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Raspberry Pi Foundation Research No. 4







Code Club annual surveys 2017

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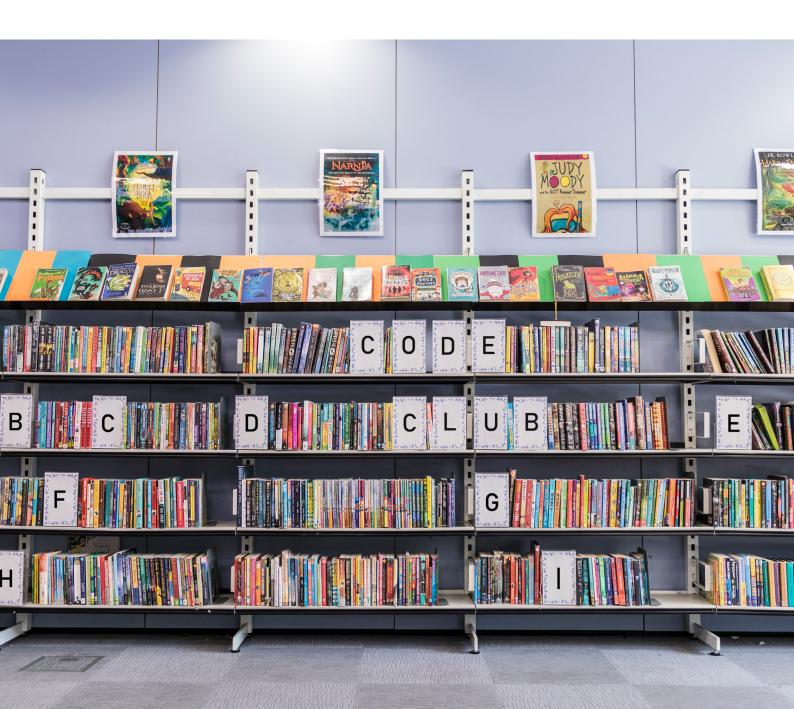
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Introduction

All over the world, passionate volunteers and educators are creating opportunities for children to learn about computing and digital making through Code Clubs. At the Raspberry Pi Foundation, we work hard to support these volunteers to run their clubs and to help new clubs get started.

In order to do the best job possible at this, we regularly gather feedback and ideas from the volunteer community. Every year we run an annual survey for Code Clubs in the UK and across the world to find out about the numbers of children taking part, the gender balance in clubs, the kinds of projects children are doing, and the challenges faced by the people running clubs.

This publication shares the findings of two of our surveys, one for Code Clubs based in the UK and another for those based outside of the UK across the world. Some of the questions we asked in these were similar, but we also had some specific questions we wanted to ask the international community. In future, we plan to collect the same information irrespective of location to help us find out how Code Clubs succeed and grow across the world even more clearly.

These surveys give a snapshot of what Code Clubs look like around the world at the end of 2017. We're already using the results to shape our support in 2018, and we will continue to look to the community to understand their needs. We would like to thank all those who took the time to complete these surveys in addition to the time they already spend bringing the power of computing and digital making to children all over the world.



Code Club UK 2017 end-of-year survey

Overview

In December 2017 we asked all UK volunteers and club hosts to complete a short online survey over a period of two weeks. The survey was designed to find out about the children in Code Clubs, about how people are using our project resources, and about their future plans for their club.

964 clubs completed the survey, 12% of the 7883 users we contacted. This is a relatively low proportion of all UK Code Clubs, so we are cautious about drawing strong conclusions from this data.

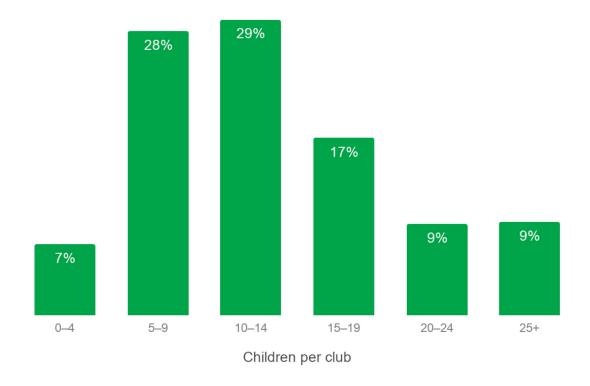
Key results:

- The average respondent to this survey has 13 children in their Code Club, and 41% of participants are girls.
- Most respondents (93%) reported that they intend to continue to run their clubs in 2018.
- 50% of respondents are already using our new online projects platform. Scratch projects are the most popular, with 92% of clubs having used them, followed by micro:bit projects at 32%, Python projects at 28% and HTML/CSS projects at 21%.
- 54% of respondents have used Scratch and at least one other programming language.
- 13% of respondents have taken part in another programme from the Raspberry Pi Foundation in addition to Code Club.

Results

How many children attend your Code Club on average?

- For the 12% of clubs that responded, the mean club size was 13 children, with a median of 12 children per club.
- The reported sizes of clubs ranged from 1 child to 50+ children. We assume those reporting larger numbers run multiple clubs or multiple sessions, and this is something we may ask more about in the future.
- The most common answers were 10 children (126 responses) and 12 children (115 responses.



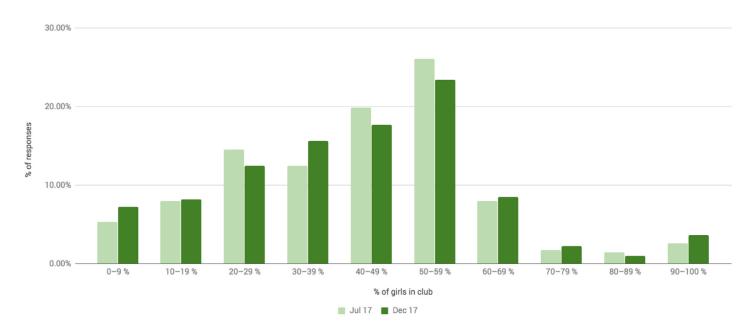
How many children in your club are girls?

Girls	Clubs
0-9%	68
10-19%	77

20-29%	117
30-39%	147
40-49%	166
50-59%	220
60-69%	80
70-79%	21
80-89%	9
90-100%	34

Respondents' answers were grouped for this table.

- On average, 41% of children at respondents' Code Clubs are girls (median 40%).
- The most common response was 50% girls (17% of responses).
- Responses to this question were similar to our previous survey in July 2017.



Respondents' answers were grouped for this graph.

Do you plan to continue running your Code Club in 2018?

Yes	862	92.88%
No	11	1.2%
Not sure yet	56	6%

- Over 90% of respondents are set to continue their clubs in 2018.
- Those who answered "No" or "Not sure yet" were asked:

Would you like our support team to get in touch about keeping your club running?

Yes, please	16	23.8%
No, thanks	51	76.2%

- Almost a quarter (24%) of respondents who were not set on continuing their club said that they would like additional support.
- They were contacted directly via email by our support team to find out if we could do anything to help.

Have you used our new projects platform in your sessions?

We have been introducing a new online platform for the Code Club projects that children work on, with lots of improvements in the way they are guided through projects. Code Clubs have been transitioning over to the new platform, and we wanted to understand more about this process.

Yes	483	50.2%
No	393	40.8%
I didn't know about it	87	9%

- Just over half of respondents have used the new projects platform at their Code Clubs.
- Only 9% of respondents did not know about the new platform.
- Clubs running for more than two years were the most likely to have used the new platform.
- The clubs running for between six months and two years were the most likely to be unaware of the projects platform.

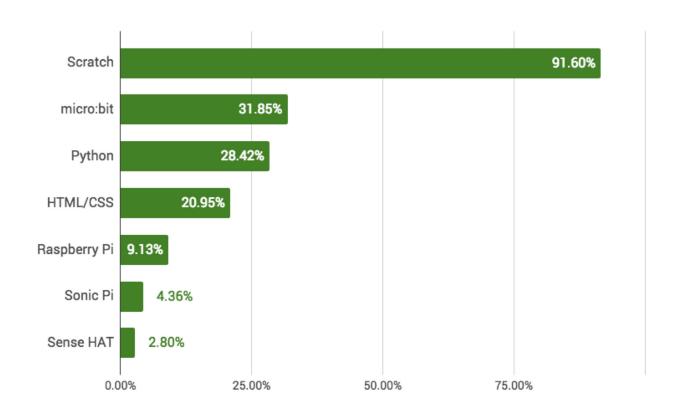
Have you taken part in any other programmes of the Raspberry Pi Foundation this year?

Astro Pi	52
Pioneers	52
CoderDojo	35
Raspberry Jam	17

- 35 (4%) respondents reported taking part in CoderDojo activities in 2017.
- 125 respondents (13%) reported taking part in another Raspberry Pi programme besides our coding clubs in 2017.

Which courses have your current club members undertaken so far?

Scratch	883
micro:bit	307
Python	274
HTML/CSS	202
Raspberry Pi	88
Sonic Pi	42
Sense HAT	27



	1	
Scratch only	426	45.76%
Scratch, micro:bit	103	11.06%
Scratch, Python	50	5.37%
Scratch, HTML/CSS, Python, micro:bit	47	5.05%
Scratch, HTML/CSS, Python	43	4.62%
Scratch, Python, micro:bit	33	3.54%
Scratch, HTML/CSS	33	3.54%
Scratch, HTML/CSS, micro:bit	25	2.69%
Python	12	1.29%
micro:bit	11	1.18%
Scratch, Raspberry Pi, micro:bit	10	1.07%
Scratch, Python, Raspberry Pi	10	1.07%

- 92% of UK clubs have tried Scratch, which is comparable with responses from clubs outside the UK.
- 46% of clubs have only used Scratch, meaning that more than half of clubs have tried a Code Club course other than Scratch.

Which operating system runs on the computers at your Code Club?

Windows 7	375
Windows 10	287
I don't know	89
Windows 8	73
Windows XP	40
Chrome OS	26
Raspbian	22
macOS	20
Mix	15
Windows (unknown)	10
Linux	6
iPads	2
Other	1

- More than 80% of respondents' Code Clubs use computers running a version of Windows.
- Most clubs use Windows 7 (38%) or Windows 10 (30%).

Code Club International 2017 survey

Overview

In October 2017, Code Club sent a 20-question annual survey to 2904 Code Clubs outside of the UK. The purpose of the survey was to gain a better profile of our volunteers and clubs, as well as to gather feedback.

580 clubs completed the survey, giving a 20% response rate. This was more than double the number of responses we saw to the 2016 annual survey.

In addition to insights into our impact and into volunteers' support needs, the survey allowed us to gain an overview of our international Code Clubs.

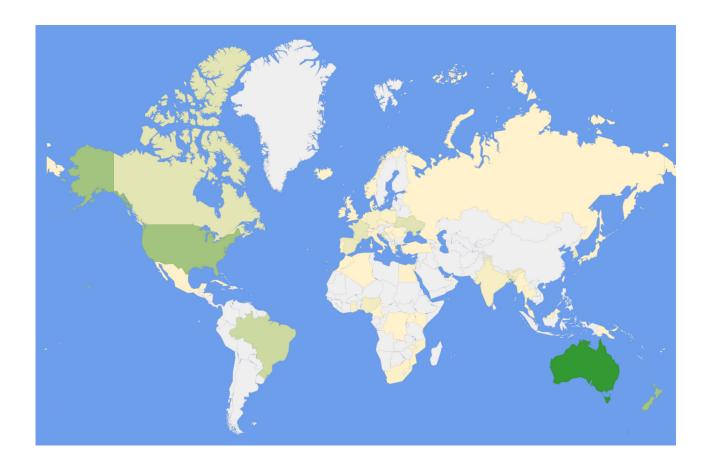
Key results:

- Overall, respondents reported that 39% of children attending their clubs are girls.
- 53% of respondents identified as female.
- The average number of children attending respondents' clubs is 15.
- Over three quarters of respondents agreed that attending children had improved their programming skills, had an increased interest in technology, and were better at solving problems as a result of attending Code Club.
- 66% of respondents' Code Clubs are held in schools.
- 45% of respondents' Code Clubs run after school, 19% run during class time.
- 87% of clubs that responded to the survey have children aged 9 to 13 attending.

The average respondent's Code Club outside of the UK is run in a school by a teacher or full-time professional, and is attended by 15 children in our target age group, 6 of whom are girls.

Results

Global responses



We collected responses from volunteers in 63 countries around the world. The countries we received the most responses from are:

- Australia (34.3% of responses)
- US (10.9%)
- New Zealand (10.5%)
- Brazil (6%)
- Ukraine (3.6%)

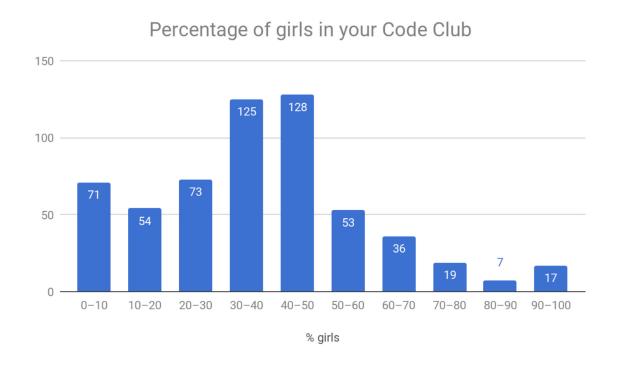
Club profile

How many children attend your club on average each week?

- The average reported size of clubs was 15 attending children per club.
- We assume that answers of '40+ attendees' actually represent multiple clubs at a venue, as we know some groups structure their activities this way.

How many girls attend your Code Club?

The average proportion of girls in respondents' Code Clubs was 39%.

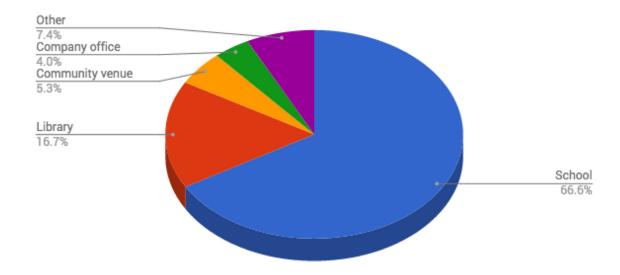


Age of children in your Code Club

- 87% of respondents' Code Clubs had children between the ages of 9 and 13 attending their clubs.
- Over a quarter of these clubs (26%) reported having children under 9 attending, and 17% said they had students over 13 attending.

Code Club venues

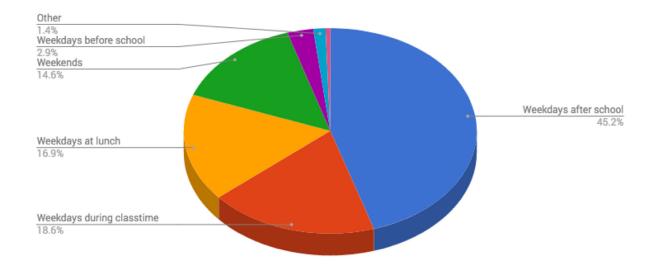
Two thirds (67%) of Code Clubs that responded are held in schools. Libraries were second most common at 16%, then community venues at 5.3%, and company offices at 4%.



What time of day does your club run?

- 45% of clubs that responded ran during the week after school.
- Approximately 50% of respondents ran their Clubs either at class time, lunchtime, or weekends, with a small number running before school or at other times, such as during school holidays.

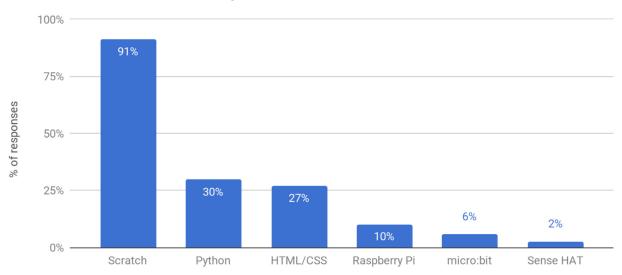
What time of day does your club run?



Which courses have your current club members undertaken so far?

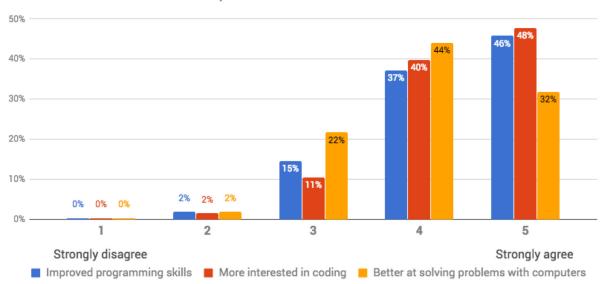
- Scratch was overwhelmingly the most popular of our courses (coding modules), followed by Python, HTML/CSS, and Python.
- Children in 48% of respondents' clubs had only worked on Scratch projects, while in the other 52%, children had worked on Scratch and at least one other course.

Which courses have your current Code Club students taken?



Code Club impact





Statement	Agreed with statement	Strongly agreed with statement	Mean response (out of 0 to 5)
The children in my club have improved their programming skills as a result of attending Code Club.	83.10%	45.86%	4.26
The children in my club are more interested in coding and programming as a result of attending Code Club.	87.59%	47.76%	4.33
The children in my club are better at solving problems using computers since attending Code Club.	76.03%	31.90%	4.05

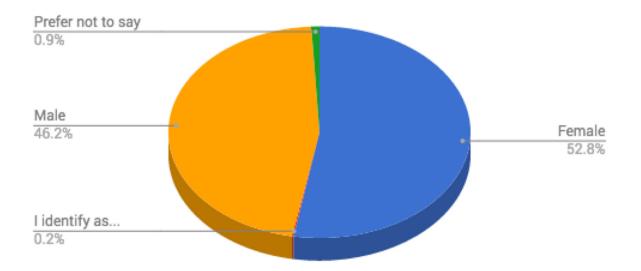
Agreement with a statement is defined as an answer of either 4 or 5.

Volunteer profile

As part of the survey, we wanted to find out more about our community.

- Responses on the gender of volunteers were fairly equally balanced, with 53% saying they identified as female and 46% identifying as male.
- We gave the option for respondents to report other gender identities through an open question, or to not report their gender identity.

What gender do you identify as?



■ In response to the question "Which of these best describes you?" (regarding volunteers' occupations), we received a range of responses since we allowed respondents to choose multiple options. The top ten unique responses were:

Unique response	% of respondents
Working full-time	32.76
Teacher	18.62
Working full-time, teacher	16.90
Working part-time	4.48
Student	4.14
Working part-time, teacher	3.79
Librarian	3.28
Working full-time, librarian	2.93
Working full-time, teacher, librarian	2.59
Retired	1.90

Internet access

Can you access the internet with the computers or devices you use at your club?

- We found that 95% of Code Clubs were able to access the internet in their club.
- Countries with the lowest proportion of clubs with access to the internet included Brazil, France, and Australia.

Projects volunteers would like to see

Do you have ideas for projects you want or need?

There were a wide range of responses. Some of the most common or interesting project ideas were:

- Projects for devices such as Arduino, micro:bit, Sphero, Makey Makey, etc.
- Projects in more coding languages, e.g. Basic, Java
- Topics that are aimed at girls
- Robotics projects
- Projects that link learning to real-world applications or to school subjects

Final feedback

Volunteers gave some interesting final feedback and comments. Common themes included:

- Requests for resources and swag, such as a Code Club FAQ sheet, editable certificates, stickers, T-shirts, purchasable posters, intro packs for new clubs, etc.
- A suggestion for a Code Club volunteer mentoring programme
- Mini coding lectures/quizzes to be added to projects
- A secure space for students to share projects
- More projects
- Difficulty getting started or finding volunteers

Comments from volunteers

"Thank you for welcoming us, we are so keen yet green, but I feel part of something new and exciting, and at 52 it's a whole new world. I'm loving it and succeeding in an area where I wasn't sure I would."

"I love bringing a coding experience to children who need it most. While they don't code themselves very much yet, they are learning the fundamentals and I hope will stay interested in technology after I leave this school. I have appreciated the support Code Club has offered me this year."

"This is a great resource and for teachers like me who are not necessarily confident in coding ourselves. The tools provided mean we feel we can support the students and they don't miss out on this vital skill development...and hopefully my skill development too!:)"



Conclusion

These surveys have helped us to better understand the children taking part in Code Clubs, the activities they are doing, and the support that volunteers need to run clubs.

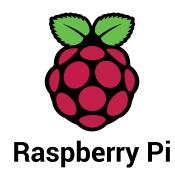
Of the Code Clubs that responded to the survey in the UK, the average club has 13 children, with 41% girls. The response rate to this survey was relatively low, so we are cautious about extrapolating this to all UK clubs and plan to improve our response rate in future surveys. Clubs that responded to our survey outside of the UK seem to be a little larger on average, with around 15 students, and have a similar average proportion of girls at 39%. In the UK, 93% of clubs surveyed plan to continue into 2018. We contacted those respondents who said they wanted direct support to keep going, and provided them with help to do so.

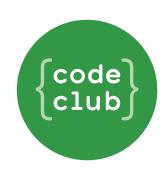
50% of UK clubs that responded are using our new online projects platform. Our Scratch projects are the most frequently used, and 54% of clubs use at least one of our other coding modules. The picture outside of the UK appears to be very similar, indicating that while Scratch resources are very popular, children at many Code Clubs have the opportunity to branch out into other programming languages as well.

Outside of the UK, we asked some questions about the impact of Code Clubs on children. The results were very positive, with 83% of volunteers saying children had improved their programming skills, 88% saying they are more interested in programming, and 76% that they are better at solving problems as a result of attending Code Club. We plan to use similar questions across the world next year to continue to develop our understanding of the impact Code Club is having.

As a community organisation, it is important that we are guided in our work by the experiences of the volunteers, educators, and other professionals that facilitate Code Clubs. These surveys have helped us to assess how our work towards our mission went in 2017, and they have given us information to shape how we'll progress in 2018. We would like to thank all the people who responded for taking the time to help us by completing these surveys, as well as for the considerable time and effort they put into creating opportunities for young people.









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