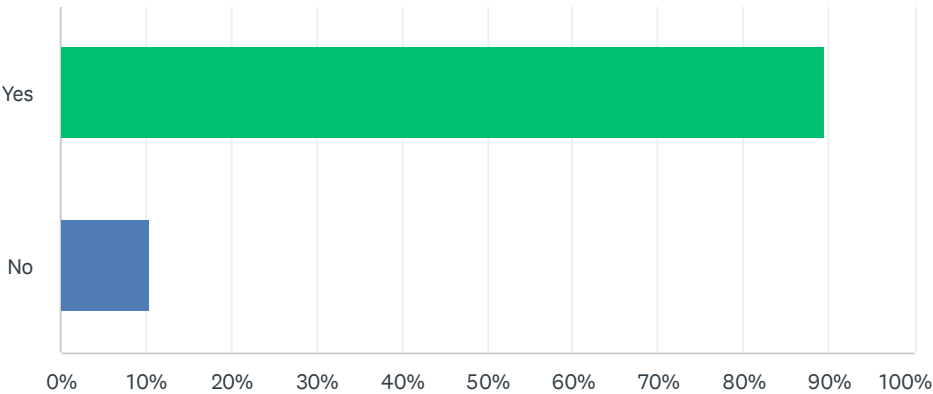


Q1 Does your company provide office space to its employees?

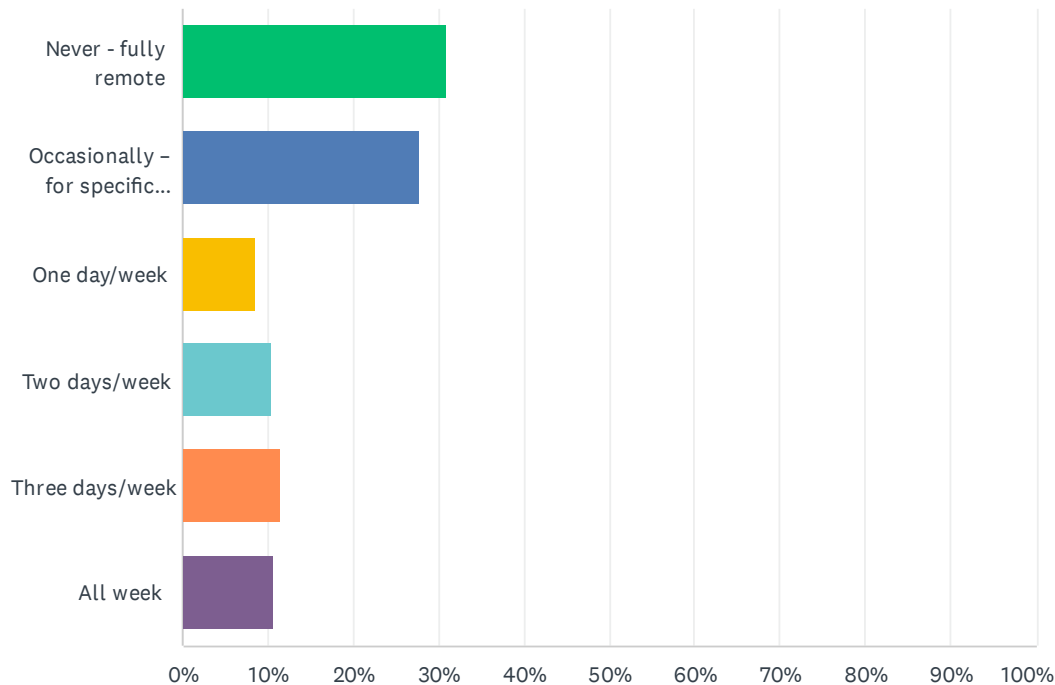
Answered: 362 Skipped: 1



ANSWER CHOICES	RESPONSES	
Yes	89.50%	324
No	10.50%	38
TOTAL		362

Q2 How often do you go into an office?

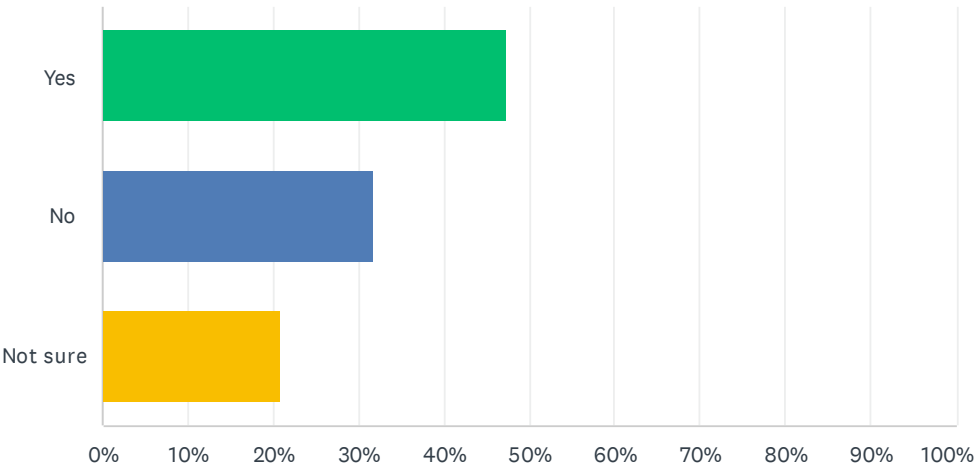
Answered: 363 Skipped: 0



ANSWER CHOICES	RESPONSES	
Never - fully remote	30.85%	112
Occasionally – for specific meetings, team activities. May include travel	27.82%	101
One day/week	8.54%	31
Two days/week	10.47%	38
Three days/week	11.57%	42
All week	10.74%	39
TOTAL		363

Q3 Does your company adjust pay based on location?

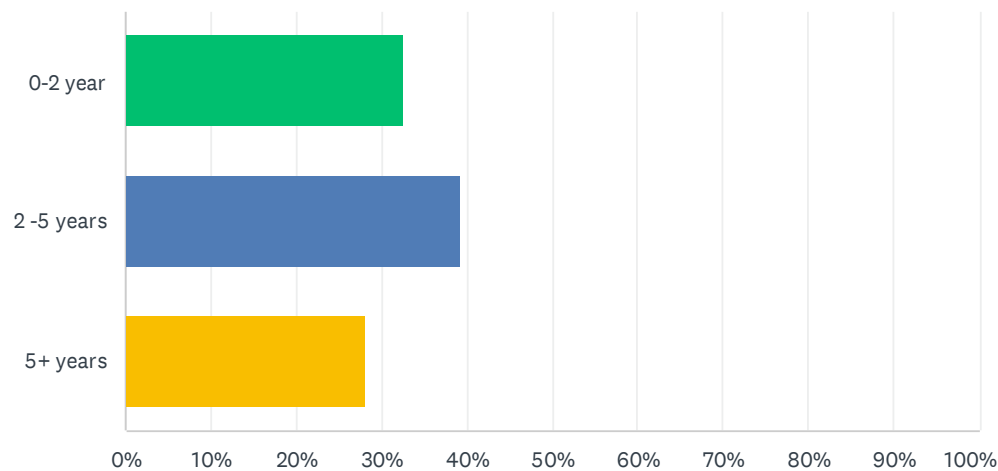
Answered: 362 Skipped: 1



ANSWER CHOICES	RESPONSES	
Yes	47.24%	171
No	31.77%	115
Not sure	20.99%	76
TOTAL		362

Q4 How long have you been working at your current company?

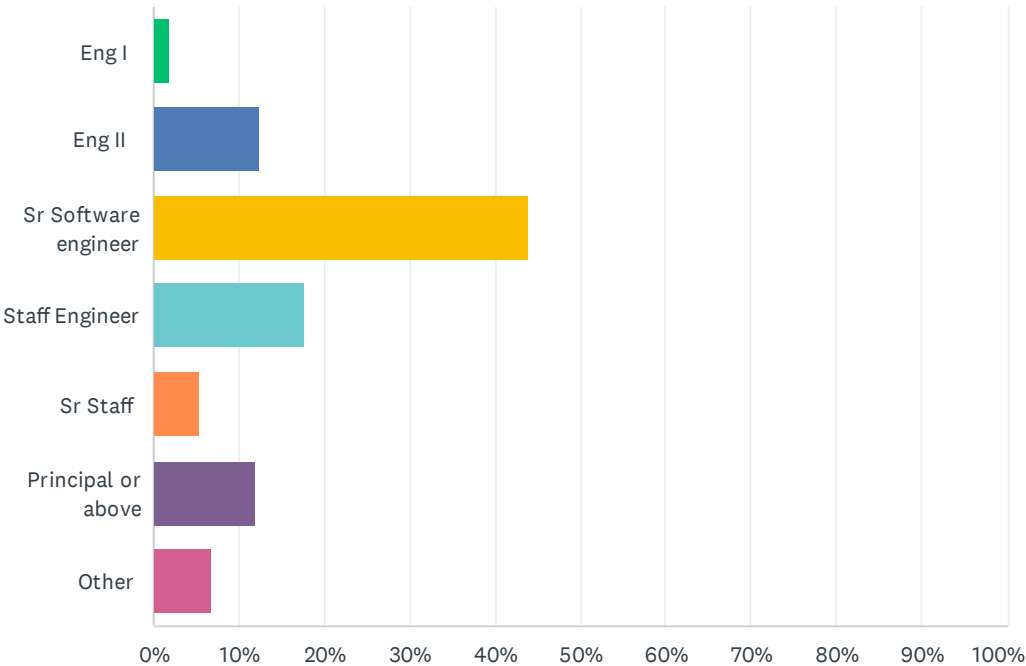
Answered: 362 Skipped: 1



ANSWER CHOICES		RESPONSES	
0-2 year		32.60%	118
2 -5 years		39.23%	142
5+ years		28.18%	102
TOTAL			362

Q5 What's your current role?

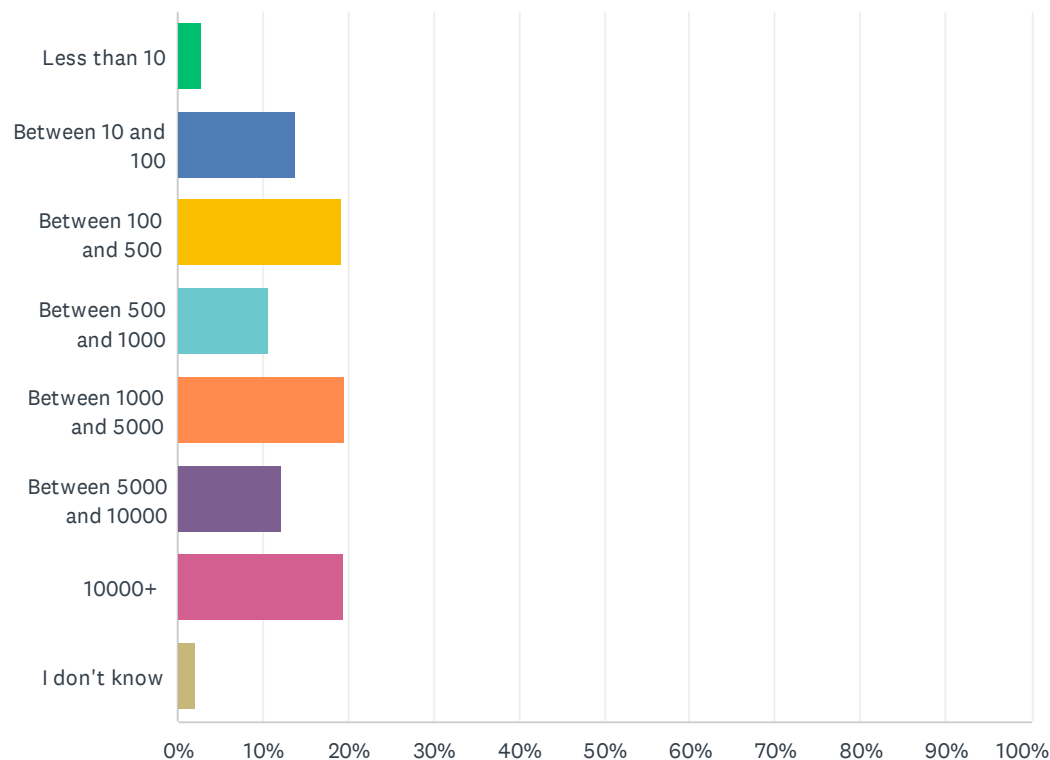
Answered: 362 Skipped: 1



ANSWER CHOICES	RESPONSES	
Eng I	1.93%	7
Eng II	12.43%	45
Sr Software engineer	43.92%	159
Staff Engineer	17.68%	64
Sr Staff	5.25%	19
Principal or above	11.88%	43
Other	6.91%	25
TOTAL		362

Q6 How many total employees does your company have?

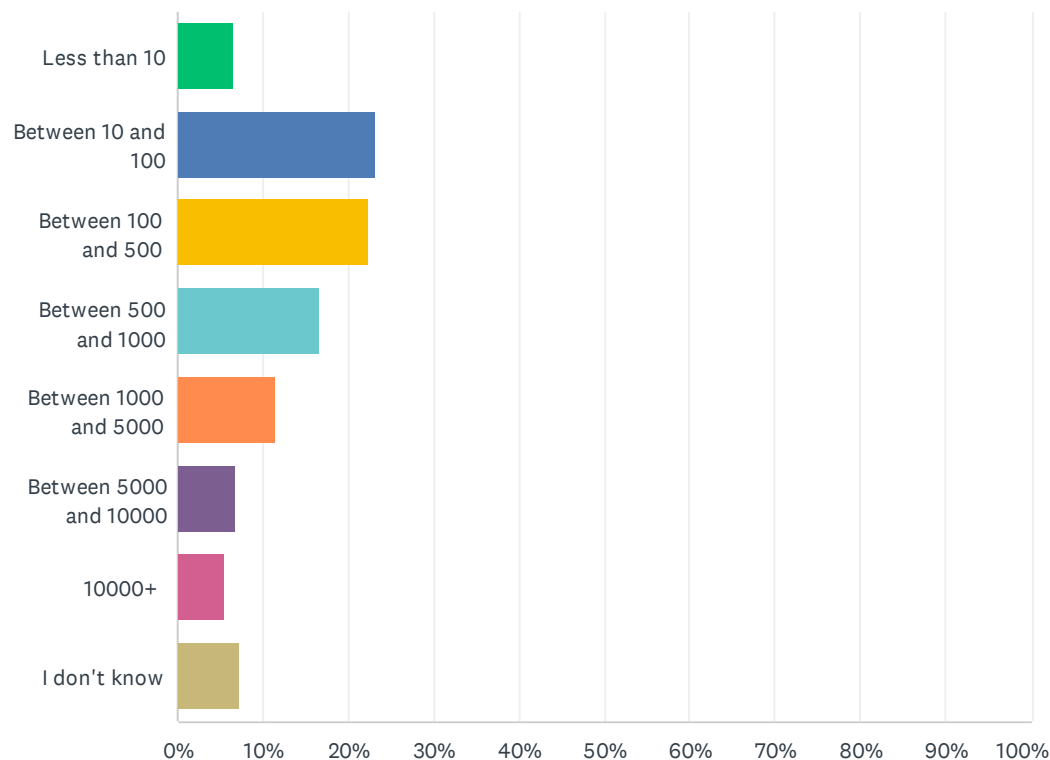
Answered: 360 Skipped: 3



ANSWER CHOICES	RESPONSES	
Less than 10	2.78%	10
Between 10 and 100	13.89%	50
Between 100 and 500	19.17%	69
Between 500 and 1000	10.56%	38
Between 1000 and 5000	19.72%	71
Between 5000 and 10000	12.22%	44
10000+	19.44%	70
I don't know	2.22%	8
TOTAL		360

Q7 How many total engineers does your company have?

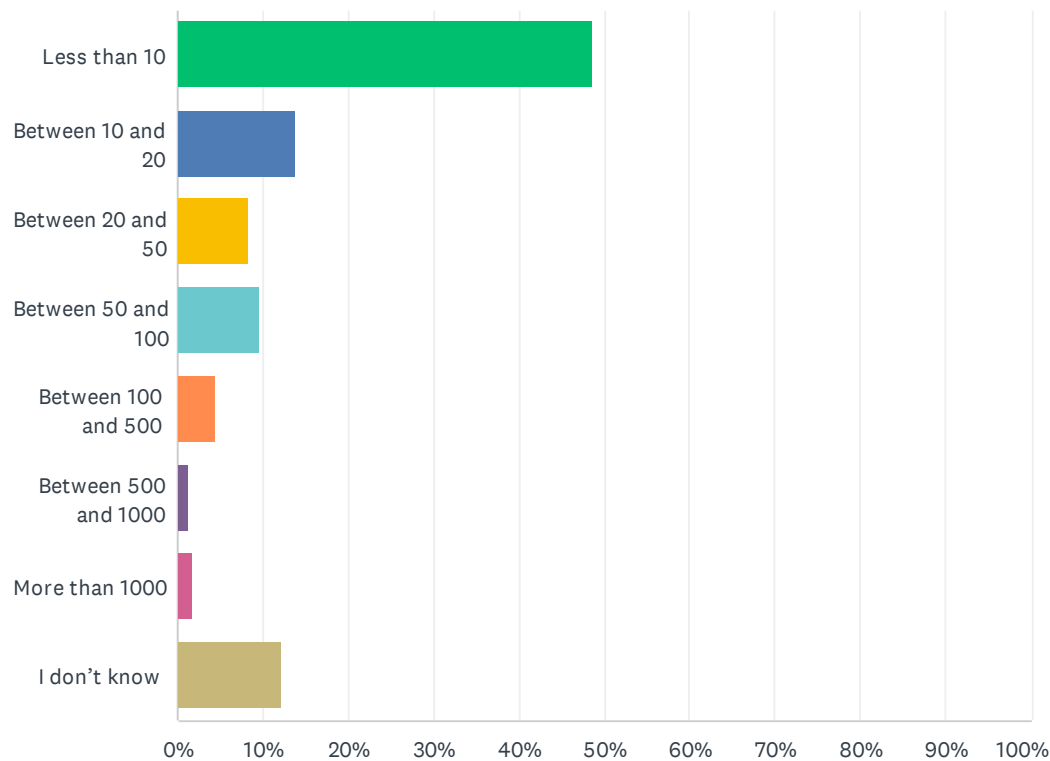
Answered: 362 Skipped: 1



ANSWER CHOICES	RESPONSES	
Less than 10	6.63%	24
Between 10 and 100	23.20%	84
Between 100 and 500	22.38%	81
Between 500 and 1000	16.57%	60
Between 1000 and 5000	11.60%	42
Between 5000 and 10000	6.91%	25
10000+	5.52%	20
I don't know	7.18%	26
TOTAL		362

Q8 How many platform/infrastructure mobile engineers does your company have?

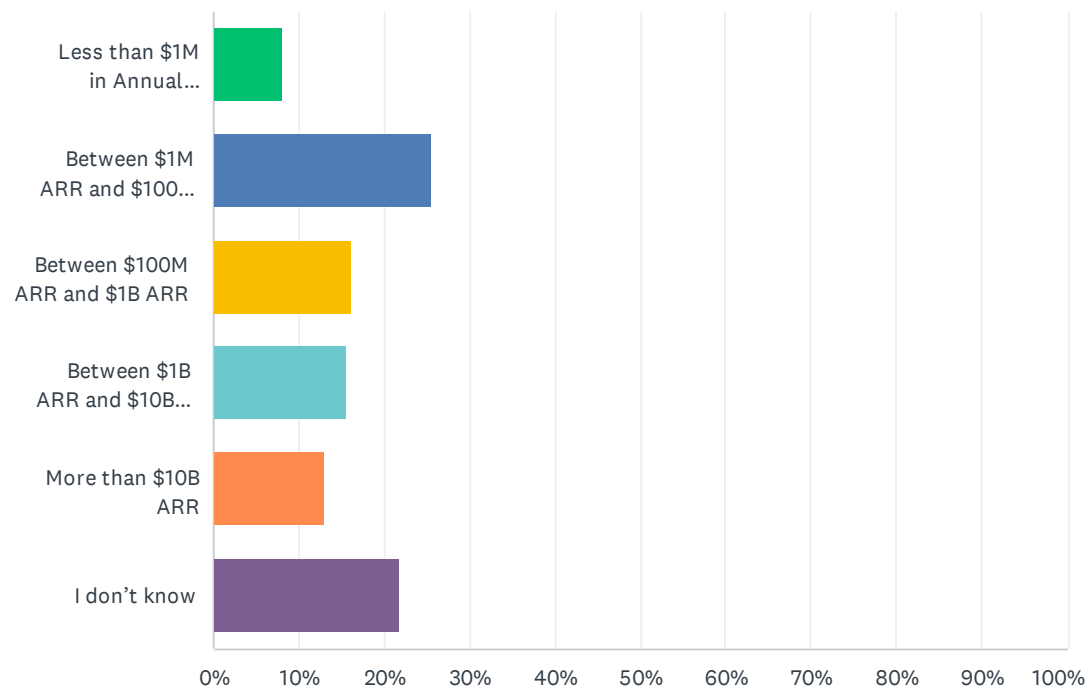
Answered: 362 Skipped: 1



ANSWER CHOICES	RESPONSES	
Less than 10	48.62%	176
Between 10 and 20	13.81%	50
Between 20 and 50	8.29%	30
Between 50 and 100	9.67%	35
Between 100 and 500	4.42%	16
Between 500 and 1000	1.38%	5
More than 1000	1.66%	6
I don't know	12.15%	44
TOTAL		362

Q9 How big is your company, from a revenue perspective?

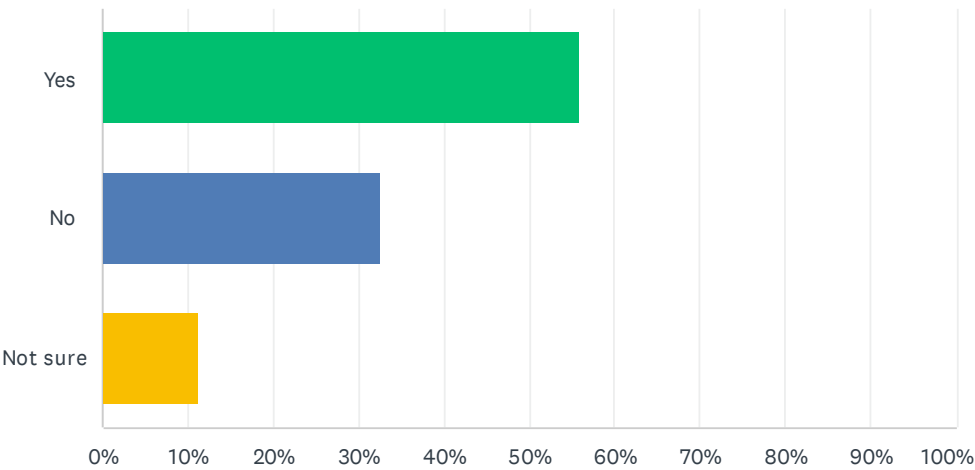
Answered: 360 Skipped: 3



ANSWER CHOICES	RESPONSES	
Less than \$1M in Annual Recurring Revenue (ARR)	8.06%	29
Between \$1M ARR and \$100M ARR	25.56%	92
Between \$100M ARR and \$1B ARR	16.11%	58
Between \$1B ARR and \$10B ARR	15.56%	56
More than \$10B ARR	13.06%	47
I don't know	21.67%	78
TOTAL		360

Q10 Do you consider your company to be engineering driven?

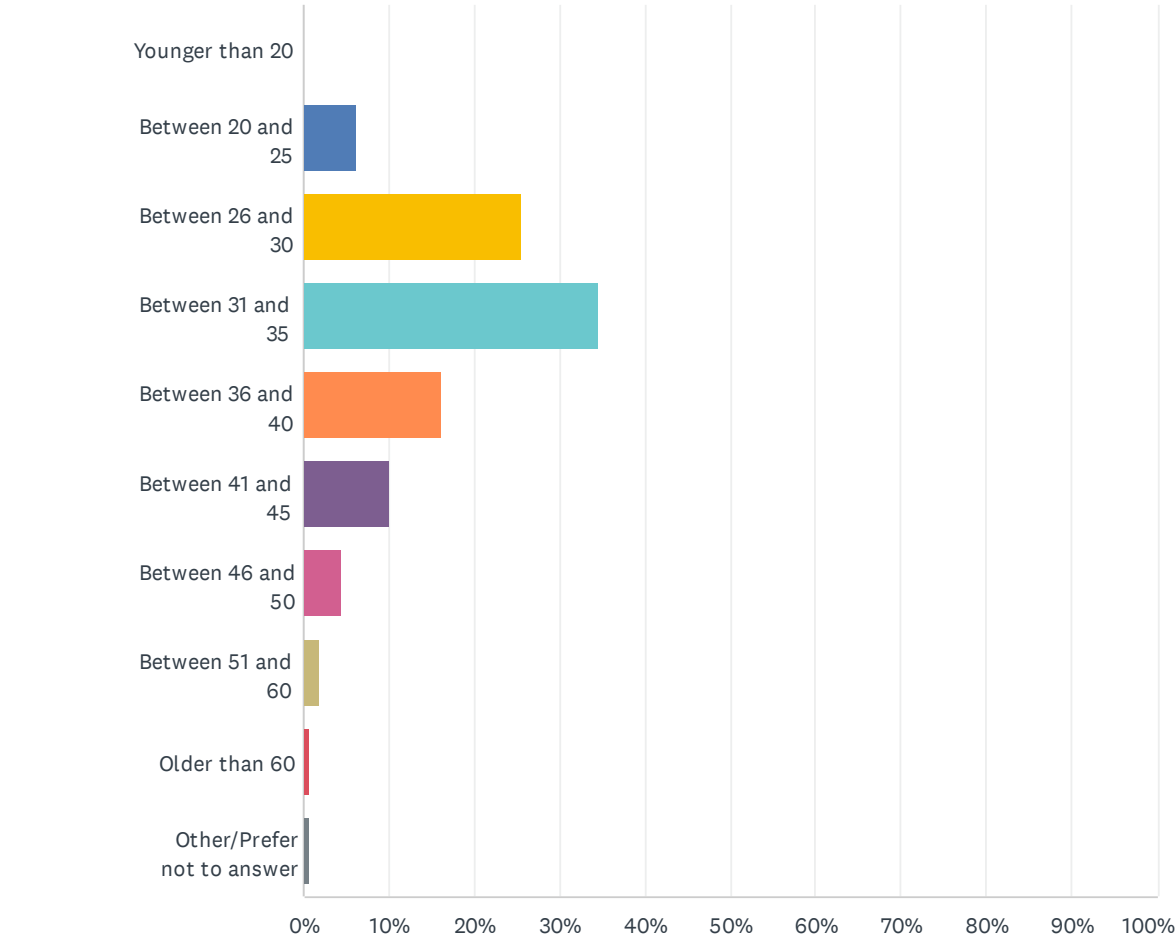
Answered: 361 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	55.96%	202
No	32.69%	118
Not sure	11.36%	41
TOTAL		361

Q11 How old are you?

Answered: 362 Skipped: 1

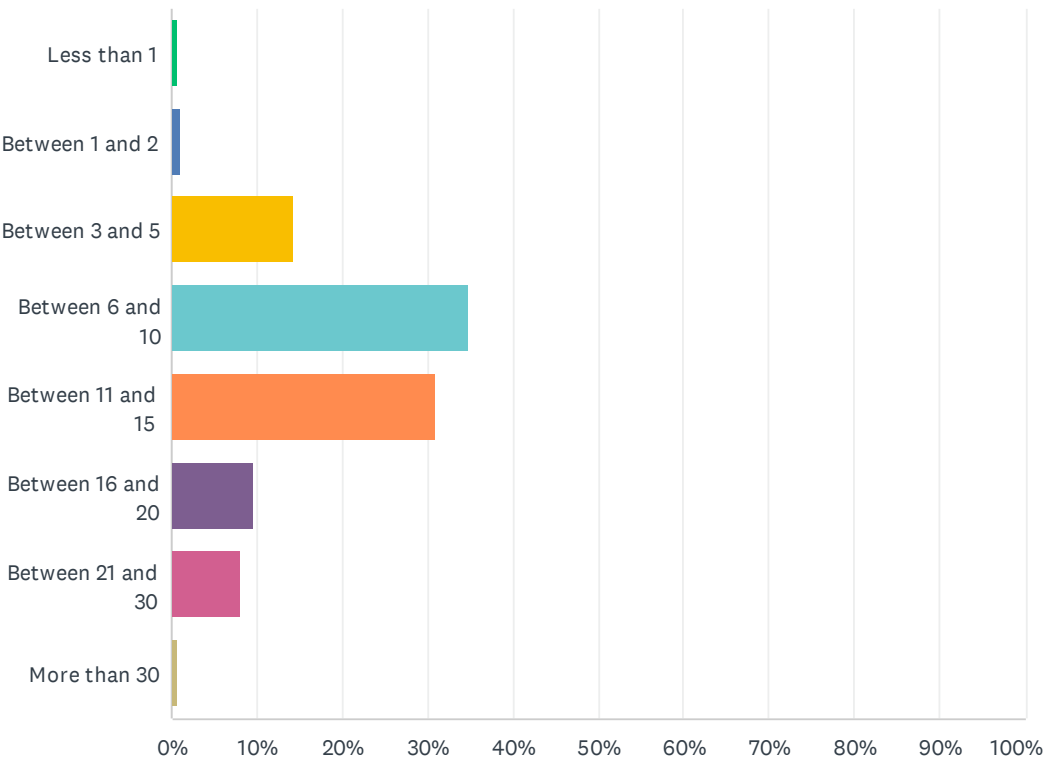


MNF Mobile Ecosystem Survey 2023

ANSWER CHOICES	RESPONSES	
Younger than 20	0.00%	0
Between 20 and 25	6.08%	22
Between 26 and 30	25.69%	93
Between 31 and 35	34.53%	125
Between 36 and 40	16.30%	59
Between 41 and 45	9.94%	36
Between 46 and 50	4.42%	16
Between 51 and 60	1.93%	7
Older than 60	0.55%	2
Other/Prefer not to answer	0.55%	2
TOTAL		362

Q12 How many years have you been a software engineer?

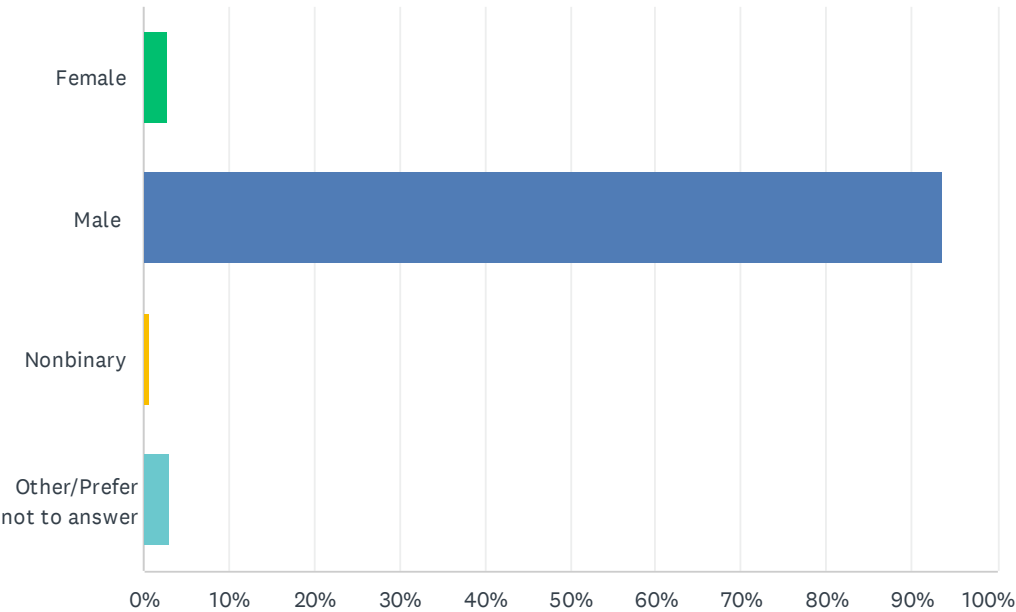
Answered: 362 Skipped: 1



ANSWER CHOICES	RESPONSES	
Less than 1	0.55%	2
Between 1 and 2	1.10%	4
Between 3 and 5	14.36%	52
Between 6 and 10	34.81%	126
Between 11 and 15	30.94%	112
Between 16 and 20	9.67%	35
Between 21 and 30	8.01%	29
More than 30	0.55%	2
TOTAL		362

Q13 What is your gender?

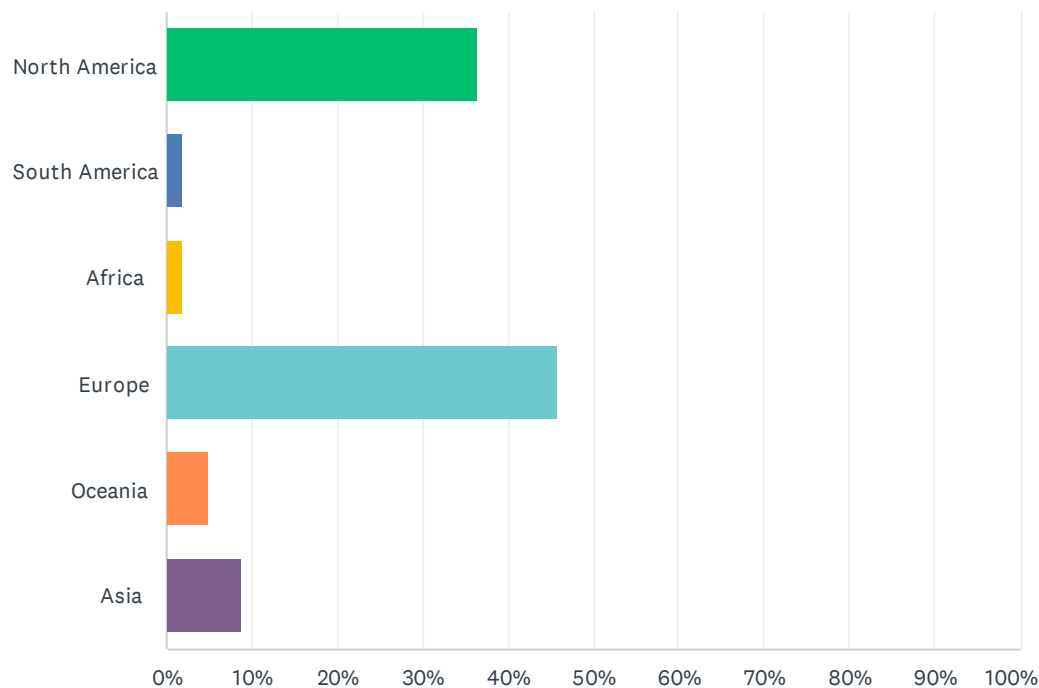
Answered: 362 Skipped: 1



ANSWER CHOICES	RESPONSES	
Female	2.76%	10
Male	93.65%	339
Nonbinary	0.55%	2
Other/Prefer not to answer	3.04%	11
TOTAL		362

Q14 Where are you located?

Answered: 362 Skipped: 1



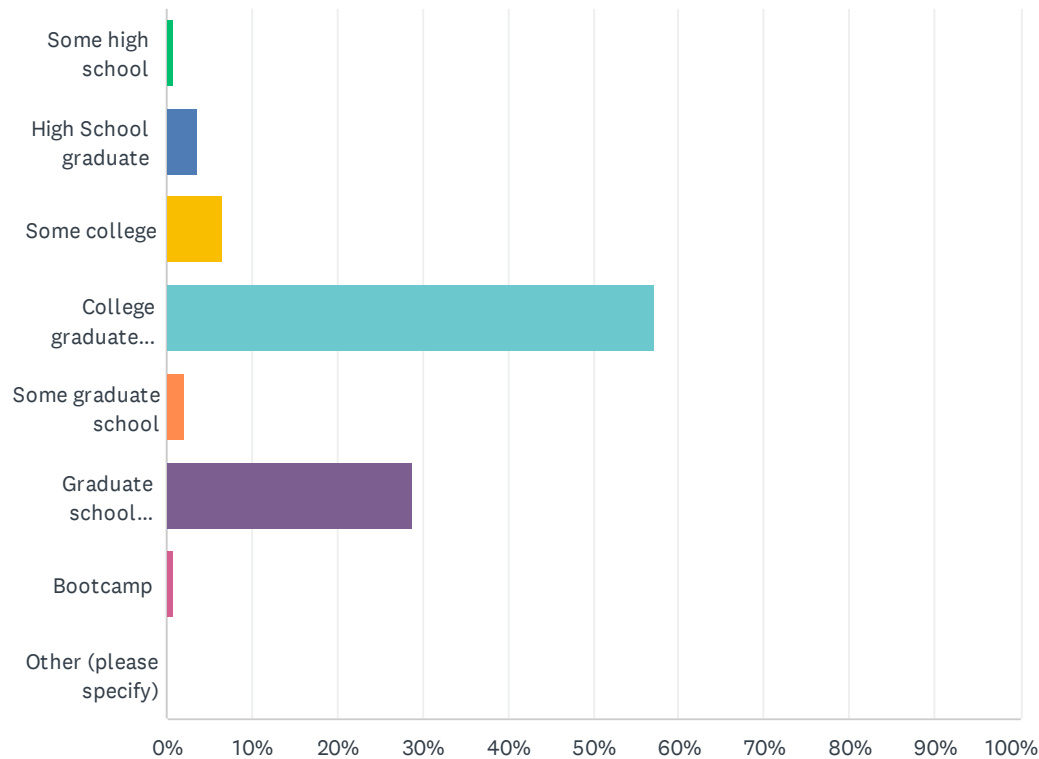
ANSWER CHOICES	RESPONSES	
North America	36.46%	132
South America	1.93%	7
Africa	1.93%	7
Europe	45.86%	166
Oceania	4.97%	18
Asia	8.84%	32
TOTAL		362

Q15 Which city?

Answered: 296 Skipped: 67

Q16 What is your highest level of education?

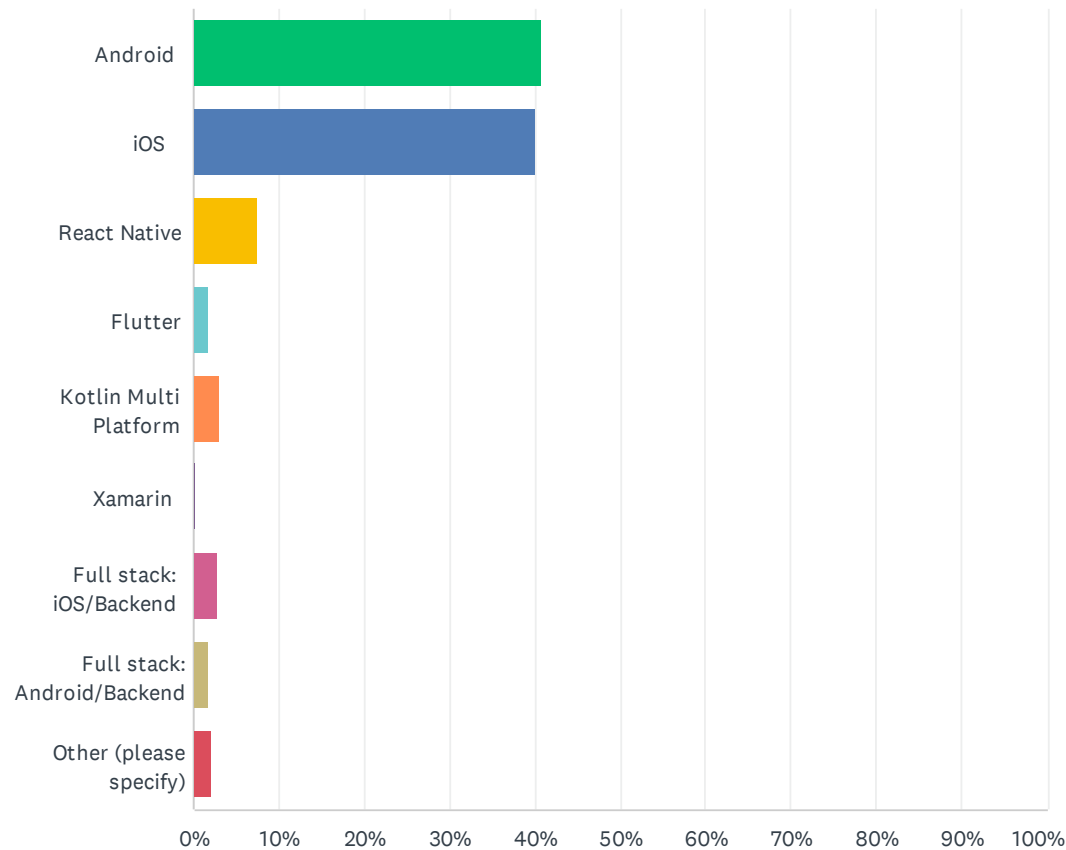
Answered: 362 Skipped: 1



ANSWER CHOICES	RESPONSES	
Some high school	0.83%	3
High School graduate	3.59%	13
Some college	6.63%	24
College graduate (Bachelor's or equivalent)	57.18%	207
Some graduate school	2.21%	8
Graduate school (Master's, PHD, or equivalent)	28.73%	104
Bootcamp	0.83%	3
Other (please specify)	0.00%	0
TOTAL		362

Q17 What platform do you primarily work on?

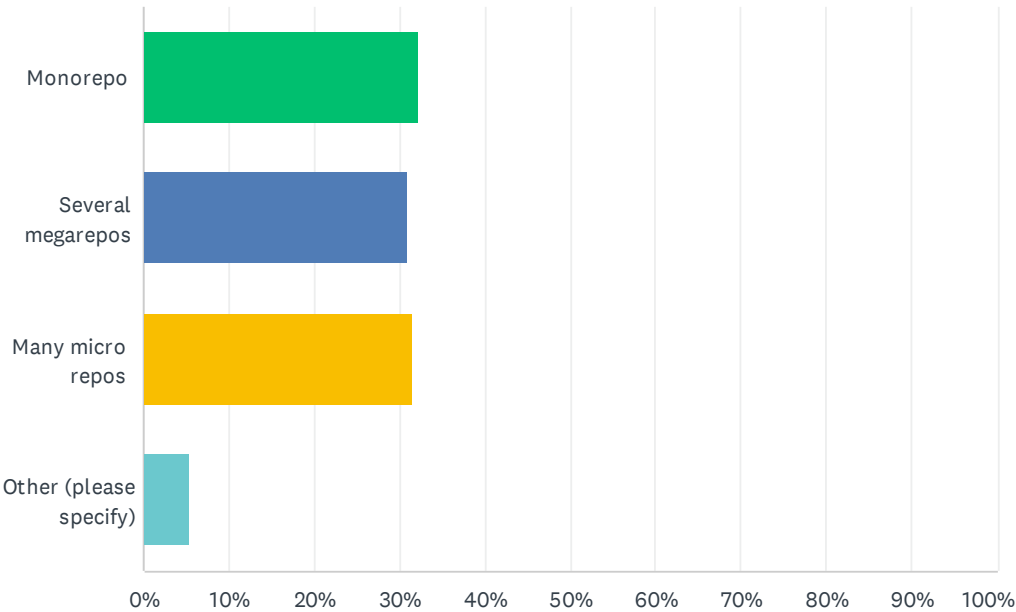
Answered: 361 Skipped: 2



ANSWER CHOICES	RESPONSES	
Android	40.72%	147
iOS	40.17%	145
React Native	7.48%	27
Flutter	1.66%	6
Kotlin Multi Platform	3.05%	11
Xamarin	0.28%	1
Full stack: iOS/Backend	2.77%	10
Full stack: Android/Backend	1.66%	6
Other (please specify)	2.22%	8
TOTAL		361

Q18 How does your company organize code?

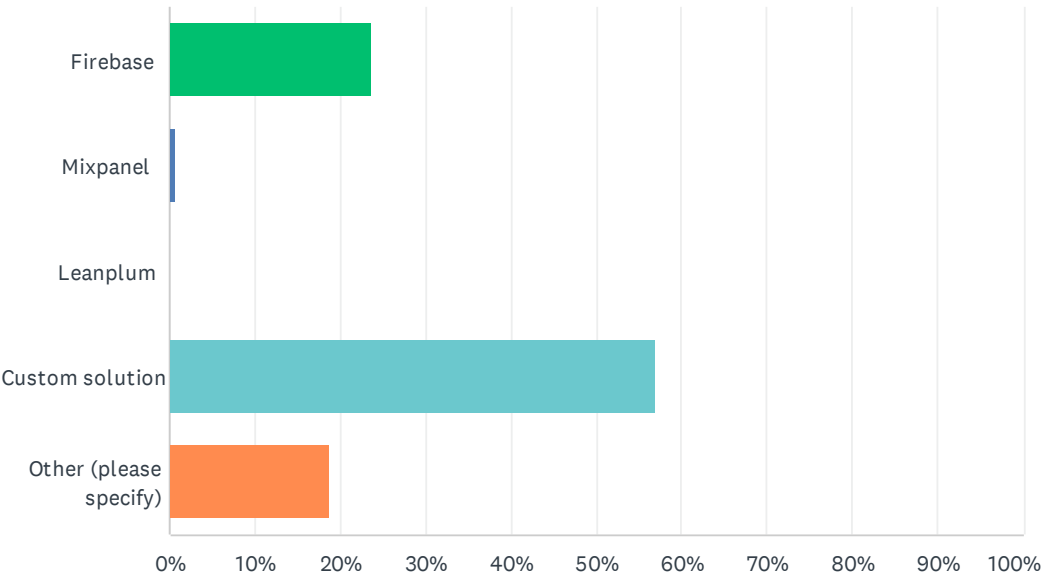
Answered: 304 Skipped: 59



ANSWER CHOICES	RESPONSES	
Monorepo	32.24%	98
Several megarepos	30.92%	94
Many micro repos	31.58%	96
Other (please specify)	5.26%	16
TOTAL		304

Q19 How do you handle A/B testing and/or feature flags?

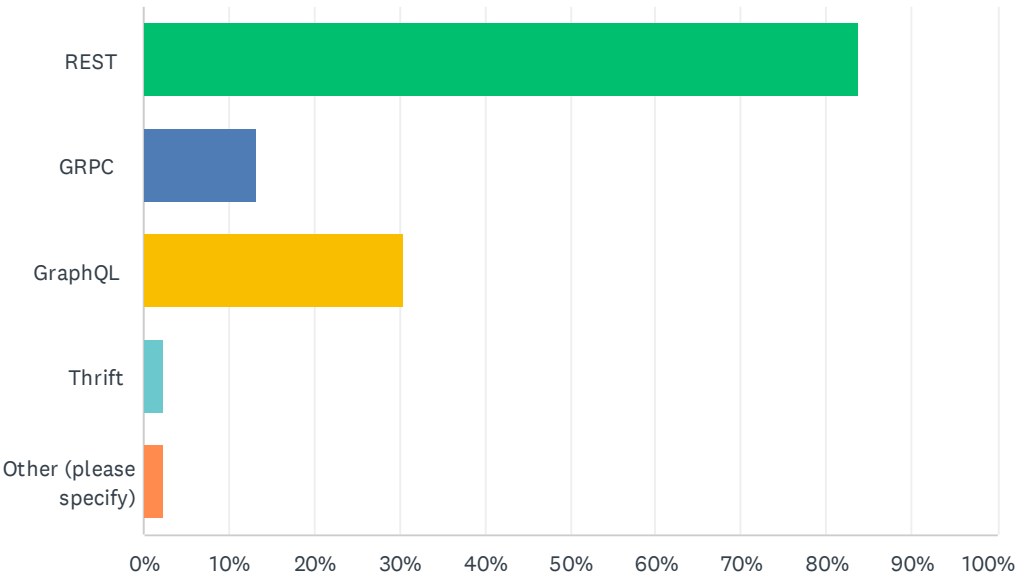
Answered: 304 Skipped: 59



ANSWER CHOICES	RESPONSES	
Firebase	23.68%	72
Mixpanel	0.66%	2
Leanplum	0.00%	0
Custom solution	56.91%	173
Other (please specify)	18.75%	57
TOTAL		304

Q20 How do you send data to your application from your servers?

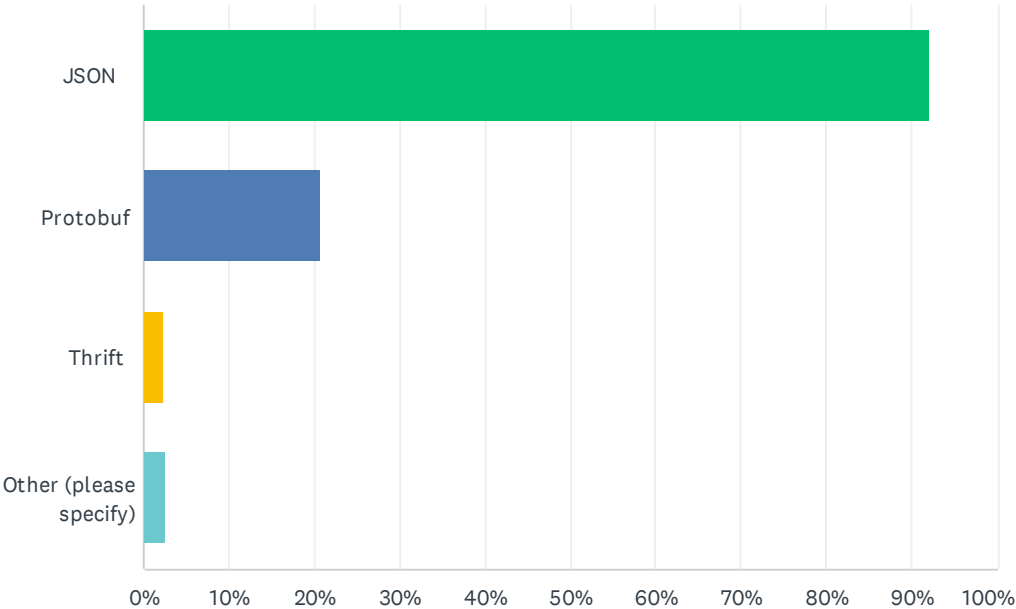
Answered: 304 Skipped: 59



ANSWER CHOICES	RESPONSES	
REST	83.88%	255
GRPC	13.16%	40
GraphQL	30.59%	93
Thrift	2.30%	7
Other (please specify)	2.30%	7
Total Respondents: 304		

Q21 How is data formatted on the wire between your application and your servers?

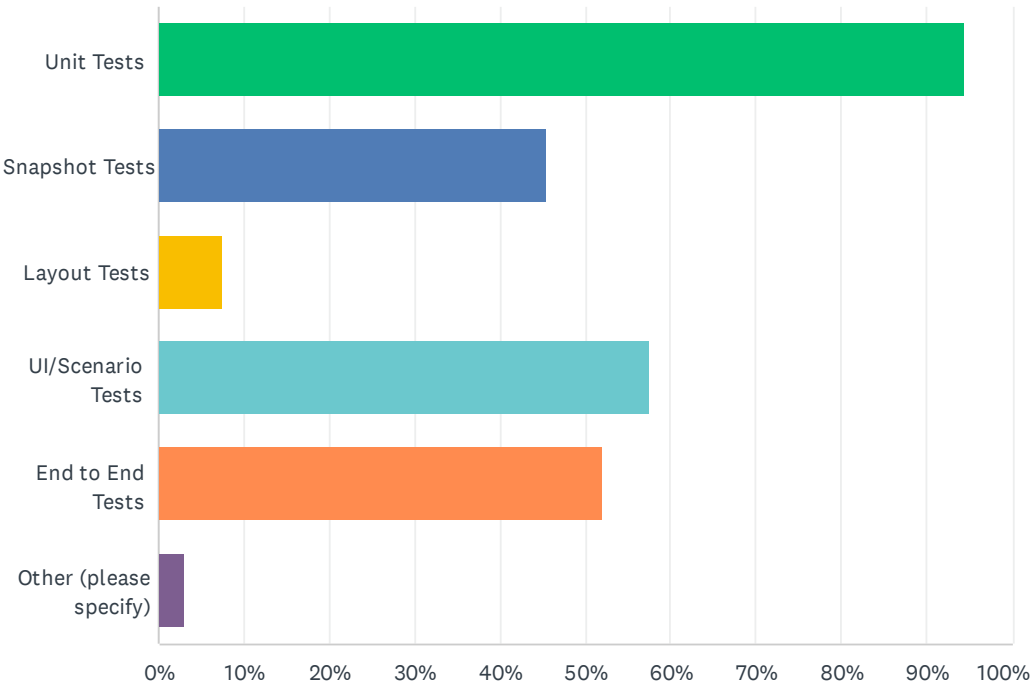
Answered: 304 Skipped: 59



ANSWER CHOICES	RESPONSES	
JSON	92.11%	280
Protobuf	20.72%	63
Thrift	2.30%	7
Other (please specify)	2.63%	8
Total Respondents: 304		

Q22 How do you automate testing of your application?

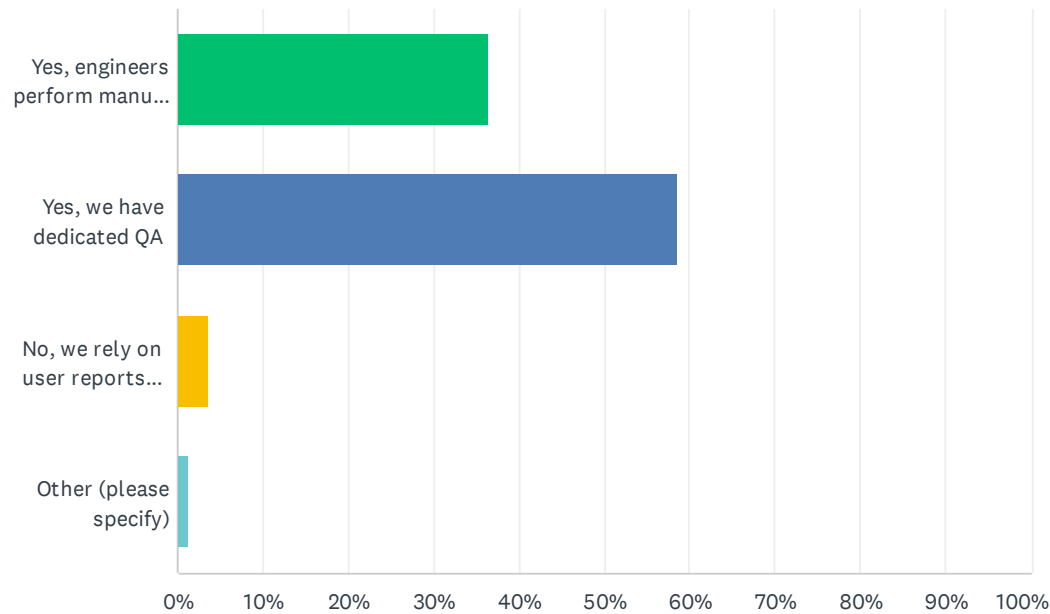
Answered: 304 Skipped: 59



ANSWER CHOICES	RESPONSES	
Unit Tests	94.41%	287
Snapshot Tests	45.39%	138
Layout Tests	7.57%	23
UI/Scenario Tests	57.57%	175
End to End Tests	51.97%	158
Other (please specify)	2.96%	9
Total Respondents: 304		

Q23 Do you perform manual testing?

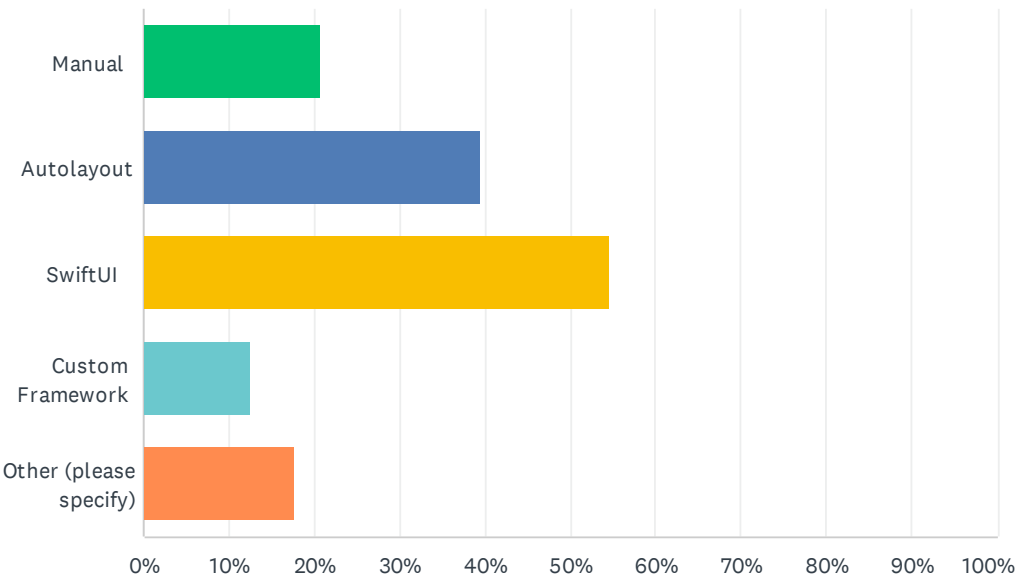
Answered: 304 Skipped: 59



ANSWER CHOICES		RESPONSES	
Yes, engineers perform manual testing on their work		36.51%	111
Yes, we have dedicated QA		58.55%	178
No, we rely on user reports for new issues		3.62%	11
Other (please specify)		1.32%	4
TOTAL			304

Q24 [iOS Only] How do you typically build UI layouts?

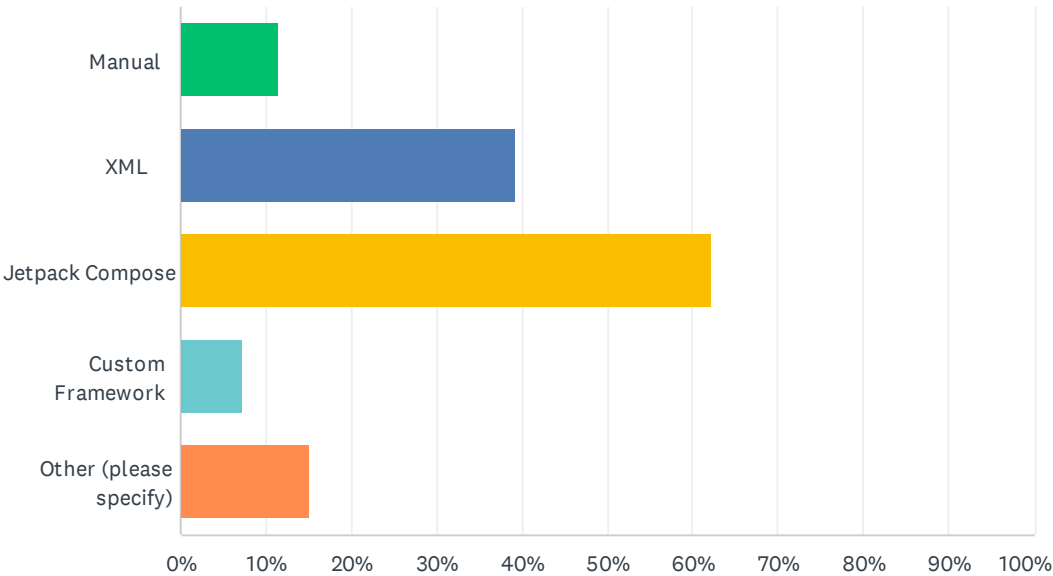
Answered: 304 Skipped: 59



ANSWER CHOICES	RESPONSES	
Manual	20.72%	63
Autolayout	39.47%	120
SwiftUI	54.61%	166
Custom Framework	12.50%	38
Other (please specify)	17.76%	54
Total Respondents: 304		

Q25 [Android Only] How do you typically build UI layouts?

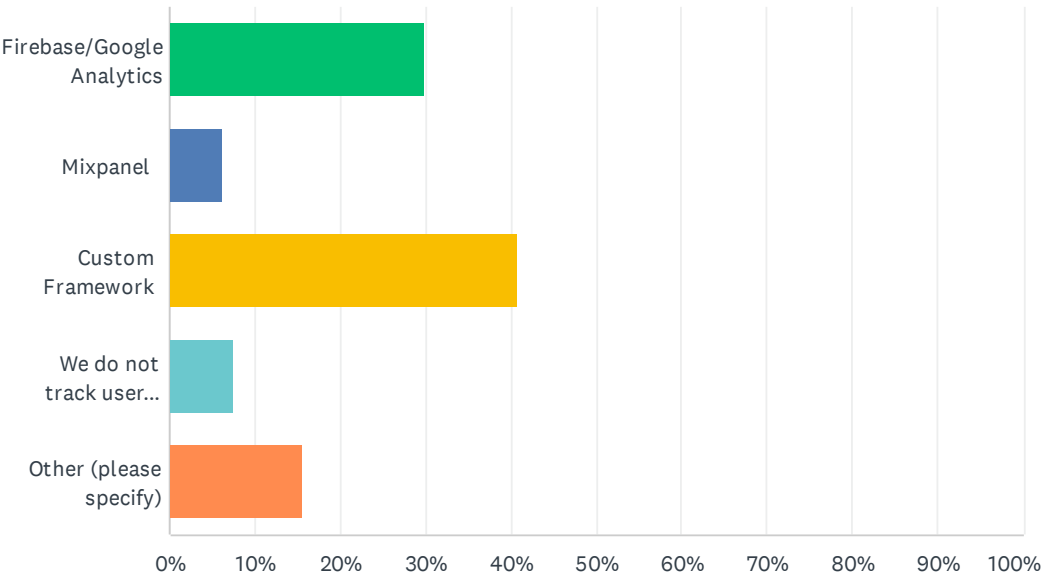
Answered: 304 Skipped: 59



ANSWER CHOICES	RESPONSES	
Manual	11.51%	35
XML	39.14%	119
Jetpack Compose	62.17%	189
Custom Framework	7.24%	22
Other (please specify)	15.13%	46
Total Respondents: 304		

Q26 How do you track user actions in your application?

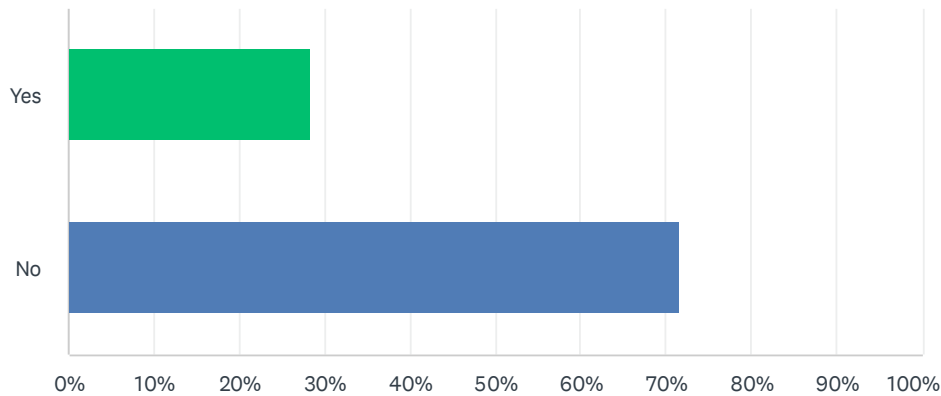
Answered: 304 Skipped: 59



ANSWER CHOICES	RESPONSES	
Firebase/Google Analytics	29.93%	91
Mixpanel	6.25%	19
Custom Framework	40.79%	124
We do not track user actions	7.57%	23
Other (please specify)	15.46%	47
TOTAL		304

Q27 Do you measure developer productivity?

Answered: 304 Skipped: 59



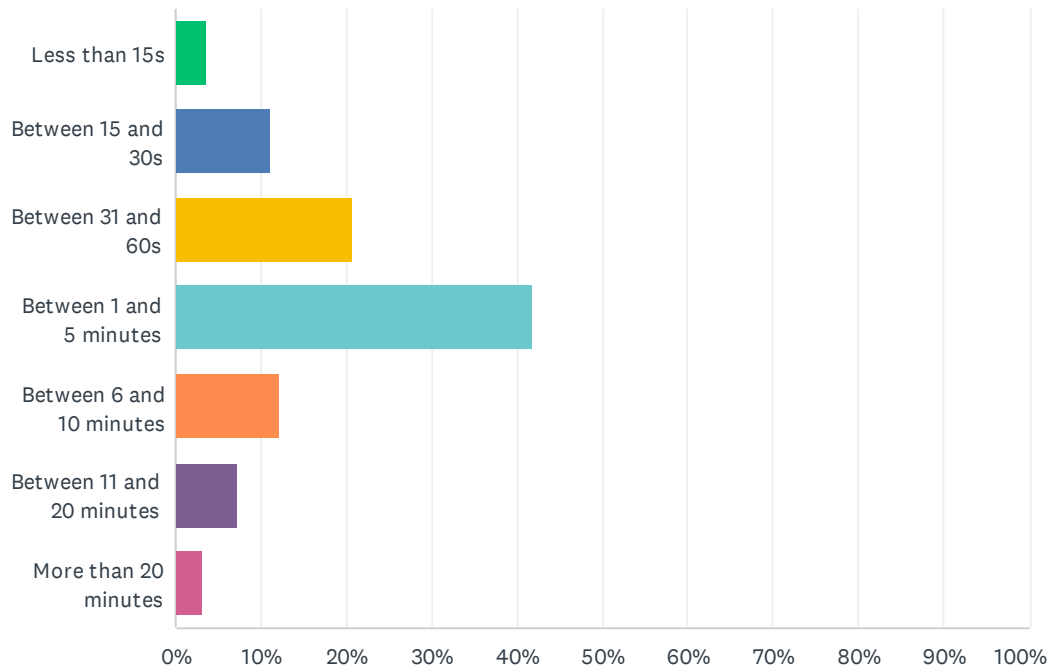
ANSWER CHOICES	RESPONSES	
Yes	28.29%	86
No	71.71%	218
TOTAL		304

Q28 If yes, what's the most important developer productivity metric you track?

Answered: 54 Skipped: 309

Q29 What are your average local build times?

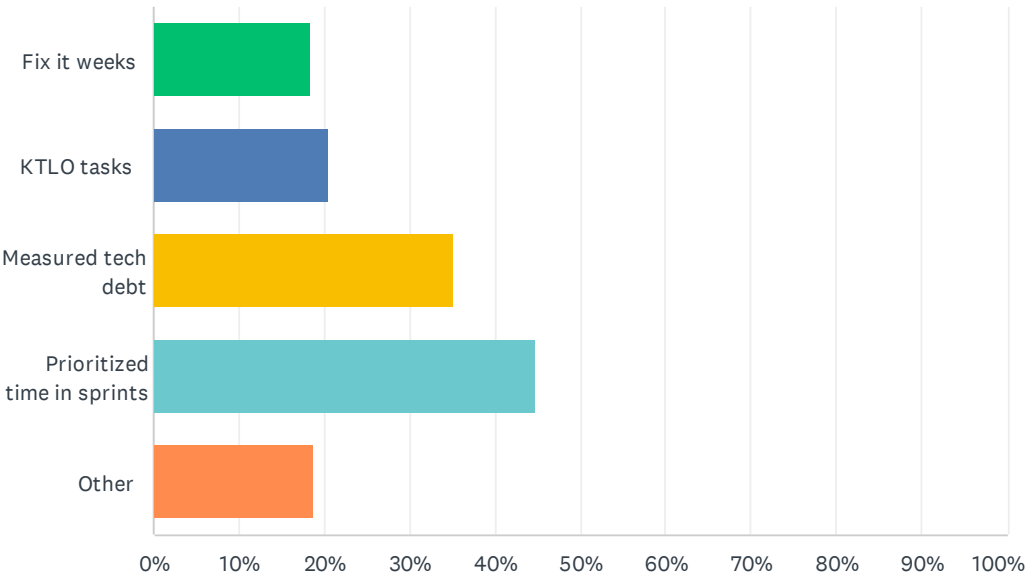
Answered: 304 Skipped: 59



ANSWER CHOICES	RESPONSES	
Less than 15s	3.62%	11
Between 15 and 30s	11.18%	34
Between 31 and 60s	20.72%	63
Between 1 and 5 minutes	41.78%	127
Between 6 and 10 minutes	12.17%	37
Between 11 and 20 minutes	7.24%	22
More than 20 minutes	3.29%	10
TOTAL		304

Q30 What practices do you employ to address code quality?

Answered: 304 Skipped: 59



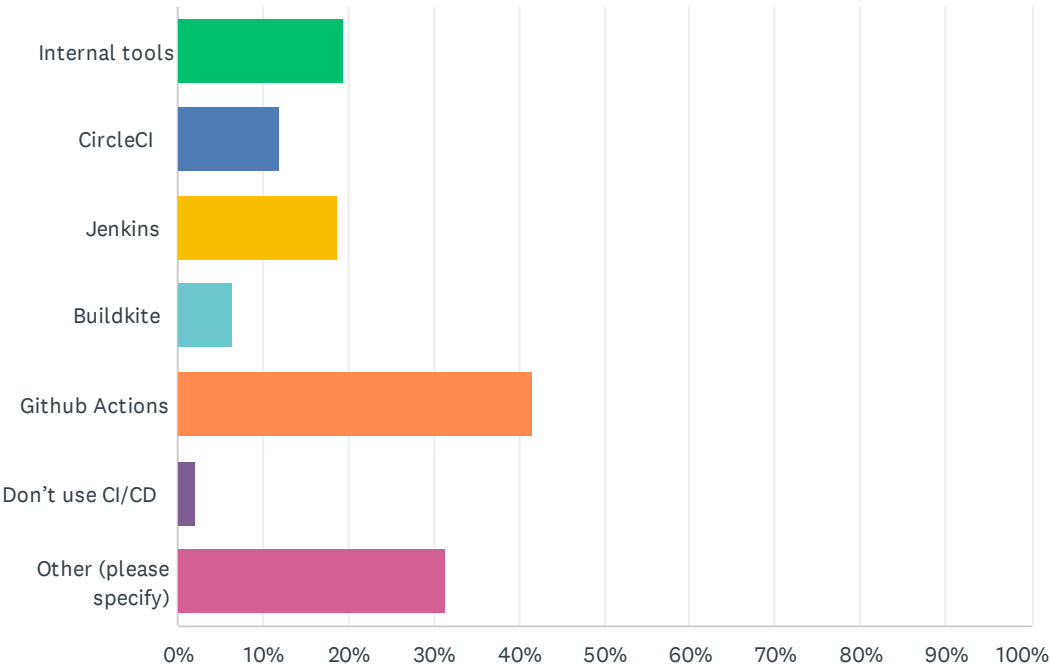
ANSWER CHOICES	RESPONSES	
Fix it weeks	18.42%	56
KTLO tasks	20.39%	62
Measured tech debt	35.20%	107
Prioritized time in sprints	44.74%	136
Other	18.75%	57
Total Respondents: 304		

Q31 List the most useful open source libraries/tools you use on a daily basis.

Answered: 115 Skipped: 248

Q32 What do you use for CI/CD?

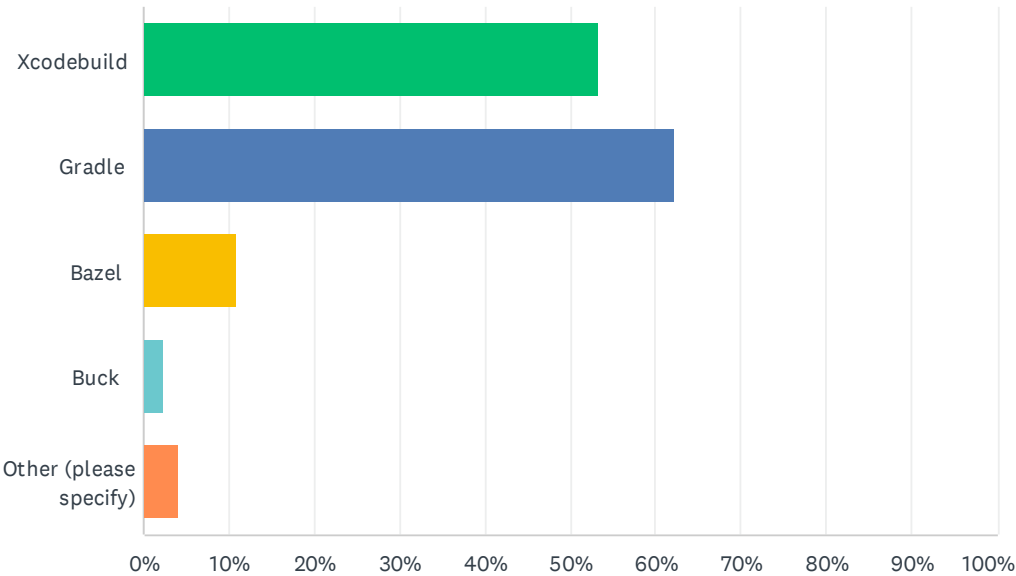
Answered: 294 Skipped: 69



ANSWER CHOICES	RESPONSES	
Internal tools	19.39%	57
CircleCI	11.90%	35
Jenkins	18.71%	55
Buildkite	6.46%	19
Github Actions	41.50%	122
Don't use CI/CD	2.04%	6
Other (please specify)	31.29%	92
Total Respondents: 294		

Q33 What build system do you use?

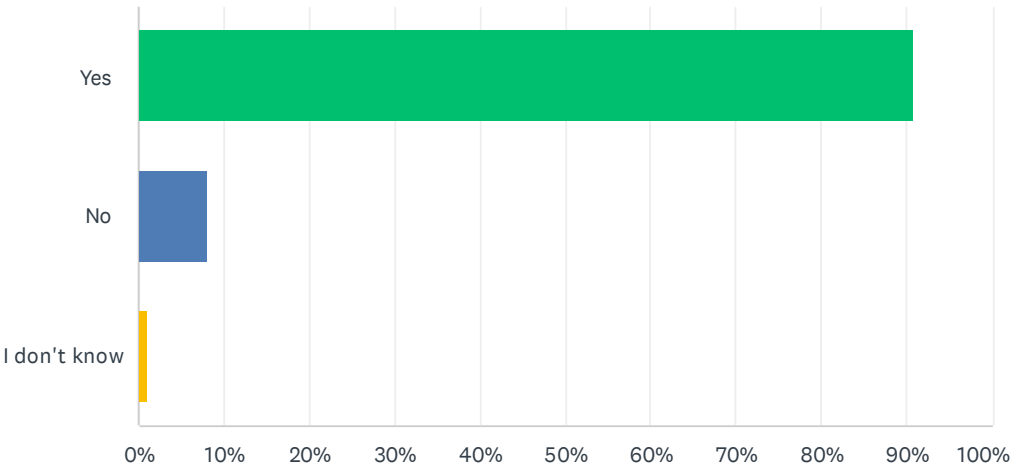
Answered: 294 Skipped: 69



ANSWER CHOICES		RESPONSES	
Xcodebuild		53.40%	157
Gradle		62.24%	183
Bazel		10.88%	32
Buck		2.38%	7
Other (please specify)		4.08%	12
Total Respondents: 294			

Q34 Is your code run through a linter, or checkstyle?

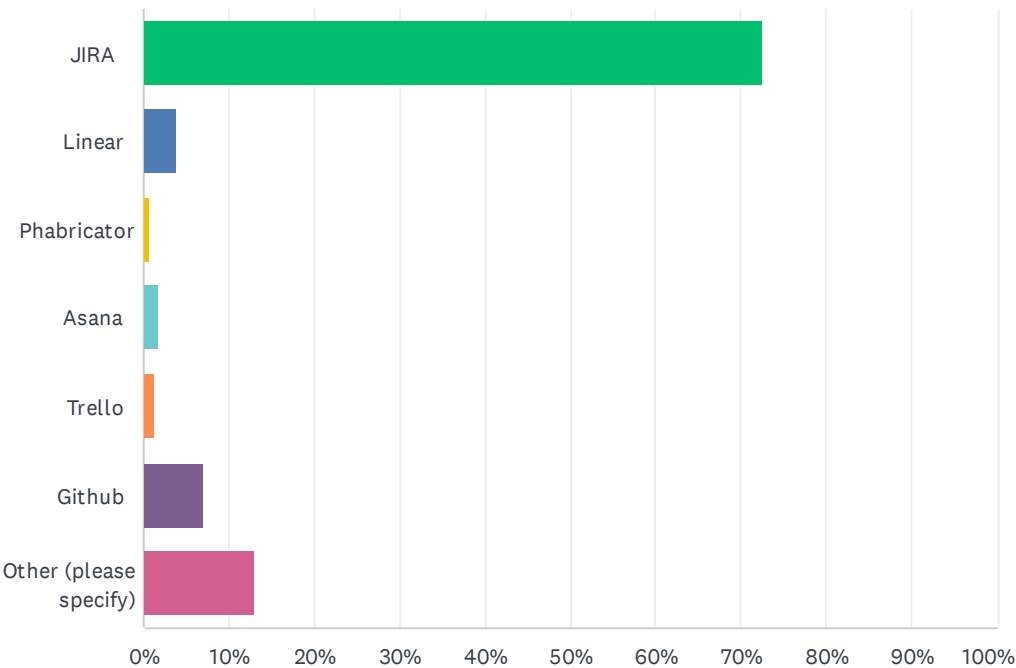
Answered: 294 Skipped: 69



ANSWER CHOICES	RESPONSES	
Yes	90.82%	267
No	8.16%	24
I don't know	1.02%	3
TOTAL		294

Q35 How does your company track issues and tasks?

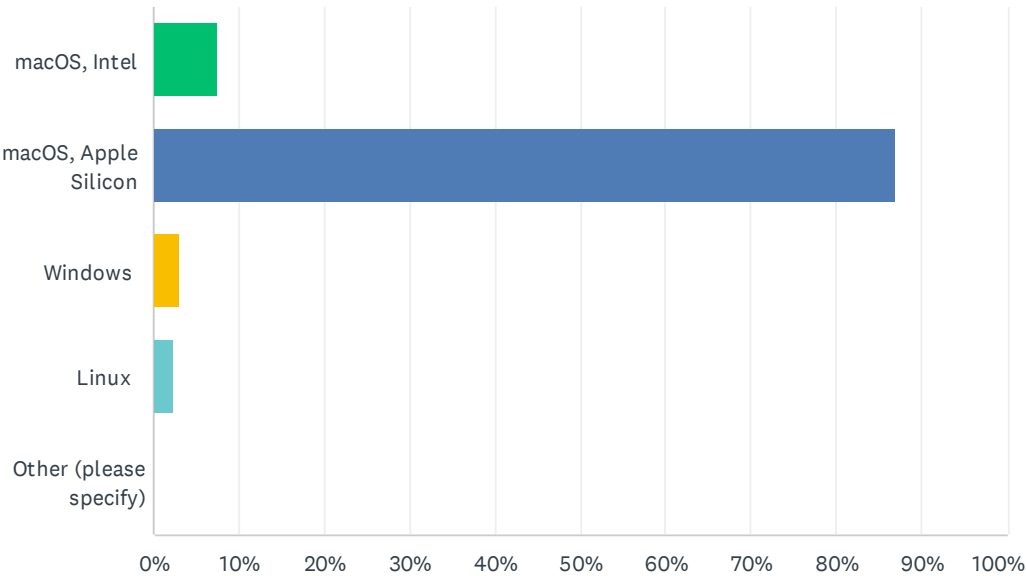
Answered: 294 Skipped: 69



ANSWER CHOICES	RESPONSES	
JIRA	72.45%	213
Linear	3.74%	11
Phabricator	0.68%	2
Asana	1.70%	5
Trello	1.36%	4
Github	7.14%	21
Other (please specify)	12.93%	38
TOTAL		294

Q36 What kind of machine do you primarily use for development?

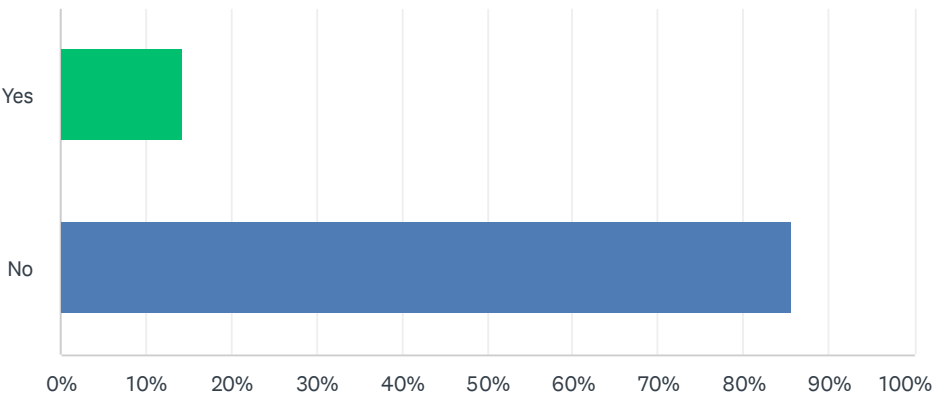
Answered: 294 Skipped: 69



ANSWER CHOICES	RESPONSES	
macOS, Intel	7.48%	22
macOS, Apple Silicon	87.07%	256
Windows	3.06%	9
Linux	2.38%	7
Other (please specify)	0.00%	0
TOTAL		294

Q37 Do you work on more than one machine at the same time?

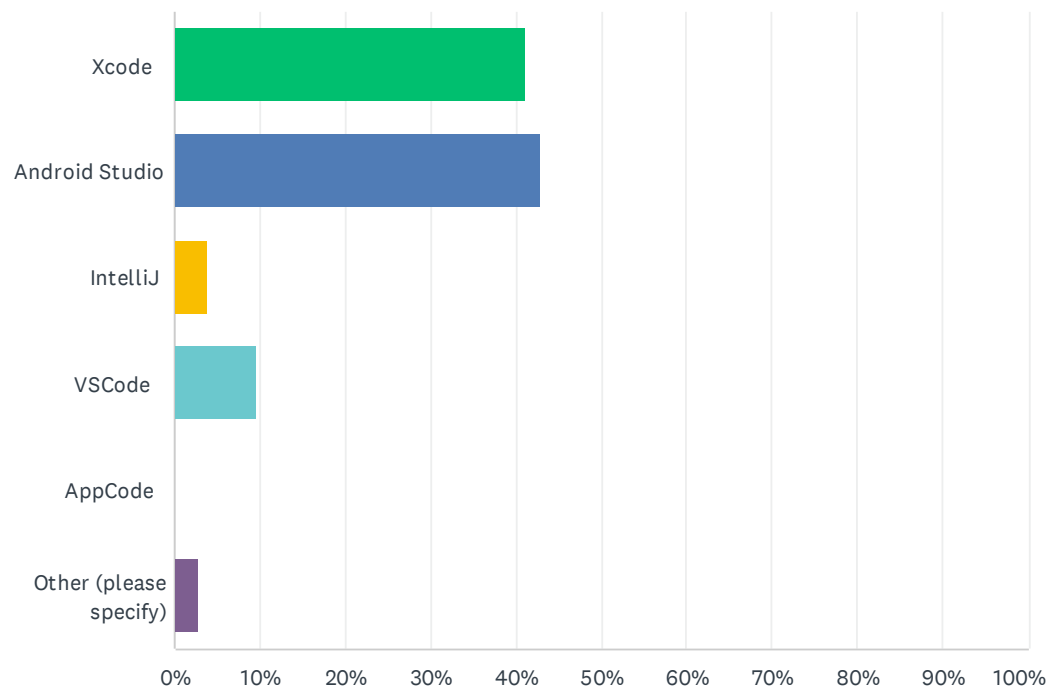
Answered: 294 Skipped: 69



ANSWER CHOICES	RESPONSES	
Yes	14.29%	42
No	85.71%	252
TOTAL		294

Q38 What is your primary IDE?

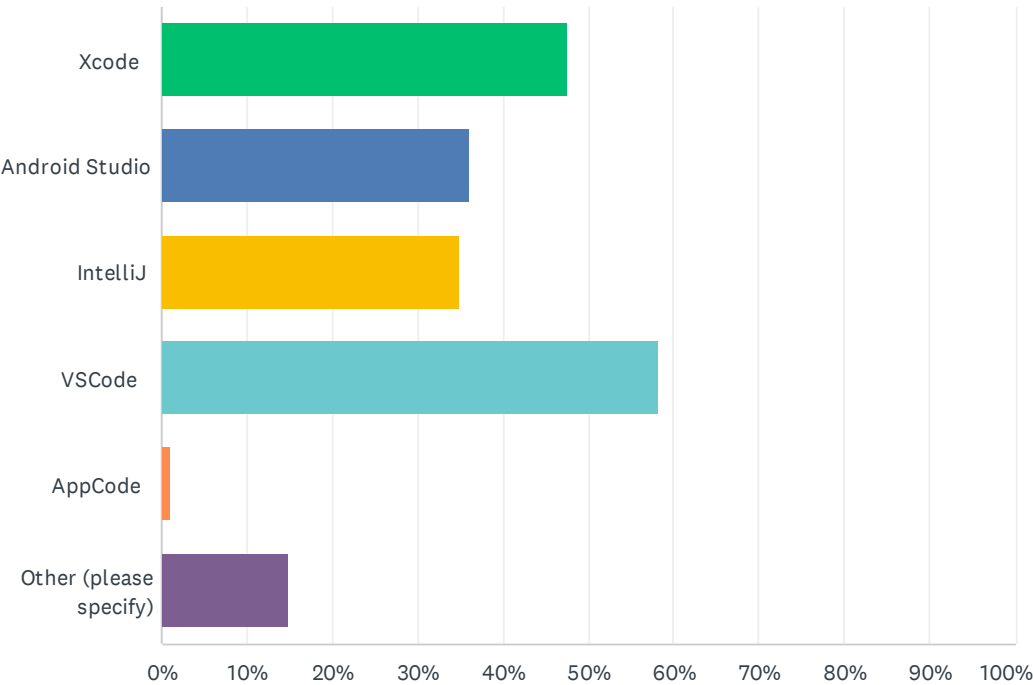
Answered: 294 Skipped: 69



ANSWER CHOICES	RESPONSES	
Xcode	41.16%	121
Android Studio	42.86%	126
IntelliJ	3.74%	11
VSCode	9.52%	28
AppCode	0.00%	0
Other (please specify)	2.72%	8
TOTAL		294

Q39 What other IDEs do you use (choose your top 3)?

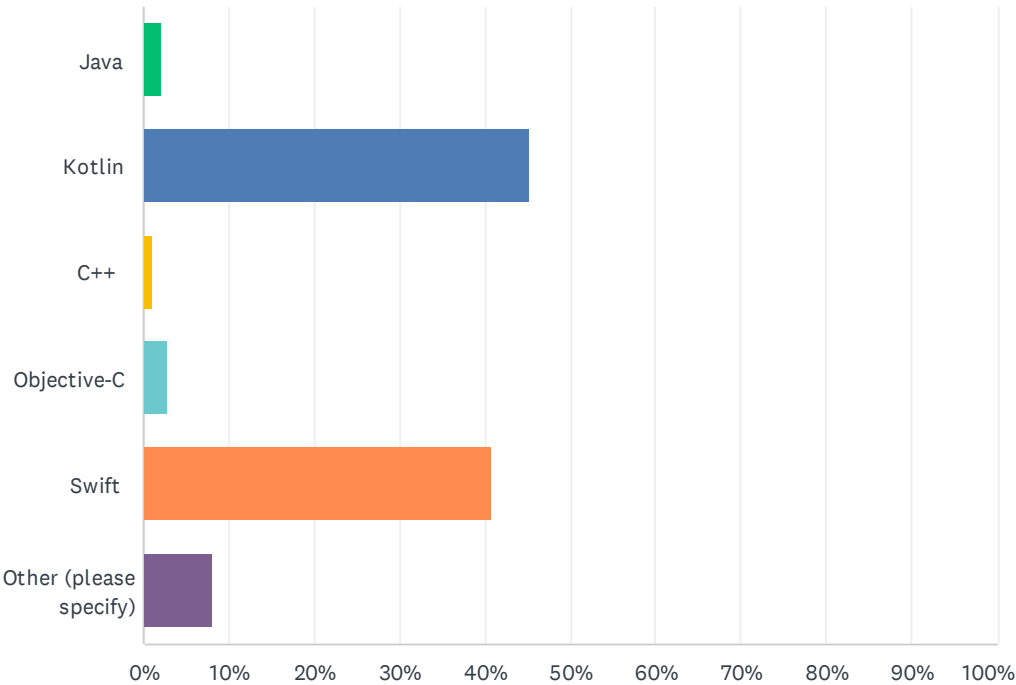
Answered: 294 Skipped: 69



ANSWER CHOICES	RESPONSES	
Xcode	47.62%	140
Android Studio	36.05%	106
IntelliJ	35.03%	103
VSCode	58.16%	171
AppCode	1.02%	3
Other (please specify)	14.97%	44
Total Respondents: 294		

Q40 What is your primary programming language?

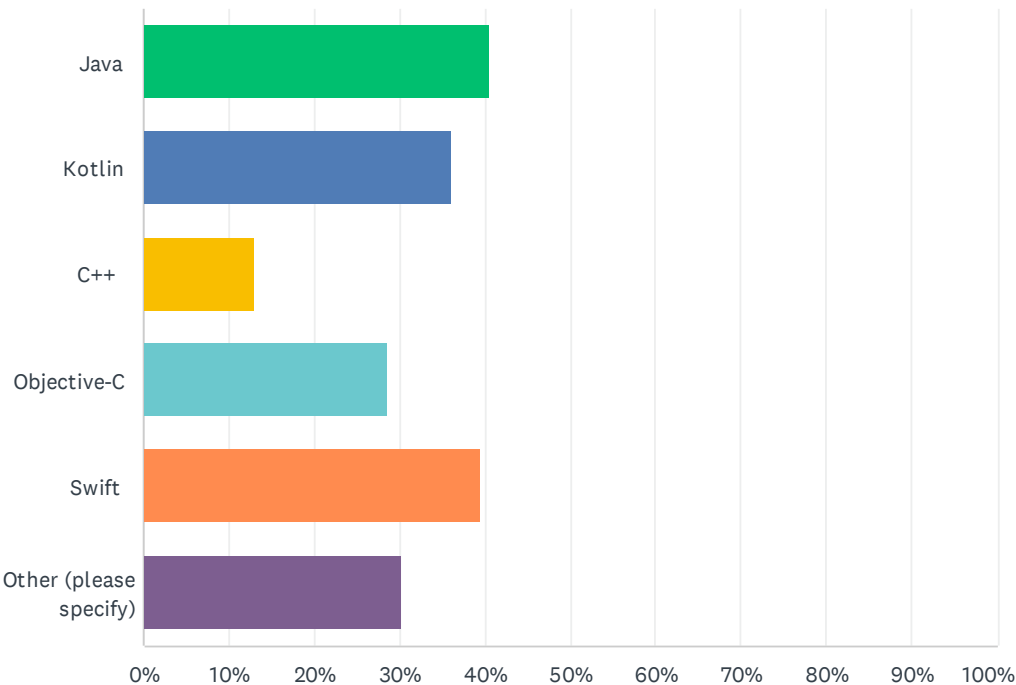
Answered: 294 Skipped: 69



ANSWER CHOICES	RESPONSES	
Java	2.04%	6
Kotlin	45.24%	133
C++	1.02%	3
Objective-C	2.72%	8
Swift	40.82%	120
Other (please specify)	8.16%	24
TOTAL		294

Q41 What other programming languages do you use (multi select)?

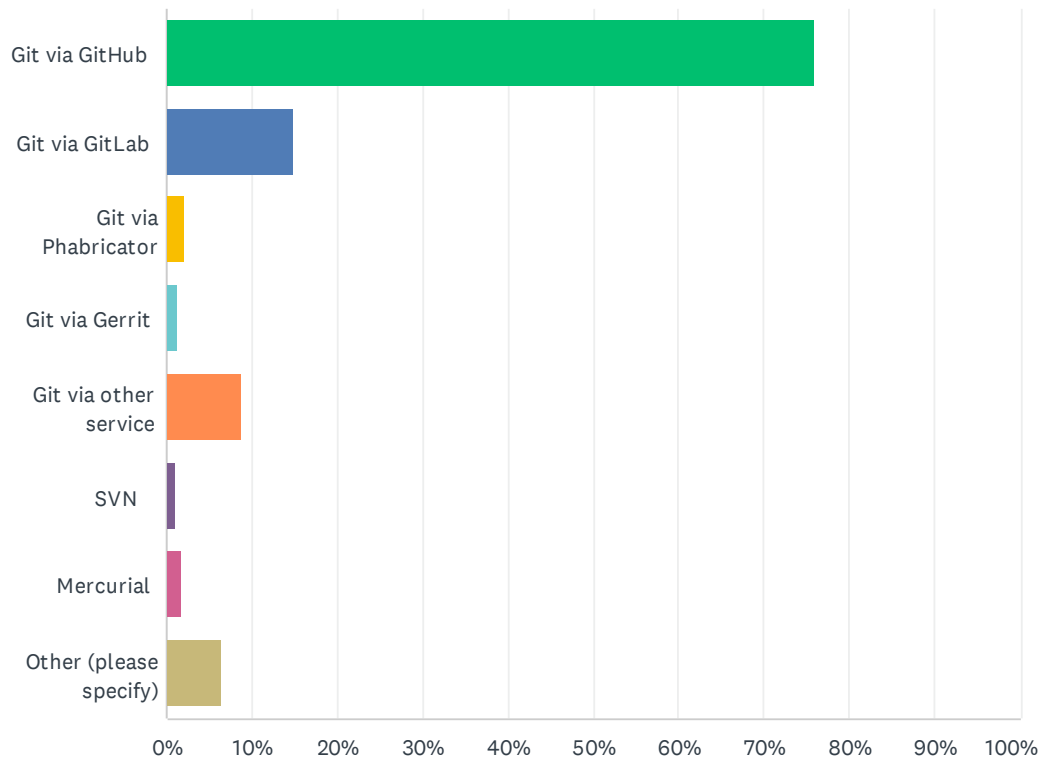
Answered: 294 Skipped: 69



ANSWER CHOICES	RESPONSES	
Java	40.48%	119
Kotlin	36.05%	106
C++	12.93%	38
Objective-C	28.57%	84
Swift	39.46%	116
Other (please specify)	30.27%	89
Total Respondents: 294		

Q42 What do you use for version control?

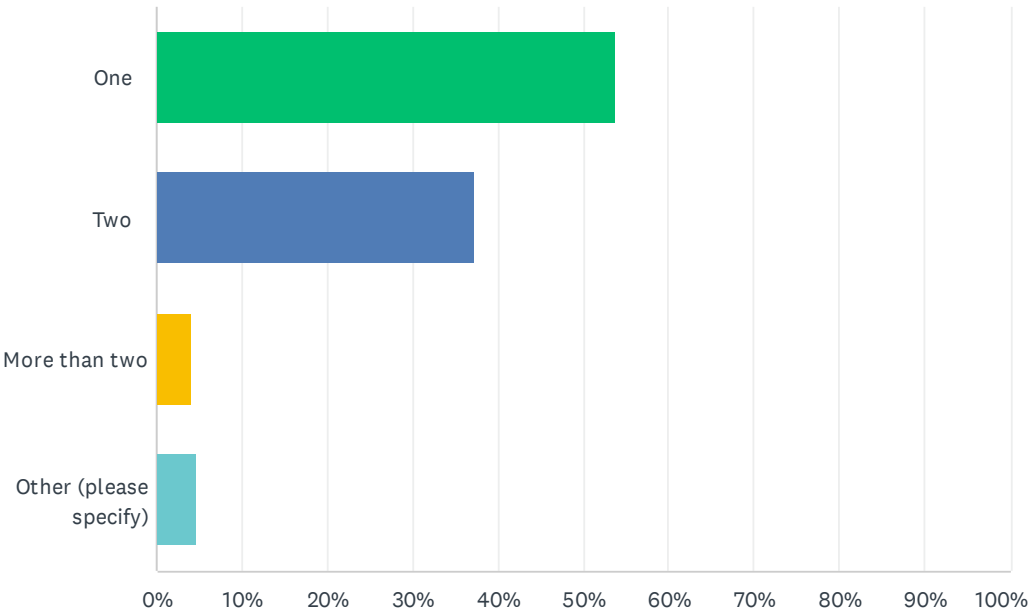
Answered: 294 Skipped: 69



ANSWER CHOICES	RESPONSES	
Git via GitHub	75.85%	223
Git via GitLab	14.97%	44
Git via Phabricator	2.04%	6
Git via Gerrit	1.36%	4
Git via other service	8.84%	26
SVN	1.02%	3
Mercurial	1.70%	5
Other (please specify)	6.46%	19
Total Respondents: 294		

Q43 How many reviewers do you need for a typical code submission?

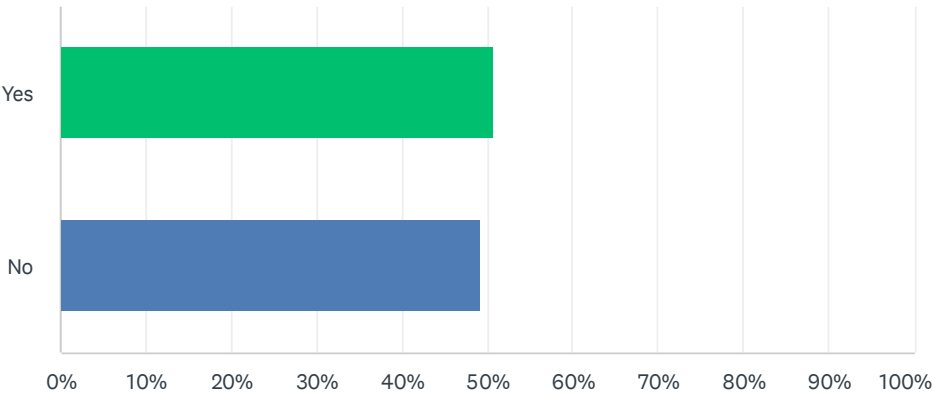
Answered: 294 Skipped: 69



ANSWER CHOICES	RESPONSES	
One	53.74%	158
Two	37.41%	110
More than two	4.08%	12
Other (please specify)	4.76%	14
TOTAL		294

Q44 Do you have blocking reviewer groups in your code submission process?

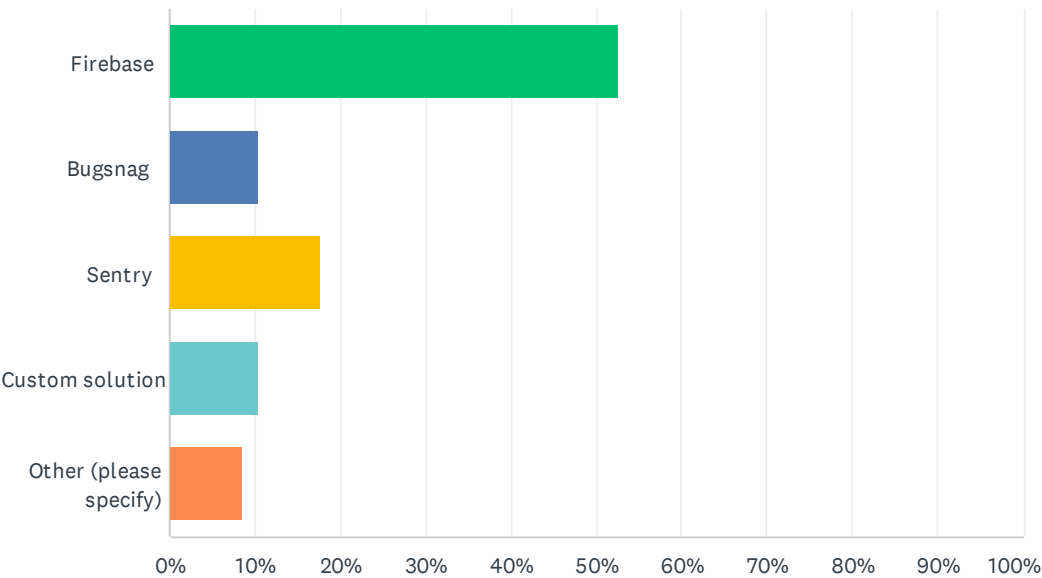
Answered: 294 Skipped: 69



ANSWER CHOICES	RESPONSES	
Yes	50.68%	149
No	49.32%	145
TOTAL		294

Q45 What type of crash reporting system do you use?

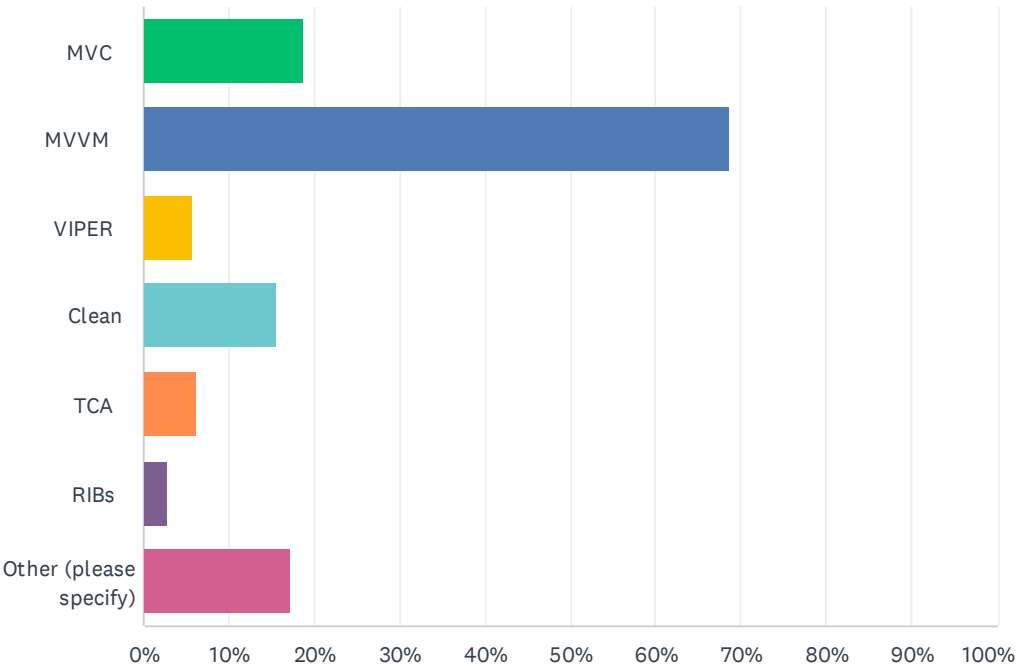
Answered: 294 Skipped: 69



ANSWER CHOICES	RESPONSES	
Firebase	52.72%	155
Bugsnag	10.54%	31
Sentry	17.69%	52
Custom solution	10.54%	31
Other (please specify)	8.50%	25
TOTAL		294

Q46 What type of architecture does your app use?

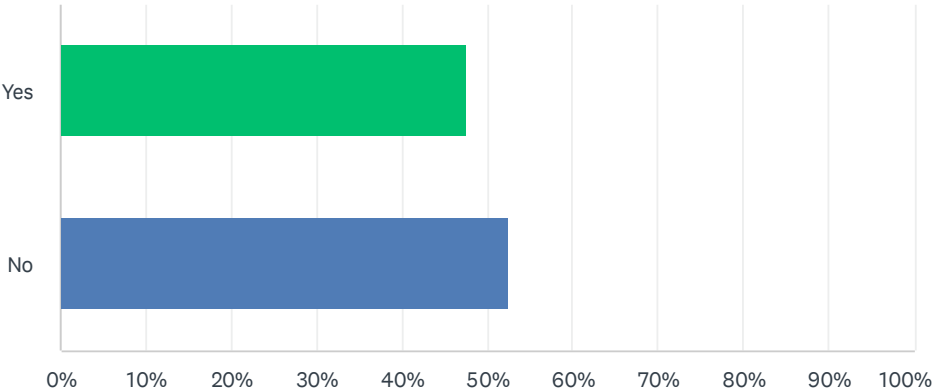
Answered: 294 Skipped: 69



ANSWER CHOICES	RESPONSES	
MVC	18.71%	55
MVVM	68.71%	202
VIPER	5.78%	17
Clean	15.65%	46
TCA	6.12%	18
RIBs	2.72%	8
Other (please specify)	17.35%	51
Total Respondents: 294		

Q47 Does your company have Github co-pilot or any similar development tools?

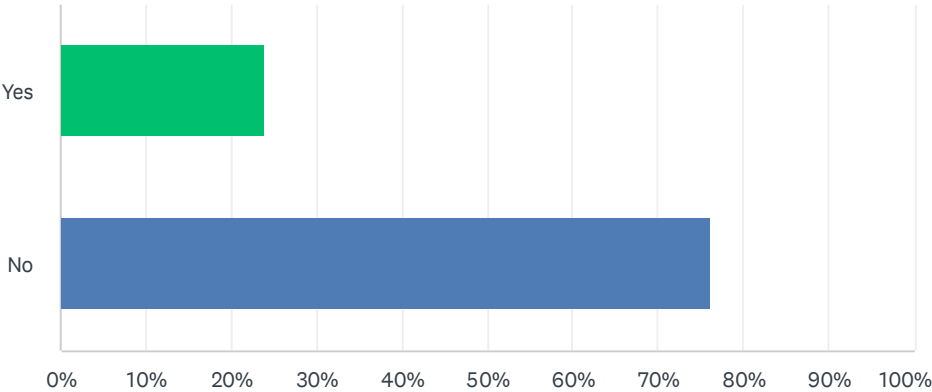
Answered: 294 Skipped: 69



ANSWER CHOICES	RESPONSES	
Yes	47.62%	140
No	52.38%	154
TOTAL		294

Q48 Is your company developing any LLM assisted developer productivity tools?

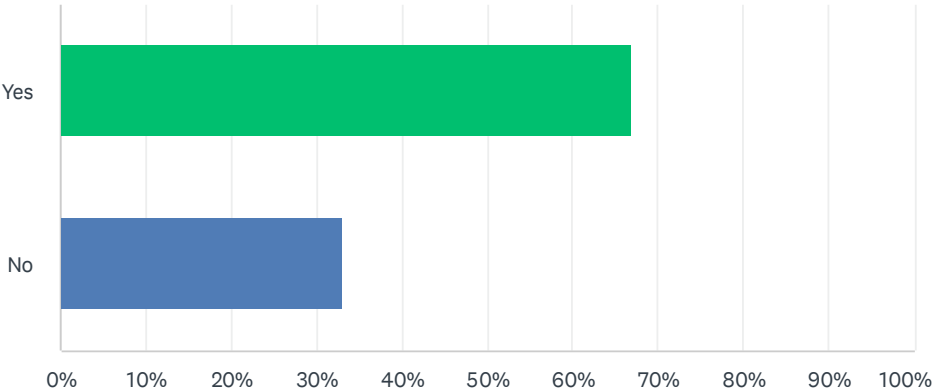
Answered: 294 Skipped: 69



ANSWER CHOICES	RESPONSES	
Yes	23.81%	70
No	76.19%	224
TOTAL		294

Q49 Do you participate in platform specific or general mobile meetups within your company?

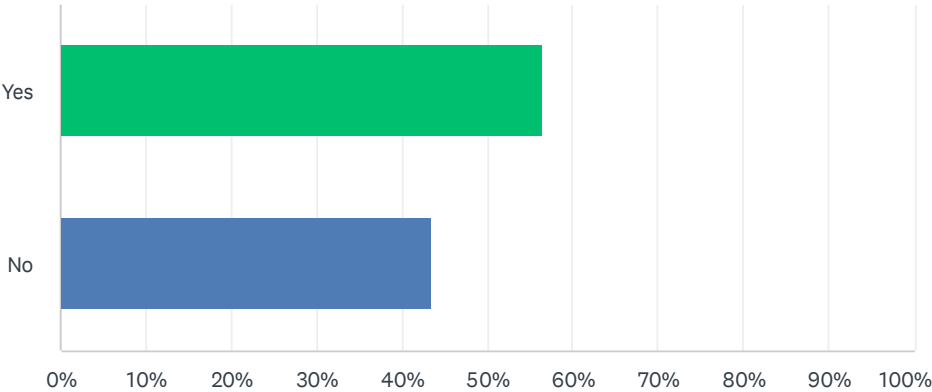
Answered: 287 Skipped: 76



ANSWER CHOICES	RESPONSES	
Yes	66.90%	192
No	33.10%	95
TOTAL		287

Q50 Do you participate in platform specific or general mobile meetups outside your company?

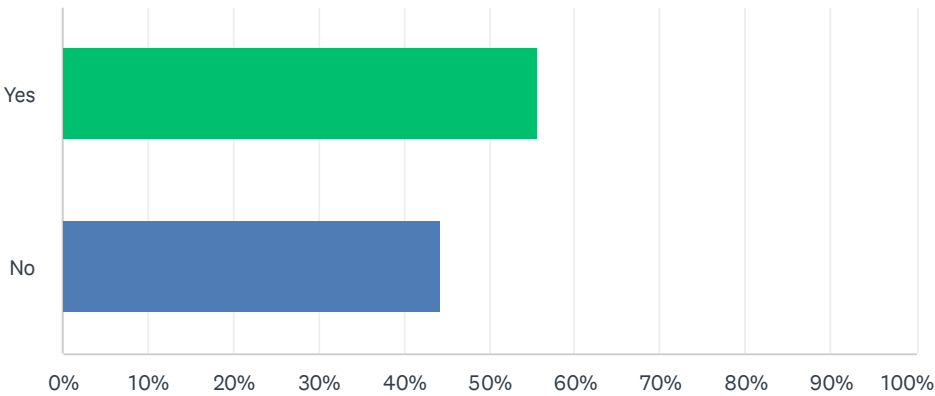
Answered: 287 Skipped: 76



ANSWER CHOICES	RESPONSES	
Yes	56.45%	162
No	43.55%	125
TOTAL		287

Q51 Does your company sponsor employees to speak at conferences?
For example encouraging you to speak, and/or paying for travel,
sponsoring entire conferences?

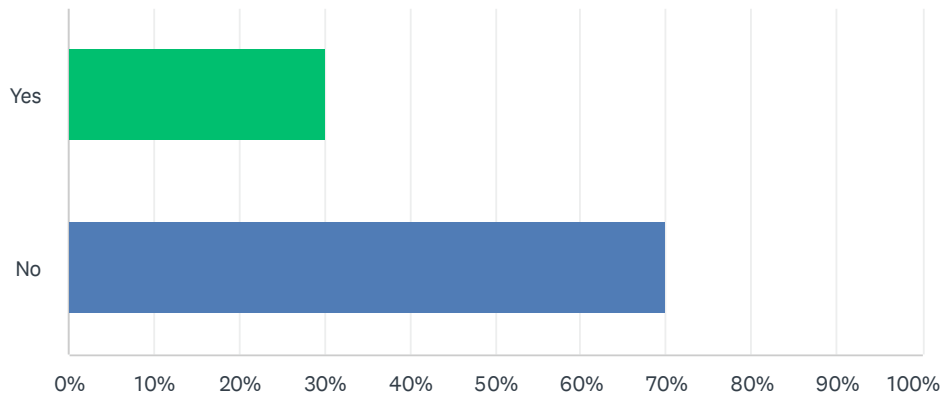
Answered: 287 Skipped: 76



ANSWER CHOICES		RESPONSES
Yes		55.75% 160
No		44.25% 127
TOTAL		287

Q52 In a typical year, do you attend any large mobile related conferences like WWDC or Google I/O?

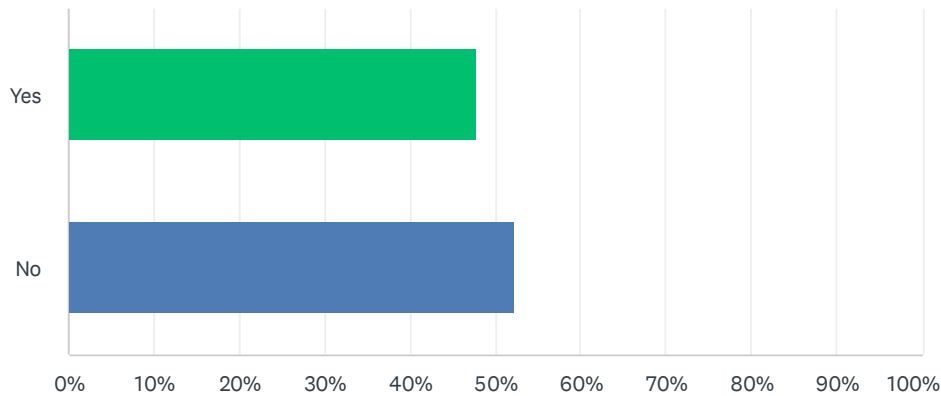
Answered: 287 Skipped: 76



ANSWER CHOICES	RESPONSES	
Yes	29.97%	86
No	70.03%	201
TOTAL		287

Q53 In a typical year, do you attend any community driven conferences? (droidCon or beyond WWDC events)

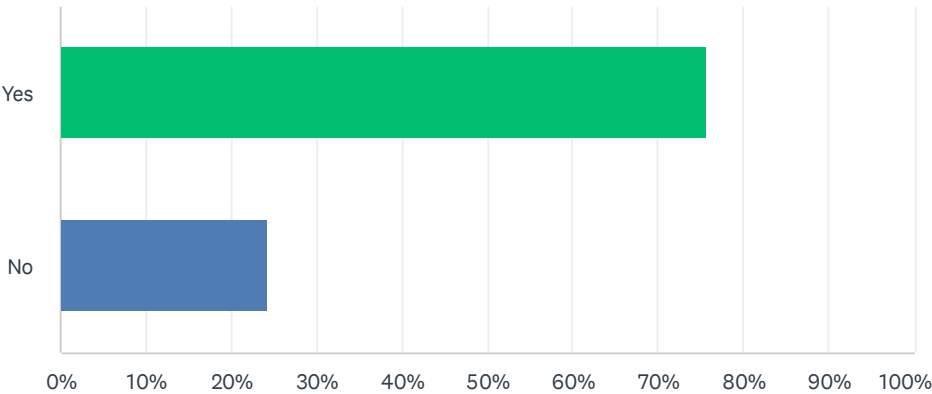
Answered: 287 Skipped: 76



ANSWER CHOICES		RESPONSES	
Yes		47.74%	137
No		52.26%	150
TOTAL			287

Q54 Do you participate in online communities relating to mobile development (ie Slack groups, forums, etc)?

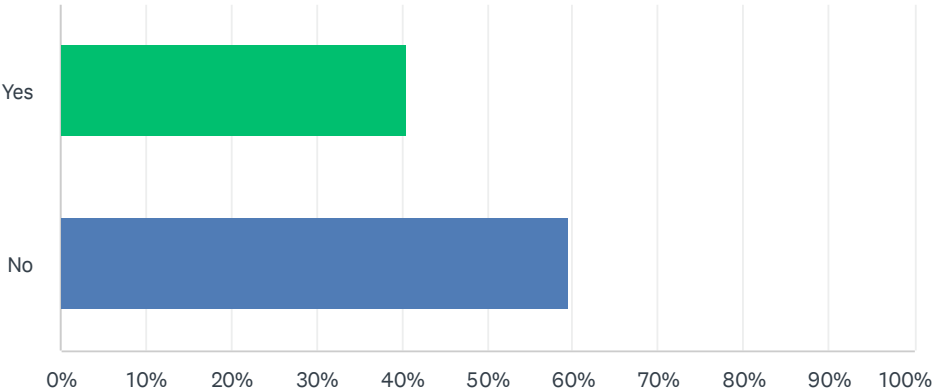
Answered: 287 Skipped: 76



ANSWER CHOICES		RESPONSES	
Yes		75.61%	217
No		24.39%	70
TOTAL			287

Q55 Do you participate in open source development relating to mobile, in your personal time?

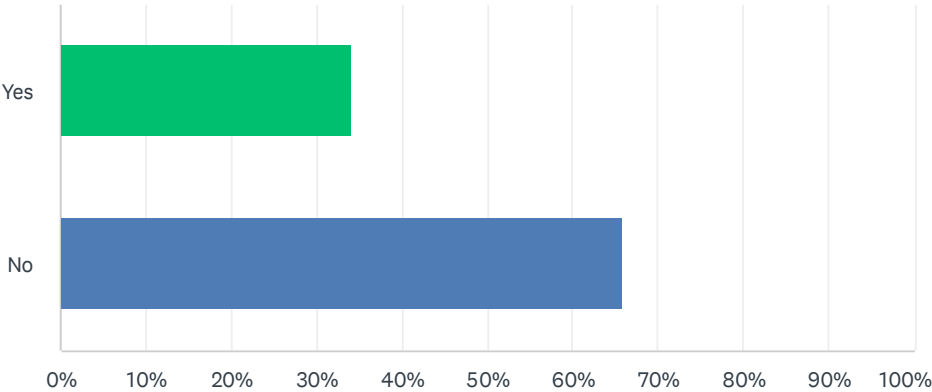
Answered: 287 Skipped: 76



ANSWER CHOICES	RESPONSES	
Yes	40.42%	116
No	59.58%	171
TOTAL		287

Q56 Do you participate in open source development relating to mobile, while on company time?

Answered: 287 Skipped: 76



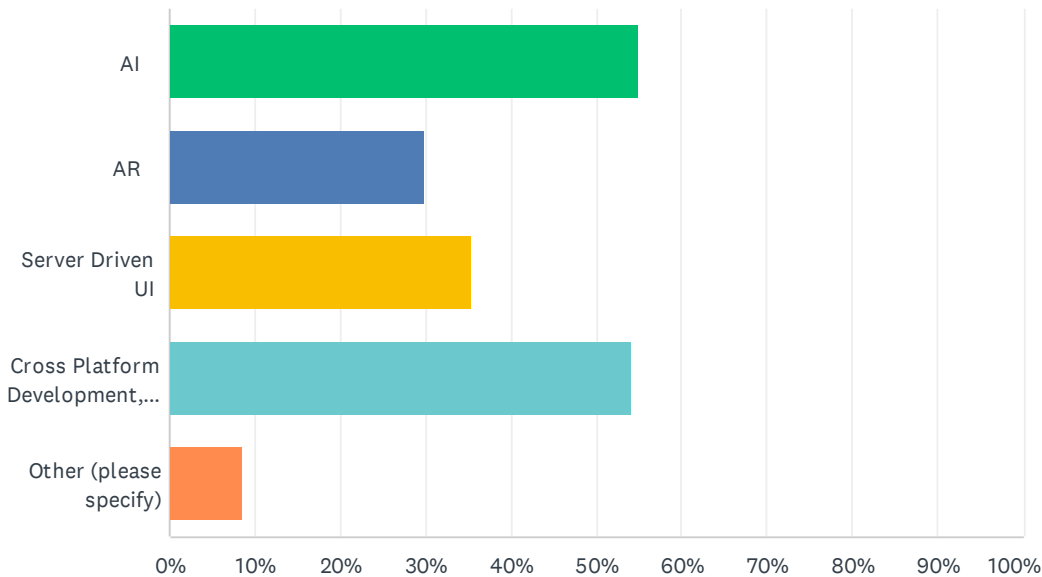
ANSWER CHOICES		RESPONSES	
Yes		34.15%	98
No		65.85%	189
TOTAL			287

Q57 Which iOS/Android community are you a member of? (Such as Slack group, meetup, etc)

Answered: 130 Skipped: 233

Q58 Are you excited about any of the following new and cutting edge fields?

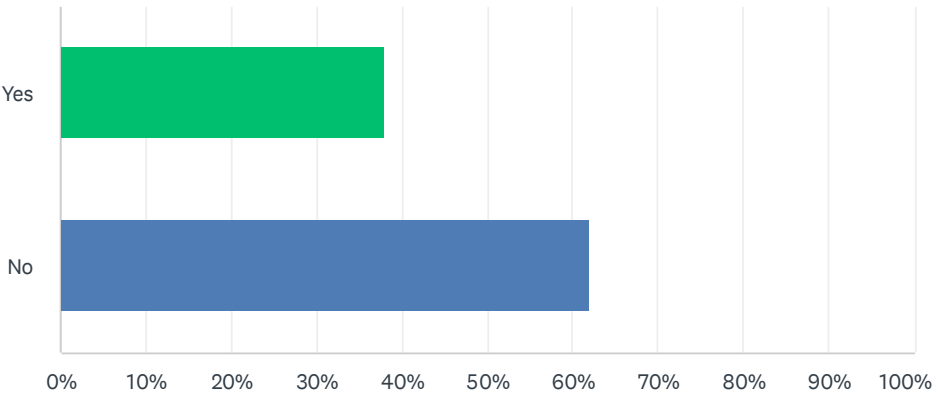
Answered: 271 Skipped: 92



ANSWER CHOICES	RESPONSES	
AI	54.98%	149
AR	29.89%	81
Server Driven UI	35.42%	96
Cross Platform Development, e.g. Kotlin Multiplatform	54.24%	147
Other (please specify)	8.49%	23
Total Respondents: 271		

Q59 Has your company adopted any LLMs?

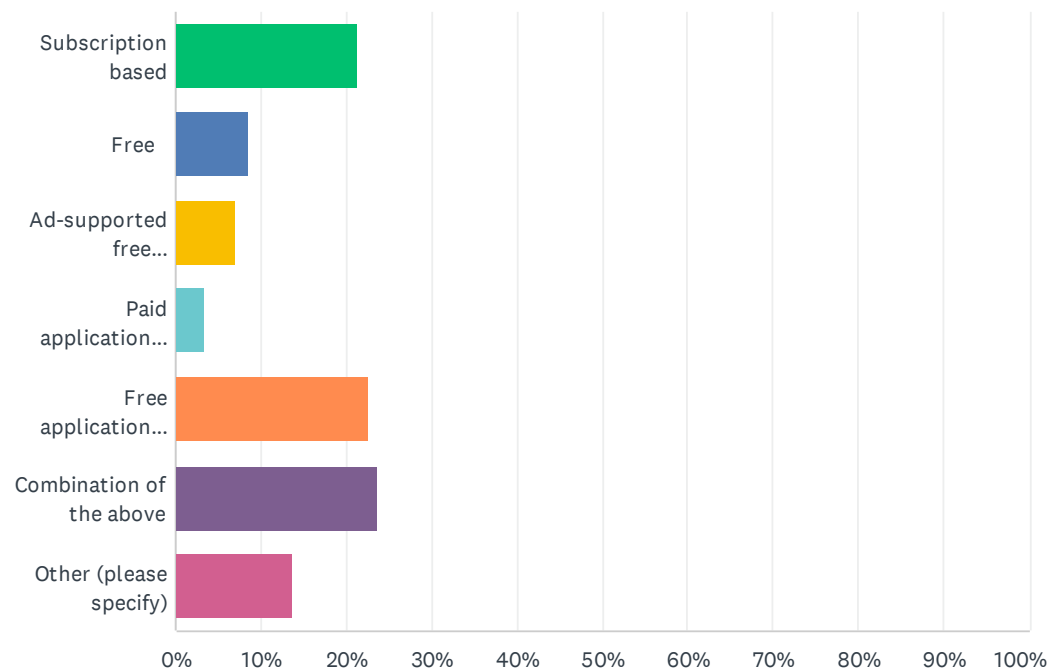
Answered: 271 Skipped: 92



ANSWER CHOICES	RESPONSES	
Yes	38.01%	103
No	61.99%	168
TOTAL		271

Q60 What is your company’s business model?

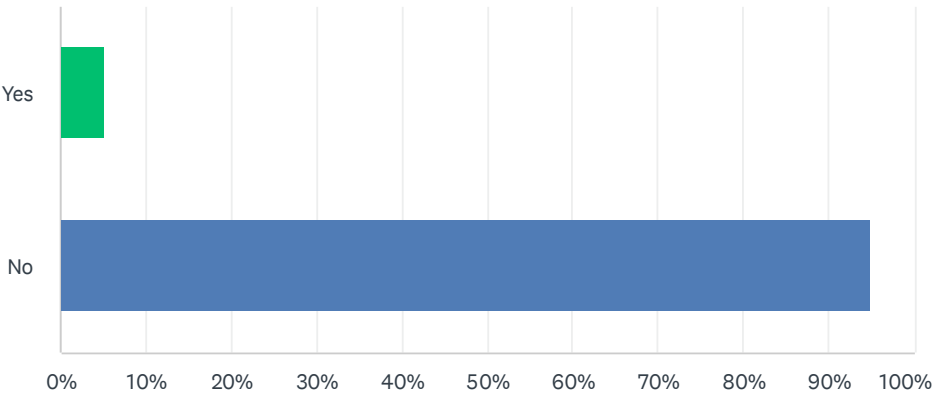
Answered: 271 Skipped: 92



ANSWER CHOICES	RESPONSES	
Subscription based	21.40%	58
Free	8.49%	23
Ad-supported free application	7.01%	19
Paid application (non subscription)	3.32%	9
Free application with physical goods or services exchanged	22.51%	61
Combination of the above	23.62%	64
Other (please specify)	13.65%	37
TOTAL		271

Q61 Does your business build games?

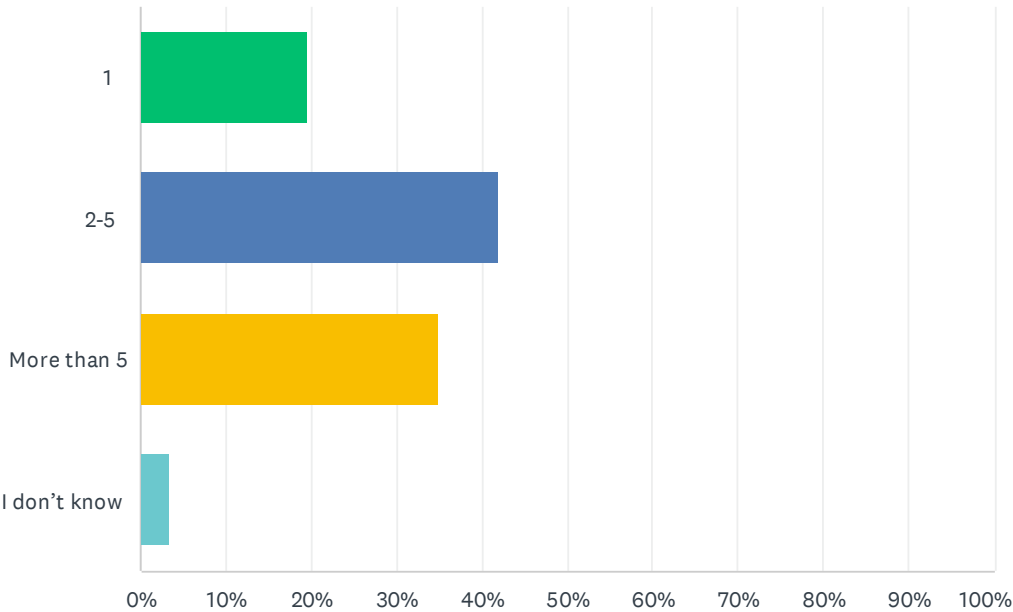
Answered: 271 Skipped: 92



ANSWER CHOICES	RESPONSES	
Yes	5.17%	14
No	94.83%	257
TOTAL		271

Q62 How many apps does your business support?

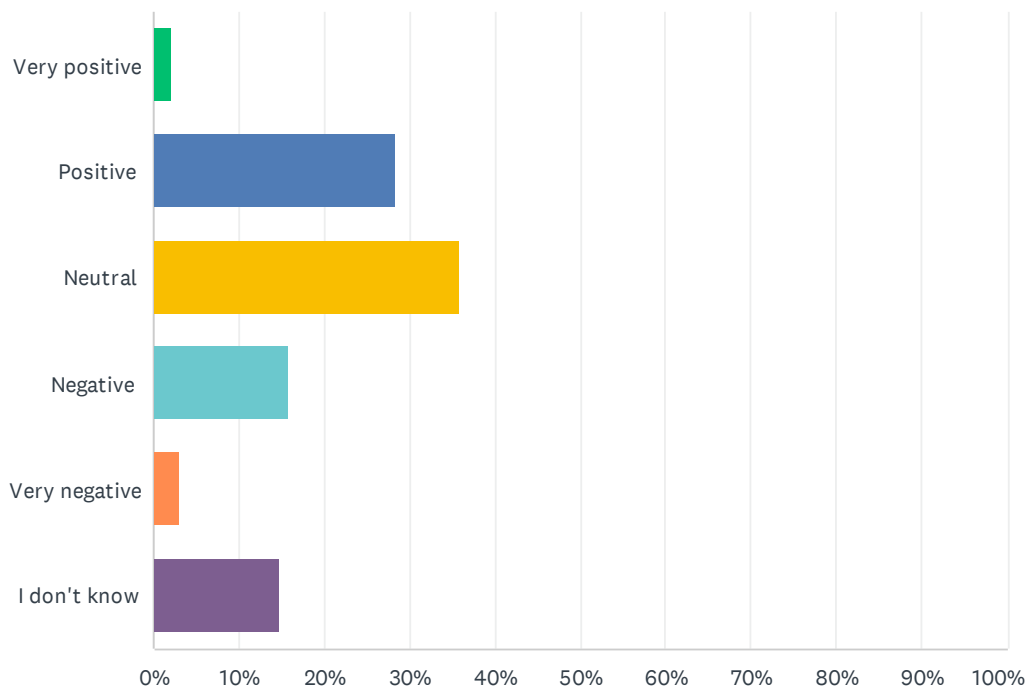
Answered: 271 Skipped: 92



ANSWER CHOICES	RESPONSES	
1	19.56%	53
2-5	42.07%	114
More than 5	35.06%	95
I don't know	3.32%	9
TOTAL		271

Q63 What is your sentiment around current iOS App Store practices?

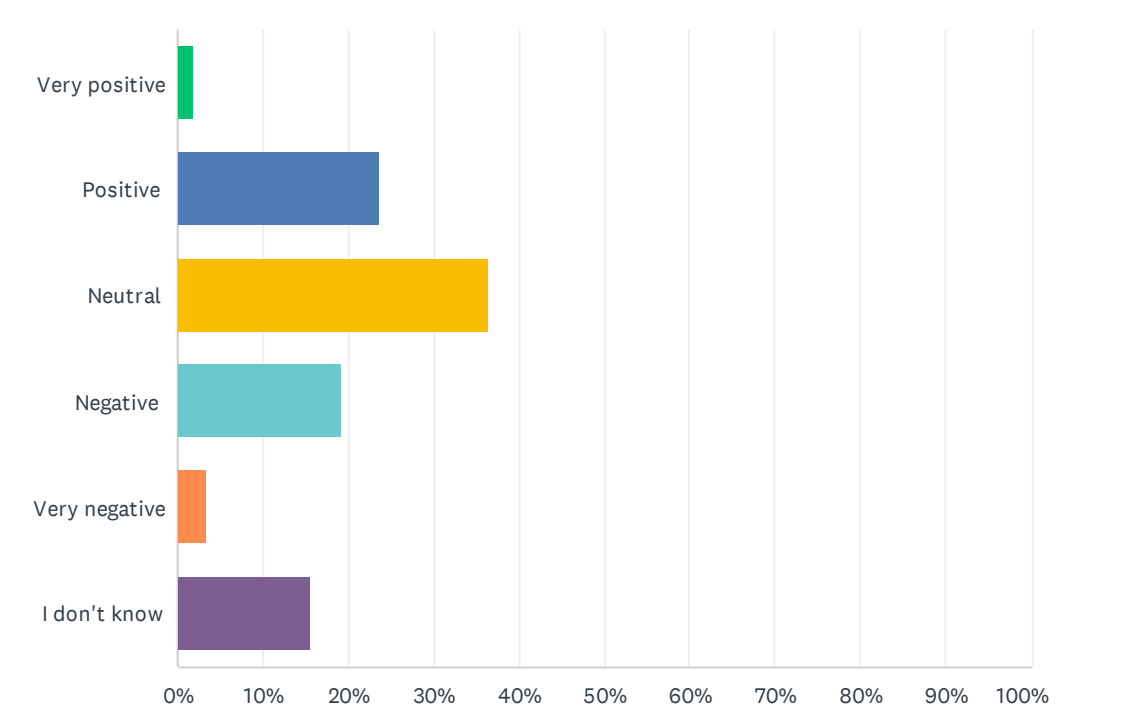
Answered: 271 Skipped: 92



ANSWER CHOICES	RESPONSES	
Very positive	2.21%	6
Positive	28.41%	77
Neutral	35.79%	97
Negative	15.87%	43
Very negative	2.95%	8
I don't know	14.76%	40
TOTAL		271

Q64 What is your sentiment around current Android Play Store practices?

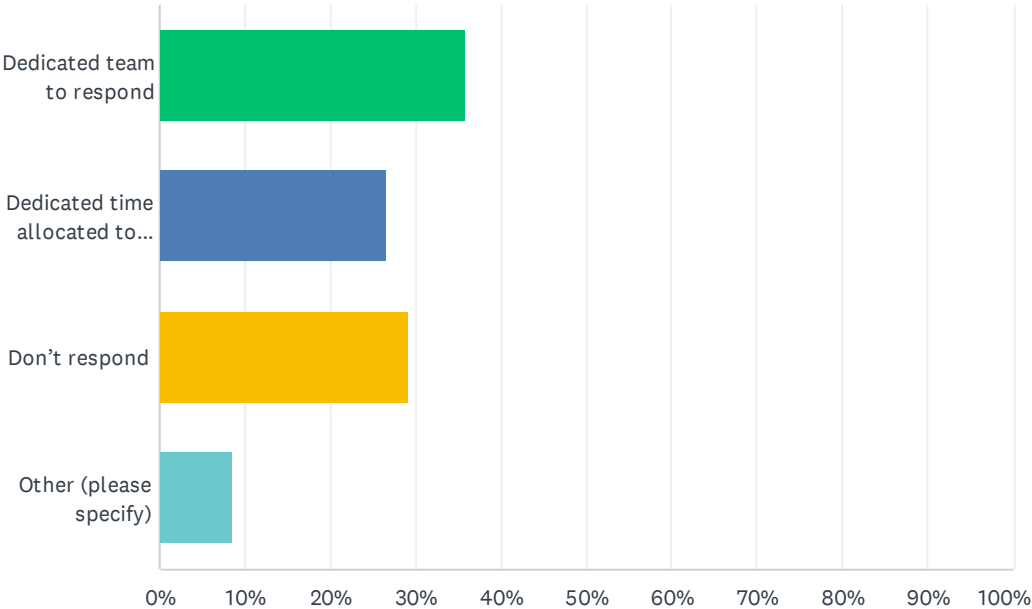
Answered: 271 Skipped: 92



ANSWER CHOICES	RESPONSES	
Very positive	1.85%	5
Positive	23.62%	64
Neutral	36.53%	99
Negative	19.19%	52
Very negative	3.32%	9
I don't know	15.50%	42
TOTAL		271

Q65 How does your business handle app reviews, especially 1-star reviews?

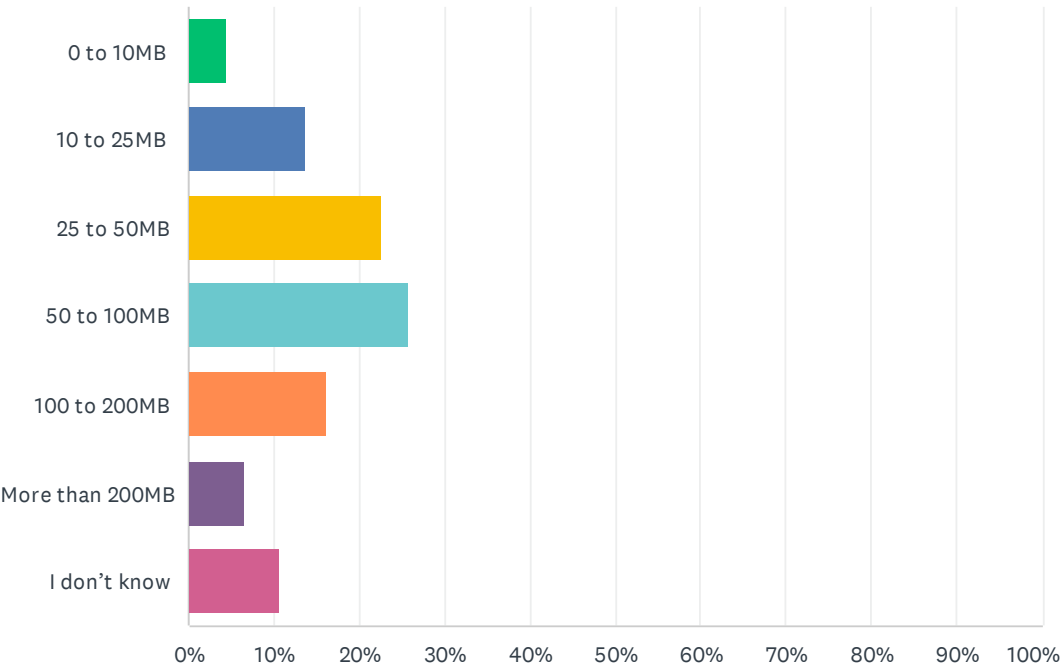
Answered: 271 Skipped: 92



ANSWER CHOICES	RESPONSES	
Dedicated team to respond	35.79%	97
Dedicated time allocated to respond, but no specific team	26.57%	72
Don't respond	29.15%	79
Other (please specify)	8.49%	23
TOTAL		271

Q66 How large is your app’s download size?

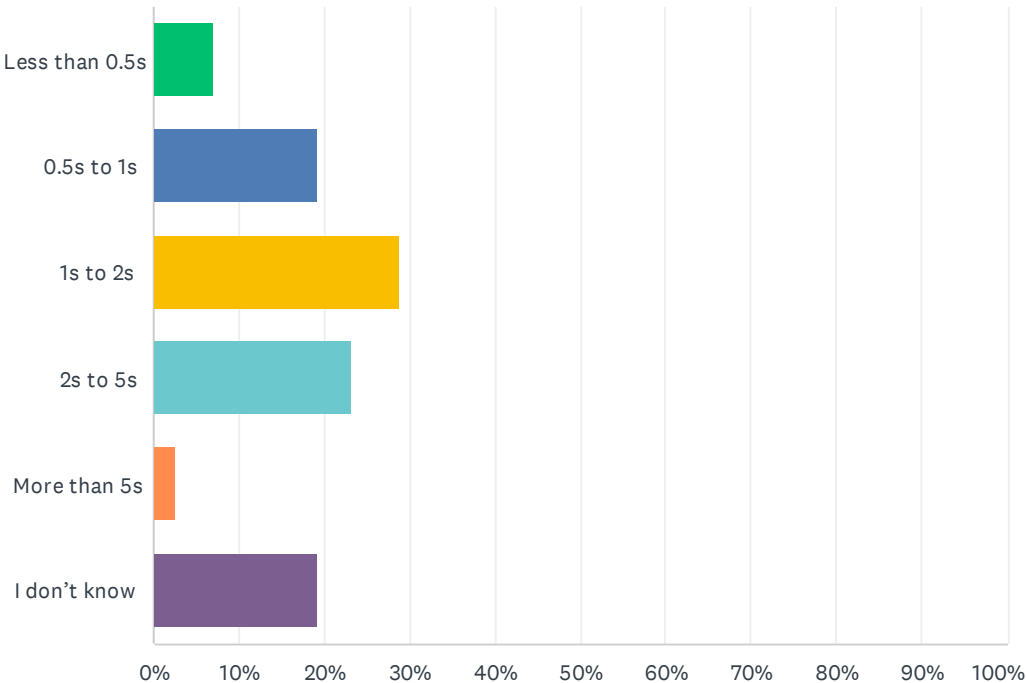
Answered: 271 Skipped: 92



ANSWER CHOICES	RESPONSES	
0 to 10MB	4.43%	12
10 to 25MB	13.65%	37
25 to 50MB	22.51%	61
50 to 100MB	25.83%	70
100 to 200MB	16.24%	44
More than 200MB	6.64%	18
I don't know	10.70%	29
TOTAL		271

Q67 What is the cold start time for your application?

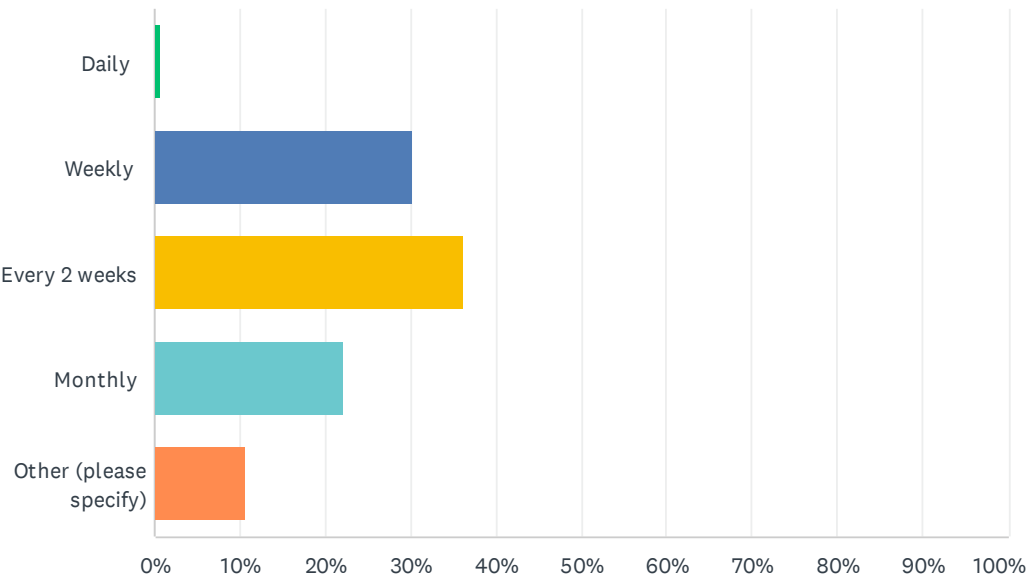
Answered: 271 Skipped: 92



ANSWER CHOICES	RESPONSES	
Less than 0.5s	7.01%	19
0.5s to 1s	19.19%	52
1s to 2s	28.78%	78
2s to 5s	23.25%	63
More than 5s	2.58%	7
I don't know	19.19%	52
TOTAL		271

Q68 How frequently do you release your application to the public?

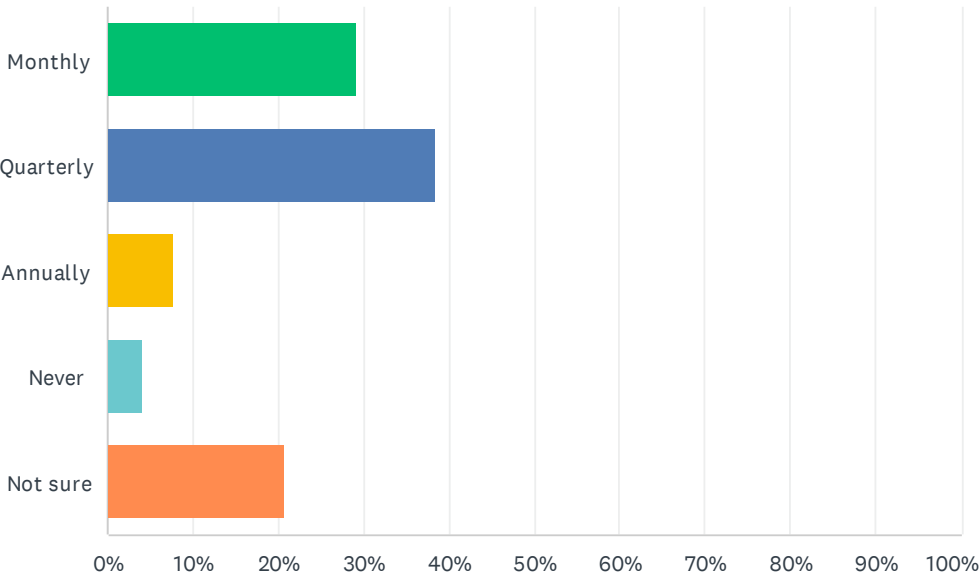
Answered: 271 Skipped: 92



ANSWER CHOICES	RESPONSES	
Daily	0.74%	2
Weekly	30.26%	82
Every 2 weeks	36.16%	98
Monthly	22.14%	60
Other (please specify)	10.70%	29
TOTAL		271

Q69 How frequently do you hotfix your application (perform a release outside your typical schedule)?

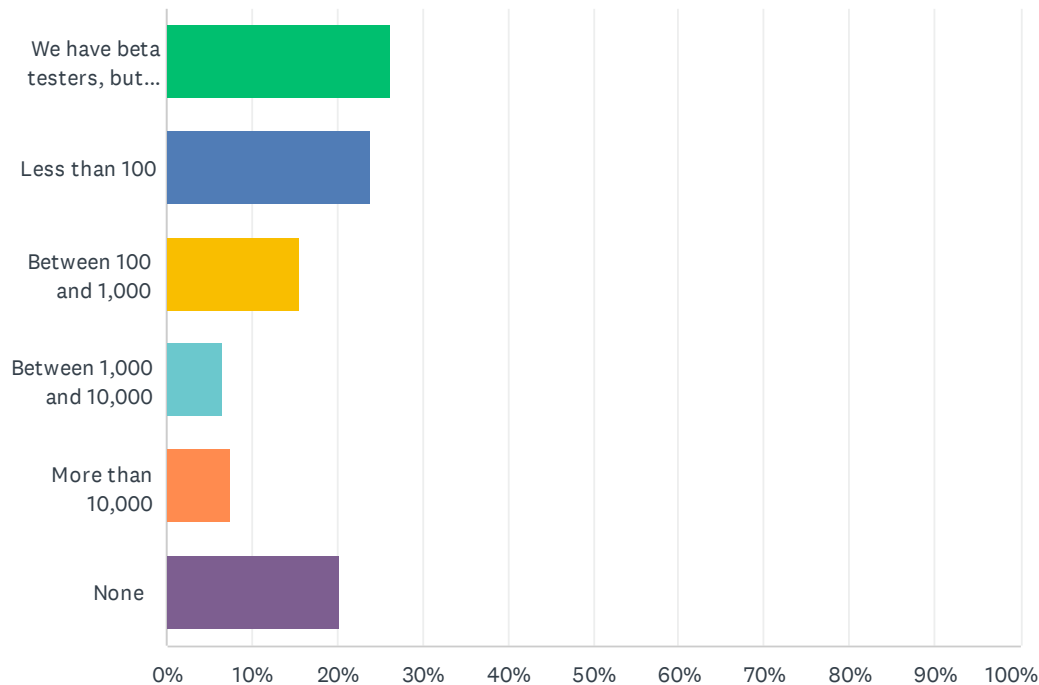
Answered: 271 Skipped: 92



ANSWER CHOICES	RESPONSES	
Monthly	29.15%	79
Quarterly	38.38%	104
Annually	7.75%	21
Never	4.06%	11
Not sure	20.66%	56
TOTAL		271

Q70 How many beta testers do you have?

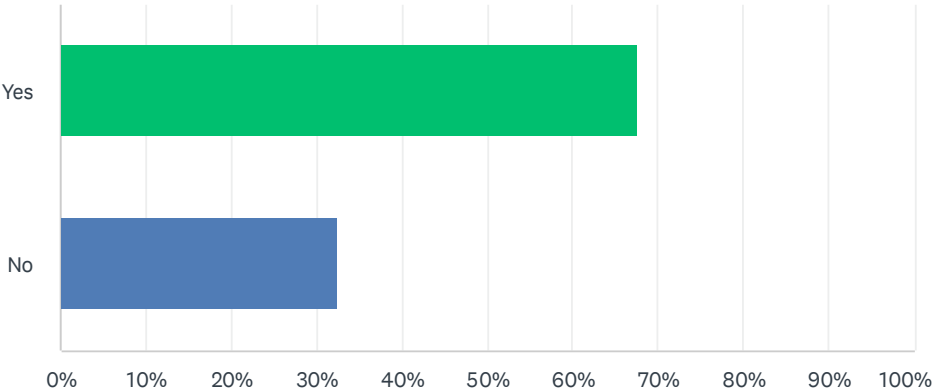
Answered: 271 Skipped: 92



ANSWER CHOICES	RESPONSES	
We have beta testers, but I'm not sure how many	26.20%	71
Less than 100	23.99%	65
Between 100 and 1,000	15.50%	42
Between 1,000 and 10,000	6.64%	18
More than 10,000	7.38%	20
None	20.30%	55
TOTAL		271

Q71 Do you phase in new releases (for example using Apple’s tooling for this)?

Answered: 271 Skipped: 92



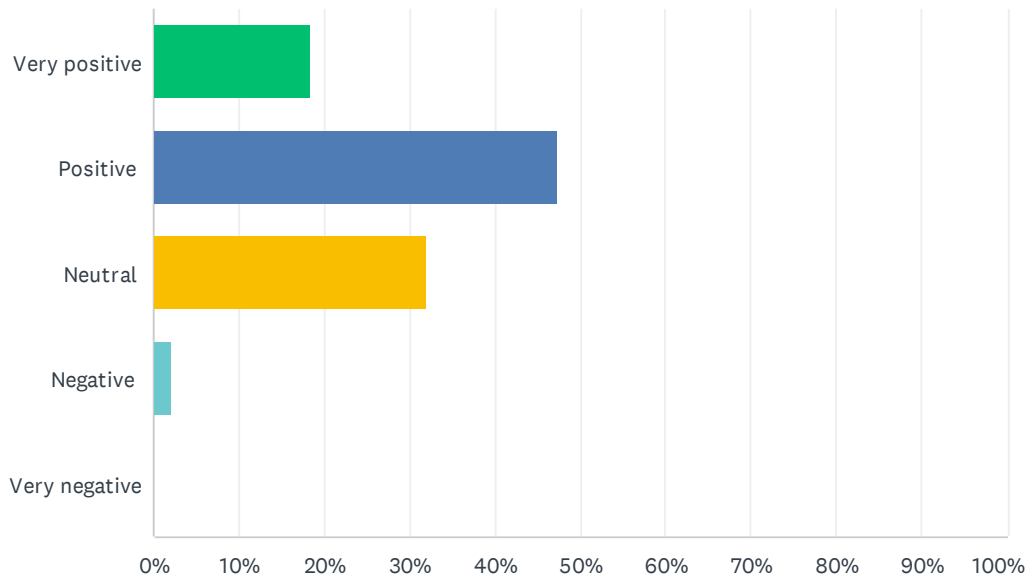
ANSWER CHOICES		RESPONSES	
Yes		67.53%	183
No		32.47%	88
TOTAL			271

Q72 Were there any questions you wished we had asked on this survey?

Answered: 37 Skipped: 326

Q73 After completing this survey, what is your sentiment about this survey, do you expect the results to be useful to you or the broader community?

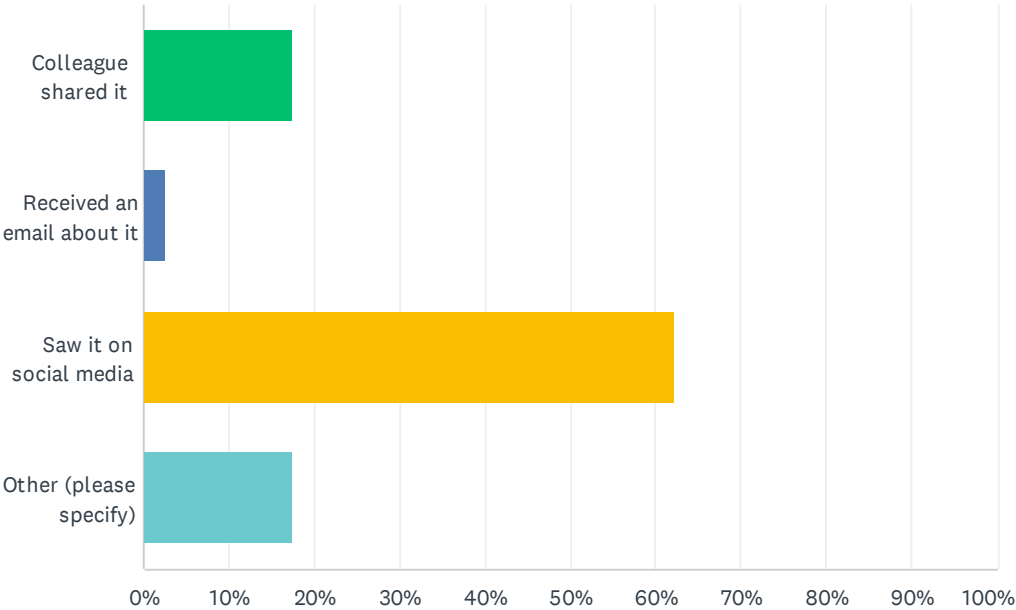
Answered: 268 Skipped: 95



ANSWER CHOICES	RESPONSES	
Very positive	18.28%	49
Positive	47.39%	127
Neutral	32.09%	86
Negative	2.24%	6
Very negative	0.00%	0
TOTAL		268

Q74 How did you find out about this survey?

Answered: 268 Skipped: 95



ANSWER CHOICES	RESPONSES	
Colleague shared it	17.54%	47
Received an email about it	2.61%	7
Saw it on social media	62.31%	167
Other (please specify)	17.54%	47
TOTAL		268

Q75 [Optional] What company do you work for?

Answered: 68 Skipped: 295