digitalXtra fund

We awarded...

£90,000

for digital skills activities in Scotland...

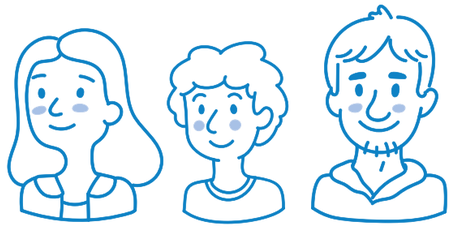
across **30** local authorities

Aberdeen	1,012
Aberdeenshire	654
Angus	236
Argyll & Bute	3
Comhairle nan Eilean Siar	90
Dumfries & Galloway	107
Dundee	15
East Ayrshire	3
East Dunbartonshire	3
Edinburgh	893
East Lothian	363
East Renfrewshire	148
Falkirk	37
Fife	53
Glasgow	305
Highland	927
Inverclyde	6
Midlothian	67
Moray	1,325
North Ayrshire	3
North Lanarkshire	302
Orkney	4
Perth & Kinross	104
Renfrewshire	3
Scottish Borders	11
Shetland Islands	105
South Ayrshire	77
South Lanarkshire	207
West Dunbartonshire	58
West Lothian	46

Engagement per Local Authority

We supported **22** initiatives and reached...

7,167



children and young people including...

3,585 girls and young women

Age range of participants

269 Early Learning & Childcare

4,809 Primary School age

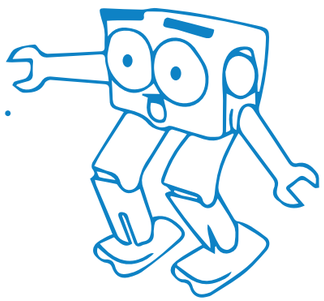
2,089 Secondary School age

We also donated

1,130 micro:bits...

to schools and organisations across Scotland in partnership with the Micro:bit Educational Foundation, including 660 micro:bits during COP26 for activities and lessons related to climate tech.

Other equipment purchased by grant recipients included...



LEGO Education SPIKE sets, Sphero BOLTs and RVRs, Marty the Robot, VEX GO, Dash and Dot, InO-Bots, Blue-Bots, Botley The Coding Robot, Code & Go Robot Mouse, DJI robots and drones, F1 in Schools, Minecraft Education, tablets and laptops, micro:bits and various accessories.

Industry Engagement

Working with so many outstanding educators and keen industry partners, Digital Xtra Fund is perfectly placed to enable meaningful industry engagements with young people. In October 2021, the Fund launched a new online platform to facilitate engagements more easily between our industry partners and grant recipients. Through this platform, 15 requests for industry engagement were fulfilled including:

12 in-person and online engagements

2 pre-recorded resources

24 careers in tech case studies

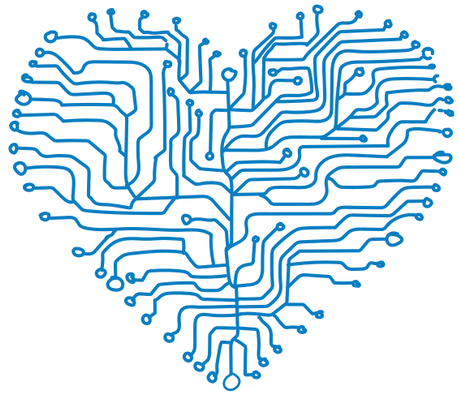
In total, 51 volunteers contributed approximately 103.5 hours engaging with 1,325 young people.

In addition, volunteers from industry, government, and the education and skills sectors provided their time and expertise assessing applications to help Digital Xtra Fund determine the next cohort of 35 supported initiatives for 2022/23.

In total, 40 volunteers contributed approximately 282 hours evaluating 94 grant applications

Ethics in Tech

As part of the Scottish Government's report on 'Building Trust in the Digital Era', Digital Xtra Fund began development of three new activities to engage young people about Ethics in Technology. The goal is to not only teach young people the skills needed to create with technology, but also empower them to understand what elements must be considered beyond technical needs as well. The three activities are:



Tech We Trust

Targeting ages 10-14, this learning pack and interactive online activity created by Digital Skills Education will highlight the dangers of bias in algorithms before teaching young people how to identify and tackle bias within code.

Ethics of Online Safety and Security

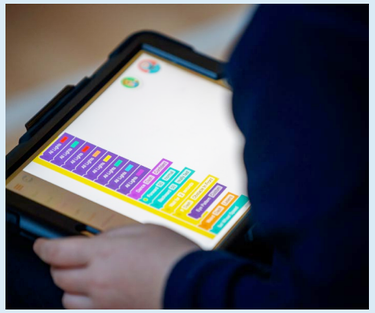
The latest series of 'Maddie is Online' out of Robert Gordon University will focus on the ethics of online safety and security including resources, workshops and an opportunity for S1 and S2 pupils to develop stories incorporating lessons from the module.

Digital Ethics Badge

A new Gold-level Digital Ethics Badge from iDEA will allow all ages to explore various ethical situations related to digital tech, a framework by which to approach these, and the role of a Digital Ethicist and ethics within organisations.

Case Study 1

Southmuir Primary School: Girls' STEM & Robotics Club



Southmuir Primary School, a small, rural school in Angus, set up an all-girls STEM & Robotics Club where participants learned coding and about various careers in STEM. The club provided 25 girls from P4 to P7 an opportunity to get hands-on with equipment such as Dash & Dot robots, VEX GO, and micro:bits. The girls also earned digital badges and certificates for completing different Code.org courses.

Universally, the Club saw an increase in confidence and enjoyment of coding with several requests to begin offering coding activities in class time too. The girls particularly enjoyed the Club's creative approach to learning about technology including a highlight 'Strictly Come Dashing' Christmas Competition where the girls programmed their Dash robots to 'dance' to their favourite Christmas song. The boys were so envious of the girls' enthusiasm for coding that they requested the school set up an equivalent club which they could attend, which has now been established (with support from the Girl's STEM Club).

The Club also included a range of careers talks from cybersecurity to games design which helped the girls understand the many different roles in digital tech and the various skills required for these. At the end of the term, when asked what types of careers they would like to pursue, five of the girls expressed a clear desire to pursue a career in robotics or game design.

Karen-Ruth Phillips, Principal Teacher for Raising Attainment who ran the club, commented, *"The club has fostered a fun way of learning coding and STEM. Engagement levels have been really high. The girls have not only enjoyed it, they have even got their parents looking into additional coding and STEM activities as well.*

"The girls were a pleasure to work with and very patient with any technical glitches. They realised that soft skills such as teamwork and communication were just as important as the ability to code correctly."

Angela Rowan, a P7 Class Teacher at the school, also observed, *"I saw a big improvement in both confidence and competence of all attendees by the end of the year. The club stimulated the meta cognitive skills of the girls, which is such a positive element to their education."*

Perhaps most important though, is what the girls thought:

"I now feel more confident with electronics." Lauren, age 10

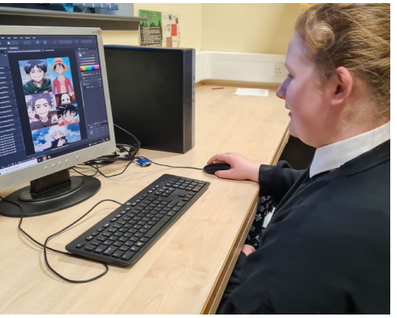
"STEM Club made me realise I want to be a robot scientist." Erin, age 8

"I enjoyed doing the Code.org course. I completed the course at home and even got a certificate." Kaitlin, age 9

S.P.S.
SOUTHMUIR PRIMARY SCHOOL

Case Study 2

Vale of Leven Academy: Creative Coding Club

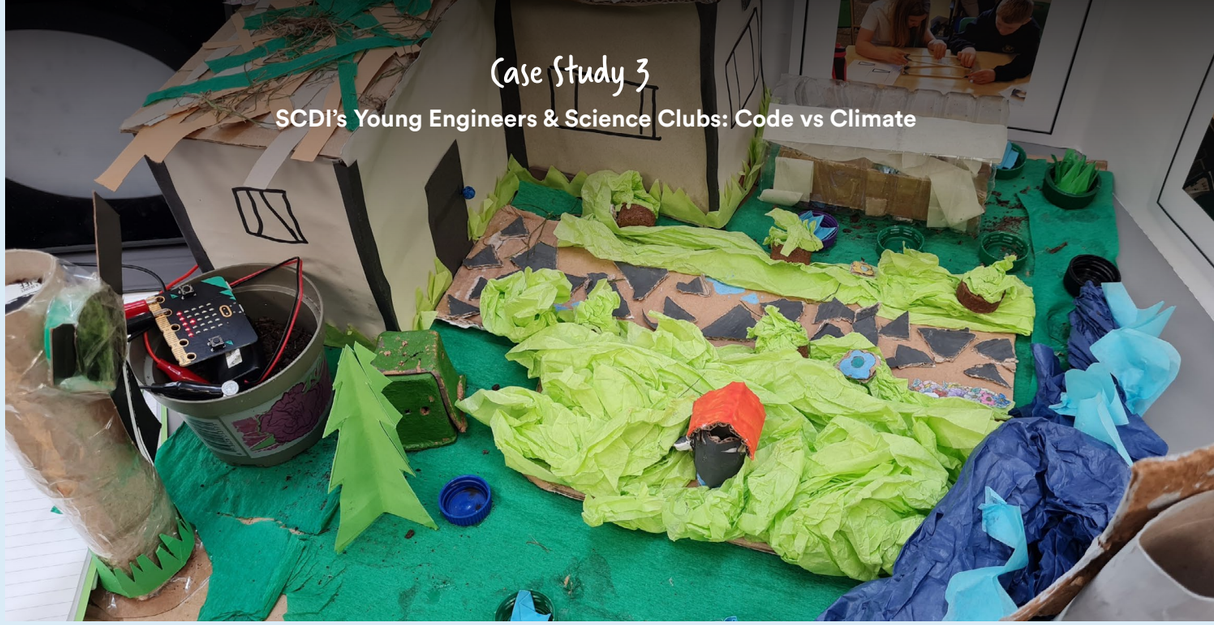


Vale of Leven Academy in West Dunbartonshire developed a Creative Coding Club with a focus on inclusion, especially amongst female students. The Club offered sessions on LEGO robotics, micro:bits, Sphero BOLTs, Minecraft Education, character design, Twine, Scratch, Kodu, as well as regular gaming sessions. By Easter, learners were choosing their own projects based on their interests.

In the beginning, learners indicated they were most interested in Games/Software Design (48%) and Web Design (13%) with all other responses being non-computing disciplines. At the end of the year, 82% of respondents indicated an interest in Games/Software Design, 64% in Technologies, 54% in Web Design, and 37% in Data Science. In the same survey, 90% of respondents now stated Computing Science was a particular field of interest for them.

Ruth Bain, Computing Science teacher at the Academy, felt the social benefits of the club were significant too, *"I am particularly proud of the social aspect of the club. It allowed isolated young people to make friends from different classes and year groups during a difficult transition after COVID. The club helped form close ties between people, without becoming exclusive, and a strong sense of community has developed. Senior pupils also helped S1s get over the intimidation of starting 'big school'. Feedback from club members has been overwhelmingly positive with all regular attendees asking to return.*

"The representation of girls in the group has also been a huge success – prioritising female engagement at the beginning allowed them to feel ownership of the club. The girls now often come to me with issues, and I am able to help them. The club has offered them a safe space."



Case Study 3

SCDI's Young Engineers & Science Clubs: Code vs Climate

Code vs Climate by SCDI's Young Engineers & Science Clubs gives educators and young people the physical and digital tools they need to re-imagine a household device or system to save energy, money, and help tackle climate change.

Over 125 young people across Scotland learned to code using a micro:bit before exploring energy use in their school or home. Learners were then asked to develop a programme which could be incorporated into an energy-saving application or device based on the micro:bit and accessories. The lesson culminated with participants presenting about their inventions during an event celebrating their achievements.

Many schools provided feedback about how the activities sparked discussions around smart technology, sustainability, and careers in tech. One school in West Lothian commented, *"We are a Scottish Attainment Challenge school due to the school's SIMD banding. There are barriers to learning for our children related to poverty and additional needs.*

"This project was inclusive for all our learners - the materials made available, the task being open ended for interpretation. This type of experience isn't offered elsewhere and was so valuable".

Thomas Wild, Programme Manager at YESC stated, *"Giving young people opportunities to learn about climate tech is key to achieving the goals set out at COP26. These young innovators will be the ones to develop the technology that will reverse the climate crisis. In addition, giving pupils a platform to present is hugely valuable for their communication skills and confidence. Being able to speak with pride about STEM work they have been involved with is so significant."*

yesc Young Engineers and Science Clubs Scotland

Feedback from Round VI (2021/22) Grant Recipients

Digital Xtra Fund's success is measured not just in pounds awarded or numbers engaged, but also through the feedback we receive from grant recipients about how the grant awards has helped them create unique and meaningful experiences for young people. Below is a selection of some of this year's wonderful feedback:

Using LEGO SPIKE kits to look at coding in practical ways has been one of the best things to happen to our computing dept with regards to pupil engagement. The folks at Digital Xtra Fund couldn't have been better in helping us to figure out exactly what to spend our grant on. Top people that have really helped change our practice going forward, for the better of all.

Computing Teacher, Shawlands Academy

Digital Xtra Fund helped us as a school increase engagement of pupils with digital and STEM Technology. We had pupils wanting to stay in late on a Friday even when the holidays were arriving.

Principal Teacher Technologies, Arbroath Academy

We have already seen an increase of students opting to follow Computing Science and Design and Manufacturing courses at the school.

Depute Rector, Kirkcudbright Academy

Without the funding, the children would have been unable to access a similar opportunity within a 20-mile radius and a number of children within the group would be unable to travel to said opportunities.

Headteacher, Athelstaneford Primary School

Without question, participation in our Dynamic Digital Developers club engaged pupils in meaningful learning experiences using a range of digital technologies. Our pupils have developed vital skills for learning, life, and work; many of whom commented on how they would like to code games and operate drones in the future. Simply providing access to technologies our pupils had never experienced before and allowing them to explore and have autonomy over their creations helped to inspire our pupils.

Class Teacher and Digital Leader,
St. Andrew's Primary School, Airdrie

The funding allowed us not only to purchase equipment, but it also opened many other doors of opportunities for our learners

Teacher and Digital Leader of Learning, Shawlands Primary School

The children were enthusiastic, challenged, engaged, and most importantly had fun. I was delighted to see the progression of all the children from the start of the club to their coding abilities in the last term. I was proud of the fact that the children were genuinely loving attending and looked forward to having their session. It was fantastic to see them continue to want to come throughout the year and build their confidence, sharing and working together.

APT Digital Literacy Teacher, Warddykes Primary School

Gigabyte Partners

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With Thanks

Be Positive, I to I Communications

To find out more please contact us

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