Theory of Change

What needs to change

Digital technologies have already transformed the world and the pace of technological change is accelerating all the time, including with the advent of new innovations in artificial intelligence (AI) and machine learning. Too many young people are missing out on the enormous opportunities this brings.

Being an effective end user of technology is important, but insufficient. Young people need to be digital protagonists, able to confidently engage with and shape the digital world. This will expand their opportunities to access meaningful work, empower them to solve the problems they care about, and enable them to express themselves creatively.

Yet, access to the opportunities to learn how to create with computers and digital technologies remains unequal, meaning that too many young people grow up as passive consumers of technology. Too much still depends on who your parents were, where you were born, what access you have to schools, teachers, and technology, and, even if you have all of that, whether those opportunities feel relevant to your life.

Many parents and educators themselves lack the skills and knowledge to effectively support young people to learn about computing and digital technologies. Investing in their learning is essential to opening up opportunities for all young people and breaking the cycle of educational disadvantage.

That is why our mission is to enable all young people to realise their full potential through the power of computing and digital technologies.

Our impact

As a result of our work, more young people are able to take advantage of the opportunities that computers and digital technologies offer to transform their own lives and communities, to contribute to society and the economy, and to help address the world's challenges. This impact looks different for each young person we work with and can include:

- **Qualifications.** Academic or vocational qualifications in computing, computer science, engineering, and related fields.
- **Careers.** Jobs in engineering, programming, computer science, AI, and which involve using technology to solve problems, for example, in healthcare, education, and the environment.
- **Entrepreneurship.** Creating value for themselves and others through starting new commercial and social enterprises.
- **Citizenship.** Making better choices about the use of technology for themselves and their communities.
- **Creative expression.** Being able to make things with technology to express themselves and just for the joy of it.

Outcomes for young people

The more immediate outcomes we support young people to achieve are to:

1. Build knowledge and skills. Young people develop the technical knowledge and skills to use computers and digital technologies effectively and independently, along with wider life skills, such as teamwork, problem solving, and communication.

2. Understand opportunities and risks. Young people gain an understanding of how technology is changing the world and the role it could play in their lives, including future education and career opportunities, the societal and ethical issues involved with digital technologies, and how to critically evaluate digital technologies and their application.

3. Develop mindsets and confidence. Young people develop the mindsets to confidently engage with technological changes and to continue learning about new and emerging technologies, like AI and data science. Young people feel that computing is for them and that they are part of a community.

What we do

Learning experiences for young people

We design learning experiences and products for young people which are fun, engaging, and which enable them to learn about computing and how to create with digital technologies. We provide opportunities for young people to learn independently, to work in teams, and to support their peers as volunteers and mentors. We do this through:

- **Online resources and projects** for all skill levels, utilising a wide range of technologies and contexts.
- **Coding clubs** where young people learn together in informal settings.
- **Challenges and competitions** that inspire young people to get creative with digital technologies.

We design learning experiences and products that are universal and accessible to all. We systematically reduce barriers to access and work hard to ensure learning experiences and products are culturally relevant, translated into multiple languages, and reflect the best research into how to increase participation. We invest in making sure that our learning experiences and products are being accessed by young people who experience educational disadvantage or who come from traditionally underrepresented backgrounds. That is reflected in our partnerships, marketing and incentives, storytelling, and role models.

We use freely available and open source software that reduces barriers to accessing our learning experiences, and through Raspberry Pi Ltd, we provide access to low cost, general purpose computers for education.

Resources and support for educators

We support teachers, youth workers, volunteers, parents, and other educators to develop their own skills and knowledge, to inspire young people and help them learn about computing and digital technologies in both formal education and nonformal learning environments. This includes:

- **Curriculum and resources**, including a comprehensive computing curriculum with all of the associated resources and materials for teachers to use in the classroom and a wide range of extra-curricular projects and resources.

- **Professional development and training** with both online and in-person courses for educators covering subject knowledge and pedagogy, helping them to develop their own skills and confidence alongside young people.

- **Support and guidance** to help educators to run safe and effective learning experiences like coding clubs, challenges, and competitions.

Research and thought leadership

We share what we learn from research and practice to help elevate the state of computing education more broadly and we advocate for policy and systems change. We achieve this through:

- **Research.** We learn from existing research and carry out our own original research to deepen our understanding of how young people learn about computing and how to create with digital technologies.

- **Evaluation.** We are rigorous in evaluating our own impact and challenge ourselves to incorporate what we learn into our work.

- **Thought leadership.** We share the insights and learning from our research and practice with policy makers and the wider education system, and make recommendations for policy based on our expertise and experience.

Our values

Everything we do is underpinned by our values:

- **Democratising access to computing.** We believe that every young person — whatever their background or access to resources — should have the opportunity to learn how to create with digital technologies. We are committed to supporting young people who experience educational disadvantage, or who come from traditionally underrepresented backgrounds, into computing. We bring that commitment to life in the design of our learning experiences and educational products, the choices we make about partnerships, our research agenda, and our marketing and outreach efforts.

- **Digital makers, not consumers.** We believe that all young people should have opportunities to learn how to independently create and solve problems with digital technologies. We call that digital making, and we think that it is one of the best ways to learn about computing. We want young people to see themselves as digital makers and not just consumers of technology products.

- **User- and community-led.** We are part of a global community of young people, parents, educators, volunteers, makers, and businesses that share our mission and bring it to life through their actions. We are active members of this community ourselves, as learners, mentors, and organisers. We make sure that we understand our users and communities, and we design learning experiences and products that address their needs and aspirations. We proactively seek out user and community feedback and use it to drive improvements.

- **Focused on impact.** We use research and evidence as the basis for everything we do. We invest time in learning from the best research in the field, we conduct our own original research, and we challenge ourselves to incorporate what we learn into our work. We are rigorous and transparent about the impact we are having. We use data to shape our decisions.

- **Open and collaborative.** We develop partnerships with mission-aligned nonprofits in other countries and work with them to adapt and use the educational resources and products we create to bring computing education to more young people in their countries. We particularly focus on building partnerships with organisations from low- and middle-income countries, and with organisations that serve educationally disadvantaged or traditionally underrepresented communities.