

# Keeping to your New Year's resolutions with PiFace

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After a festive period of excess, a January diet is one of the most common New Year resolutions for many people.

Sticking to it, however, is harder, with temptation around every corner and inside every cupboard.

Now University of Manchester scientists have come up with a unique deterrent – a talking, tweeting chicken guarding your cupboards to shame hungry [dieters](#) into abstaining.

The chicken, which not only barks out orders to sneaky snackers, but even tweets that person's [Twitter](#) account to publicly shame them if they stray, uses a [Raspberry Pi](#) – a tiny, single-board computer.

Raspberry Pi and PiFace, an add-on which powers real-life applications, are the simplest and most user-friendly ways for computers to interface with the world, and are being used by University of Manchester scientists to inspire the next generation of computer whizzkids.

The credit-card sized computers have a vast range of potential applications that will get young people fired up for computing. As well as the cupboard watcher, The University has helped youngsters make birdboxes that [tweet](#) and photograph birds, control Scalextric cars and build interactive toys that react to the weather. [London Zoo](#) is also interested in collaborating to record animal movements.

The academics, from the University's School of Computer Science, have run a series of workshops for schoolteachers aiming to transform the teaching of computing in schools.

Raspberry Pi and PiFace put the fun back into computing and academics hope to be a major influence on changing the way the schools and society view the subject.

Academics have found that schoolchildren coming into University have a much lower level of technical knowledge than in previous years. The Government is keen on improving how computing is taught in schools using a scientific approach to the subject.

Raspberry Pi was developed by the Raspberry Pi Foundation with the aim of improving teaching of basic computer science in schools.

PiFace devices sit on top of the Raspberry Pi to control the real world – powering motors, controlling robots, triggering cameras and using sensor networks. With the Pi they have all the capabilities of a computer but are more flexible and can be embedded in the real world – costing as little as £40 per kit.

Dr David Rydeheard, from the School of Computer Science, said: "This is an exciting development, taking computing out of its box and allowing schoolchildren to play with the science of computing.

"Schools have physics, chemistry and biology laboratories to teach these subjects. The combination of Raspberry Pi and PiFace creates a cheap personal laboratory for [computer science](#) that every child can own.

"The future wealth of our country depends crucially on our expertise in the science and technology of computing. At the moment schools fail to teach their students computing: how to design and build computing

systems. Raspberry Pi and PiFace are ideal for schools to use to teach this key subject."

Workshops for teachers using Raspberry Pi and PiFace have attracted more than 50 teachers from schools in the North West per session, and more recently The University has run workshops with children.

Dr Andrew Robinson was amazed by the response of children. He said: "It really fired their imagination.

"After seeing what Raspberry Pi and PiFace could do we had suggestions including an automated insulin monitor that can dial 999, and another that automatically reorders food when it detects the cupboard is bare.

"One child even came up with a design for a device that politely reminds you to put the toilet seat down after use. I was really blown away with what they came up with."

The team are also launching the Raspberry Pi Bake Off, an international competition for schools and hobbyists, challenging entrants to create useful gadgets to change the world using Raspberry Pi computers.

Provided by University of Manchester

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