Computer programming with a robot that is a toy at heart

March 20 2014

John Ginger, a recent Engineering graduate, is one half of a team developing a small robot to help children learn programming and robotics while they play.

He has founded Robotiky with fellow University of Cambridge alumnus Matt Screeton. Within two months of their initial idea, they secured seed funding for a prototype robot, wrote the software and ran trials with hundreds of schoolchildren.

They put demonstration software on their website, www.robotiky.com ,

and have had feedback from the UK, the United States and New Zealand – some teachers even used it with pupils before the demo was finished and without a robot.

With the introduction of programming and robotics into the ICT curriculum and a global focus on making youngsters technically literate, John and Matt want to distribute robots worldwide by September 2014 – and they hope to raise £25,000 on the KickStarter crowdsourcing platform (see kck.st/1eldFqb) by April 9 to develop their product.

The pair say: "We like to move quickly because we know the world isn't going to wait around.

"We believe the kids of the future should be creating, innovating and shaping the world in this new digital age. But the first steps into programming can be confusing and daunting, particularly for young children, so we have made a programmable toy robot.

"Learning shouldn't be a chore and it doesn't have to be. We anticipate Robotiky will become part of children's play time, something they want to do, not that they have to do. Robotiky is designed to inspire the next generation of programmers, engineers and web designers."

Children start with 'drag and drop' exercises and, with the help of online tutorials in text-based programming languages, build coding skills to get the Robotiky to follow lines, avoid obstacles and react to other changes in its environment.

Euan Willder, Head of Physics at Comberton Village College, Cambridgeshire, says: "Our students sampled the Robotiky online introduction to computer programming during two science club sessions. The highlight was downloading their completed programme onto an actual robot.

"The gradual upgrade in sophistication of the tasks allowed the students to quickly meet more challenging tasks, with further opportunities to write their own code. I would highly recommend it."

Students gave their approval, with Lilly, aged 10, saying: "I like it when we get to see the robot move, knowing that we made it do this." Sam, 12, was more concise: "Two words – mind blown!"

Matt studied Natural Sciences followed by a Masters in Materials Science. John, who graduated in 2012, says: "This has been an exciting adventure which has been a great opportunity to use the manufacturing skills learnt at the IfM in practice."

Provided by University of Cambridge