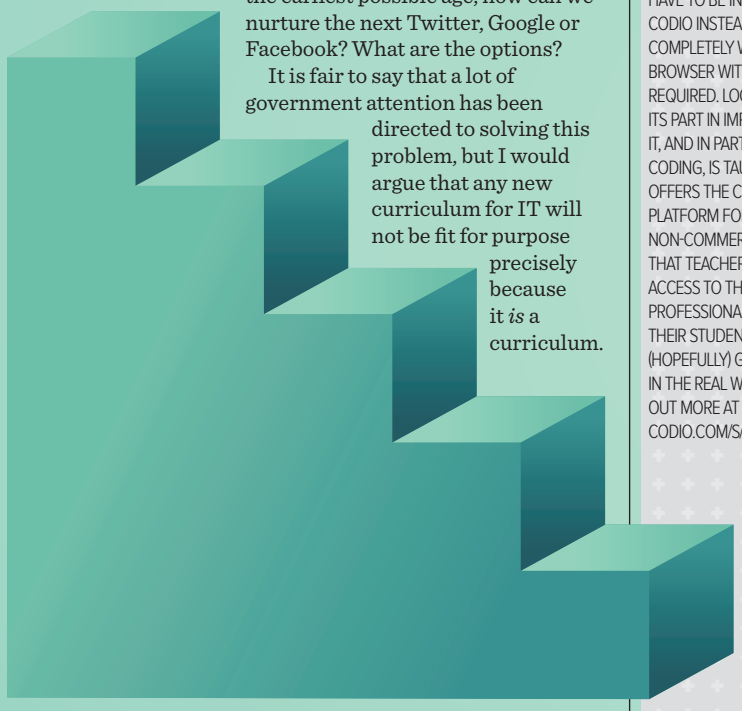
The IT Crowd

Is crowd-teaching, not a new curriculum, the real answer to our IT skills crisis? **Freddy May**, CEO of Codio, explains why he thinks it could be...

Whether checking our bank statements, updating our Facebook status or texting our friends, computers underpin everything we do. Yet most people understand very little about how computers actually work, and the next generation risks knowing even less. This is a significant issue for the UK economy that needs to be addressed fast.

Computer science, and in particular the art of coding and software development, is not given the prominence that it should have in schools, especially among younger children. But the issue does not stop there. Our universities, too, are seemingly failing to deliver the calibre of software developers demanded by business. This issue is not unique to the UK either, it is a global (or perhaps Western) problem. In the US for example, the undisputed heartland of tech, less than 2.4% of college students graduate with a degree in computer science – fewer than 10 years ago. The situation in the UK is likely even worse. We need to train the next generation of developers, and fast. But without coding being taught from the earliest possible age, how can we nurture the next Twitter, Google or Facebook? What are the options?



It is fair to say that a lot of government attention has been directed to solving this problem, but I would argue that any new curriculum for IT will not be fit for purpose precisely because it *is* a curriculum.

ABOUT THE EXPERT

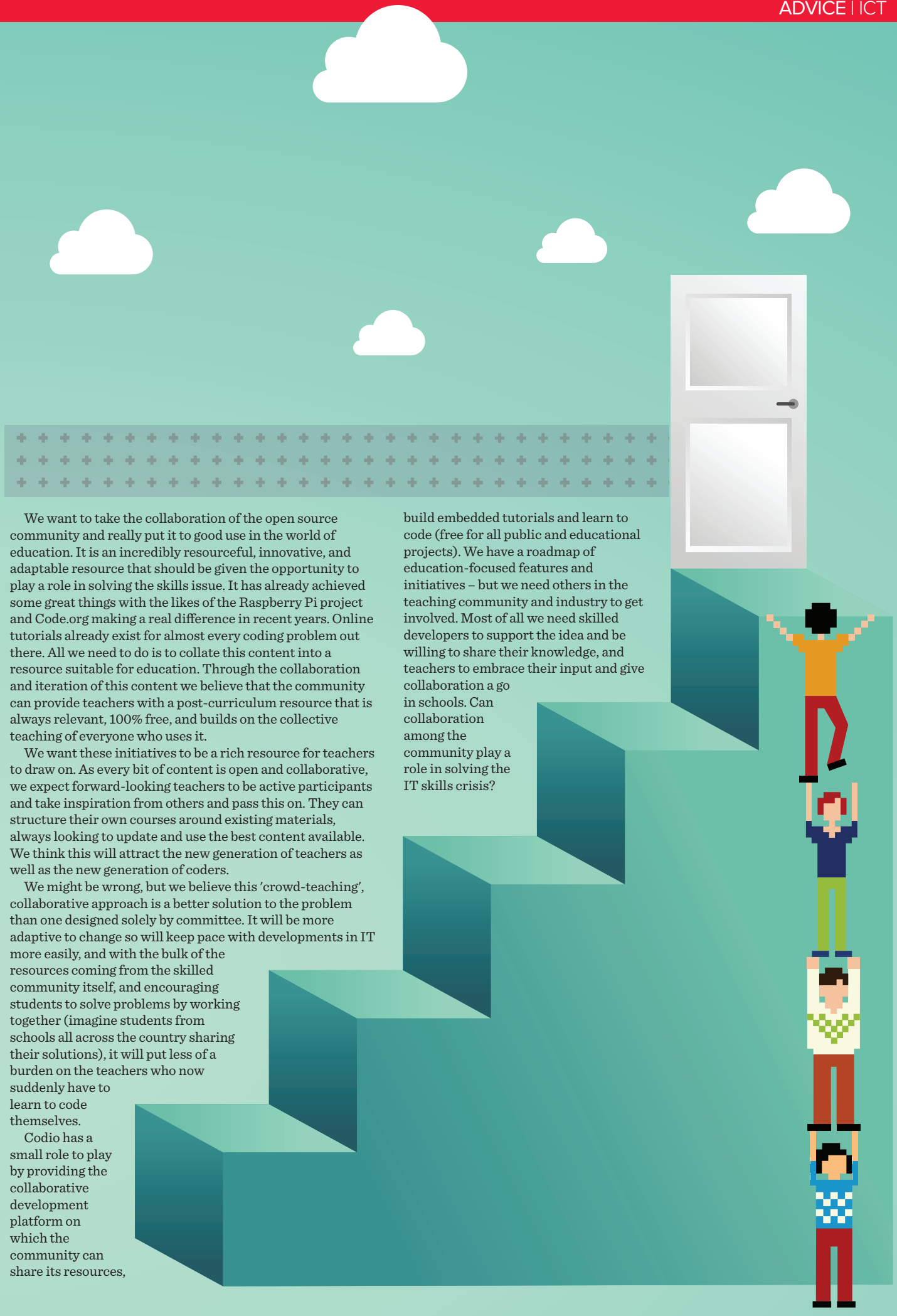
FREDDY MAY IS CEO OF CODIO, A 100% WEB-BASED DEVELOPMENT AND LEARNING PLATFORM FOR STUDENTS AND TEACHERS TO DEVELOP WEBSITES AND APPS COLLABORATIVELY. IN CONTRAST TO MOST SOFTWARE AND WEB DEVELOPMENT TOOLS THAT HAVE TO BE INSTALLED, CODIO INSTEAD RUNS COMPLETELY WITHIN A WEB BROWSER WITH NO SIGN UP REQUIRED. LOOKING TO PLAY ITS PART IN IMPROVING HOW IT, AND IN PARTICULAR CODING, IS TAUGHT, CODIO OFFERS THE COMPLETE PLATFORM FOR FREE FOR NON-COMMERCIAL USE, SO THAT TEACHERS HAVE ACCESS TO THE SAME PROFESSIONAL TOOLS THAT THEIR STUDENTS WILL (HOPEFULLY) GO ON TO USE IN THE REAL WORLD. FIND OUT MORE AT CODIO.COM/S/EDUCATION

Children need to be exposed to coding – not just computers – at an early age, in the same way they are exposed to maths and English. Computer science must be given its rightful place as the 4th science in schools. While the government hasn't always got it right, it must be credited with taking the bold move of suspending the existing ICT curriculum for 11-16 year olds in September last year after it determined that the course was not fit for purpose.

However, while suspending the outdated curriculum was an important first step, more needs to be done. First, it needs to be replaced with something more suitable, and secondly, quality resources need to be put in place to support it. Many of us involved in software and web development professionally question whether yet another rigid curriculum designed by committee is the right solution. We propose something more flexible that is more akin to the dynamic world of IT. At the same time, irrespective of what shape the new curriculum takes, if it places more emphasis on coding (which it should), then teachers need to be given the necessary support. Teachers cannot teach the next generation of coders if they do not know how to code themselves, yet having been funnelled through an outdated curriculum themselves they need support to get there. It is wholly unrealistic to expect the country's legion of ICT teachers to suddenly be able to teach the likes of HTML, JavaScript and C++ by next September (the date the new ICT curriculum is expected to be introduced). Teachers need support from those already in the industry.

We believe that a 'post-curriculum' approach is the answer to these issues. The world's developers, working together, can do a better job of providing the learning materials, infrastructure and motivation needed to train the next generation of developers than a rigid curriculum. Just take a look at the open source community. It is populated by very smart, community-oriented people who know how to code, and many of whom are all too happy to try to explain how things work. Take a look at GitHub, which alone has nearly 4 million developers working collaboratively.

Open source software is at or near the centre of every single great IT company without exception. Ask Google, Twitter, Facebook, IBM, Accenture – open source works and is used extensively. Apply the open source approach and ideals to tutorials and teaching people to code, whether beginner, intermediate or advanced, and you have a recipe for success.



We want to take the collaboration of the open source community and really put it to good use in the world of education. It is an incredibly resourceful, innovative, and adaptable resource that should be given the opportunity to play a role in solving the skills issue. It has already achieved some great things with the likes of the Raspberry Pi project and Code.org making a real difference in recent years. Online tutorials already exist for almost every coding problem out there. All we need to do is to collate this content into a resource suitable for education. Through the collaboration and iteration of this content we believe that the community can provide teachers with a post-curriculum resource that is always relevant, 100% free, and builds on the collective teaching of everyone who uses it.

We want these initiatives to be a rich resource for teachers to draw on. As every bit of content is open and collaborative, we expect forward-looking teachers to be active participants and take inspiration from others and pass this on. They can structure their own courses around existing materials, always looking to update and use the best content available. We think this will attract the new generation of teachers as well as the new generation of coders.

We might be wrong, but we believe this 'crowd-teaching', collaborative approach is a better solution to the problem than one designed solely by committee. It will be more adaptive to change so will keep pace with developments in IT more easily, and with the bulk of the resources coming from the skilled community itself, and encouraging students to solve problems by working together (imagine students from schools all across the country sharing their solutions), it will put less of a burden on the teachers who now suddenly have to learn to code themselves.

Codio has a small role to play by providing the collaborative development platform on which the community can share its resources, build embedded tutorials and learn to code (free for all public and educational projects). We have a roadmap of education-focused features and initiatives – but we need others in the teaching community and industry to get involved. Most of all we need skilled developers to support the idea and be willing to share their knowledge, and teachers to embrace their input and give collaboration a go in schools. Can collaboration among the community play a role in solving the IT skills crisis?