Changing our World

Jane Suiter (BA 1989) meets Barry Smyth, entrepreneur and academic, and director of ChangingWorlds, this year's winner of the NovaUCD Innovation Award.

Barry Smyth is one of a new breed of academics, running a busy research department and acting as director at the cutting edge of an ultra successful and commercial campus company, ChangingWorlds. As this year's winner of the NovaUCD Innovation Award, he is already well on his way to launching his next company, which focuses on personalised search engines.

Professor Smyth is the second winner of the award; the inaugural award was presented to Professor Mark Rogers who developed a BSE or 'mad cow disease' test, which has earned over €1.5 million to date in royalty income for the university.

Following his graduation from UCD in 1991, Smyth worked as a researcher in Hitachi and was thus well versed in the needs of the commercial sector when he decided to return to his alma mater in 1995 to undertake a PhD. His chosen area was artificial intelligence, and particularly personalisation, or allowing software to learn automatically about individual user likes or dislikes given their personal history.

Within four years the professor co-founded the mobile software company ChangingWorlds as a spin-off from UCD's Smart Media Institute at the Department of Computer Science. The company was initially based in UCD's Campus Innovation Centre, the forerunner to today's Innovation and Technology Transfer Centre at NovaUCD. It was a success from the beginning, winning the 1999 NovaUCD Campus Company Development Programme. Today Smyth also holds the Digital Chair in Computer Science and is head of the School of Computer Science and Informatics.

The research group focussed initially on digital TV, which was the much-hyped new technology of the time. Along with his former PhD student and company co-founder, Paul Cotter, they built a personal TV viewer which gave users recommended TV listings based on personal ratings and viewing habits. The team allowed that technology to be freely available but following an approach from The Irish Times' website, www.ireland.com, it was licensed out to the newspaper as well as Eircell and Vodafone Ireland. The service was then expanded to include movie listings. "We would ask viewers to input their programme preferences and time of viewing and then give a personalised listing. That way someone who prefers 'Friends' and 'The Office' and viewing at night would get a very different listing to someone who only watched soaps or current affairs," explains Professor Smyth.

Eventually the company proved so successful that it moved to the South County Business Park in Leopardstown, where it raised €6 million in venture capital funding from Trinity Venture Capital and the Flanders Language Valley Fund, or FLV, allowing the team to hire another five people. Smyth himself became chief technology officer. But this was to prove to be the last round of venture capital funding in Ireland before the dot com bubble burst.

"We realised we would have to be very careful about how we spent money and at the end of the day decided that while digital TV was promising it was not as compelling a story as mobile communications. We moved to mobile and are now almost exclusively focussed in that direction."

Today, ChangingWorlds develops leading multi-access, intelligent portal platforms for mobile operators. It is this application of the technology which has persuaded a large number of corporate clients including Vodafone Ireland, Vodafone Global, O2 UK, O2 Germany, Swisscom Mobile and the Slovenian Mobile Operator, Si.Mobil to come on board.

The mobile companies use the technology to make it easier for customers to access mobile content and services most relevant to them. The technology enables users to locate content more efficiently, by effectively restructuring the portal in response to their access patterns. As a result sites and services regularly accessed by a user are pushed to higher positions. Over time the structure adapts to the changing usage pattern of each user.

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"When the company was set up I spent maybe 40 per cent of my time, or two days a week, at ChangingWorlds: now I spend very little time as the company employs almost 70 people and there is a really good management team in place," says Smyth. Nevertheless, the research group still has very close links with ChangingWorlds, which also won this year's Irish Software Association's Sales and Marketing Innovation Award for the second time.

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Smyth, who is also a fellow of the European co-ordinating committee for artificial intelligence and a Science Foundation Ireland investigator, is fulsome in his praise and support for NovaUCD. He and his team have recently set up another new research and development company in Nova where researchers have developed a patent portfolio consisting of three related patents. These inventions are based on next-generation information retrieval technologies for improving the way people search for products and information online, by enhancing the ability of modern search engines to cope with vague queries.

The initial patent is currently at the nationalisation stage in the US, Europe, Israel, Canada, Australia and China, while the other two are at the PCT (patent co-operation treaty) stage. One of the main projects is a technology that would allow search engines such as Google to move from generic to personal searches. Thus different users would get different results from the same search depending on their own personal preferences, significantly improving the relevance of the results returned in response to a vague user query.

A second filing builds on the Diversity patent with a specific implementation of the diversity concept. The patent covers an interactive dialogue between users and the information retrieval system, which intelligently helps users to find what they are looking for.

The third filing, I-SPY, filters the results from searching multiple databases to re-rank the results according to likely user content requirements. This re-ranking personalises the results based on the user's past behaviour.

The commercialisation of academic research according to Smyth is a win-win situation for both industry, academics and the university which becomes a shareholder.

One problem is that top flight academics could be tempted into the commercial world full time. "But the best value," Smyth says, is to do it time and again. "The University should benefit, as does the Irish economy, through increased employment in high end jobs."

Contact between NovaUCD and the University is also of benefit to students. Many of Smyth's former PhD's as well as MSc's are currently employed by the campus companies. NovaUCD nurtures new technology and knowledge-intensive enterprises. It is funded through a public-private partnership that includes AIB Bank, Arthur Cox, Deloitte, Enterprise Ireland, Ericsson, Goodbody Stockbrokers, UCD and Xilinx.

Prof Barry Smyth receives NovaUCD Innovation Award