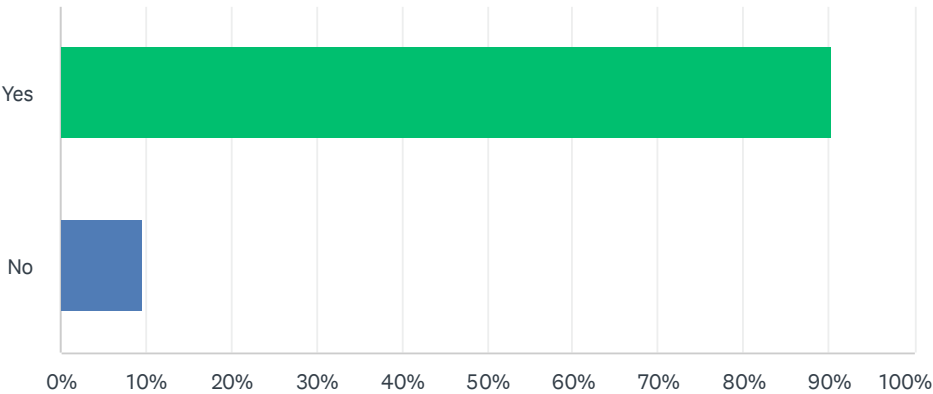


Q1 Does your company provide office space to its employees?

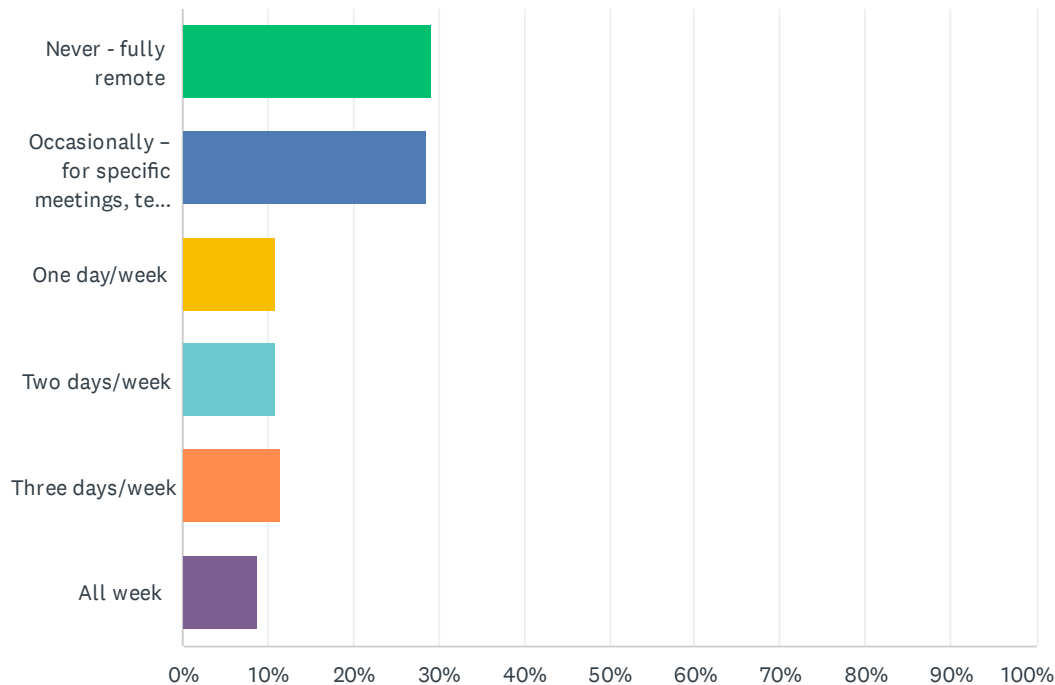
Answered: 147 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	90.48%	133
No	9.52%	14
TOTAL		147

Q2 How often do you go into an office?

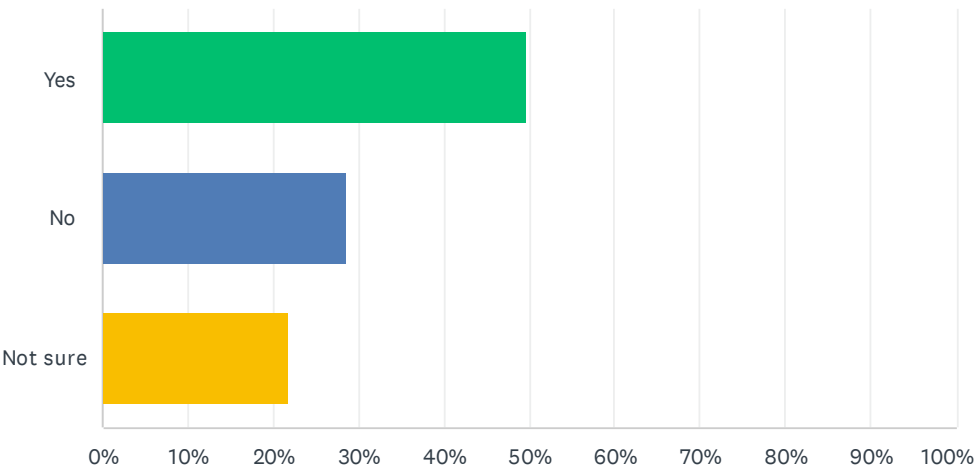
Answered: 147 Skipped: 0



ANSWER CHOICES	RESPONSES	
Never - fully remote	29.25%	43
Occasionally – for specific meetings, team activities. May include travel	28.57%	42
One day/week	10.88%	16
Two days/week	10.88%	16
Three days/week	11.56%	17
All week	8.84%	13
TOTAL		147

Q3 Does your company adjust pay based on location?

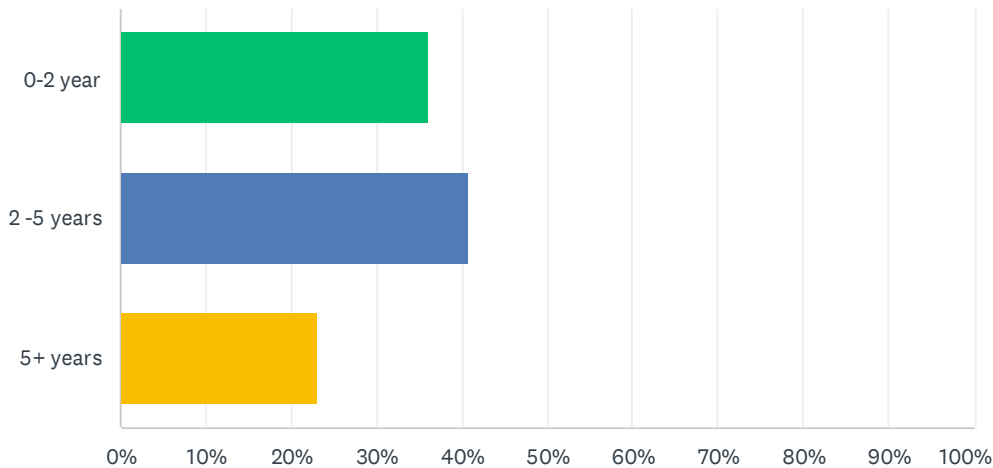
Answered: 147 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	49.66%	73
No	28.57%	42
Not sure	21.77%	32
TOTAL		147

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

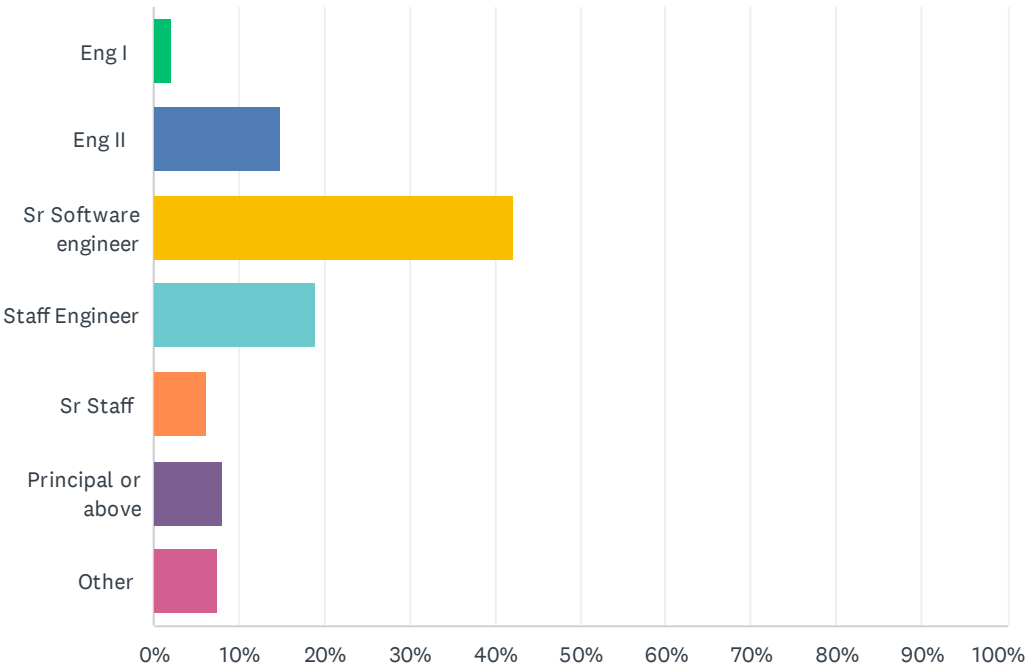
Answered: 147 Skipped: 0



ANSWER CHOICES	RESPONSES	
0-2 year	36.05%	53
2 -5 years	40.82%	60
5+ years	23.13%	34
TOTAL		147

Q5 What's your current role?

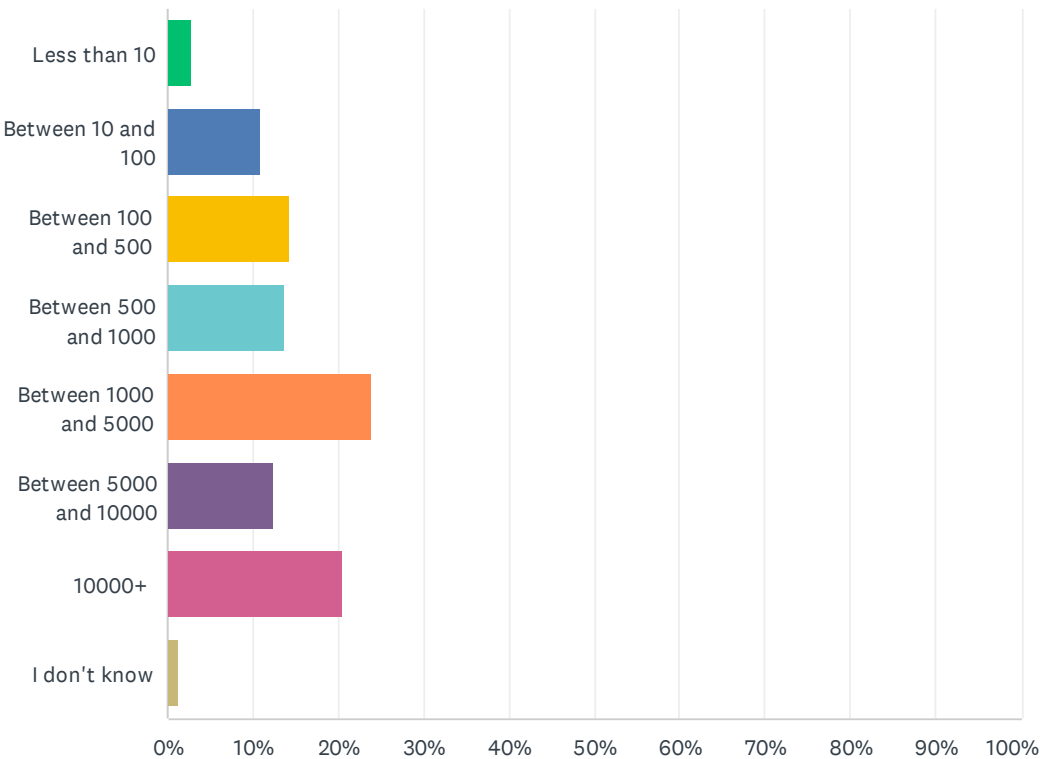
Answered: 147 Skipped: 0



ANSWER CHOICES	RESPONSES	
Eng I	2.04%	3
Eng II	14.97%	22
Sr Software engineer	42.18%	62
Staff Engineer	19.05%	28
Sr Staff	6.12%	9
Principal or above	8.16%	12
Other	7.48%	11
TOTAL		147

Q6 How many total employees does your company have?

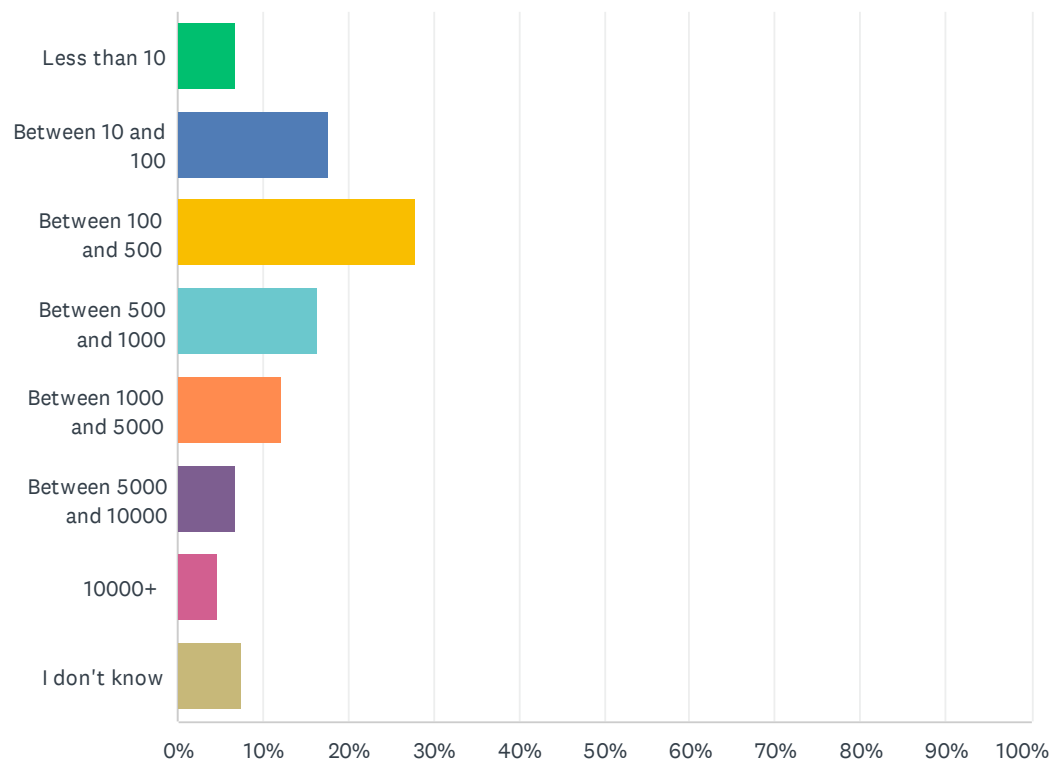
Answered: 146 Skipped: 1



ANSWER CHOICES	RESPONSES	
Less than 10	2.74%	4
Between 10 and 100	10.96%	16
Between 100 and 500	14.38%	21
Between 500 and 1000	13.70%	20
Between 1000 and 5000	23.97%	35
Between 5000 and 10000	12.33%	18
10000+	20.55%	30
I don't know	1.37%	2
TOTAL		146

Q7 How many total engineers does your company have?

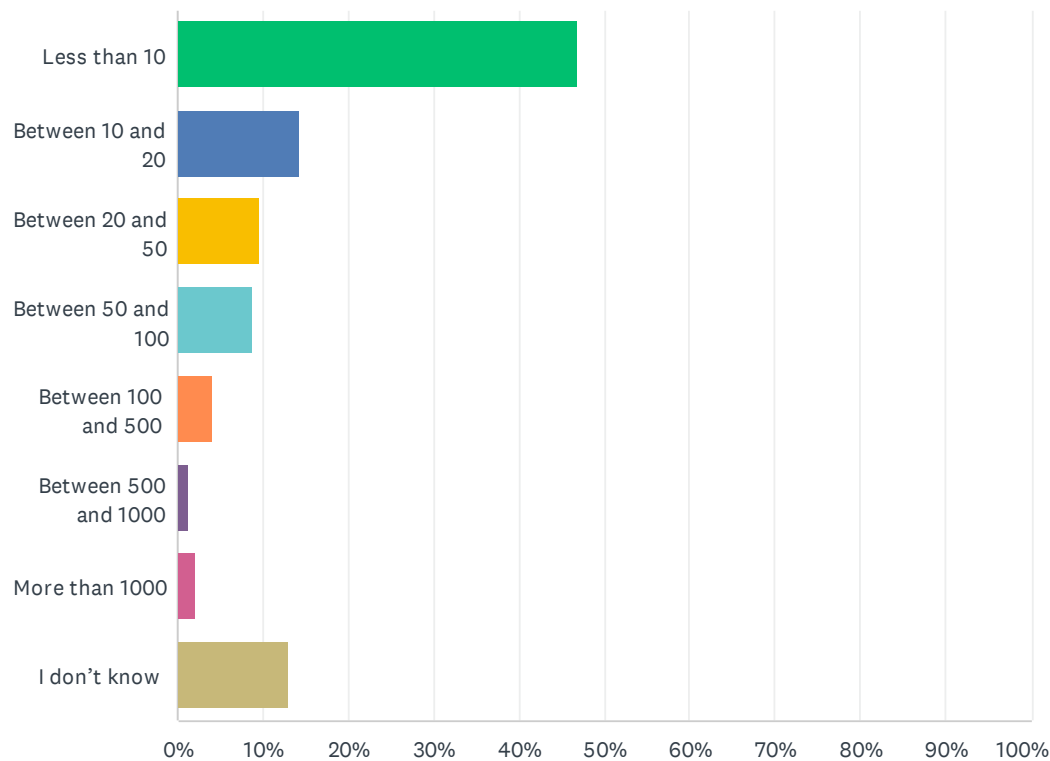
Answered: 147 Skipped: 0



ANSWER CHOICES	RESPONSES	
Less than 10	6.80%	10
Between 10 and 100	17.69%	26
Between 100 and 500	27.89%	41
Between 500 and 1000	16.33%	24
Between 1000 and 5000	12.24%	18
Between 5000 and 10000	6.80%	10
10000+	4.76%	7
I don't know	7.48%	11
TOTAL		147

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

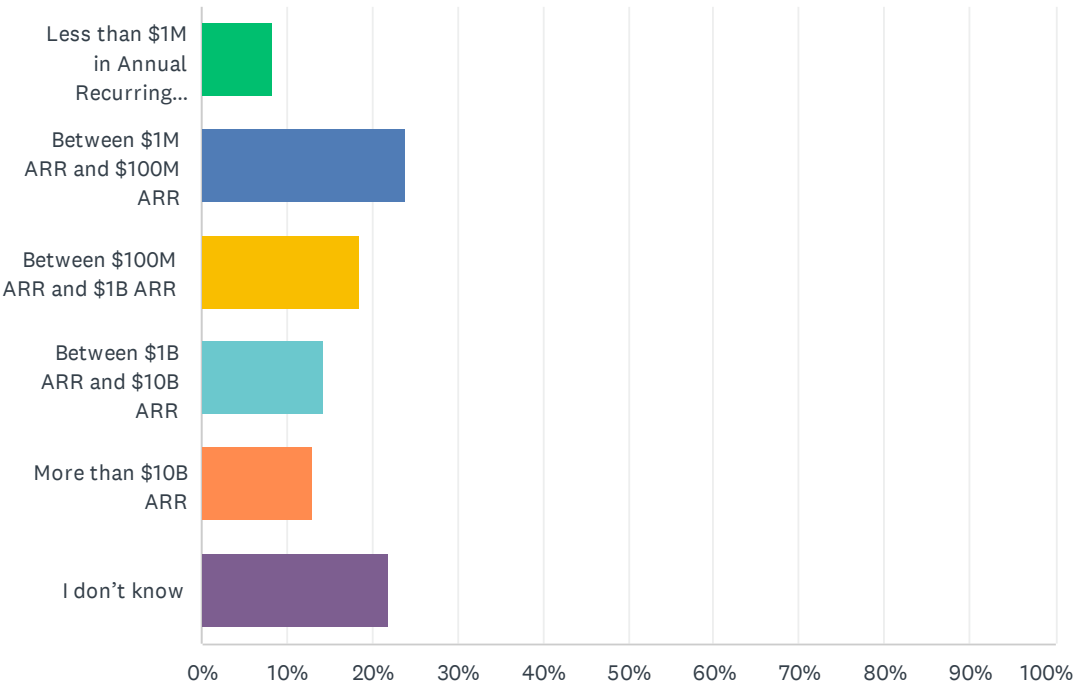
Answered: 147 Skipped: 0



ANSWER CHOICES	RESPONSES	
Less than 10	46.94%	69
Between 10 and 20	14.29%	21
Between 20 and 50	9.52%	14
Between 50 and 100	8.84%	13
Between 100 and 500	4.08%	6
Between 500 and 1000	1.36%	2
More than 1000	2.04%	3
I don't know	12.93%	19
TOTAL		147

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

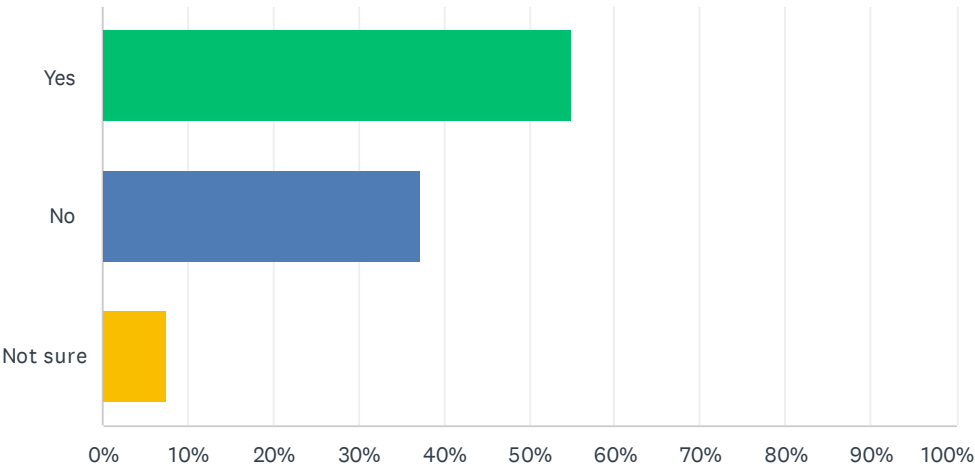
Answered: 146 Skipped: 1



ANSWER CHOICES	RESPONSES	
Less than \$1M in Annual Recurring Revenue (ARR)	8.22%	12
Between \$1M ARR and \$100M ARR	23.97%	35
Between \$100M ARR and \$1B ARR	18.49%	27
Between \$1B ARR and \$10B ARR	14.38%	21
More than \$10B ARR	13.01%	19
I don't know	21.92%	32
TOTAL		146

Q10 Do you consider your company to be engineering driven?

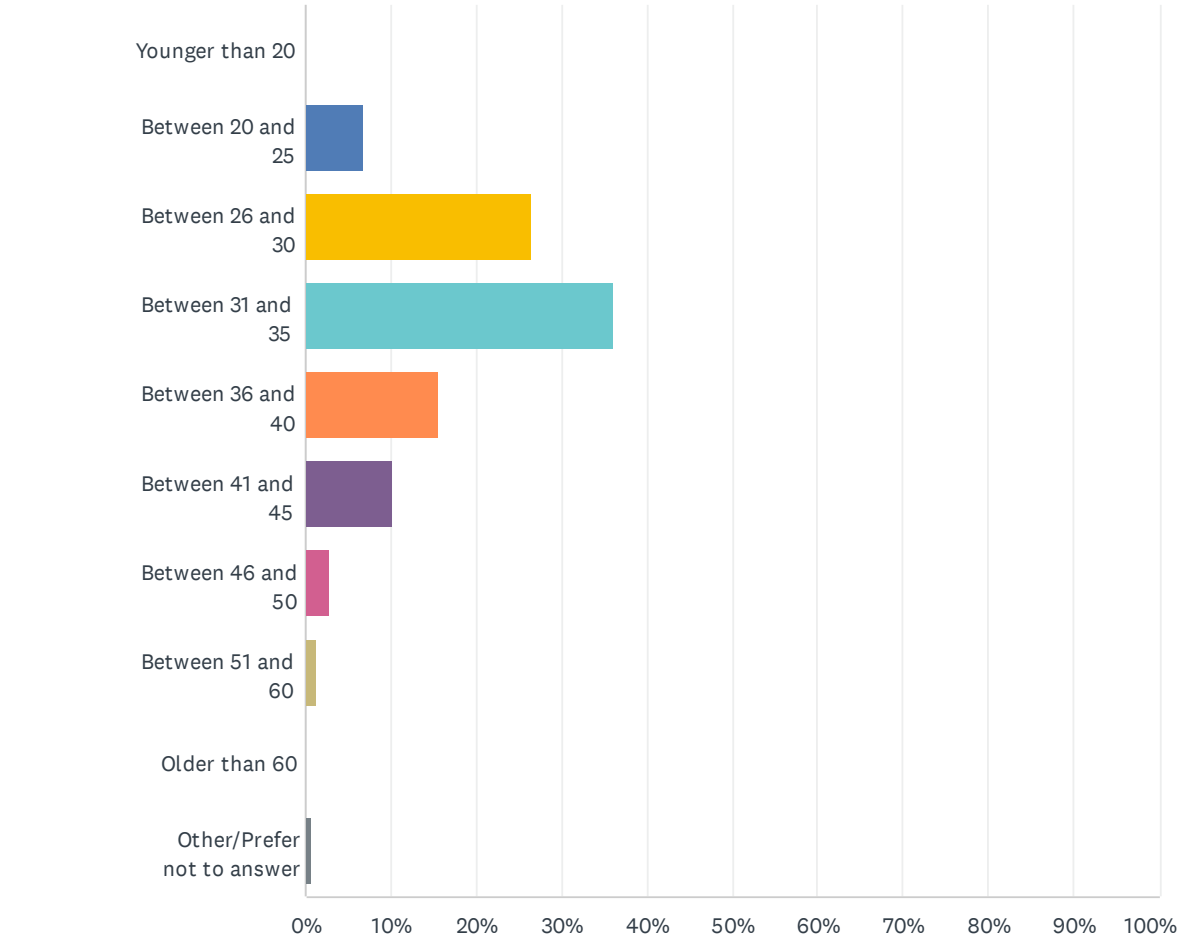
Answered: 147 Skipped: 0



ANSWER CHOICES		RESPONSES	
Yes		55.10%	81
No		37.41%	55
Not sure		7.48%	11
TOTAL			147

Q11 How old are you?

Answered: 147 Skipped: 0

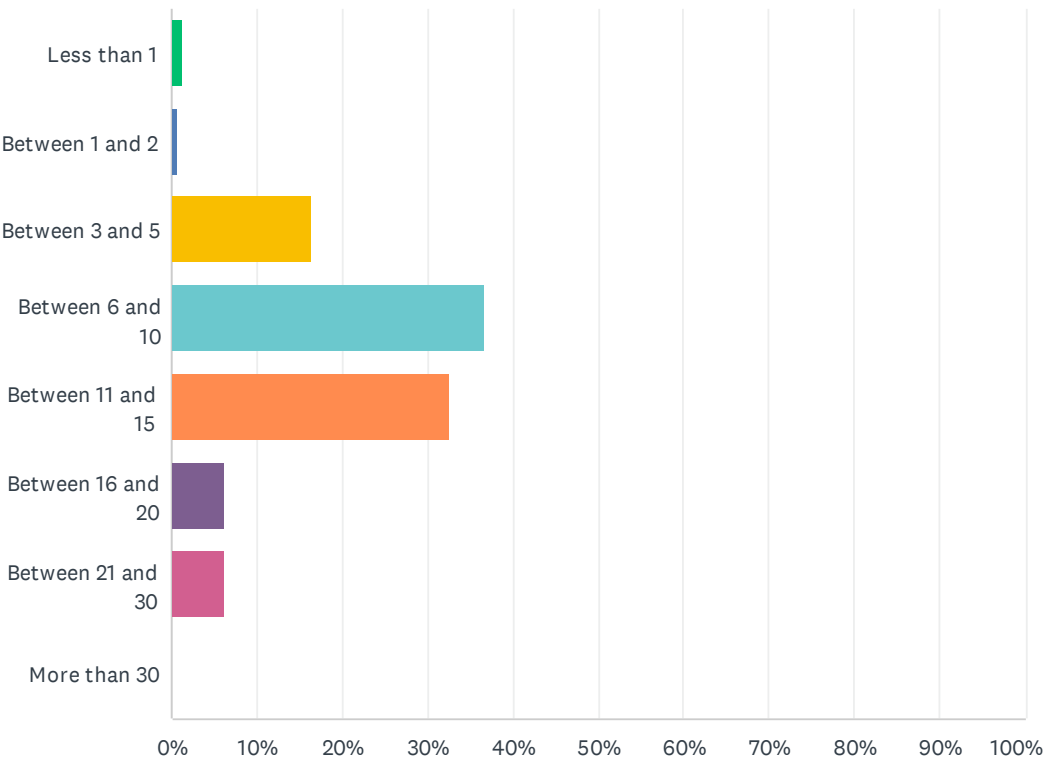


MNF Mobile Ecosystem Survey 2023

ANSWER CHOICES	RESPONSES	
Younger than 20	0.00%	0
Between 20 and 25	6.80%	10
Between 26 and 30	26.53%	39
Between 31 and 35	36.05%	53
Between 36 and 40	15.65%	23
Between 41 and 45	10.20%	15
Between 46 and 50	2.72%	4
Between 51 and 60	1.36%	2
Older than 60	0.00%	0
Other/Prefer not to answer	0.68%	1
TOTAL		147

Q12 How many years have you been a software engineer?

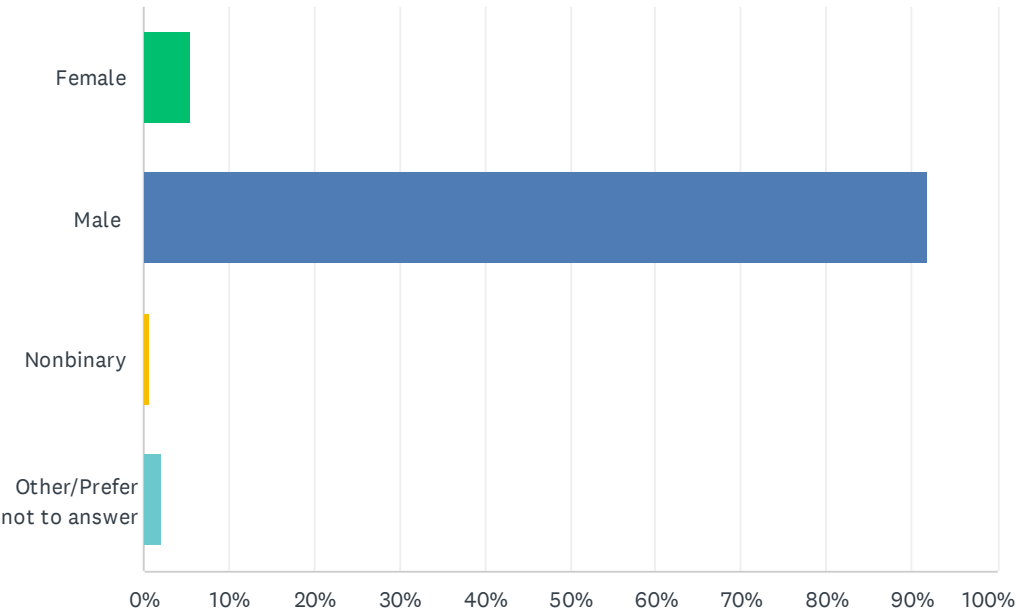
Answered: 147 Skipped: 0



ANSWER CHOICES	RESPONSES	
Less than 1	1.36%	2
Between 1 and 2	0.68%	1
Between 3 and 5	16.33%	24
Between 6 and 10	36.73%	54
Between 11 and 15	32.65%	48
Between 16 and 20	6.12%	9
Between 21 and 30	6.12%	9
More than 30	0.00%	0
TOTAL		147

Q13 What is your gender?

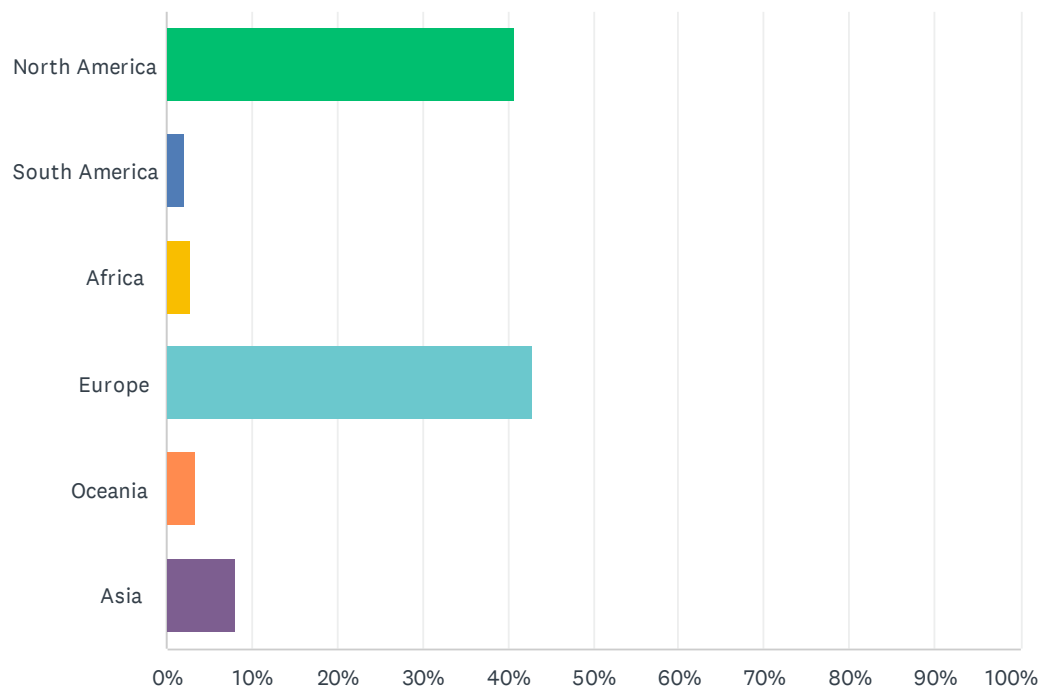
Answered: 147 Skipped: 0



ANSWER CHOICES	RESPONSES	
Female	5.44%	8
Male	91.84%	135
Nonbinary	0.68%	1
Other/Prefer not to answer	2.04%	3
TOTAL		147

Q14 Where are you located?

Answered: 147 Skipped: 0



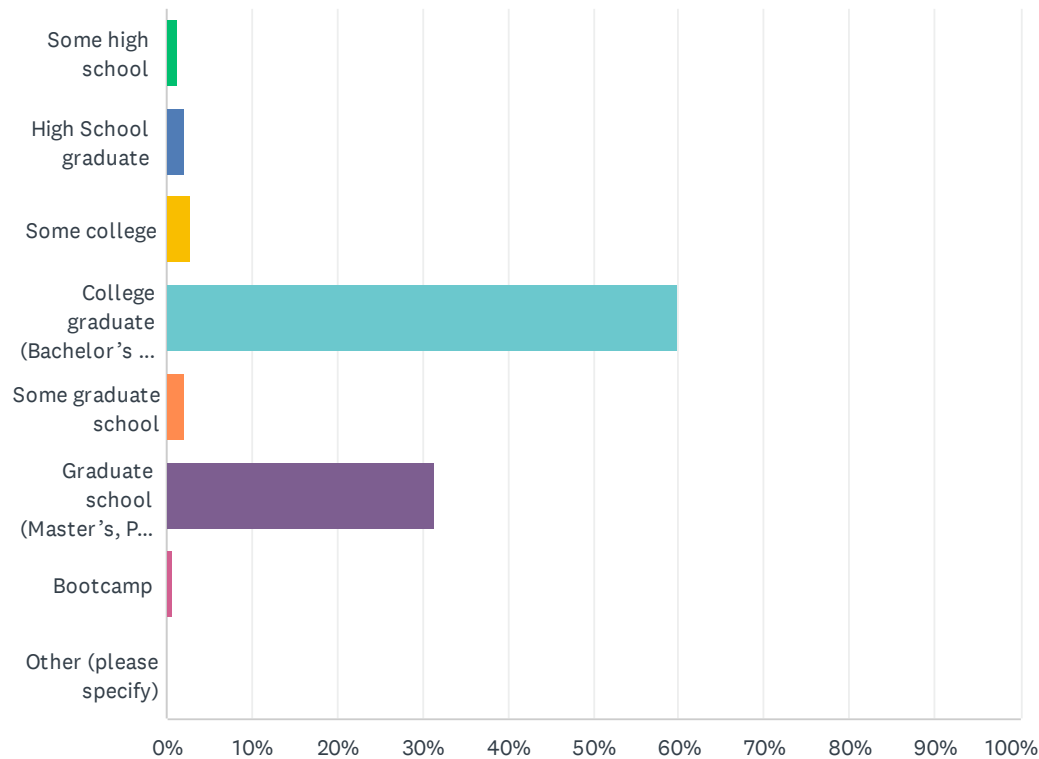
ANSWER CHOICES	RESPONSES	
North America	40.82%	60
South America	2.04%	3
Africa	2.72%	4
Europe	42.86%	63
Oceania	3.40%	5
Asia	8.16%	12
TOTAL		147

Q15 Which city?

Answered: 126 Skipped: 21

Q16 What is your highest level of education?

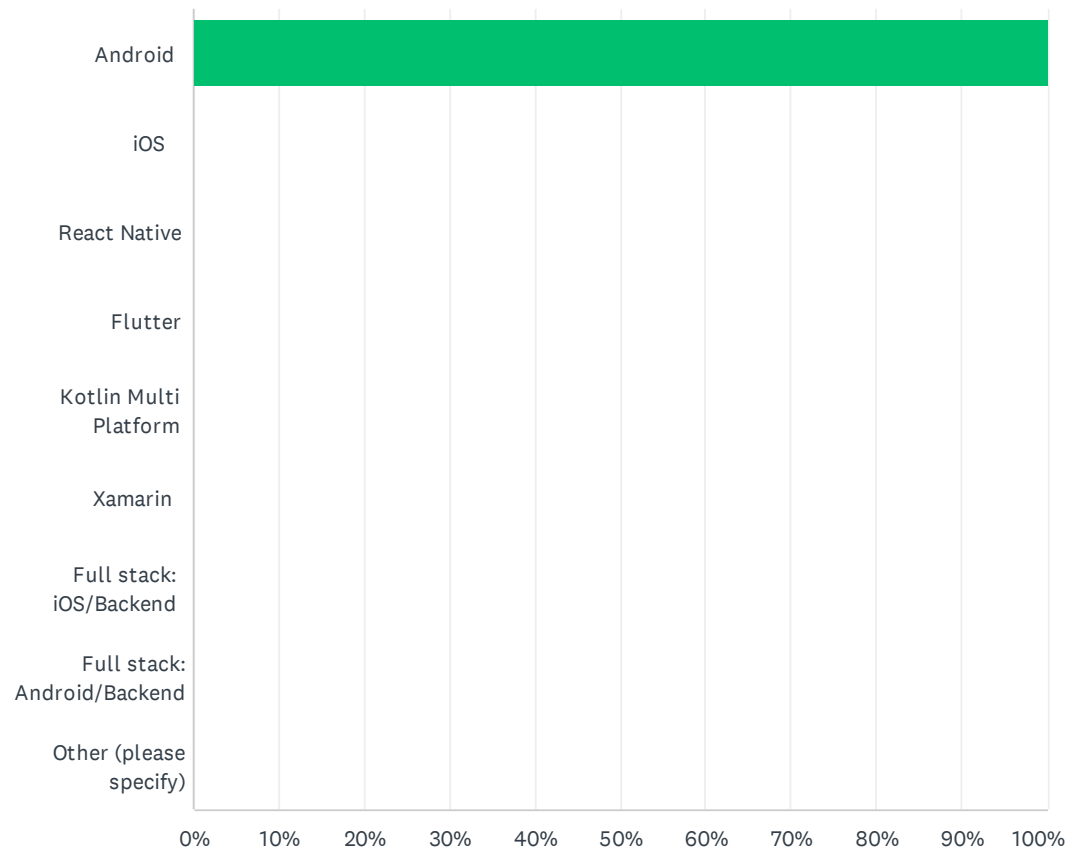
Answered: 147 Skipped: 0



ANSWER CHOICES	RESPONSES	
Some high school	1.36%	2
High School graduate	2.04%	3
Some college	2.72%	4
College graduate (Bachelor's or equivalent)	59.86%	88
Some graduate school	2.04%	3
Graduate school (Master's, PHD, or equivalent)	31.29%	46
Bootcamp	0.68%	1
Other (please specify)	0.00%	0
TOTAL		147

Q17 What platform do you primarily work on?

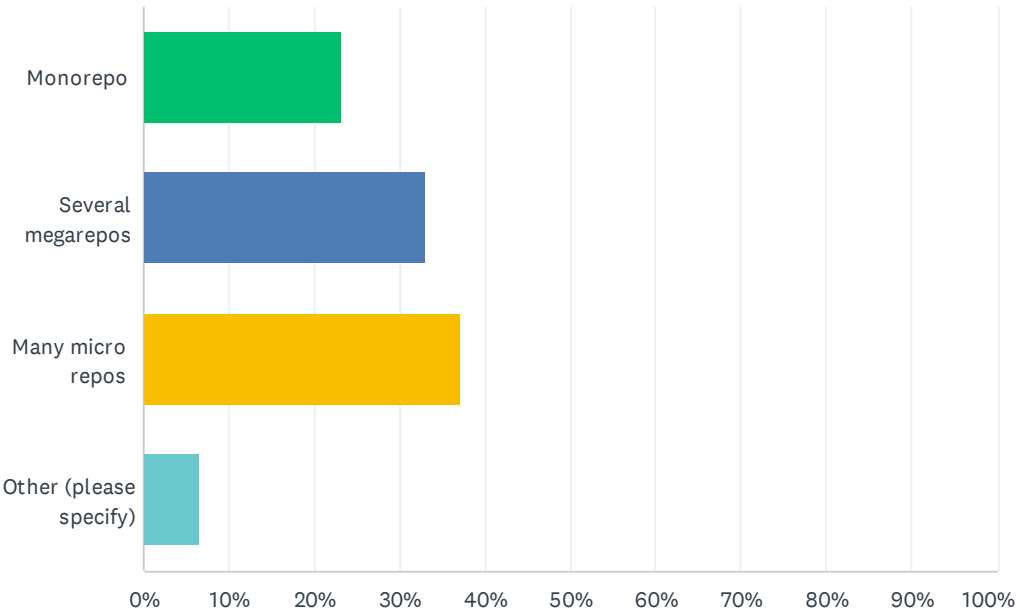
Answered: 147 Skipped: 0



ANSWER CHOICES	RESPONSES	
Android	100.00%	147
iOS	0.00%	0
React Native	0.00%	0
Flutter	0.00%	0
Kotlin Multi Platform	0.00%	0
Xamarin	0.00%	0
Full stack: iOS/Backend	0.00%	0
Full stack: Android/Backend	0.00%	0
Other (please specify)	0.00%	0
TOTAL		147

Q18 How does your company organize code?

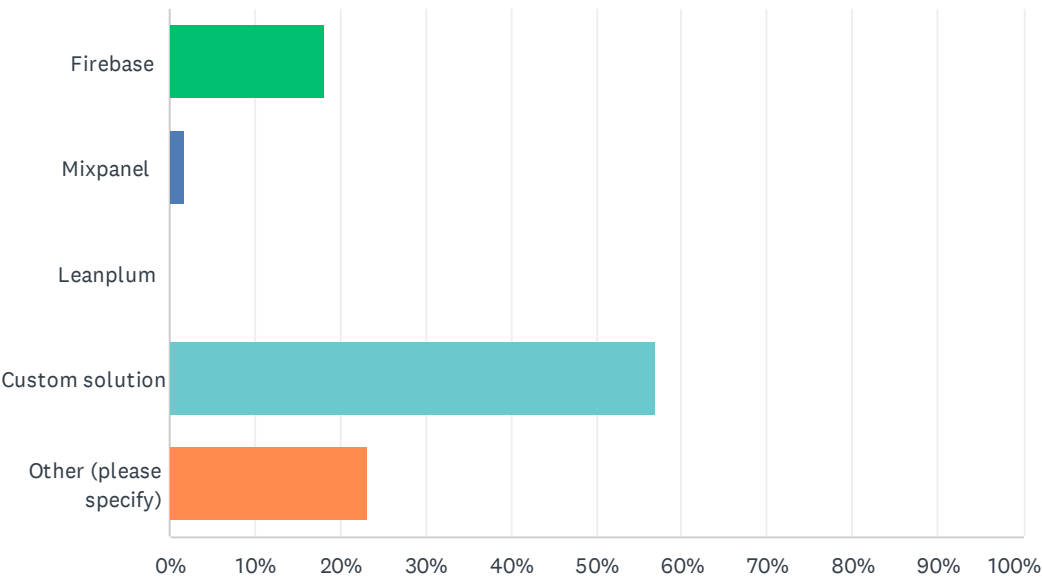
Answered: 121 Skipped: 26



ANSWER CHOICES	RESPONSES	
Monorepo	23.14%	28
Several megarepos	33.06%	40
Many micro repos	37.19%	45
Other (please specify)	6.61%	8
TOTAL		121

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

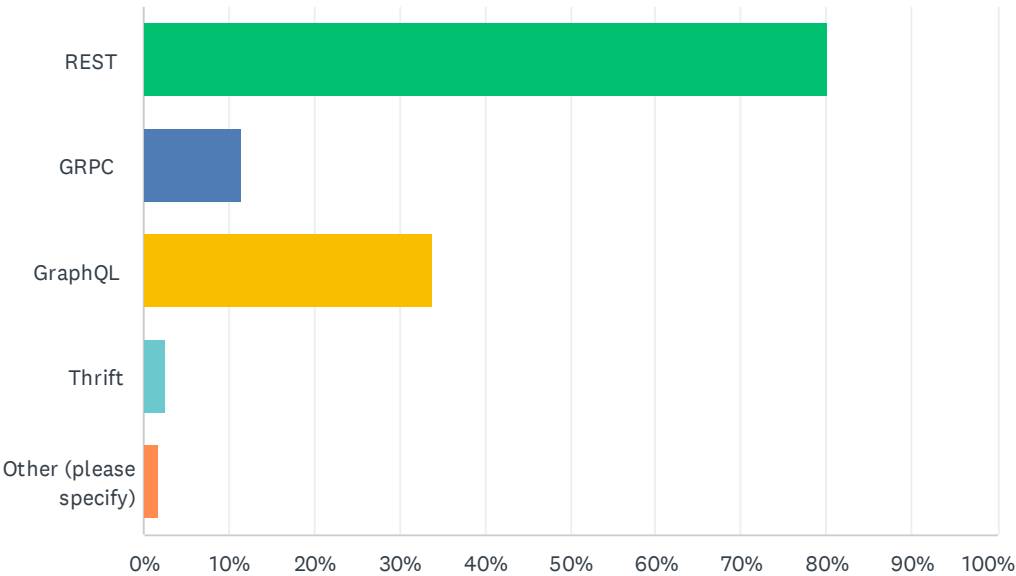
Answered: 121 Skipped: 26



ANSWER CHOICES		RESPONSES	
Firebase		18.18%	22
Mixpanel		1.65%	2
Leanplum		0.00%	0
Custom solution		57.02%	69
Other (please specify)		23.14%	28
TOTAL			121

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

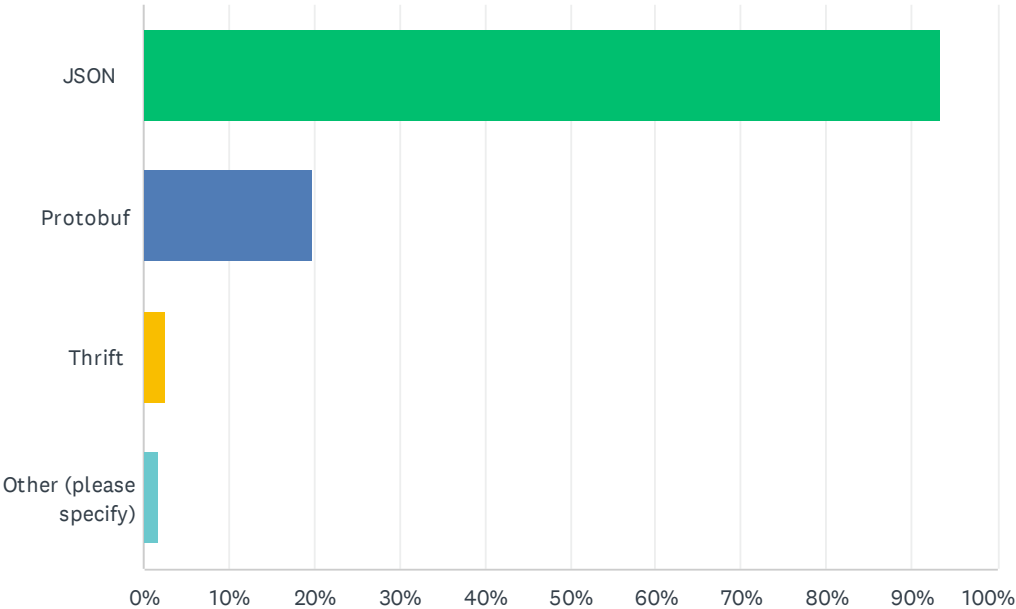
Answered: 121 Skipped: 26



ANSWER CHOICES	RESPONSES	
REST	80.17%	97
GRPC	11.57%	14
GraphQL	33.88%	41
Thrift	2.48%	3
Other (please specify)	1.65%	2
Total Respondents: 121		

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

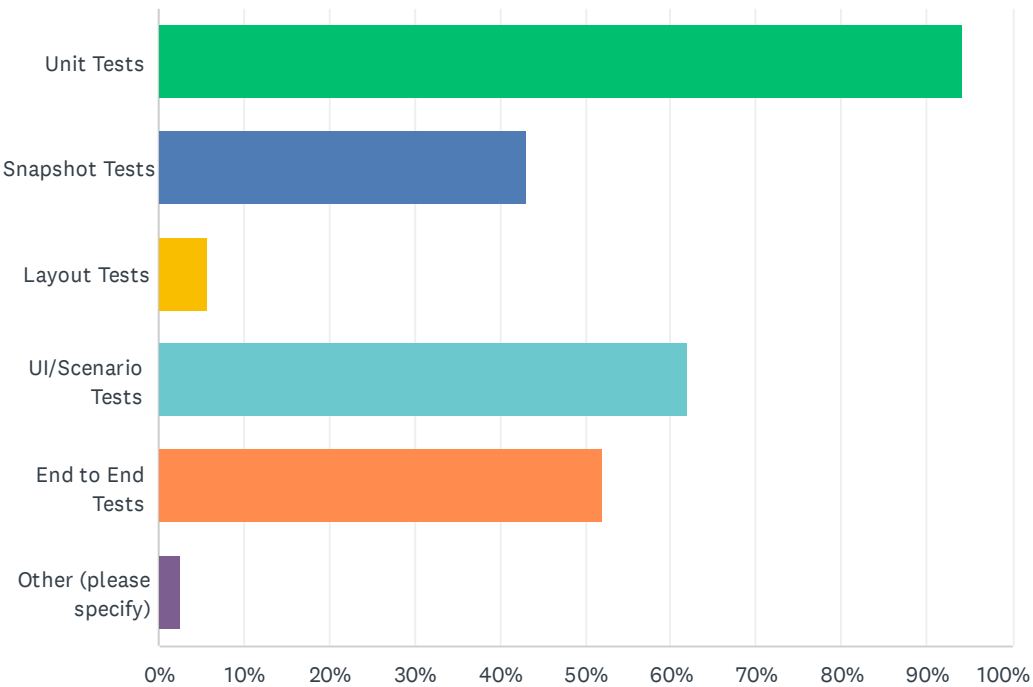
Answered: 121 Skipped: 26



ANSWER CHOICES	RESPONSES	
JSON	93.39%	113
Protobuf	19.83%	24
Thrift	2.48%	3
Other (please specify)	1.65%	2
Total Respondents: 121		

Q22 How do you automate testing of your application?

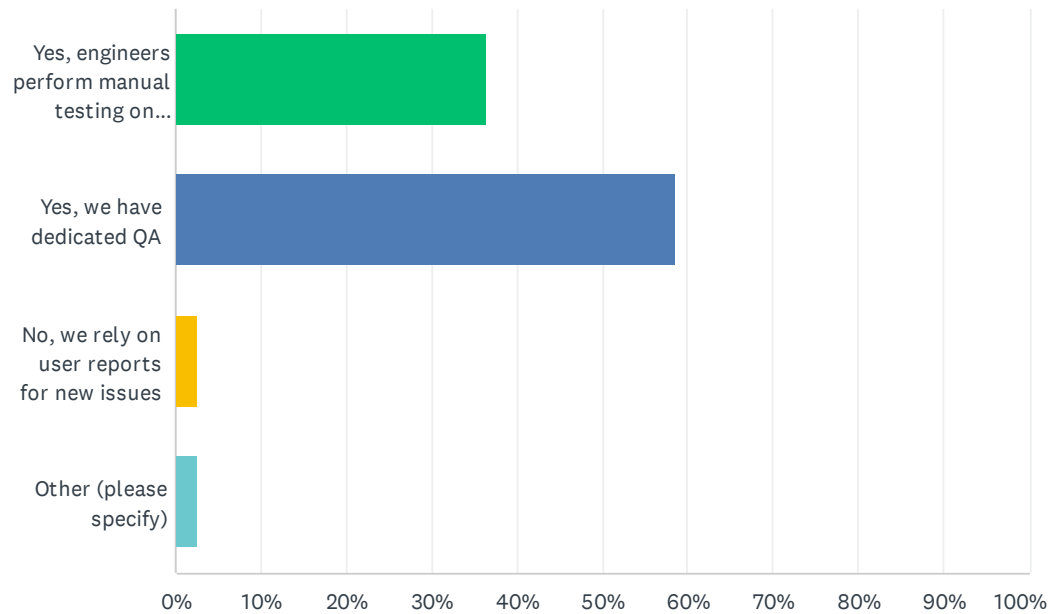
Answered: 121 Skipped: 26



ANSWER CHOICES	RESPONSES	
Unit Tests	94.21%	114
Snapshot Tests	42.98%	52
Layout Tests	5.79%	7
UI/Scenario Tests	61.98%	75
End to End Tests	52.07%	63
Other (please specify)	2.48%	3
Total Respondents: 121		

Q23 Do you perform manual testing?

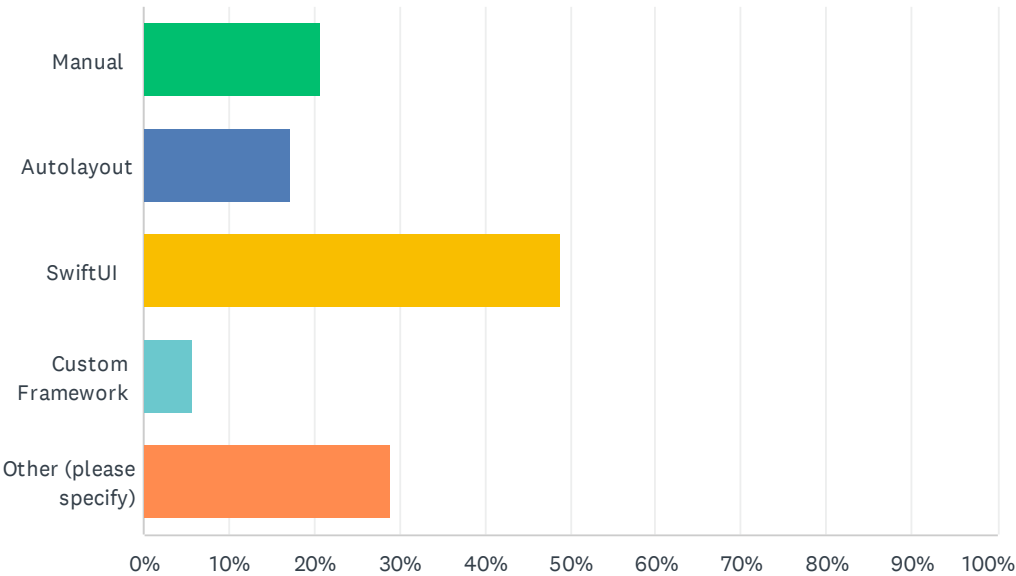
Answered: 121 Skipped: 26



ANSWER CHOICES		RESPONSES	
Yes, engineers perform manual testing on their work		36.36%	44
Yes, we have dedicated QA		58.68%	71
No, we rely on user reports for new issues		2.48%	3
Other (please specify)		2.48%	3
TOTAL			121

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

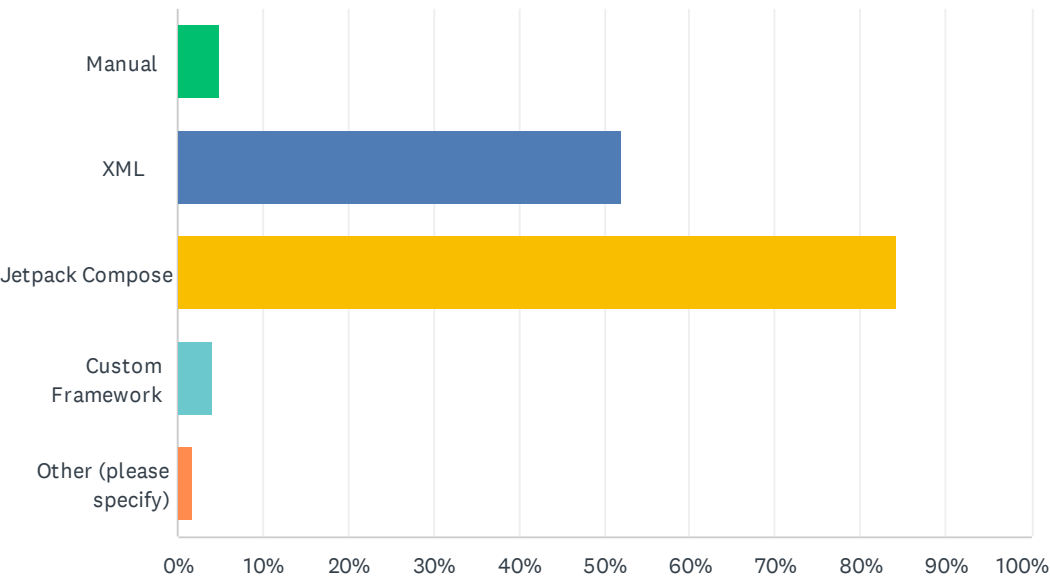
Answered: 121 Skipped: 26



ANSWER CHOICES	RESPONSES	
Manual	20.66%	25
Autolayout	17.36%	21
SwiftUI	48.76%	59
Custom Framework	5.79%	7
Other (please specify)	28.93%	35
Total Respondents: 121		

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

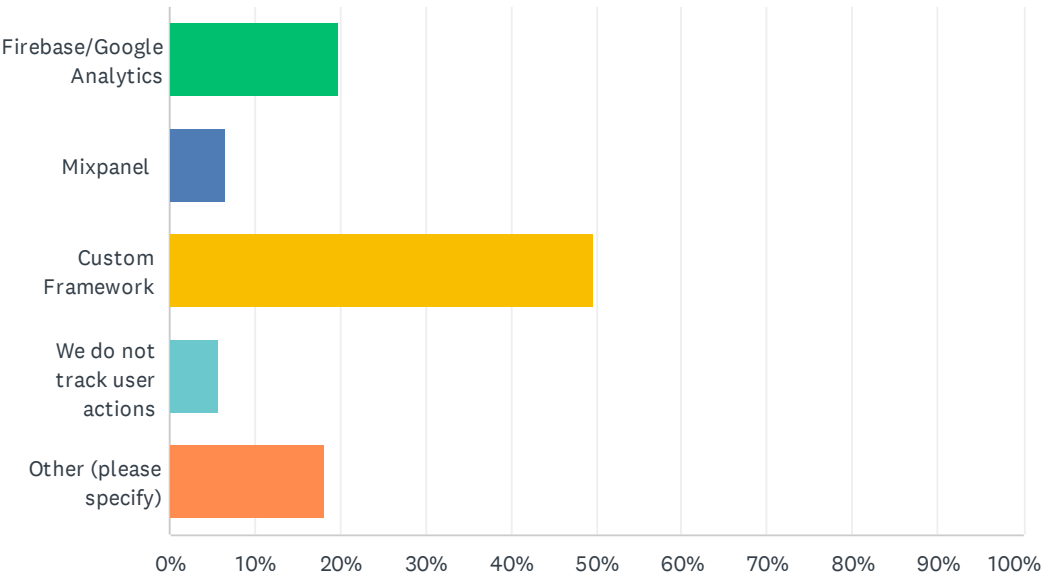
Answered: 121 Skipped: 26



ANSWER CHOICES	RESPONSES	
Manual	4.96%	6
XML	52.07%	63
Jetpack Compose	84.30%	102
Custom Framework	4.13%	5
Other (please specify)	1.65%	2
Total Respondents: 121		

Q26 How do you track user actions in your application?

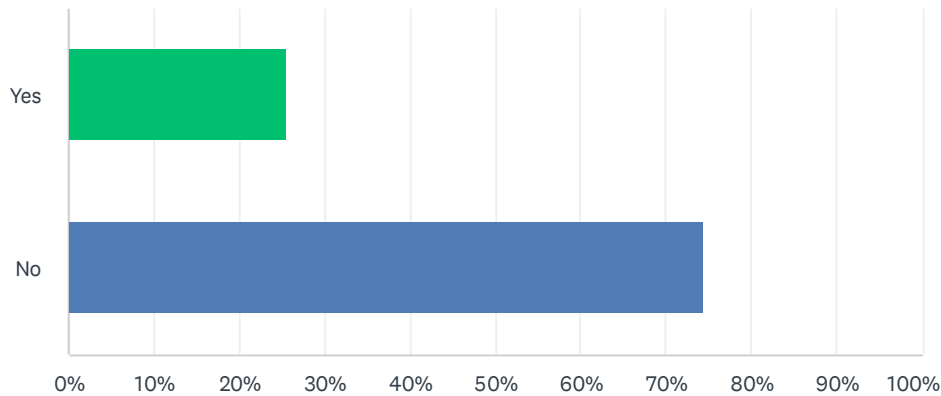
Answered: 121 Skipped: 26



ANSWER CHOICES	RESPONSES	
Firebase/Google Analytics	19.83%	24
Mixpanel	6.61%	8
Custom Framework	49.59%	60
We do not track user actions	5.79%	7
Other (please specify)	18.18%	22
TOTAL		121

Q27 Do you measure developer productivity?

Answered: 121 Skipped: 26



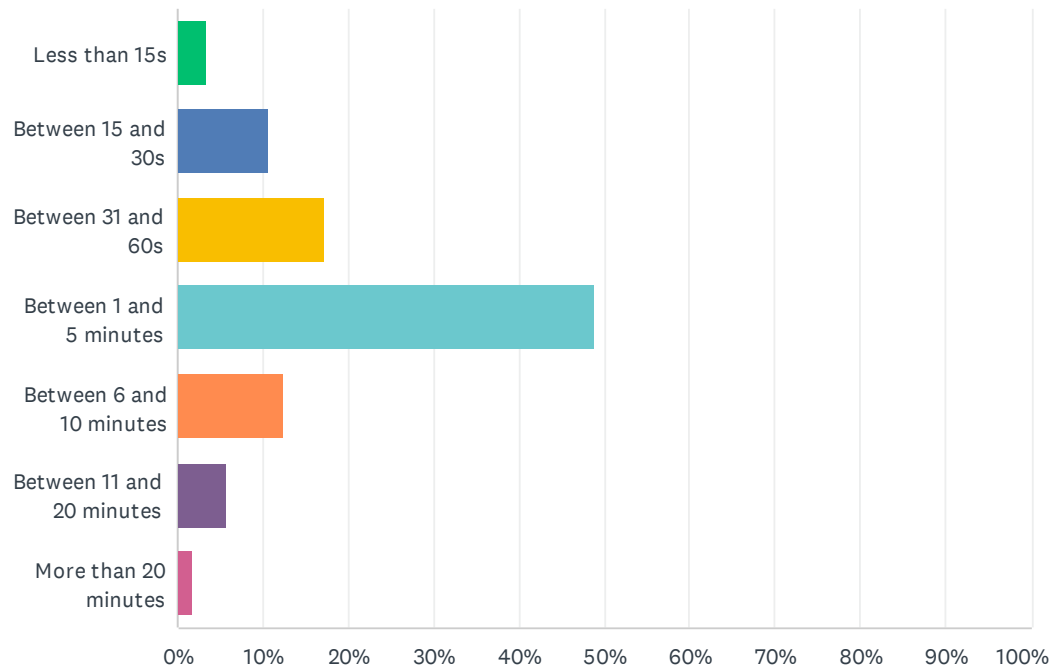
ANSWER CHOICES	RESPONSES	
Yes	25.62%	31
No	74.38%	90
TOTAL		121

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

Answered: 19 Skipped: 128

Q29 What are your average local build times?

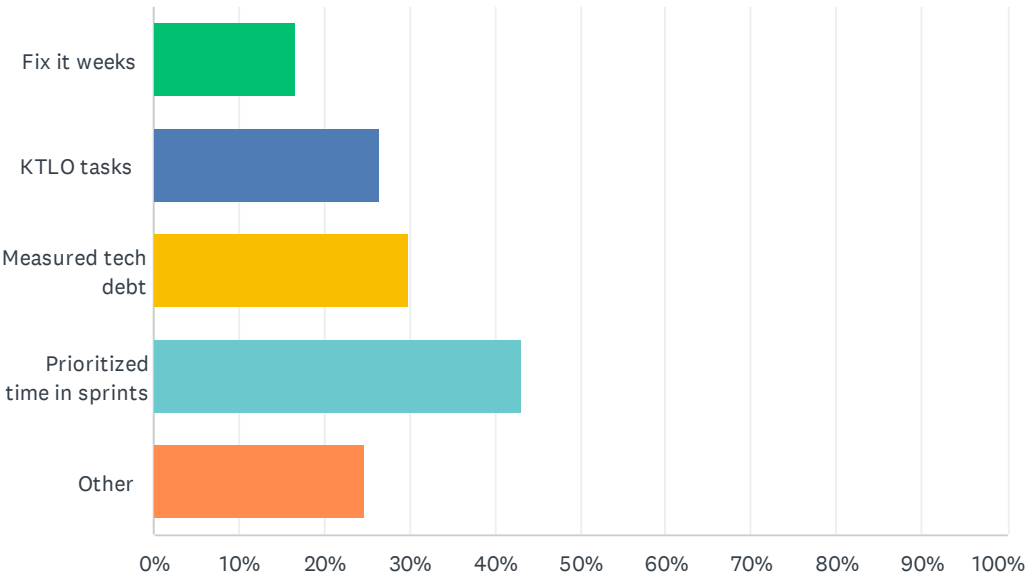
Answered: 121 Skipped: 26



ANSWER CHOICES	RESPONSES	
Less than 15s	3.31%	4
Between 15 and 30s	10.74%	13
Between 31 and 60s	17.36%	21
Between 1 and 5 minutes	48.76%	59
Between 6 and 10 minutes	12.40%	15
Between 11 and 20 minutes	5.79%	7
More than 20 minutes	1.65%	2
TOTAL		121

Q30 What practices do you employ to address code quality?

Answered: 121 Skipped: 26



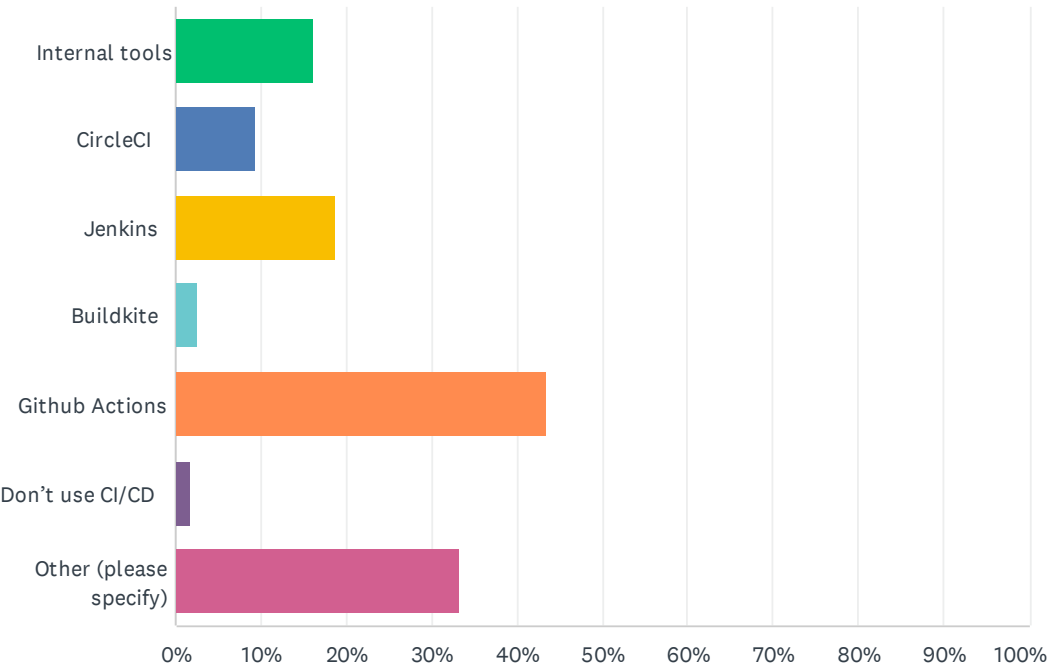
ANSWER CHOICES	RESPONSES	
Fix it weeks	16.53%	20
KTLO tasks	26.45%	32
Measured tech debt	29.75%	36
Prioritized time in sprints	42.98%	52
Other	24.79%	30
Total Respondents: 121		

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

Answered: 46 Skipped: 101

Q32 What do you use for CI/CD?

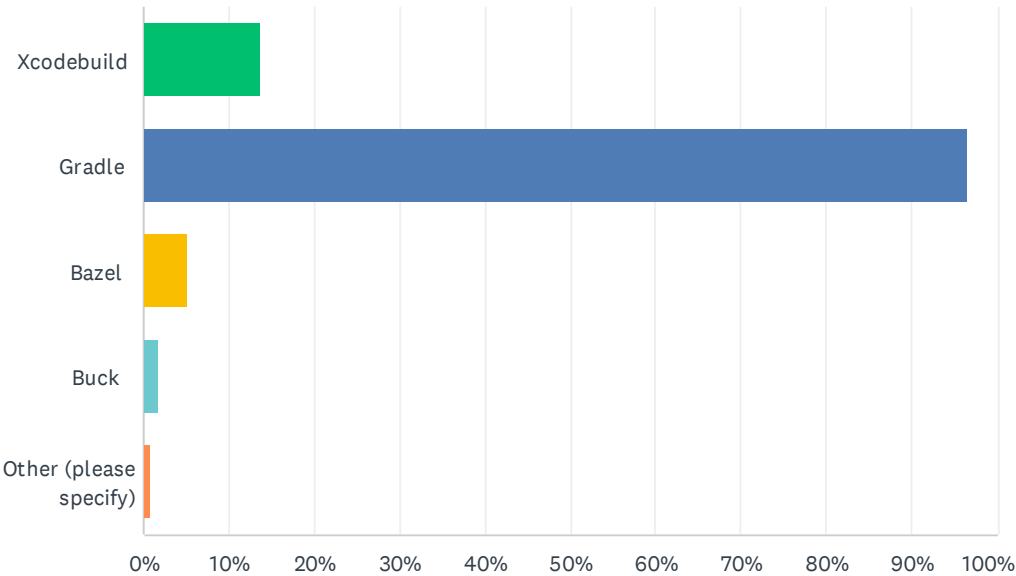
Answered: 117 Skipped: 30



ANSWER CHOICES	RESPONSES	
Internal tools	16.24%	19
CircleCI	9.40%	11
Jenkins	18.80%	22
Buildkite	2.56%	3
Github Actions	43.59%	51
Don't use CI/CD	1.71%	2
Other (please specify)	33.33%	39
Total Respondents: 117		

Q33 What build system do you use?

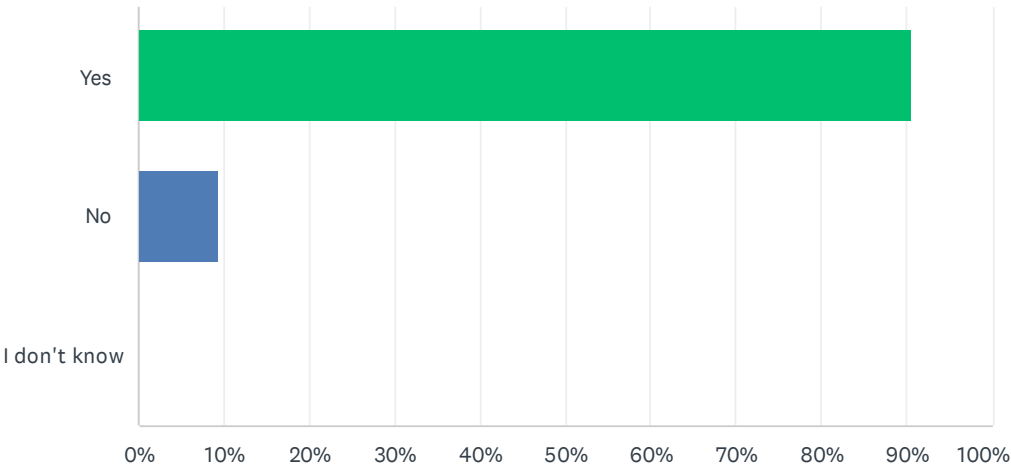
Answered: 117 Skipped: 30



ANSWER CHOICES	RESPONSES	
Xcodebuild	13.68%	16
Gradle	96.58%	113
Bazel	5.13%	6
Buck	1.71%	2
Other (please specify)	0.85%	1
Total Respondents: 117		

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

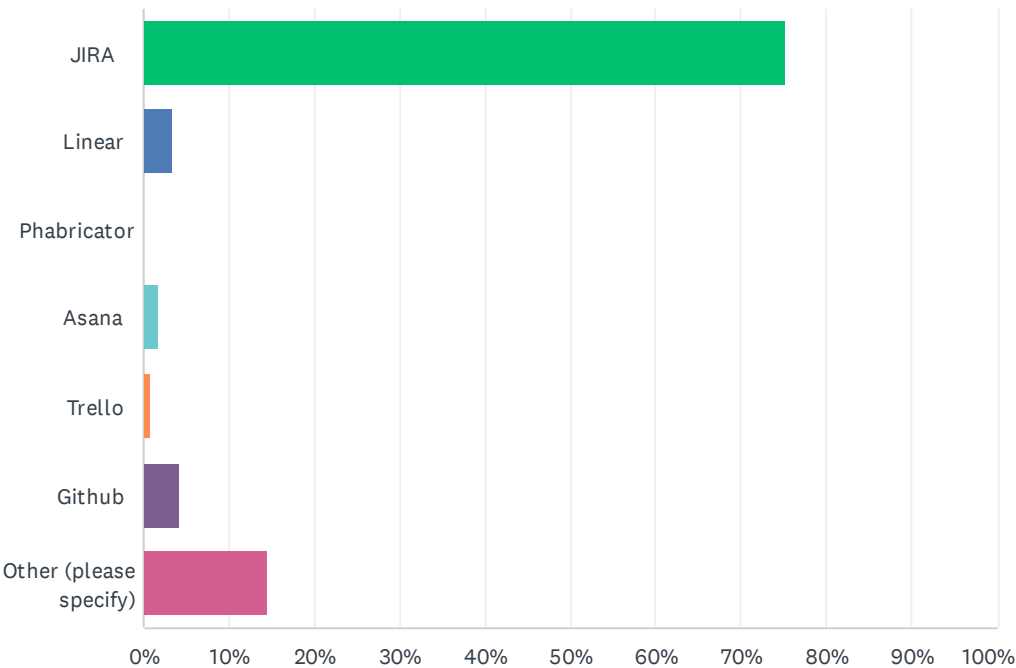
Answered: 117 Skipped: 30



ANSWER CHOICES	RESPONSES	
Yes	90.60%	106
No	9.40%	11
I don't know	0.00%	0
TOTAL		117

Q35 How does your company track issues and tasks?

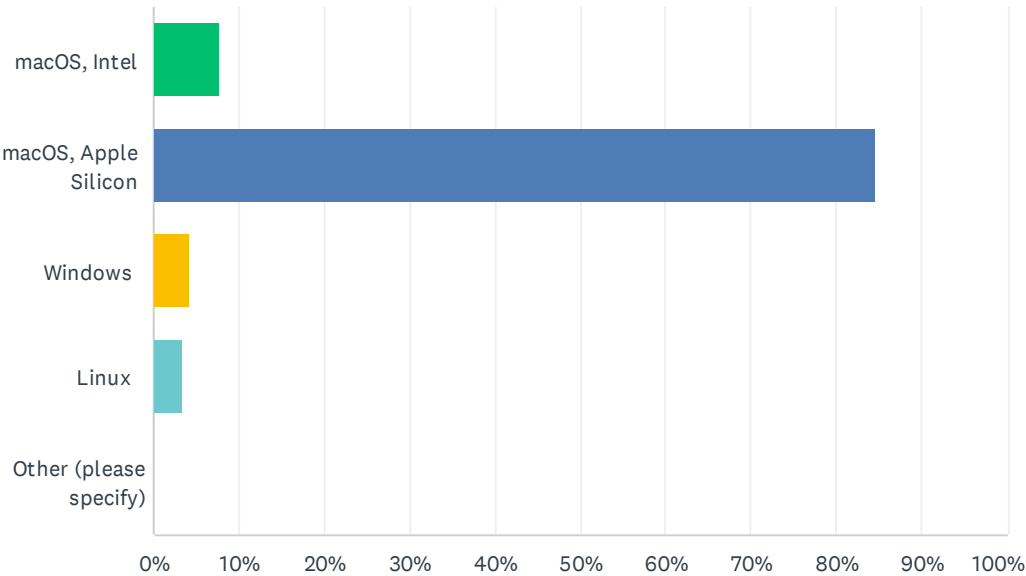
Answered: 117 Skipped: 30



ANSWER CHOICES	RESPONSES	
JIRA	75.21%	88
Linear	3.42%	4
Phabricator	0.00%	0
Asana	1.71%	2
Trello	0.85%	1
Github	4.27%	5
Other (please specify)	14.53%	17
TOTAL		117

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

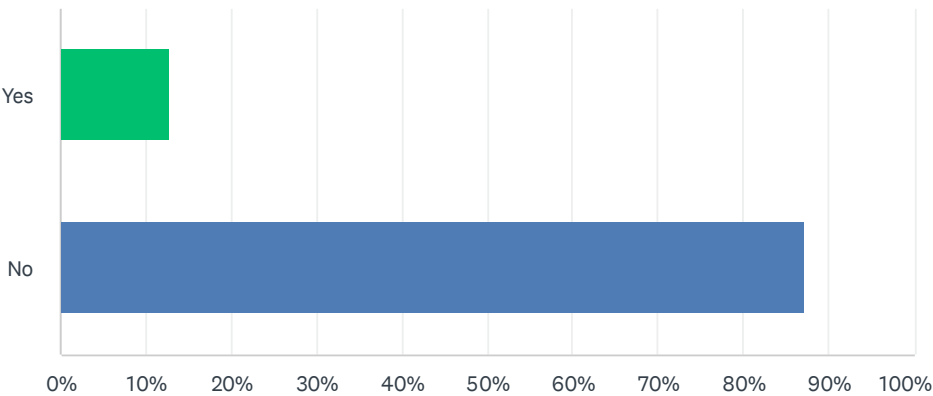
Answered: 117 Skipped: 30



ANSWER CHOICES	RESPONSES	
macOS, Intel	7.69%	9
macOS, Apple Silicon	84.62%	99
Windows	4.27%	5
Linux	3.42%	4
Other (please specify)	0.00%	0
TOTAL		117

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

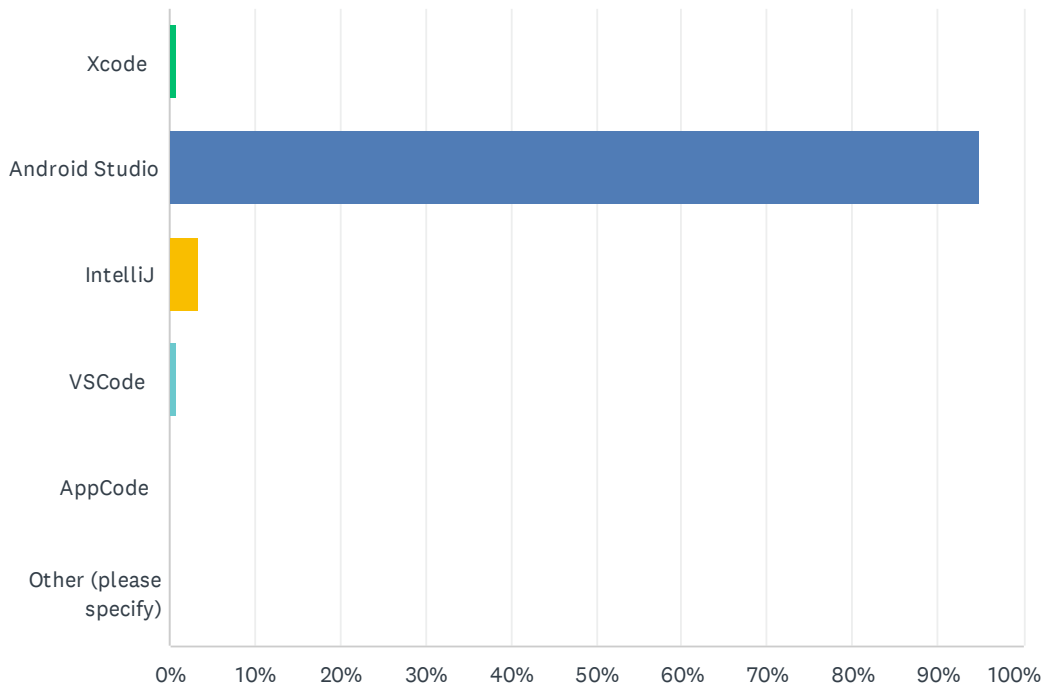
Answered: 117 Skipped: 30



ANSWER CHOICES	RESPONSES	
Yes	12.82%	15
No	87.18%	102
TOTAL		117

Q38 What is your primary IDE?

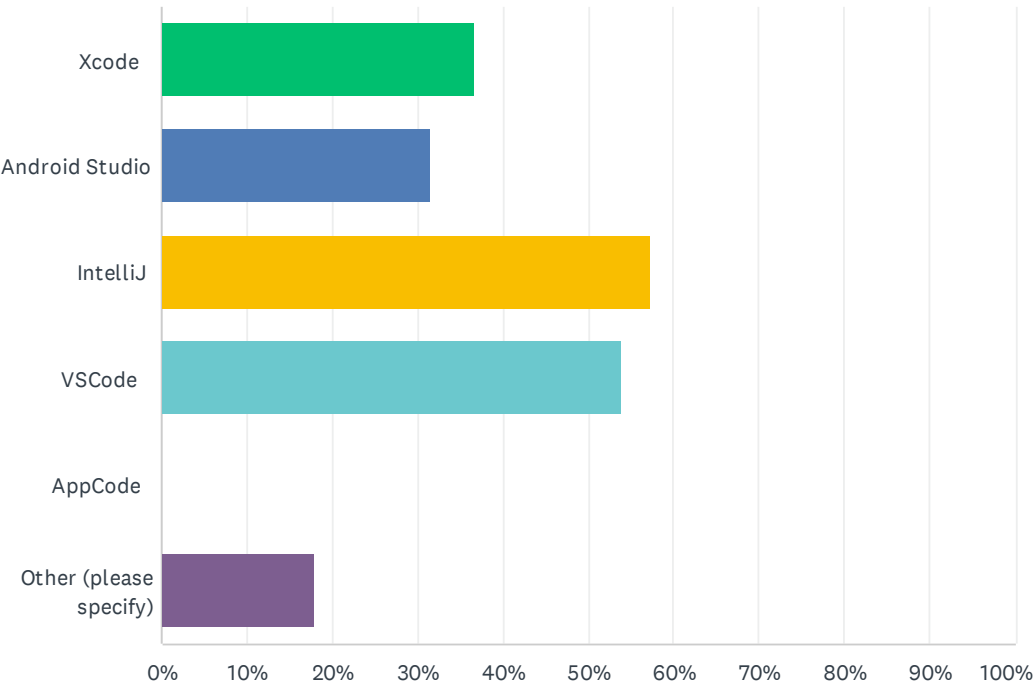
Answered: 117 Skipped: 30



ANSWER CHOICES	RESPONSES	
Xcode	0.85%	1
Android Studio	94.87%	111
IntelliJ	3.42%	4
VSCode	0.85%	1
AppCode	0.00%	0
Other (please specify)	0.00%	0
TOTAL		117

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

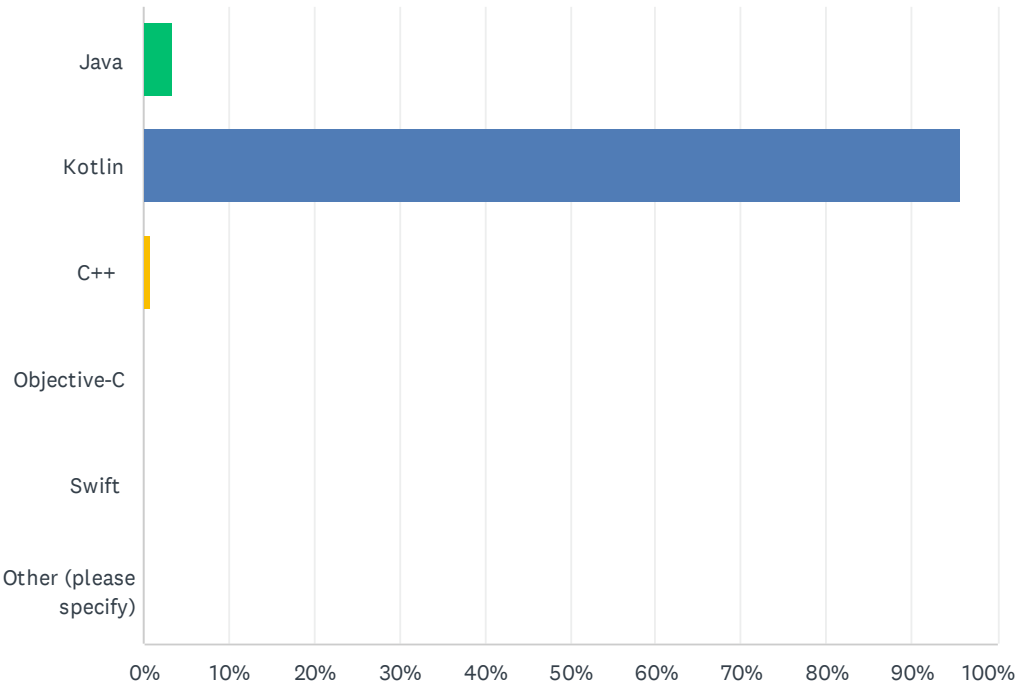
Answered: 117 Skipped: 30



ANSWER CHOICES	RESPONSES	
Xcode	36.75%	43
Android Studio	31.62%	37
IntelliJ	57.26%	67
VSCode	53.85%	63
AppCode	0.00%	0
Other (please specify)	17.95%	21
Total Respondents: 117		

Q40 What is your primary programming language?

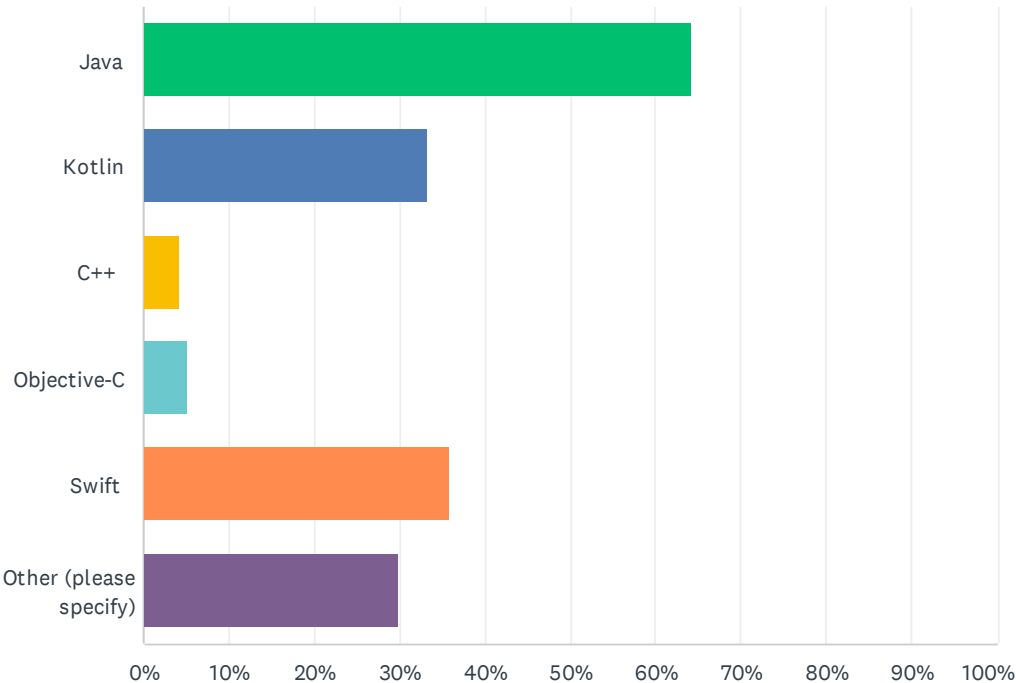
Answered: 117 Skipped: 30



ANSWER CHOICES	RESPONSES	
Java	3.42%	4
Kotlin	95.73%	112
C++	0.85%	1
Objective-C	0.00%	0
Swift	0.00%	0
Other (please specify)	0.00%	0
TOTAL		117

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

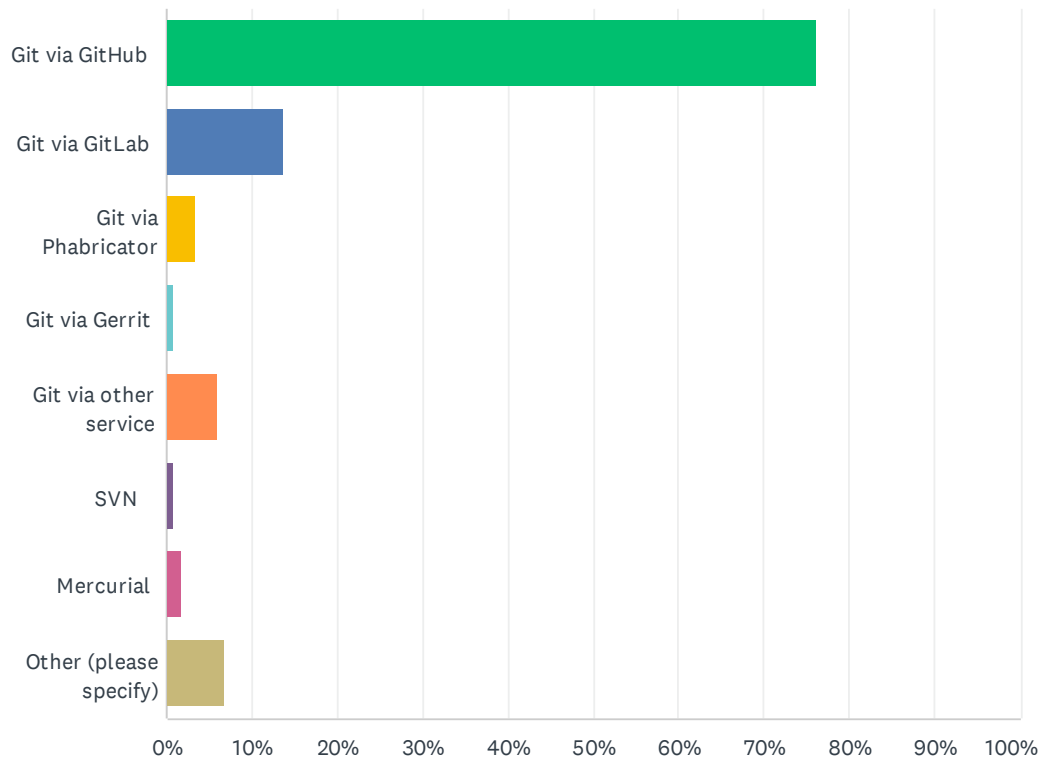
Answered: 117 Skipped: 30



ANSWER CHOICES	RESPONSES	
Java	64.10%	75
Kotlin	33.33%	39
C++	4.27%	5
Objective-C	5.13%	6
Swift	35.90%	42
Other (please specify)	29.91%	35
Total Respondents: 117		

Q42 What do you use for version control?

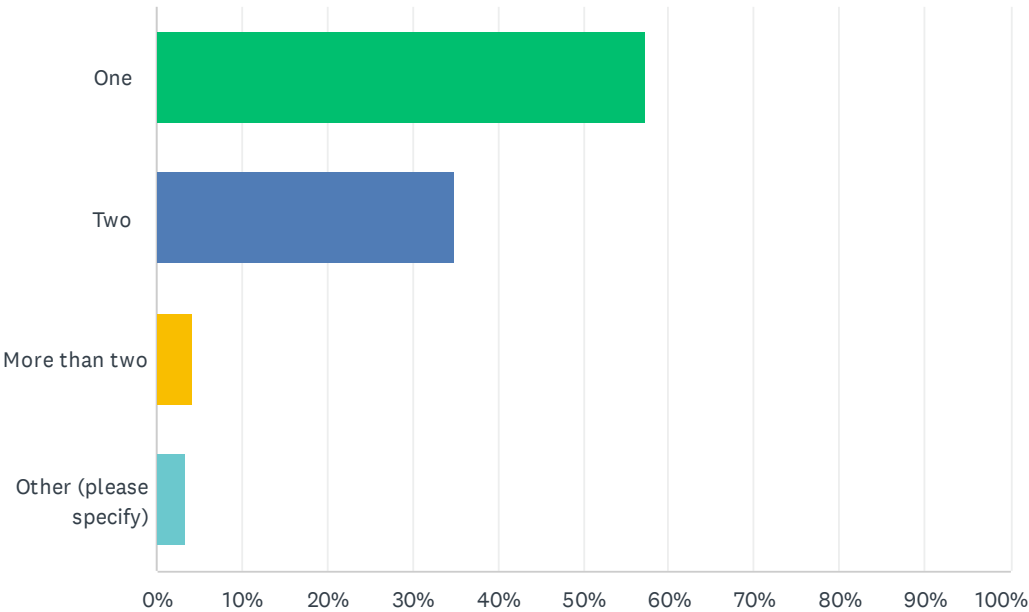
Answered: 117 Skipped: 30



ANSWER CHOICES	RESPONSES	
Git via GitHub	76.07%	89
Git via GitLab	13.68%	16
Git via Phabricator	3.42%	4
Git via Gerrit	0.85%	1
Git via other service	5.98%	7
SVN	0.85%	1
Mercurial	1.71%	2
Other (please specify)	6.84%	8
Total Respondents: 117		

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

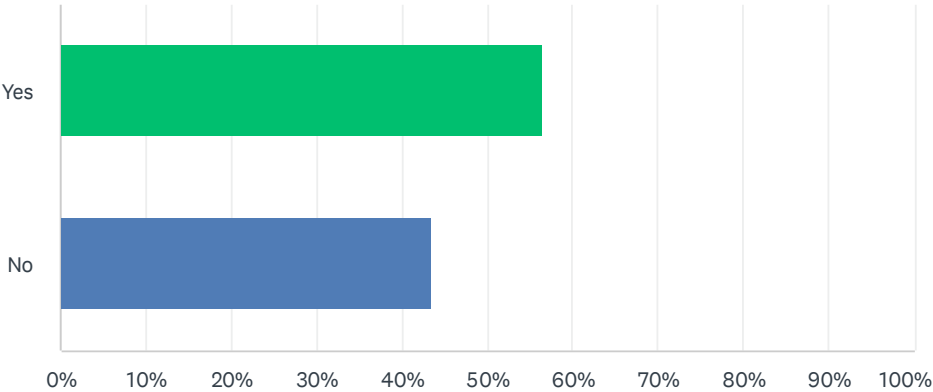
Answered: 117 Skipped: 30



ANSWER CHOICES	RESPONSES	
One	57.26%	67
Two	35.04%	41
More than two	4.27%	5
Other (please specify)	3.42%	4
TOTAL		117

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

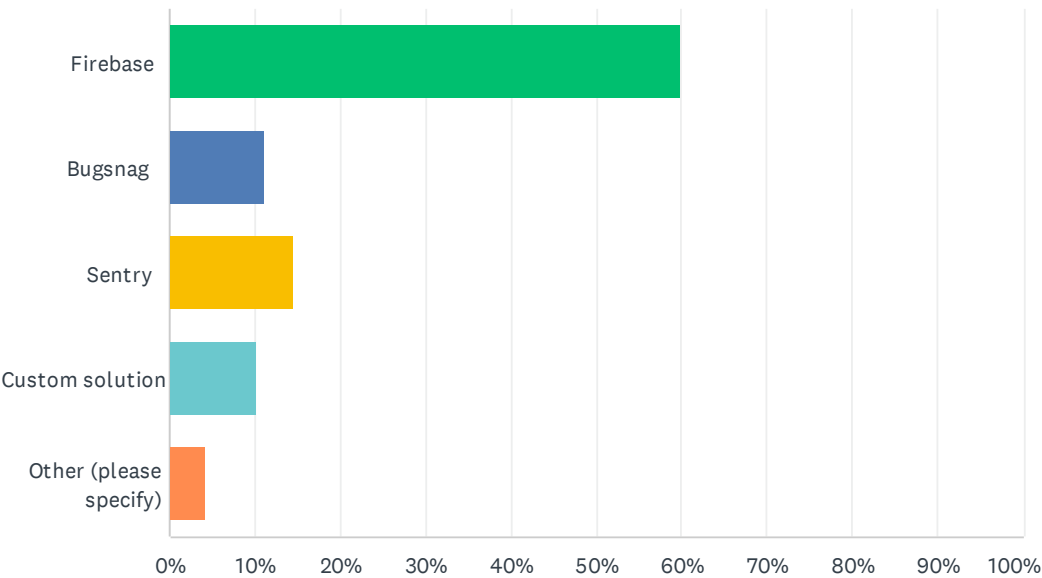
Answered: 117 Skipped: 30



ANSWER CHOICES		RESPONSES	
Yes		56.41%	66
No		43.59%	51
TOTAL			117

Q45 What type of crash reporting system do you use?

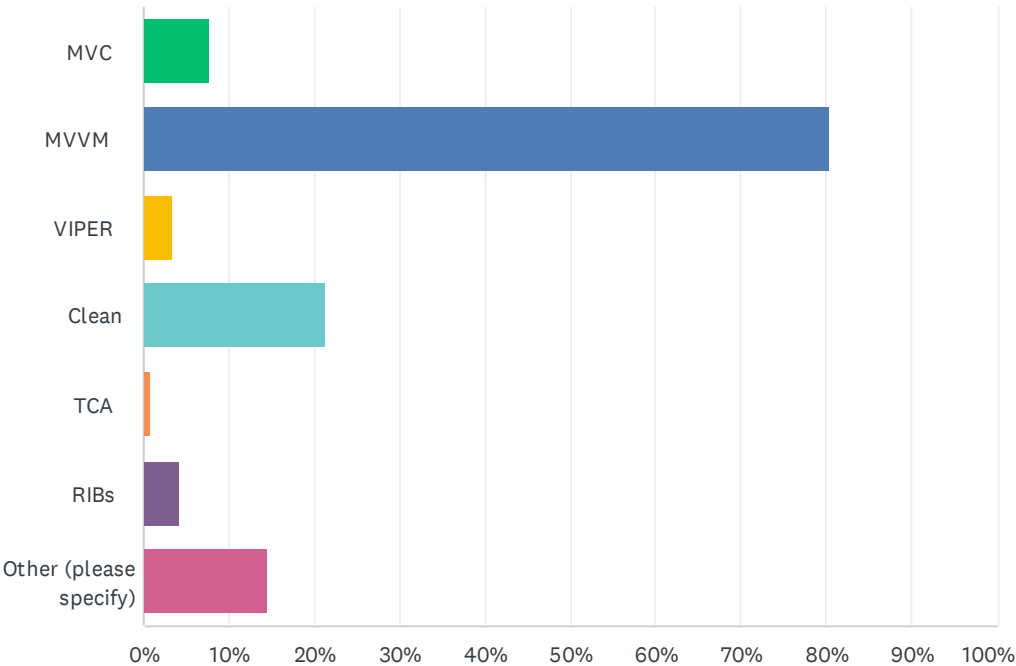
Answered: 117 Skipped: 30



ANSWER CHOICES		RESPONSES	
Firebase		59.83%	70
Bugsnag		11.11%	13
Sentry		14.53%	17
Custom solution		10.26%	12
Other (please specify)		4.27%	5
TOTAL			117

Q46 What type of architecture does your app use?

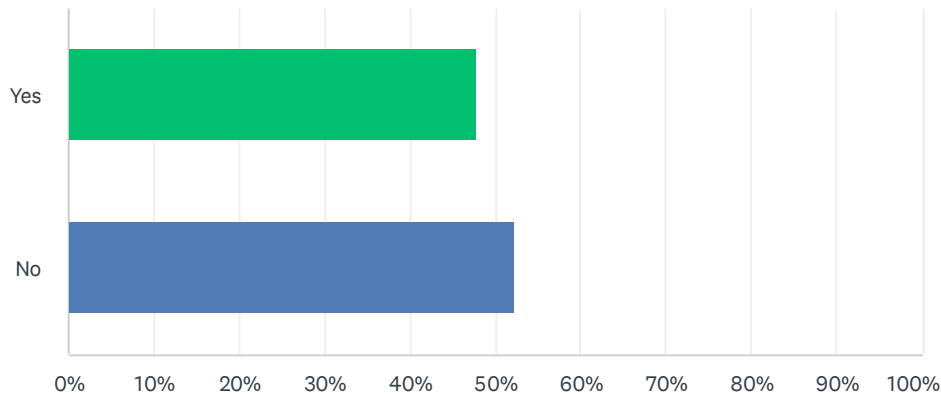
Answered: 117 Skipped: 30



ANSWER CHOICES	RESPONSES	
MVC	7.69%	9
MVVM	80.34%	94
VIPER	3.42%	4
Clean	21.37%	25
TCA	0.85%	1
RIBs	4.27%	5
Other (please specify)	14.53%	17
Total Respondents: 117		

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

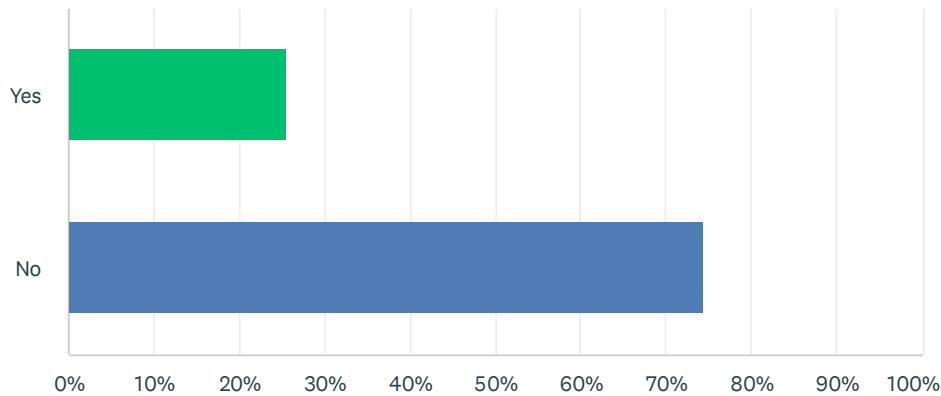
Answered: 117 Skipped: 30



ANSWER CHOICES	RESPONSES	
Yes	47.86%	56
No	52.14%	61
TOTAL		117

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

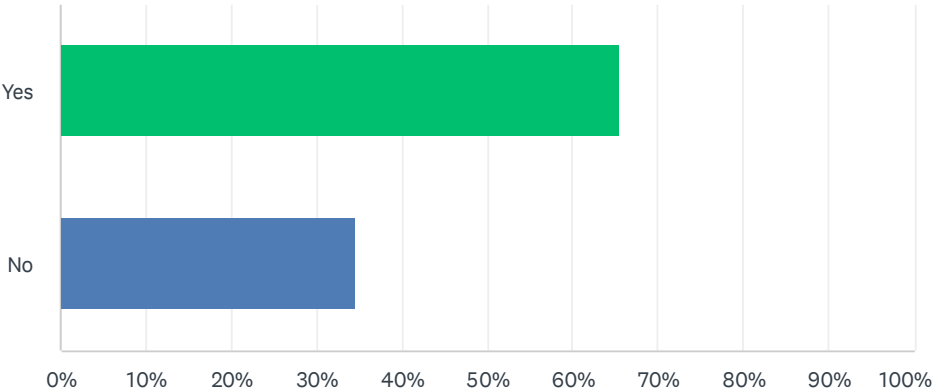
Answered: 117 Skipped: 30



ANSWER CHOICES		RESPONSES	
Yes		25.64%	30
No		74.36%	87
TOTAL			117

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

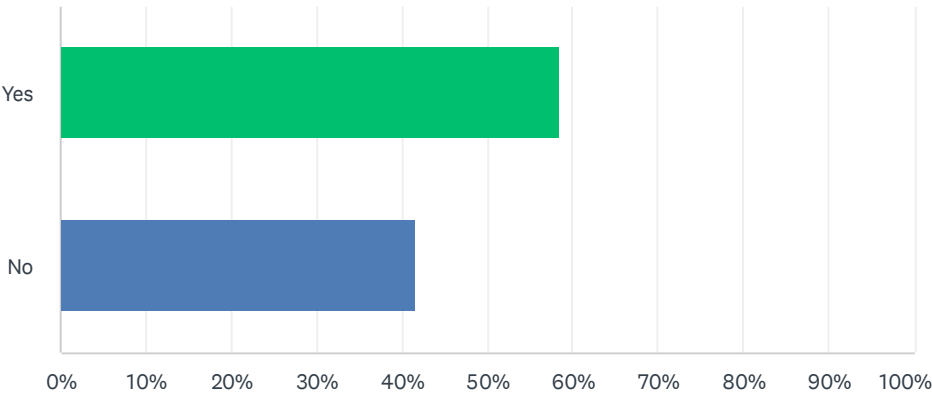
Answered: 113 Skipped: 34



ANSWER CHOICES	RESPONSES	
Yes	65.49%	74
No	34.51%	39
TOTAL		113

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

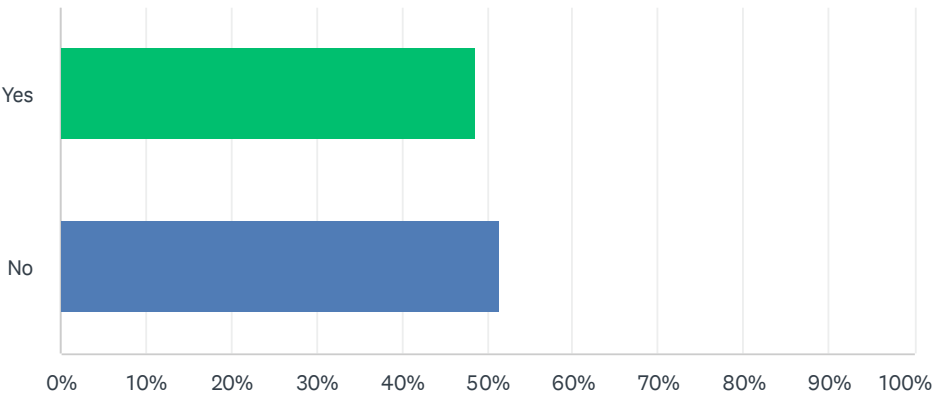
Answered: 113 Skipped: 34



ANSWER CHOICES	RESPONSES	
Yes	58.41%	66
No	41.59%	47
TOTAL		113

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

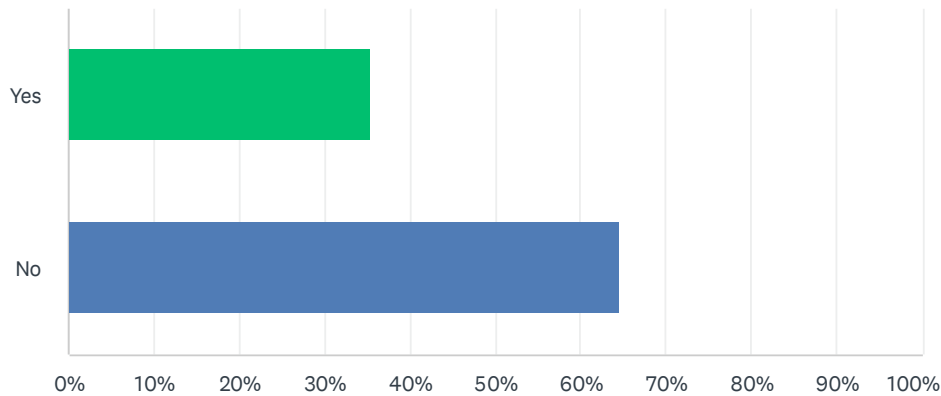
Answered: 113 Skipped: 34



ANSWER CHOICES		RESPONSES	
Yes		48.67%	55
No		51.33%	58
TOTAL			113

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

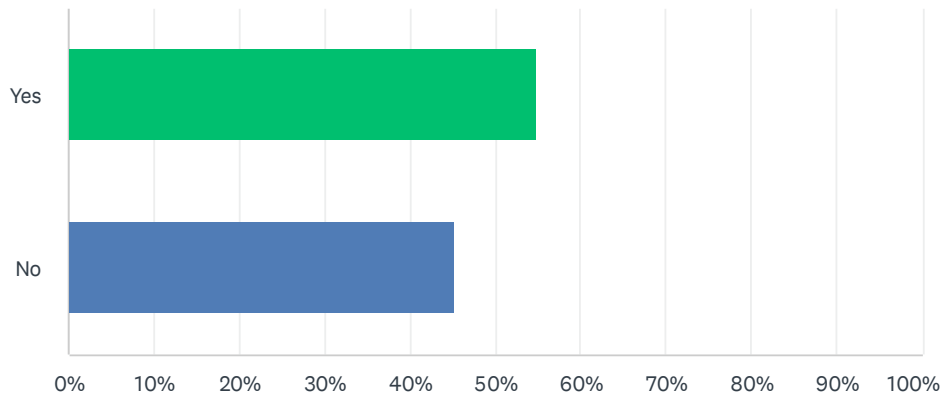
Answered: 113 Skipped: 34



ANSWER CHOICES	RESPONSES	
Yes	35.40%	40
No	64.60%	73
TOTAL		113

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

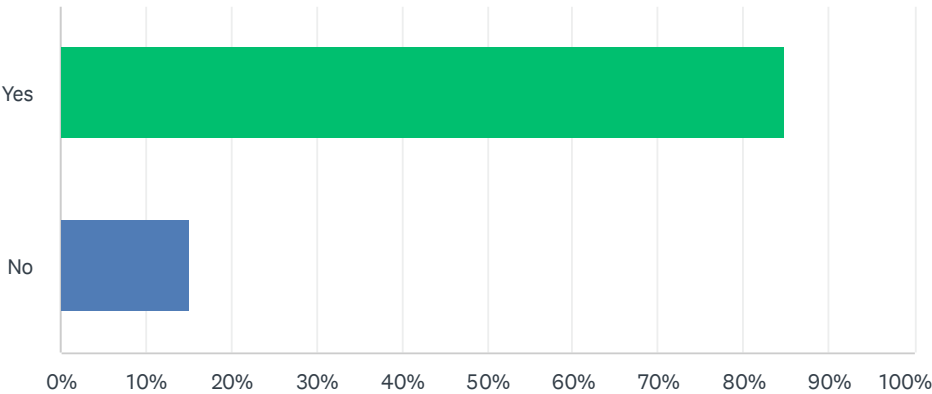
Answered: 113 Skipped: 34



ANSWER CHOICES		RESPONSES	
Yes		54.87%	62
No		45.13%	51
TOTAL			113

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

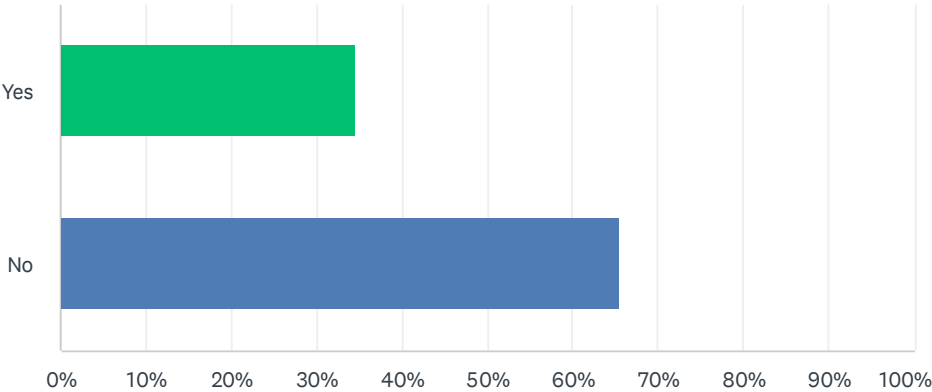
Answered: 113 Skipped: 34



ANSWER CHOICES		RESPONSES	
Yes		84.96%	96
No		15.04%	17
TOTAL			113

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

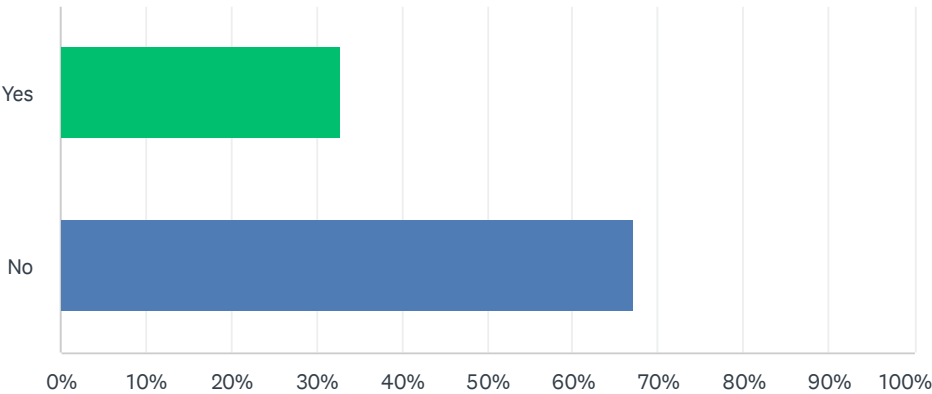
Answered: 113 Skipped: 34



ANSWER CHOICES	RESPONSES	
Yes	34.51%	39
No	65.49%	74
TOTAL		113

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

Answered: 113 Skipped: 34



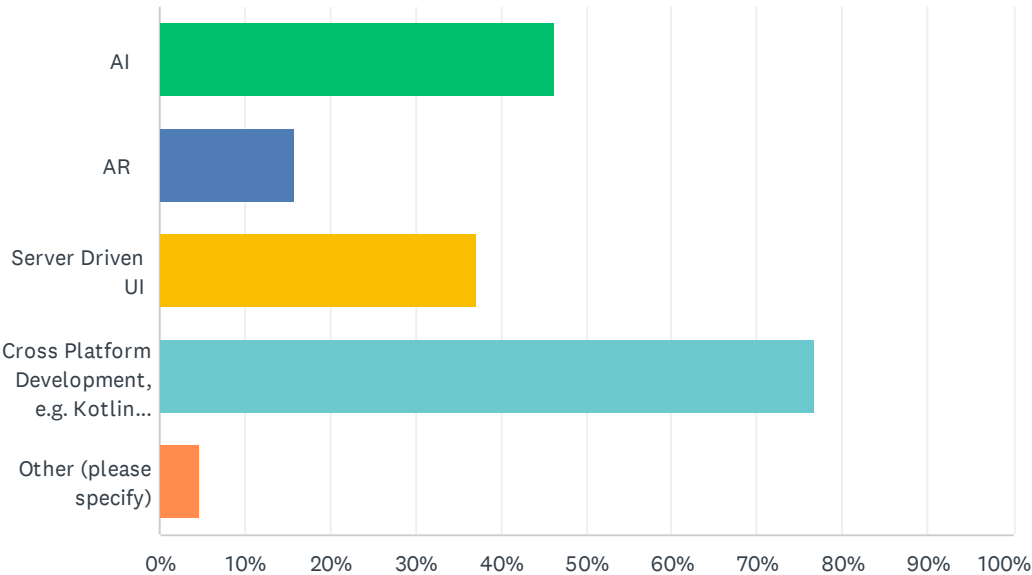
ANSWER CHOICES		RESPONSES	
Yes		32.74%	37
No		67.26%	76
TOTAL			113

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

Answered: 69 Skipped: 78

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

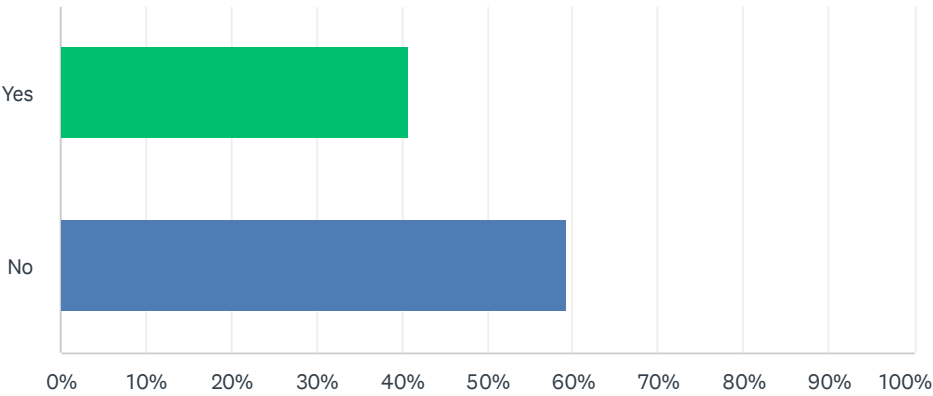
Answered: 108 Skipped: 39



ANSWER CHOICES	RESPONSES	
AI	46.30%	50
AR	15.74%	17
Server Driven UI	37.04%	40
Cross Platform Development, e.g. Kotlin Multiplatform	76.85%	83
Other (please specify)	4.63%	5
Total Respondents: 108		

Q59 Has your company adopted any LLMs?

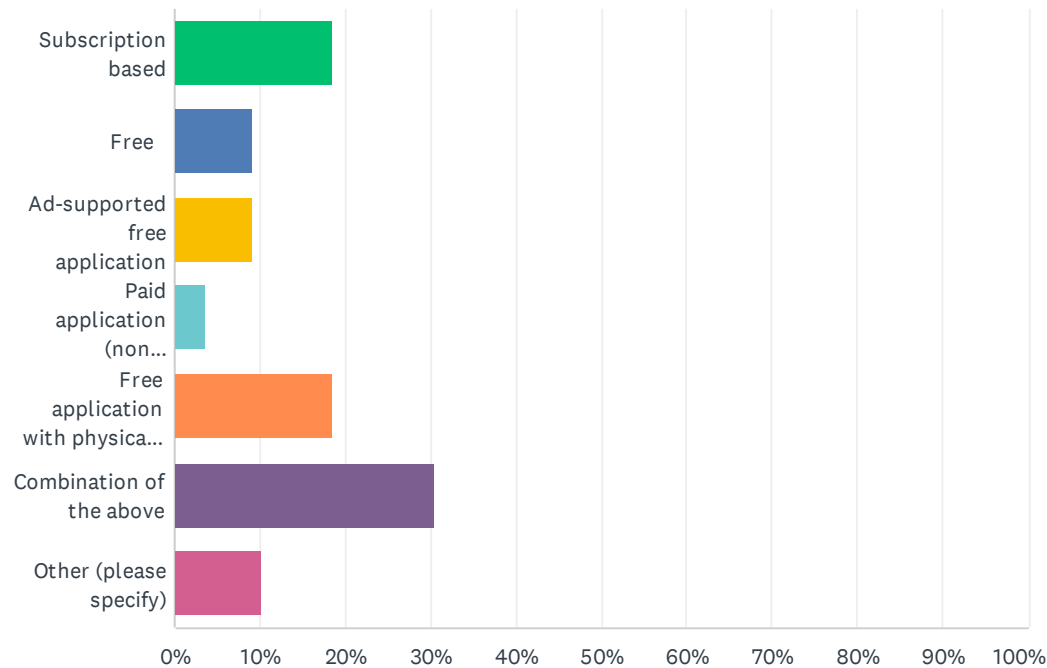
Answered: 108 Skipped: 39



ANSWER CHOICES	RESPONSES	
Yes	40.74%	44
No	59.26%	64
TOTAL		108

Q60 What is your company’s business model?

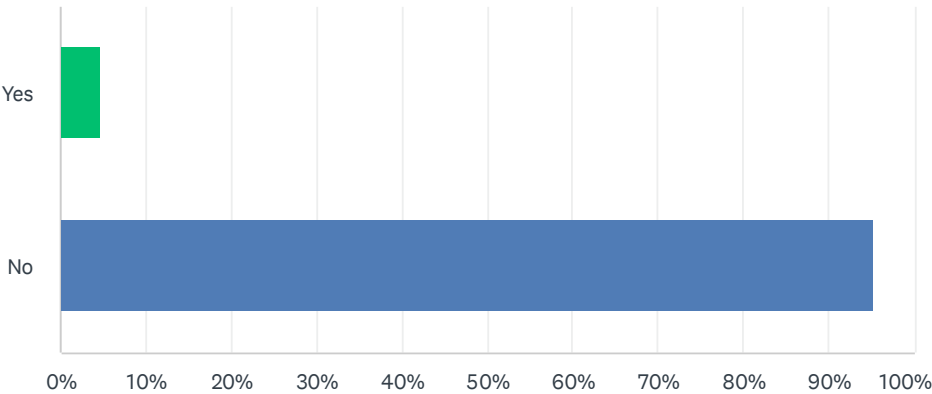
Answered: 108 Skipped: 39



ANSWER CHOICES		RESPONSES	
Subscription based		18.52%	20
Free		9.26%	10
Ad-supported free application		9.26%	10
Paid application (non subscription)		3.70%	4
Free application with physical goods or services exchanged		18.52%	20
Combination of the above		30.56%	33
Other (please specify)		10.19%	11
TOTAL			108

Q61 Does your business build games?

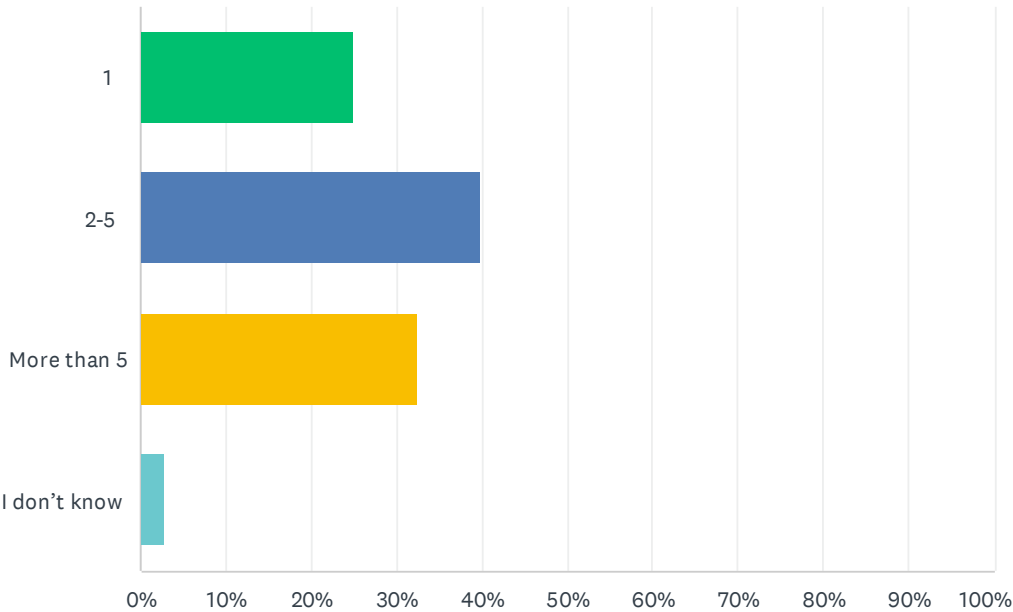
Answered: 108 Skipped: 39



ANSWER CHOICES	RESPONSES	
Yes	4.63%	5
No	95.37%	103
TOTAL		108

Q62 How many apps does your business support?

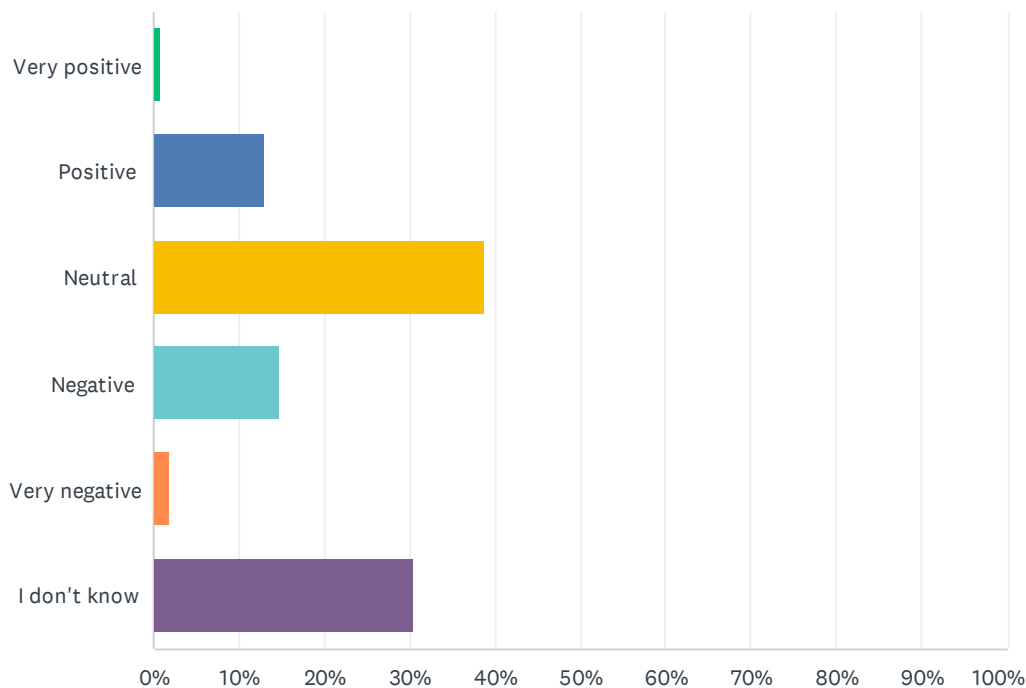
Answered: 108 Skipped: 39



ANSWER CHOICES	RESPONSES	
1	25.00%	27
2-5	39.81%	43
More than 5	32.41%	35
I don't know	2.78%	3
TOTAL		108

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

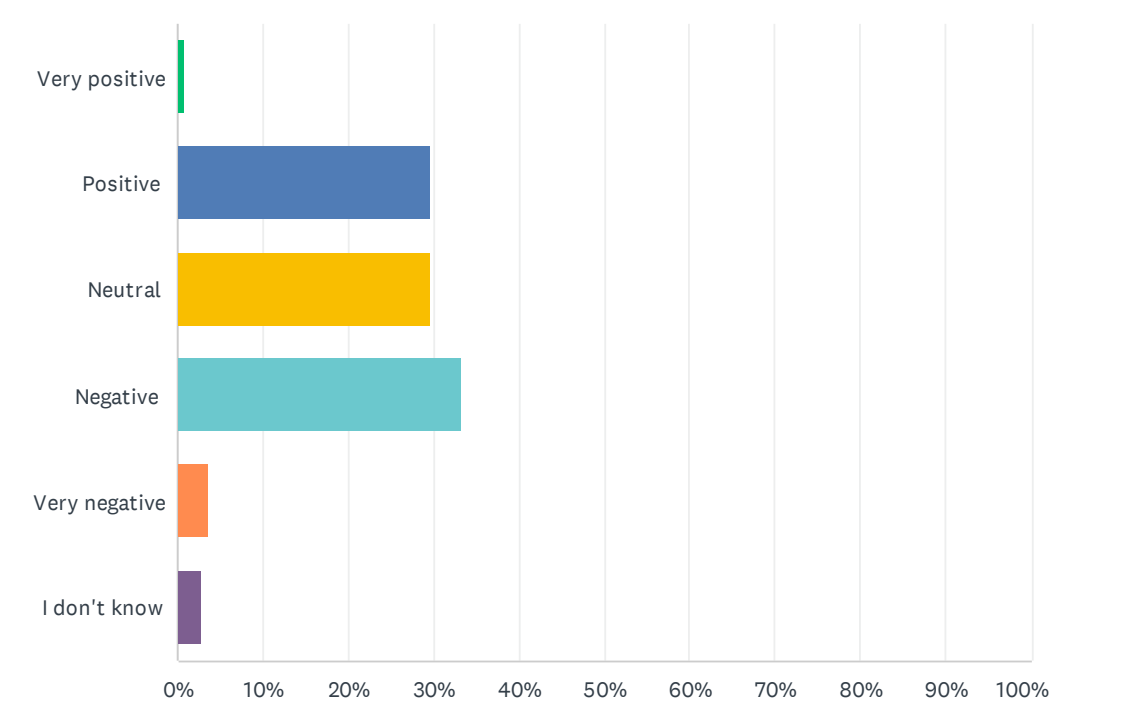
Answered: 108 Skipped: 39



ANSWER CHOICES	RESPONSES	
Very positive	0.93%	1
Positive	12.96%	14
Neutral	38.89%	42
Negative	14.81%	16
Very negative	1.85%	2
I don't know	30.56%	33
TOTAL		108

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

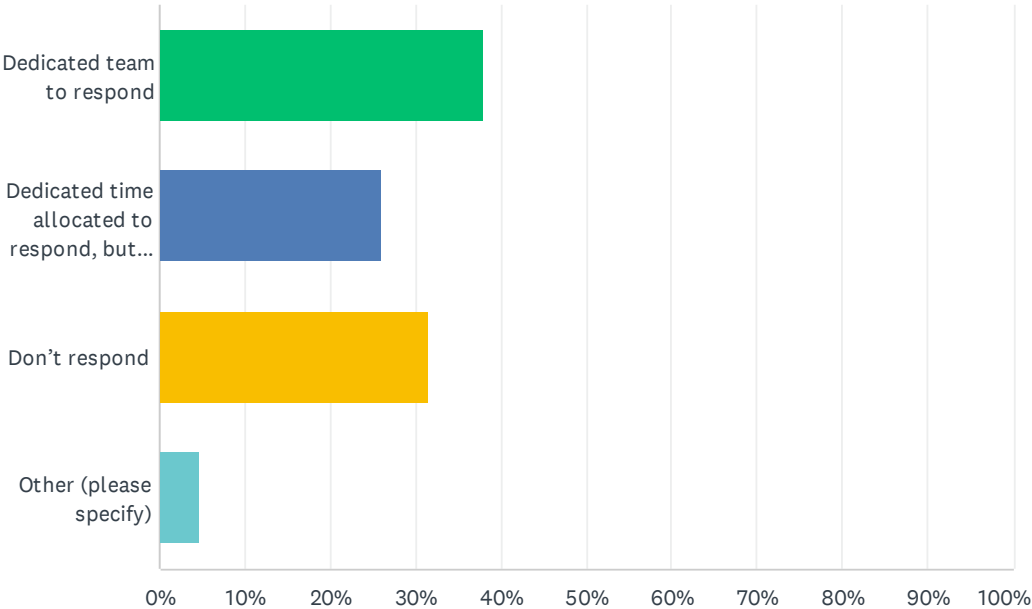
Answered: 108 Skipped: 39



ANSWER CHOICES	RESPONSES	
Very positive	0.93%	1
Positive	29.63%	32
Neutral	29.63%	32
Negative	33.33%	36
Very negative	3.70%	4
I don't know	2.78%	3
TOTAL		108

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

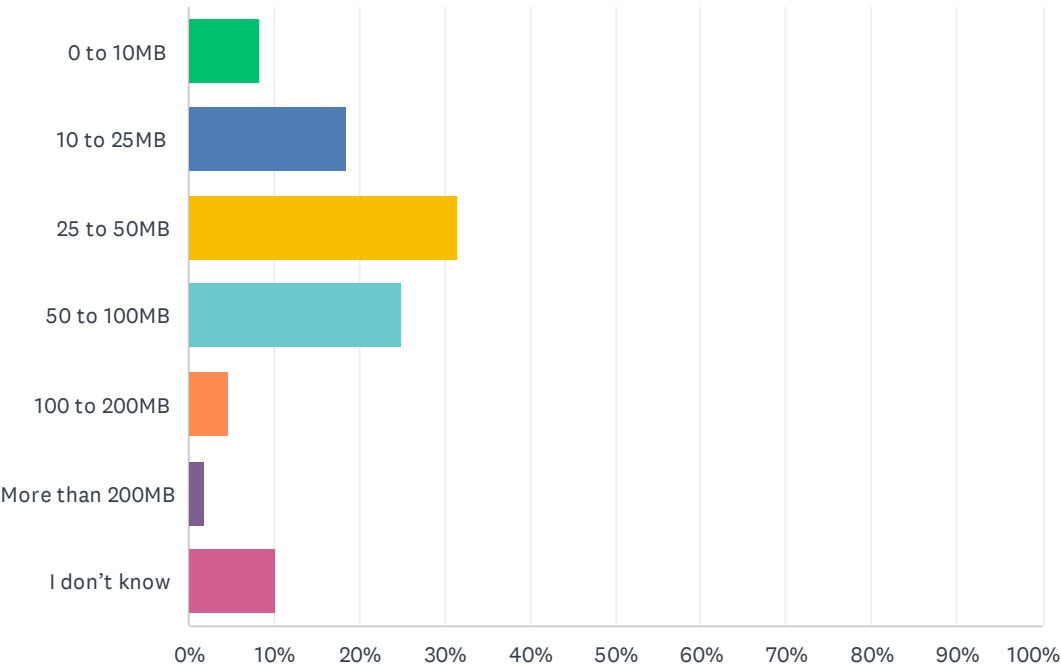
Answered: 108 Skipped: 39



ANSWER CHOICES	RESPONSES	
Dedicated team to respond	37.96%	41
Dedicated time allocated to respond, but no specific team	25.93%	28
Don't respond	31.48%	34
Other (please specify)	4.63%	5
TOTAL		108

Q66 How large is your app’s download size?

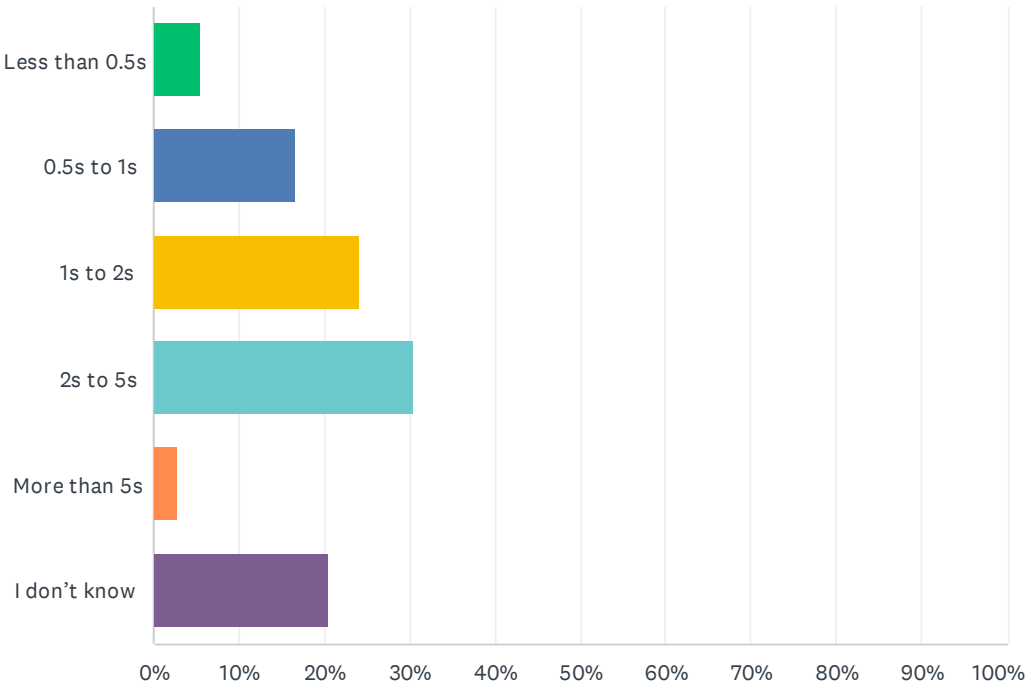
Answered: 108 Skipped: 39



ANSWER CHOICES	RESPONSES	
0 to 10MB	8.33%	9
10 to 25MB	18.52%	20
25 to 50MB	31.48%	34
50 to 100MB	25.00%	27
100 to 200MB	4.63%	5
More than 200MB	1.85%	2
I don't know	10.19%	11
TOTAL		108

Q67 What is the cold start time for your application?

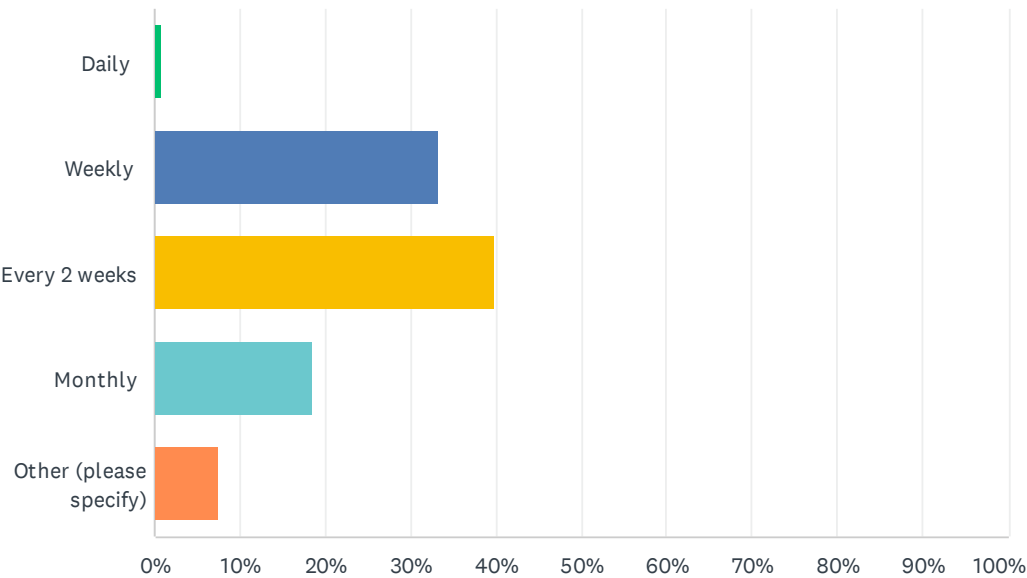
Answered: 108 Skipped: 39



ANSWER CHOICES	RESPONSES	
Less than 0.5s	5.56%	6
0.5s to 1s	16.67%	18
1s to 2s	24.07%	26
2s to 5s	30.56%	33
More than 5s	2.78%	3
I don't know	20.37%	22
TOTAL		108

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

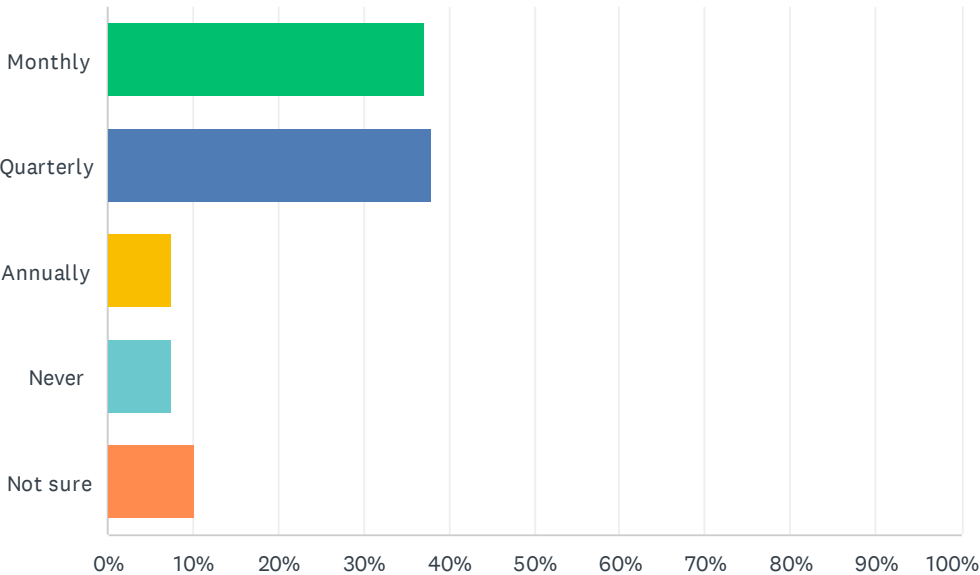
Answered: 108 Skipped: 39



ANSWER CHOICES		RESPONSES	
Daily		0.93%	1
Weekly		33.33%	36
Every 2 weeks		39.81%	43
Monthly		18.52%	20
Other (please specify)		7.41%	8
TOTAL			108

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

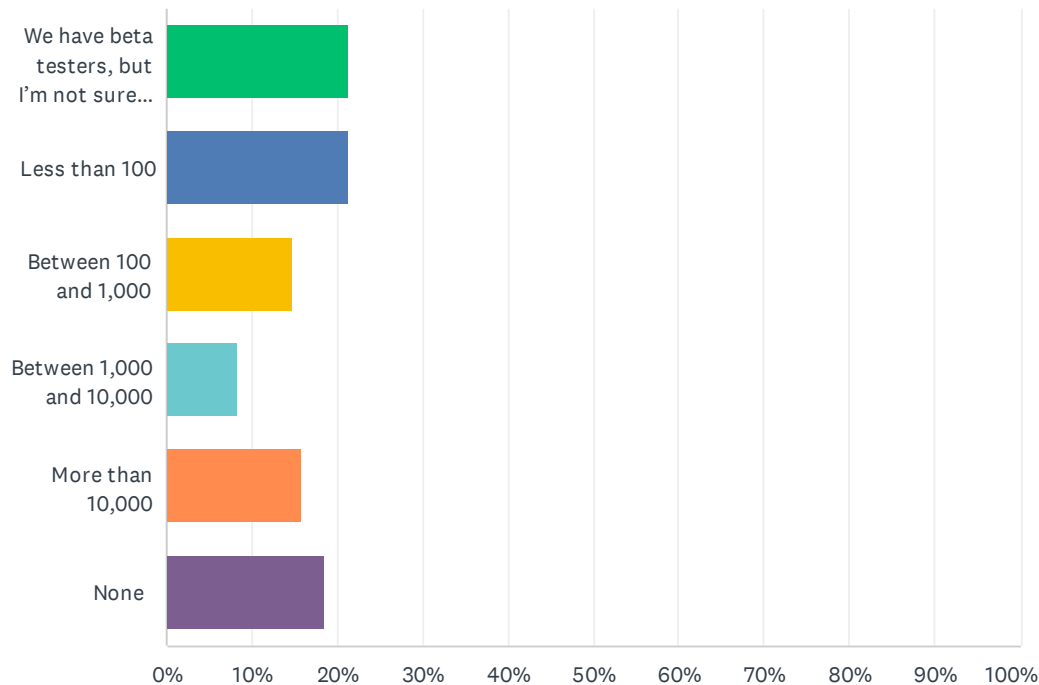
Answered: 108 Skipped: 39



ANSWER CHOICES	RESPONSES	
Monthly	37.04%	40
Quarterly	37.96%	41
Annually	7.41%	8
Never	7.41%	8
Not sure	10.19%	11
TOTAL		108

Q70 How many beta testers do you have?

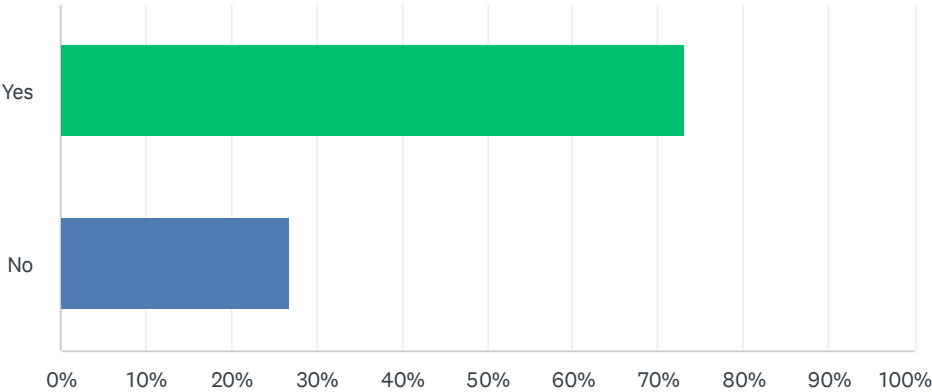
Answered: 108 Skipped: 39



ANSWER CHOICES	RESPONSES	
We have beta testers, but I'm not sure how many	21.30%	23
Less than 100	21.30%	23
Between 100 and 1,000	14.81%	16
Between 1,000 and 10,000	8.33%	9
More than 10,000	15.74%	17
None	18.52%	20
TOTAL		108

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

Answered: 108 Skipped: 39



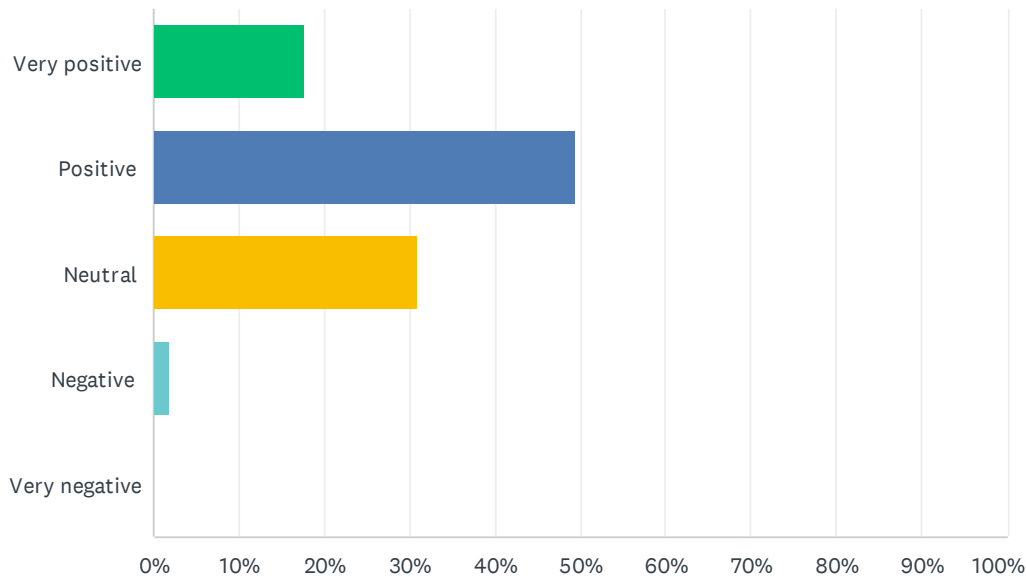
ANSWER CHOICES		RESPONSES	
Yes		73.15%	79
No		26.85%	29
TOTAL			108

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

Answered: 14 Skipped: 133

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?

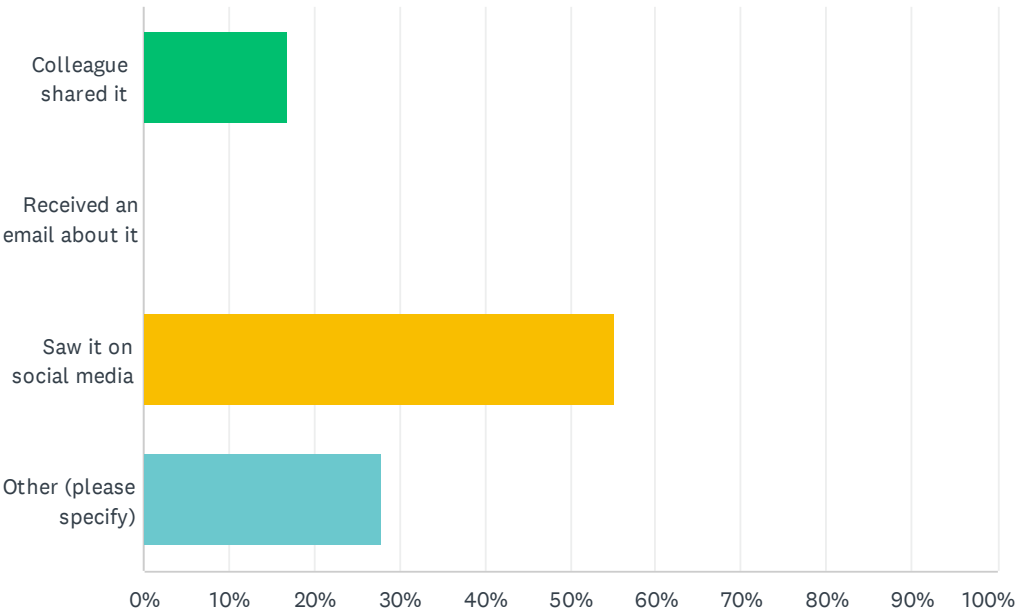
Answered: 107 Skipped: 40



ANSWER CHOICES	RESPONSES	
Very positive	17.76%	19
Positive	49.53%	53
Neutral	30.84%	33
Negative	1.87%	2
Very negative	0.00%	0
TOTAL		107

Q74 How did you find out about this survey?

Answered: 107 Skipped: 40



ANSWER CHOICES		RESPONSES	
Colleague shared it		16.82%	18
Received an email about it		0.00%	0
Saw it on social media		55.14%	59
Other (please specify)		28.04%	30
TOTAL			107

Q75 [Optional] What company do you work for?

Answered: 32 Skipped: 115