The accidental entrepreneur

Ian Anderson (PhD Computer Science 2005-) is harnessing the power of new technology to help people with disabilities regain their independence. Lara King (BA 2007) reports.

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What will be the revolutionary gadget of 2008? If you're about to place your bets on the dinkiest digital camera or most miniature mobile, you would be well advised to consult Ian Anderson first. While most companies are competing to produce the smallest and shiniest technological toy, this is one enterprising inventor determined to introduce substance into an industry dominated by style.

'Over the last ten years I've watched technology develop around me, and I realised that the science behind the gimmicky gadgets and status symbols could actually be used to improve the quality of somebody's life,' explains Ian, an ambitious Bristol PhD student. 'But no one was bothering, and that frustrated me.' To fight this frustration, he founded award-winning start-up company Pure Ability Limited, which makes state-of-the-art wearable computing technology for the healthcare industry.

So far, his reads like any other corporate CV. But while many entrepreneurs will tell you they became business people quite by accident, the accident that led Ian to his career was of a potentially devastating kind.

Ten years ago, Ian broke his neck in a road accident and was left paralysed. His army career was cut short and as he adapted to life in a wheelchair he was also forced to adapt his home, his car and his outlook. 'After the accident, I was in shock,' he admits. 'I never sat down and decided to develop the kind of business I have now. I never made a decision to become associated with the disability. But I wanted to do something.'

Although he hadn't set foot in a classroom since his GCSEs, the 'something' he decided on was education. Ian completed an undergraduate course in computing at the University of the West of England, before moving to the University of Bristol to embark on a PhD in mobile and wearable computing. It was during his time at Bristol that he began to consider how he could apply his academic knowledge to some of the issues that face him and the 40,000 other sufferers from spinal cord injury across the UK.

'For me, Bristol was an extremely open and friendly environment,' he says. 'Everyone who starts university is scared, everyone is away from home, everyone is out of their comfort zone. Because of this, universities are the most open-minded places in the world.' And because of this, Ian met people who shared his view that independence should be made possible for everyone.

In 2006, Ian and fellow student Paul Duff (PhD Computer Science 2005-) submitted a business plan for Pure Ability to the University's annual New Enterprise Competition, which is designed to promote entrepreneurial endeavours amongst students and staff. They won. 'The competition gave us our first injection of cash and took us from the land of PhD overdrafts into viable business territory,' says Ian, whose prize included six months of rent-free office space along with a £15,000 grant. 'But it meant more than money to us. It was reassurance that our business plan had genuine potential, and that it wasn't just a feel-good idea.'

Within a week, Pure Ability had been registered as a limited company, and the boys were ready to turn ideas into action. Working with engineer Andrew Flook and commercial director Chris Groves, the team developed its first product line, Sensagest.

Standing for 'sense' and 'gesture', Sensagest is based around an innovative touch-sensitive fabric which can detect the slightest movement. It allows devices to be controlled from a single intuitive and accessible interface and without the need for buttons, it can be operated by people whose movement is restricted.

Fuelled by the frustration Ian had felt with the systems in place during his own hospital stay, the team used the technology to develop a nurse call system. 'The traditional nurse call system in hospitals involves pressing a button on a device attached to the bed,' Ian explains. 'What about patients who have limited motor function? It's impossible for them to press a button, and so it is impossible for them to call for assistance. But the alternative is actually very simple.'

The Sensagest nurse call system can also detect changes in condition, such as a wet bed, and relay this information to a care worker. But for Ian, the greatness of the gadgetry lies in the potential for independence. 'The Sensagest device is connected to a small wearable computer, which can be programmed to communicate with devices near the bedside,' he explains. 'Disabled patients are not only able to call for assistance, but are also empowered to control other equipment, such as televisions or lights, without relying on already overstretched nursing staff.' The nurse call product is currently undergoing NHS trials,

Ian Anderson with Andy Flook, Sensagest's engineer

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but the Pure Ability team believes the technology has the potential to be used in homes as well as hospitals.

They are not the only ones to have faith in Ian's innovation. In November 2006, Pure Ability won the 'Winner of Winners' competition, awarded to the best business idea across the universities of Bristol, Bath and the West of England. Earlier this year, Sensagest also received national recognition at the Medical Futures Innovation Awards 2007, scooping the Best Independence Innovation Award along with the top spot in the Bone and Joint Innovation Awards category. 'An award like this means that people are starting to understand why our products are important,' says Ian. 'People are starting to realise that the best gadgets aren't necessarily the ones that sell in their millions and are in everybody's stockings at Christmas.'

If Ian has his way, however, it won't be long before these life-changing gadgets don't look out of place alongside more glamorous gizmos. 'Most of today's gadgets ooze style and are the kind of things you want around your home,' he says. 'But for some reason, disability technology has been left behind, and the majority is functional, unappealing and expensive. Pure Ability is giving these gadgets a makeover. My goal is that, in five to ten years, other companies will be forced to follow suit or face going out of business.'

Ian speaks like a true entrepreneur, but a bursting bank balance has never been his goal, and no money has been withdrawn from Sensagest funds for personal salaries. 'I like the idea of being a social entrepreneur, and knowing that my work could make a difference to others whose lives have been changed forever is what motivates me,' he says. 'I still find the fact that I am now solving problems I first became aware of when I broke my neck a little strange, because I never set out to do this. But I think being an entrepreneur is all about fusing knowledge with personal experience.'

Ian and his team are now developing more products for release in early 2008. This accidental entrepreneur aims to help people with disabilities regain their independence through his inventions. And for the thousands of people in this position, Ian's own determination and achievements may be just as inspirational as the product. ■