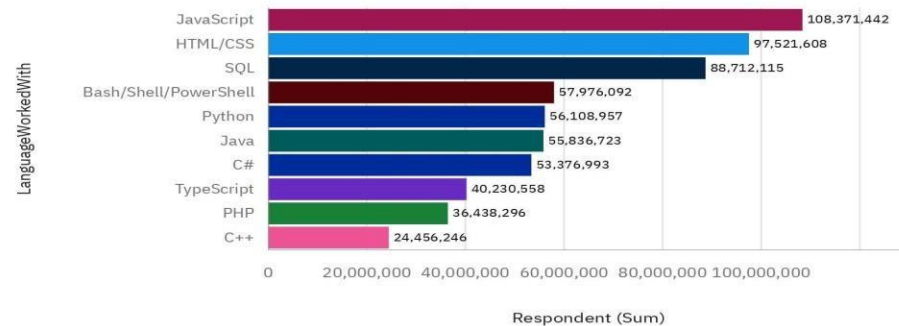
➤ Implications

- Microsoft SQL Server and SQLite are losing the market attention leading to decline in their utility.
- PostgreSQL and MongoDB has captured the market attention which leads them as market most desired in near future.

DASHBOARD TAB 1

Current Technology Usage

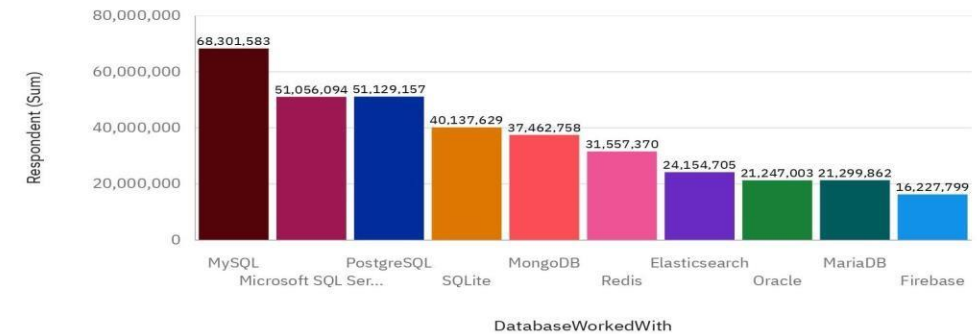
Top 10 Languages Worked With



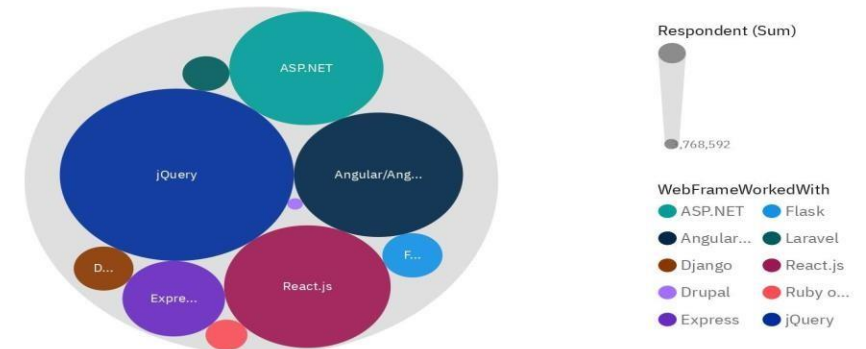
Platforms interacted



Top 10 Database Worked With



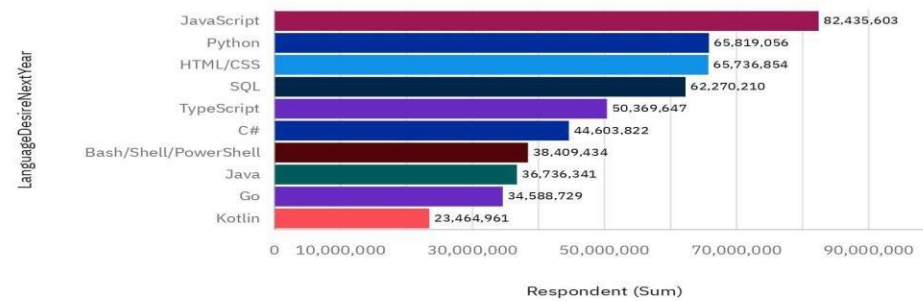
Top 10 WebFrames used



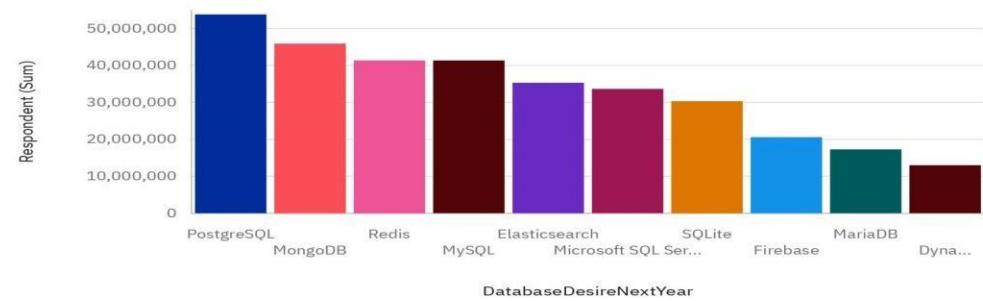
DASHBOARD TAB 2

Future Technology Trend

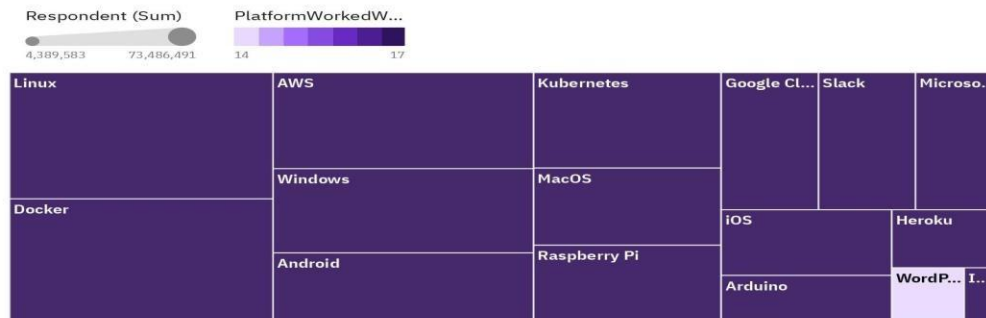
Top 10 Languages Desired For Next Year



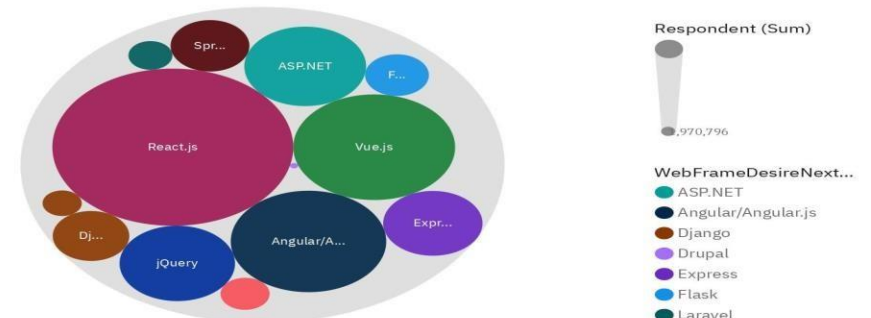
Top 10 Desired Databases



Most Desired Platforms Next Year



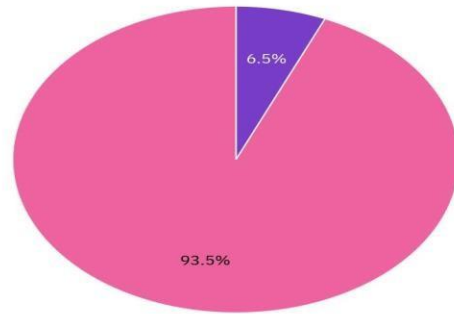
Most Desired WebFrames Next Year



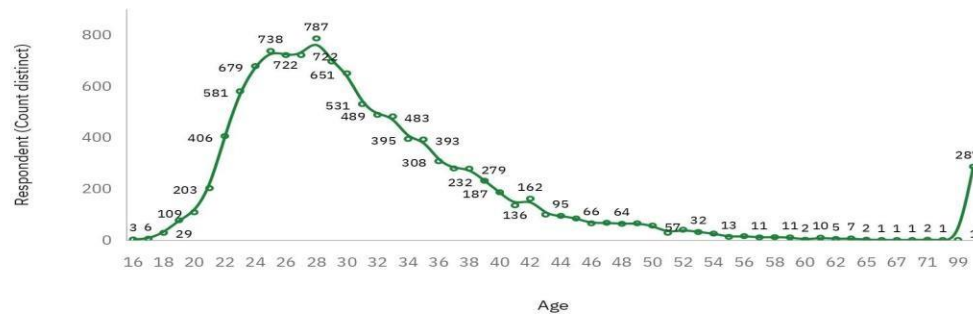
DASHBOARD TAB 3

Demographics

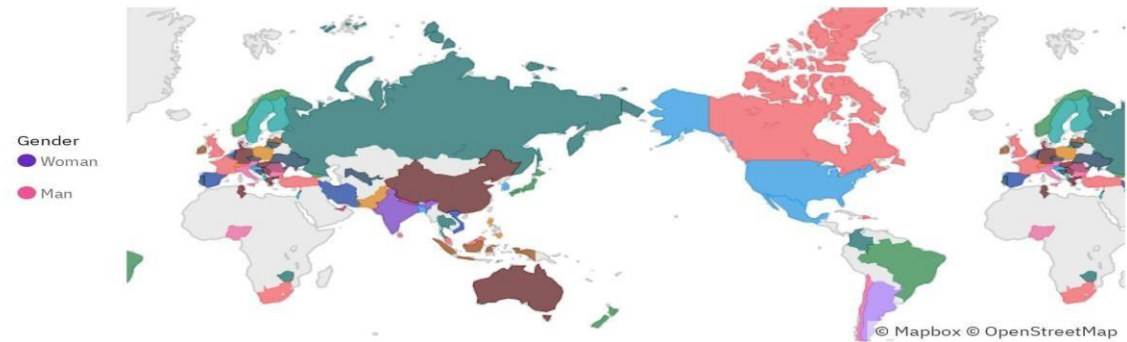
Respondents by Gender



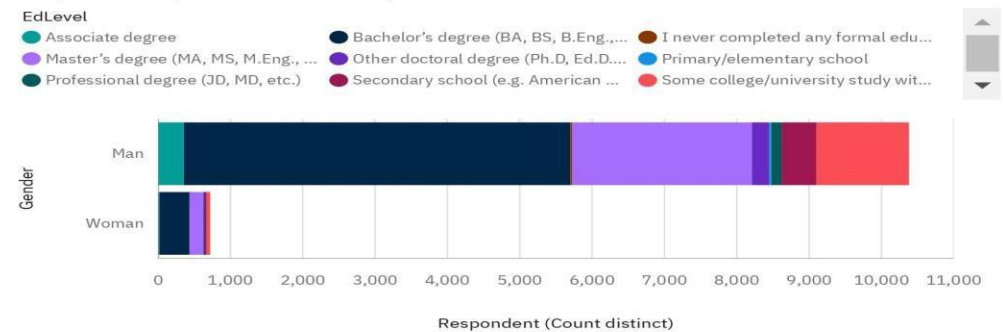
Respondents by Age



Respondents Locations



Respondent by Gender colored by EdLevel



DISCUSSION



- Evolution is a sure thing even for developers.
- There is huge gender gap in the technology sector which needs to be minimized.
- Most of the developers have undergraduate degree.
- Kotlin is getting more fame due to rise in demand for mobile app development.
- Some of currently used languages and databases may not be relevant in the future as they are today.

OVERALL FINDINGS & IMPLICATIONS

➤ Findings

- Most of the developers are located in the developed countries.
- More than 90% developers are young male.
- JavaScript is widely used and TypeScript is getting fame by every passing day.

➤ Implications

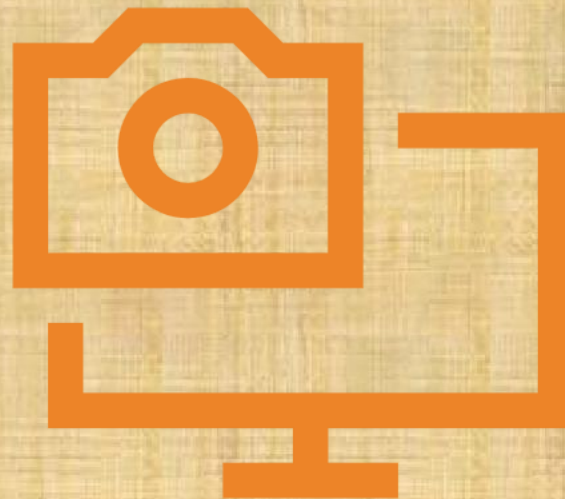
- Less developed countries need to pay more attention on tech education and skills upbringing.
- There is huge global polarization of developers on the basis of gender and geogrgaphy.
- Developers will have huge work opportunities in Web Development in the future. That's why, JavaScript and TypeScript are most sought out languages.

CONCLUSION

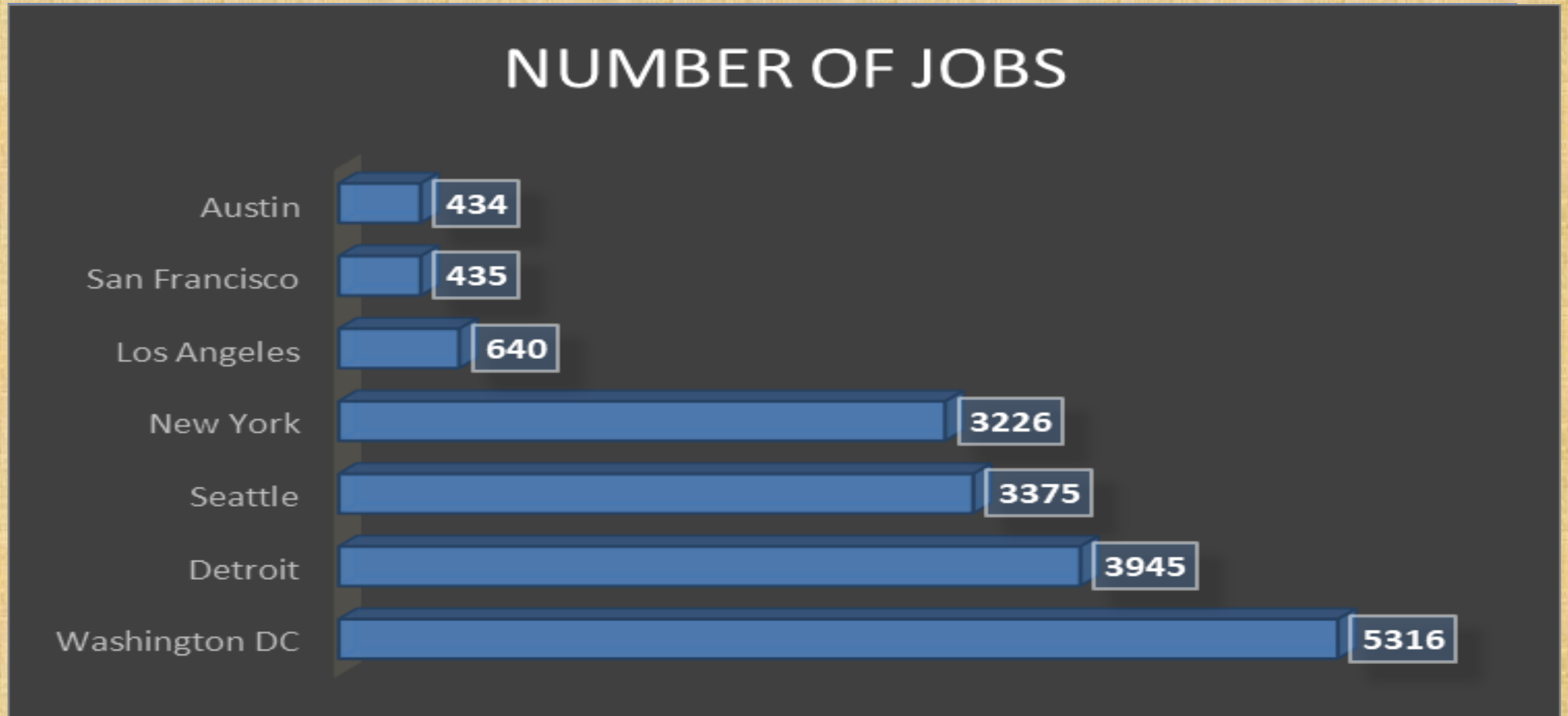


- ❖ Change is inevitable and the reason for upgradation of skills of developers.
- ❖ Market is getting diversified everyday.
- ❖ Web Development is quite lucrative field even in the future.
- ❖ Masters is not quite necessary as most of the developers have bachelors degree.

APPENDIX



JOB POSTINGS



POPULAR LANGUAGES

Number of Jobs

