

MIT – research for the real world

Rocking Frog is the mobile personalisation technology business within BTextact Technologies' corporate incubator Brightstar. The underlying premise of Rocking Frog's technology is that as advanced mobile devices and networks become increasingly available, users will require their mobile phones and other mobile devices to provide relevant, timely, personal and business-related information and services appropriate to their location and in accordance with their own personal profile.

Dr Jerry Bowskill, director of business and strategy and co-founder of Rocking Frog explains how his research work at the Massachusetts Institute of Technology (MIT) has helped contribute to the conception and success of Rocking Frog.

From PhD to MIT

Jerry gained an honours degree in microelectronics and information processing in 1990. On graduating he began an academic career with the University of Brighton as a research assistant working on image processing systems. After being awarded a PhD in 1994 he continued research work into the clinical applications of 'augmented reality', inventing new techniques to allow surgeons to visualize complex medical imaging datasets.

Jerry then left the academic world and joined the applied research & technology department at BT Laboratories, the forerunner of BT's research and technology business, BTextact. Here he built on his academic work and embarked on research into wearable and contextual computing, developing solutions using emerging technologies such as Bluetooth. In 1996 he was invited to join the MIT media laboratory as a visiting research fellow. During these three years Jerry worked with MIT's Thad Starner and Steve Schwartz and fulfilled his passion for wearable - intelligence amplification (IA embedded in clothing).

Jerry's role involved co-ordinating research into wearable computing between the team at MIT and BTextact. The media lab focused on the development of computing platforms and BT focused on the network implications of wearables and on developing network-dependent applications. The lab also started making wearable computers 'contextually' aware of the user and their environment – allowing applications to adapt to the user's needs.

Throughout this time Jerry made some major observations with regards to the role of personal computers: "To date, personal computers have not lived up to expectations. Most machines sit on the desk and interact with their owners for only a small fraction of the day. Smaller and faster notebook computers have made mobility less of an issue, but the same staid user paradigm persists. Our research aimed to shatter this myth of how a computer should be used. A person's computer should be worn, much as eyeglasses or clothing are worn, and interact with the user based on the context of the situation. With heads-up displays, unobtrusive input devices, personal wireless local area networks, and a host of other context sensing and communication tools, the wearable computer can act as an intelligent assistant, whether it be through a 'remembrance agent', augmented reality, or intellectual collectives."

As Jerry indicates, the research did have real commercial value: “Much of the research delivered tangible value to BT’s customers through technology showcase events, particularly within the global finance industry. For example, working with BT North America and Syntegra in New York we put on an event in which we demonstrated how wearables on wireless networks could be used for remote trading and for increasing the efficiency of traders on the floor of the NY stock exchange. As a direct result of this ‘thought leadership’ BT won the business to supply dealing positions for the whole of the NASDAQ (\$30m of business).”

Whilst at MIT Jerry worked with another visiting research fellow from BT, Alex Loffer on the wearables project. Alex developed a low-power radio beacon that enabled wearables to know their location within a building.

Jerry goes on to explain how the results of the research led to the conception of Rocking Frog; “The net result of the research was that we established that wearable computers or other mobile data terminals achieve maximum value when they can deliver the right information at the right time, in the format that the user is most able to accommodate. It was through this research the first version of the core Rocking Frog platforms were developed with the view to delivering such services.”

Jerry joined forces with Alex and Barry Crabtree (now CTO Rocking Frog) and together they formed Rocking Frog. Barry led BT’s personal agents research with the Agents Group at MIT run by Pattie Maes. Barry’s research led to the idea of having a number of agents using a common personal profile, a feature of Rocking Frog’s core technology

Rocking Frog is a testament to the powerful impact of how academic research can cross over and contribute to commercial ventures. The innovative and progressive environment at MIT enabled Jerry and the team to look at things differently and initiate the development of Rocking Frog. This spirit of innovation continues through Brightstar. Jerry comments: “Brightstar and MIT both foster very similar cultures where a ‘can-do’ attitude is encouraged. The Brightstar model enables companies to grow and develop in a creative environment in the same way that MIT encourages creative research. I was lucky enough to experience the best of both worlds.

“Our research correctly predicted services that deliver personalised, contextually aware information are far more useful and popular to mobile consumers. This also holds for the delivery of advertising content, with consumers valuing offers or promotions that tightly match their needs. This has given us the commercial opportunity to develop a sustainable business as a direct result of fundamental long term research.”