



Technology Trend Analysis

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Sept 6, 2024

OUTLINE



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

EXECUTIVE SUMMARY



- Data Contextualization analysis goal
- Methodology Description
 - Data Preparation
 - Analysis
 - Visualisation
- Presentation supported with graphs and charts
- Discussion of findings with its implications
- Final Conclusion

INTRODUCTION



- Stack Overflow's annual developer survey is the largest and comprehensive survey of people who code
- Results don't represent everyone in the developer community evenly
- About 90,000 developers
- Trends about how are coders going
- How different languages and models are used.

METHODOLOGY



- Collect survey data Through web scraping APIs and Requests library
- Data Wrangling
- Exploratory Data Analysis
- Data Visualisation
 - Highlight Distribution of Data
 - Correlation
 - Comparisons
 - Dashboards

RESULTS

RESULTS ARE BASED ON FOLLOWING DETAILS OF SURVEY



ExcelFileEditViewInsertFormatToolsDataWindowHelp

m5_survey_data_demographics

Q Search Sheet

HomeInsertDrawPage LayoutFormulasDataReviewView

Calibri (Body)12

General

Conditional FormattingFormat as TableCell Styles

InsertDeleteFormat

Auto-sumFillClearSort & FilterFind & Select

A1

Respondent

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Respondent	MainBranch	Hobbyist	OpenSource	OpenSource	Employment	Country	Student	EdLevel	Undergrad	M EduOther	OrgSize	DevType	YearsCode	Age1stCode	YearsCodePr	CareerSat	JobSat	Mgridiot	MgrMoney	MgrWant
2	4	I am a devel	No	Never	The quality c	Employed fu	United State	No	Bachelor, A&S	Computer sc	Taken an onl	100 to 499 e	Developer, fi	3	16	Less than 1 y	Very satisfie	Slightly satis	Very confide	No	Not sure
3	9	I am a devel	Yes	Once a mont	The quality c	Employed fu	New Zealand	No	Some colleg	Computer sc	Taken an onl	10 to 19 emj	Database ad	12	11	4	Slightly satis	Slightly satis	Somewhat c	No	Not sure
4	13	I am a devel	Yes	Less than on	OSS is, on av	Employed fu	United State	No	Master, A&S	c Computer sc	Taken an onl	10 to 19 emj	Data or busin	17	11	8	Very satisfie	Very satisfie			
5	16	I am a devel	Yes	Never	The quality c	Employed fu	United Kingd	No	Master, A&S	degree (MA, B	Taken an onl	100 to 499 e	Developer, fi	10	17	3	Very satisfie	Slightly satis	Somewhat c	No	No
6	17	I am a devel	Yes	Less than on	The quality c	Employed fu	Australia	No	Bachelor, A&S	c Computer sc	Taken an onl	20 to 99 emj	Developer, b	5	18	2	Slightly satis	Neither satis	Somewhat c	No	No
7	19	I am a devel	Yes	Never	The quality c	Employed fu	Brazil	No	Some colleg	Computer sc	Received onl	100 to 499 e	Developer, fi	14	13	13	Very dissatis	Very satisfie	Very confide	No	No
8	20	I am not prin	No	Never	OSS is, on av	Employed fu	Lithuania	No	Master, A&S	c Information	Taken an onl	1,000 to 4,95	Database ad	8	17	4	Very satisfie	Slightly diss	Very confide	No	I am already
9	22	I am a devel	Yes	Less than on	OSS is, on av	Employed fu	United State	No	Some colleg/university	s	Taken an onl	10,000 or m	Data or busin	35	12	18	Slightly satis	Very dissatis	Somewhat c	No	No
10	23	I am a devel	Yes	Less than on	The quality c	Employed fu	United State	No	Bachelor, A&S	c Information	Taken an onl	10,000 or m	Data or busin	3	19	1	Slightly satis	Slightly satis	Very confide	No	Not sure
11	24	I am a devel	Yes	Never	OSS is, on av	Employed fu	Israel	No	Primary/elementary schol	Taken an onl	10 to 19 emj	Developer, fi	2	21	1	Very satisfie	Very satisfie	Very confide	No	No	
12	25	I am a devel	No	Never	OSS is, on av	Employed fu	South Africa	No	Associate de	Computer sc	Taken an onl	2-9 employe	Designer, Dev	2	16	1	Very satisfie	Very satisfie	Very confide	No	Not sure
13	26	I am a devel	Yes	Less than on	The quality c	Employed fu	United State	No	Some colleg	Computer sc	Taught yours	10,000 or m	Designer, Dev	12	8	8	Very satisfie	Very satisfie			
14	29	I am a devel	Yes	Less than on	OSS is, on av	Employed fu	United State	No	Bachelor, A&S	degree (BA, A	Taken an onl	10,000 or m	Developer, fr	4	20	2	Very satisfie	Slightly satis	Very confide	Not sure	Not sure
15	32	I am a devel	No	Never	The quality c	Employed fu	United State	No	Associate de	Information	Completed a	100 to 499 e	Developer, fi	3	16	2	Slightly satis	Slightly satis	Somewhat c	No	No
16	38	I am a devel	Yes	Never	OSS is, on av	Employed fu	Czech Repub	No	Master, A&S	c Computer sc	Participated	10 to 19 emj	Developer, fi	30	14	22	Slightly satis	Neither satis	Somewhat c	Yes	I am already
17	39	I am a devel	Yes	Less than on	The quality c	Employed fu	United State	No	Bachelor, A&S	Computer sc	Taken an onl	100 to 499 e	Database ad	30	6	23	Very satisfie	Very satisfie	Somewhat c	No	No
18	43	I am a devel	Yes	Less than on	OSS is, on av	Employed fu	Spain	No	Bachelor, A&S	Computer sc	Taken an onl	10,000 or m	Developer, fr	9	15	2	Very dissatis	Slightly diss	Very confide	No	Yes
19	44	I am a devel	Yes	Once a mont	The quality c	Employed fu	Germany	No	Bachelor, A&S	c Information	Taken an onl	10,000 or m	Developer, b	26	12	19	Slightly satis	Neither satis	Not at all coi	No	Not sure
20	49	I am a devel	Yes	Less than on	The quality c	Employed fu	Serbia	Yes, full-tim	Some colleg	Computer sc	Taught yours	20 to 99 emj	Database ad	15	15	8	Very satisfie	Very satisfie	Very confide	Yes	Not sure
21	50	I am a devel	Yes	Once a mont	OSS is, on av	Employed fu	India	No	Bachelor, A&S	Another engi	Received onl	10,000 or m	Developer, b	7	15	2	Slightly satis	Very satisfie	Very confide	Not sure	Yes
22	53	I am not prin	Yes	Less than on	OSS is, on av	Employed fu	United State	Yes, full-tim	Secondary school	(e.g. Am	Taken an onl	500 to 999 e	Developer, fi	5	10	3	Slightly satis	Slightly satis	Somewhat c	Not sure	Not sure
23	54	I am a devel	Yes	Once a mont	OSS is, on av	Employed fu	Sweden	No	Computer sc	Taken an onl	20 to 99 emj	Developer, fi	20	13	10	Very satisfie	Slightly satis	Very confide	Yes	No	
24	56	I am a devel	No	Never	The quality c	Employed fu	China	No	Bachelor, A&S	c Information	Taken an onl	10,000 or m	Developer, d	13	19	10	Slightly diss	Slightly diss	Somewhat c	Yes	No
25	57	I am not prin	Yes	Never	OSS is, on av	Employed fu	France	No	Master, A&S	c A business d	Taken an onl	10,000 or more	Employee	2	29	Less than 1 y	Very satisfie	Very satisfie	Not at all coi	No	No
26	60	I am a devel	Yes	Less than on	OSS is, on av	Employed fu	United State	No	Secondary school	(e.g. Am	Taught yours	100 to 499 e	Developer, b	10	13	9	Slightly satis	Neither satis	Somewhat c	Yes	No
27	61	I am a devel	Yes	Less than on	OSS is, on av	Employed fu	United State	No	Some colleg	Computer sc	Taken an onl	20 to 99 emj	Database ad	15	10	8	Very satisfie	Very satisfie	Very confide	No	Not sure
28	62	I am a devel	Yes	Less than on	OSS is, on av	Employed fu	Netherlands	Yes, full-tim	Associate de	Computer sc	Taken an onl	10,000 or m	Data or busin	1	11	1	Very satisfie	Slightly diss	Not at all coi	No	Yes
29	67	I am not prin	No	Never	OSS is, on av	Employed fu	Australia	No	Bachelor, A&S	c Information	Taken an onl	1,000 to 4,95	Data or busin	6	14	2	Very satisfie	Very satisfie	Very confide	No	Yes
30	68	I am a devel	Yes	Less than on	OSS is, on av	Employed fu	India	No	Bachelor, A&S	Web develop	Taken an onl	10 to 19 emj	Developer, fi	9	9	7	Slightly satis	Slightly diss	Not at all coi	Yes	No
31	70	I am a devel	No	Less than on	The quality c	Employed fu	United State	No	Master, A&S	c Information	Taken an onl	500 to 999 e	Designer, Dev	28	12	23	Slightly diss	Slightly diss	Somewhat c	No	Not sure
32	71	I am a devel	Yes	Never	The quality c	Employed fu	Philippines	No	Bachelor, A&S	Computer sc	Received onl	20 to 99 emj	Developer, fi	4	17	Less than 1 y	Very satisfie	Slightly satis	Very confide	No	Not sure
33	74	I am a devel	Yes	Never	OSS is, on av	Employed fu	Ireland	No	Bachelor, A&S	Computer sc	Taken an onl	10,000 or m	Developer, b	7	15	2	Very satisfie	Very satisfie	Very confide	No	No
34	75	I am a devel	Yes	Never	OSS is, on av	Employed fu	India	Yes, full-tim	Bachelor, A&S	Computer sc	Taken an onl	10,000 or m	Developer, fi	7	19	7	Slightly diss	Slightly diss	Very confide	No	No
35	76	I am a devel	No	Never	The quality c	Employed fu	United Kingd	No	Bachelor, A&S	Computer sc	Completed a	20 to 99 emj	Developer, b	9	23	5	Slightly satis	Very satisfie	Very confide	Yes	Yes
36	78	I am a devel	No	Less than on	The quality c	Employed fu	India	Yes, full-tim	Bachelor, A&S	Computer sc	Received onl	2-9 employe	Developer, fi	6	19	3	Neither satis	Neither satis	Very confide	No	Not sure
37	80	I am a devel	Yes	Less than on	OSS is, on av	Employed fu	United Kingd	No	Bachelor, A&S	Mathematic	Taken an onl	500 to 999 e	Developer, b	1	22	1	Slightly satis	Very satisfie	Very confide	No	Yes

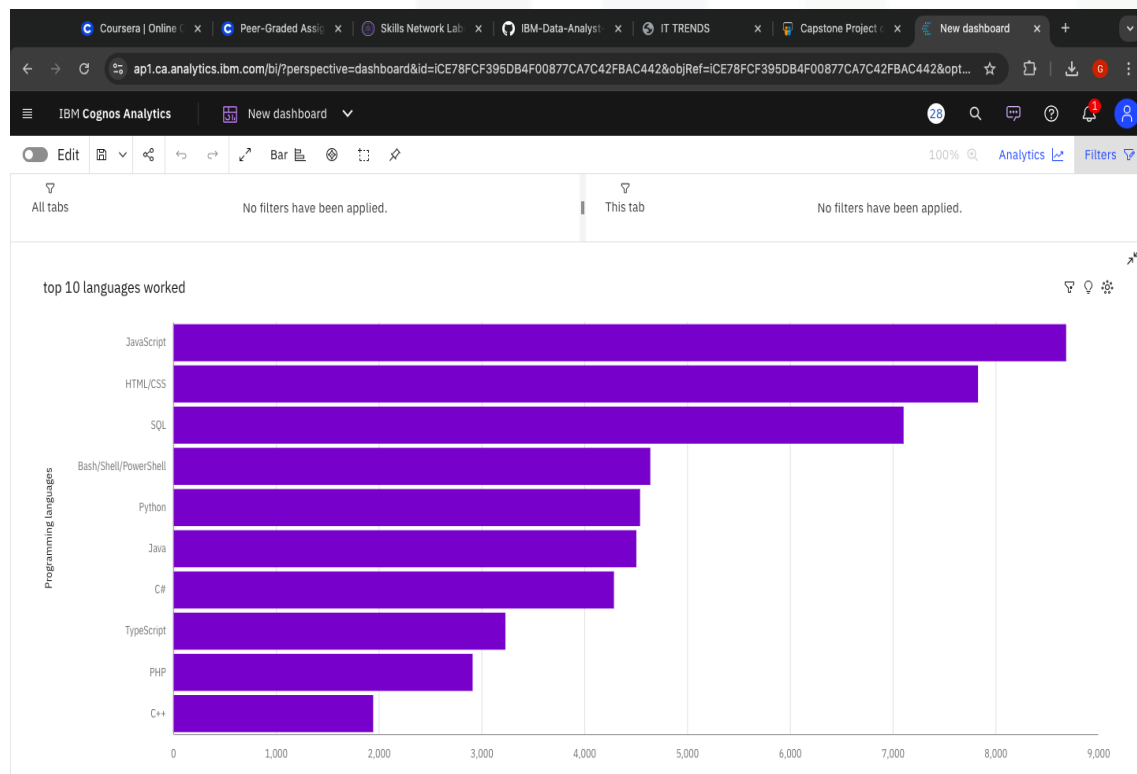
m5_survey_data_demographics

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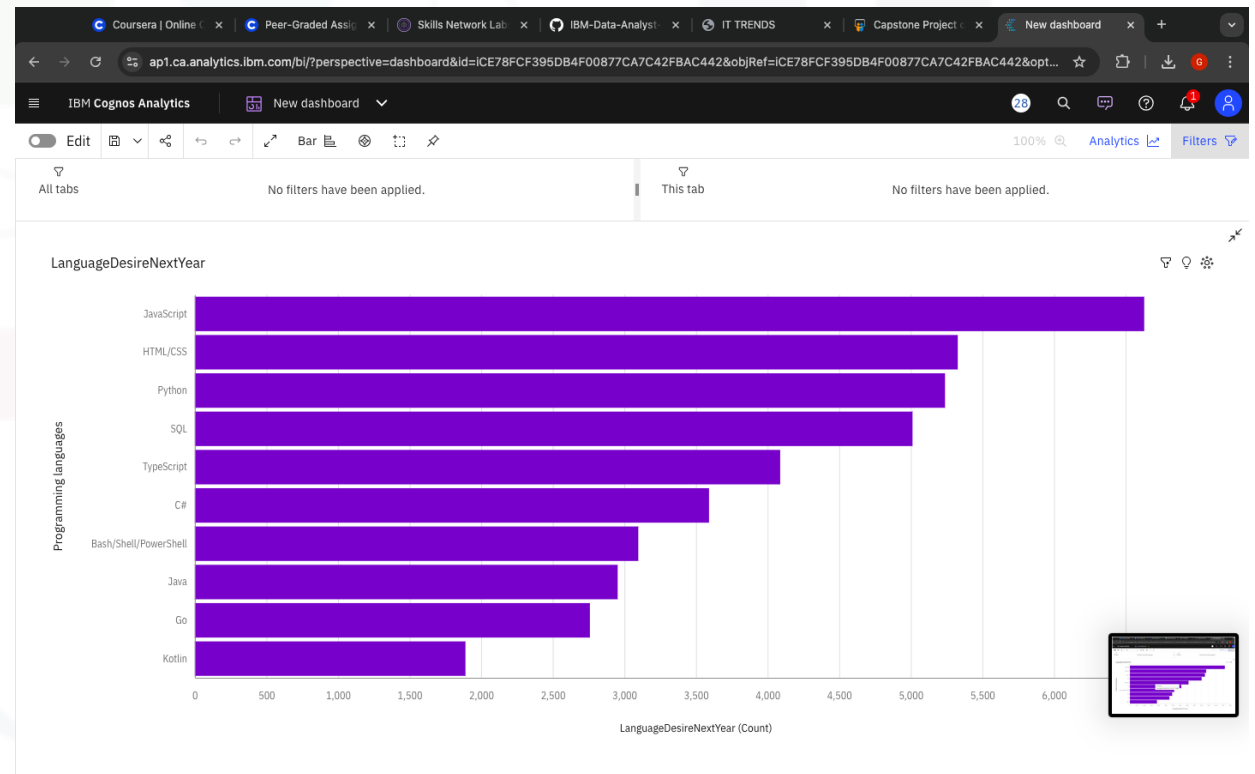
SKILLS NETWORK

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

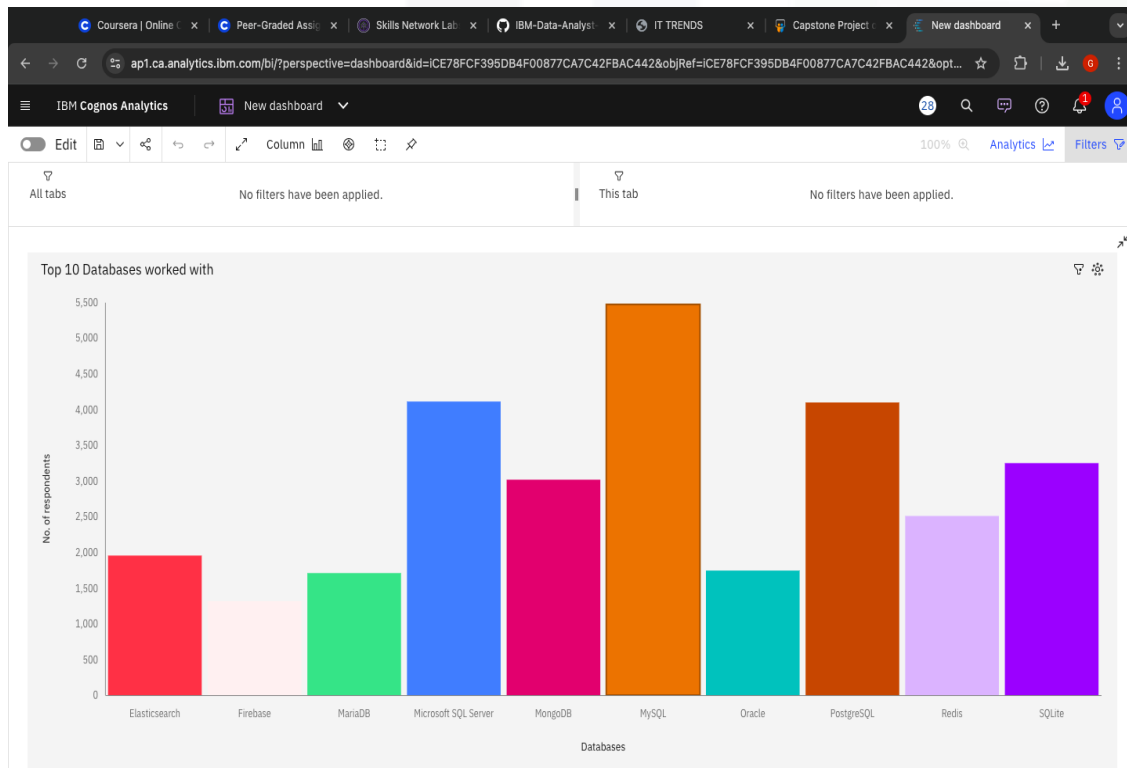
- Java Script seems as the first go to language
- Most growing- Python
- Typescript is going popular among coders

Implications

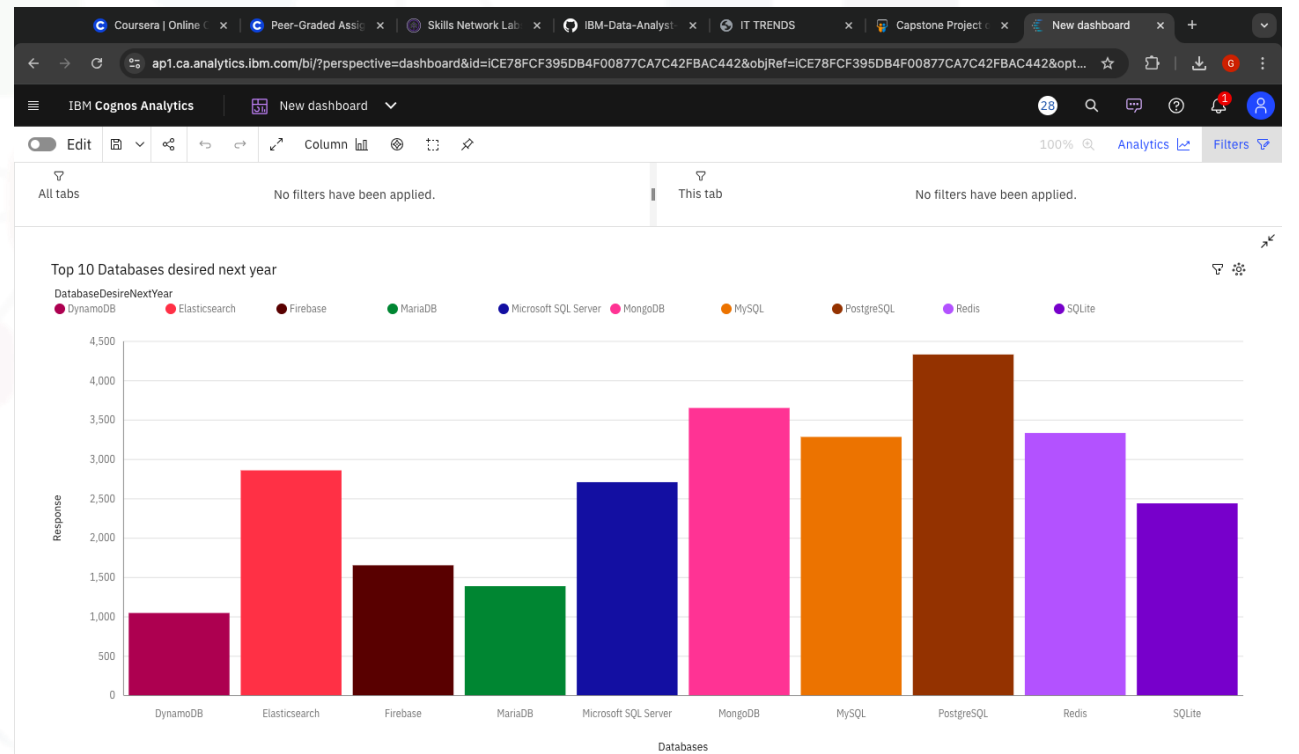
It looks like some coders are moving from Javascript to Typescript

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Most POPULAR- mySQL
- Less interest for Microsoft SQL server and SQLite
- PostgreSQL and MongoDB are becoming popular

Implications

- Less use of Microsoft Server and SQLite
- As seen, PostgreSQL and MongoDB are making good progress

DASHBOARD

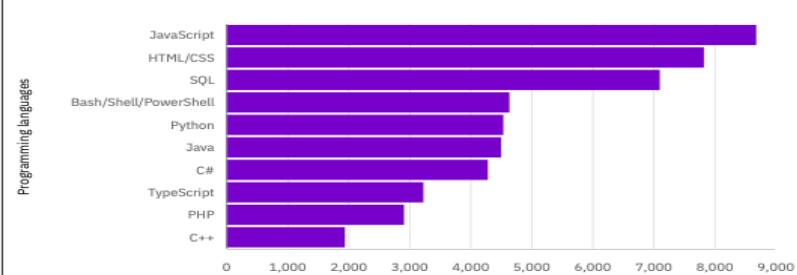


<https://github.com/garvitmlk/Course-9-IBM-Data-analyst-COGNOS-dashboard/blob/7b6e2e23787b01945aa11c99b81416fc761edaa1/New%20dashboard-%20Cognos%20CRS%209.pdf>

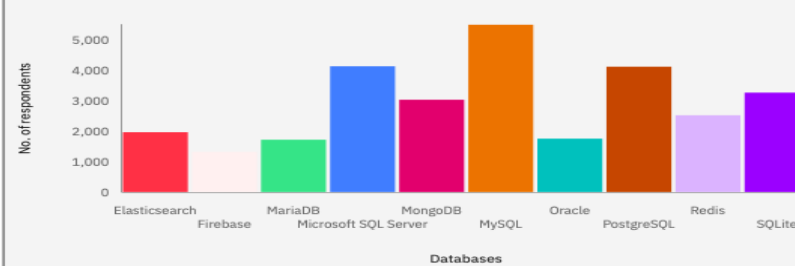
DASHBOARD TAB 1

Current Technology Usage

top 10 languages worked



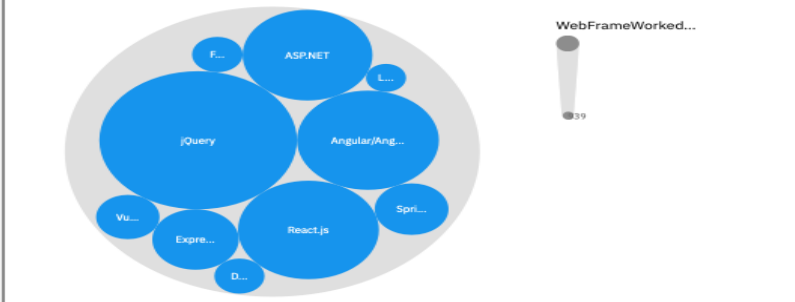
Top 10 Databases worked with



Word Cloud chart for top platforms used



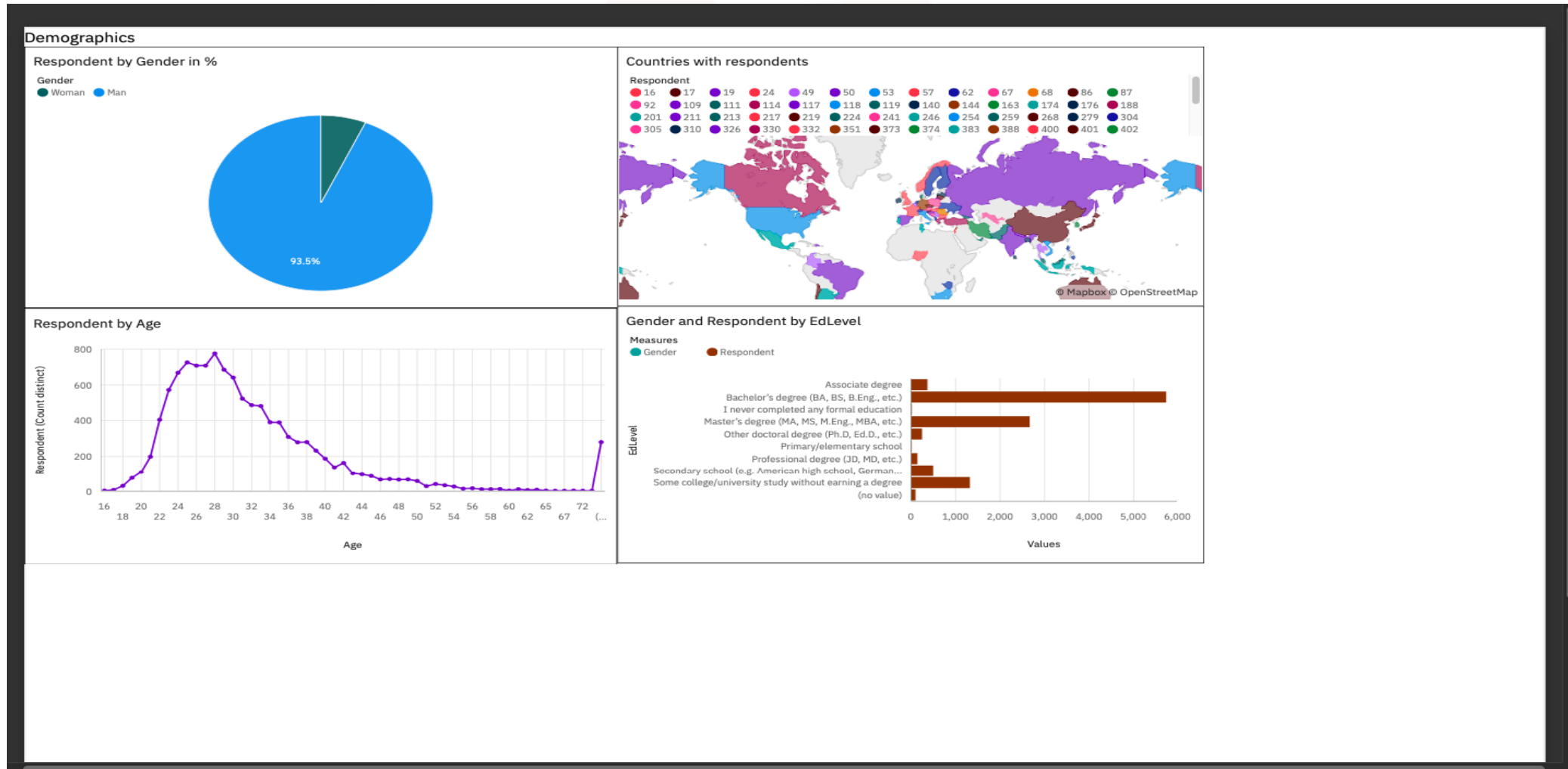
top 10 Webframes used



DASHBOARD TAB 2



DASHBOARD TAB 3



DISCUSSION



- Technology Trends and future insights.
- Bridge divide of technology Gaps
- Female participations
- Useful for training and educational purposes.

OVERALL FINDINGS & IMPLICATIONS

Findings

- Over 90% are young male developers
- Less women participation in developer field
- Concentration on countries like India and USA
- Javascript widely used

Implications

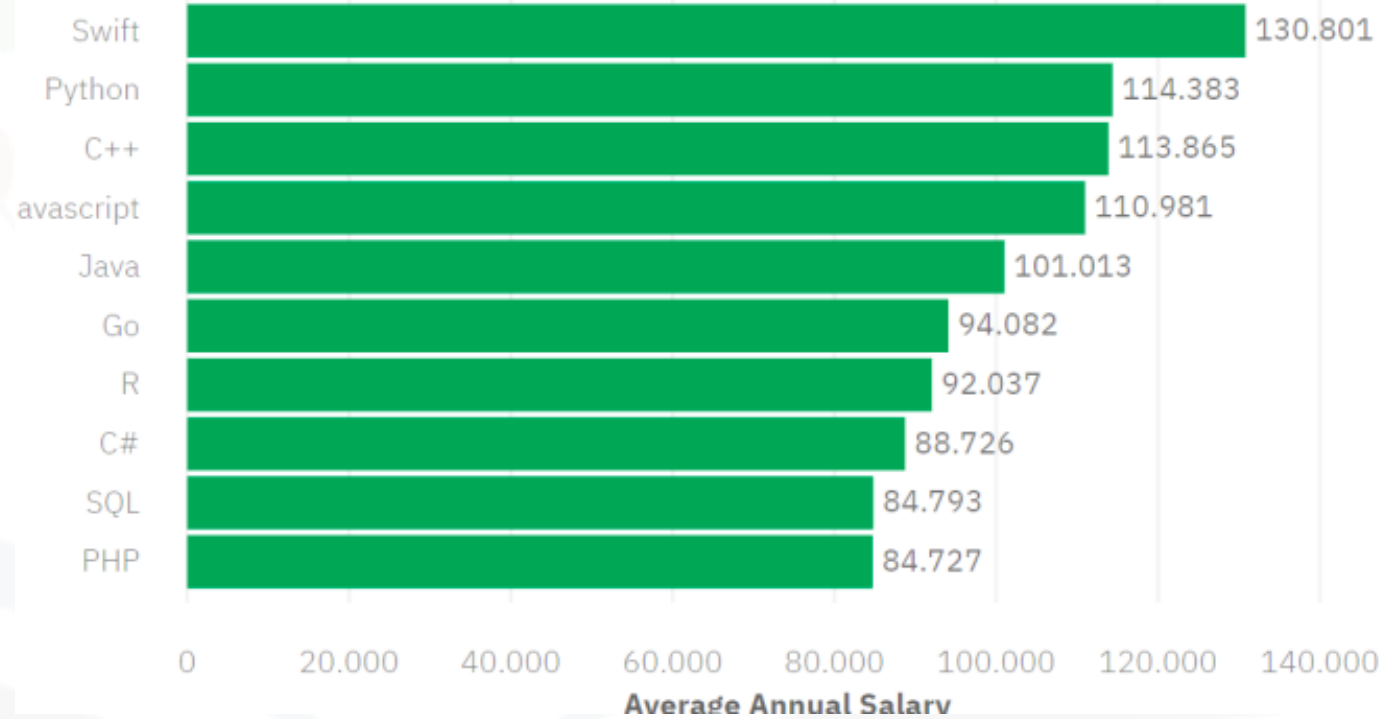
- Typescript web following popularity among developers
- Young developers without Postgrad education in majority.

CONCLUSION

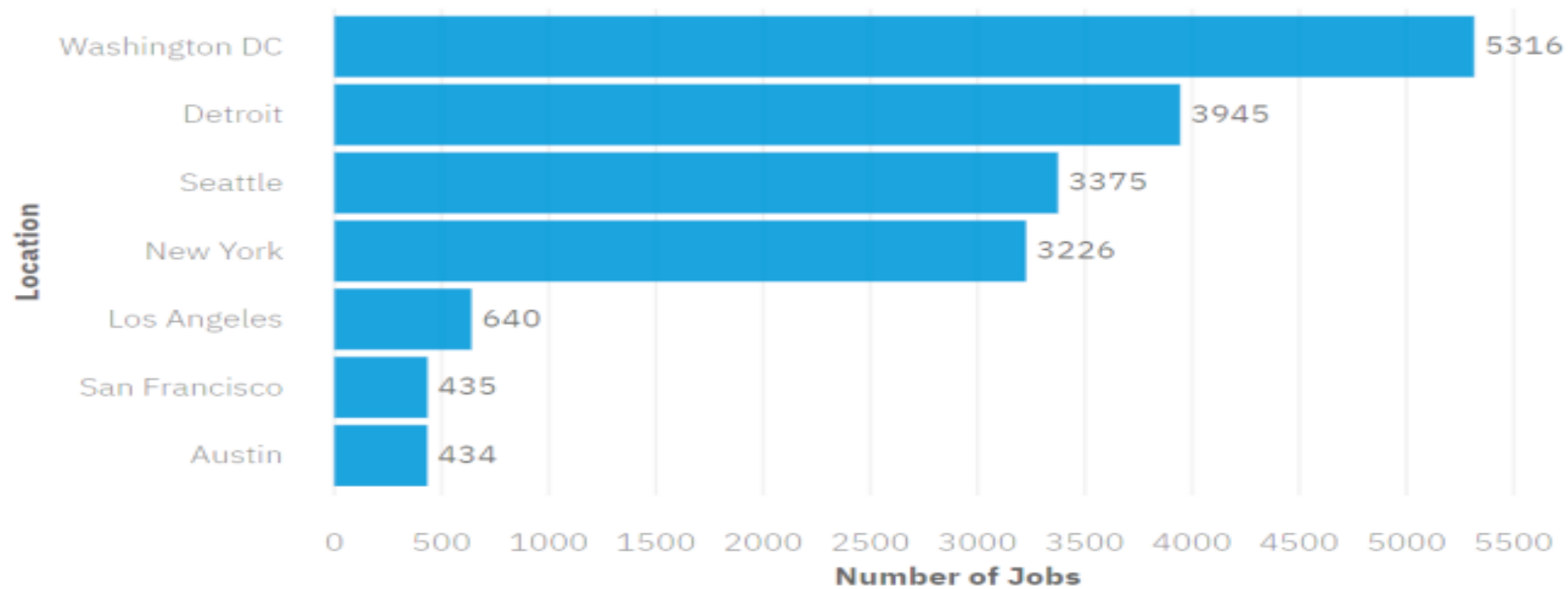


- Demographics overviews like mostly developers are from India and USA
- More women participation should be encouraged
- More developers should be there except some big countries like India
- A idea of how popular databases and languages are in the world the Developers.

APPENDIX



JOB POSTINGS



POPULAR LANGUAGES

