

# BEN MCCARTHY

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## *Education*

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- **Lancaster University (U.K.)** **P.hD Computer Science**  
2004 - Present

My PhD research (funded by Cisco Systems) is based around the concept of incorporating inter-connected mobile networks into the existing Internet architecture. My research has focused on combining the bi-directional tunneling properties of the IETF Network MObility (NEMO) approach with the efficient localised communication afforded by Mobile Ad-hoc Networking (MANET) approaches to produce what has been termed MANEMO solutions. Using this approach I have been able to produce a network mobility architecture that allows entire mobile networks of nodes to perform optimised, local communication with other physically co-located mobile networks, whilst also supporting global communication across the Internet via an unchanging IPv6 address, irrespective of a mobile network's changing location.

As part of my research I have developed a comprehensive implementation of my MANEMO architecture (written in C) that runs on Linux based Mobile Routers. In addition, I have configured numerous experimental network testbeds, incorporating static and mobile Cisco routers, Linux based mobile routers and numerous types of wireless communication mediums. In working to attain my PhD I have presented numerous scientific papers at internationally recognised Computer Science conferences, published work in Computer Science journals and actively participated in Internet Engineering Task Force (IETF) standardisation Working Groups.

- **Lancaster University (U.K.)** **M.Sc Advanced Computer Science**  
2003 - 2004

**Course Content:** Revolved around Lancaster University's specific areas of research including Mobile and Ubiquitous Computing, Advances Networking Technologies, Software Engineering, Distributed Systems Technologies, Multimedia and Human Computer Interaction (HCI). One third of the course was devoted to producing an MSc project, my project was related to the field of Network Mobility.

- **Lancaster University (U.K.)** **B.Sc(Hons.) 2i Computer Science**  
1999 - 2002

**Course Content:** Extensive Java programming (including Applets, Java RMI, JMF), C Programming and a pre-release course in C Sharp through the Microsoft partnership program that

Lancaster University has in place. Disciplines covered included Advanced Networking Technologies, Multimedia, A.I., Database Technologies and Software Engineering. In my final year I undertook a project studying the effects that Microsoft's implementation of support for Quality of Service techniques (specifically Integrated Services) has on host machines, for which I gained a First class mark.

- **Holy Cross College, Manchester Road, Bury, Lancashire** 1997 - 1999                      A-Levels  
3 A-Level Qualifications
- **Plant Hill High School, Blackley, Manchester** 1992 - 1997                      G.C.S.E  
9 GCSEs A-C (including Maths and English)

## *Skills*

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- Extensive use of the C programming language and Linux (through the development of my experimental implementation of my PhD proposal).
- Broad knowledge of configuring IPv6 networks and testbeds, including frequent use of Cisco products and Cisco IOS, wireless technologies and IPv4 - IPv6 transitioning technologies.
- Extensive experience in programming with Java including use of Swing, JavaRMI and JMF.
- I am personable, work well as part of a team and have excellent communication skills, both spoken and written:
  - Confident speaker with extensive experience of presenting at international computer science conferences and workshops.
  - Author of numerous published conference papers and journal articles.
- Experienced in use of fundamental desktop office applications such as Microsoft Office (Word, Excel, Powerpoint and Visio) as well as the L<sup>A</sup>T<sub>E</sub>X typesetting program.
- Full clean driving licence.

## *Employment*

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- **British Telecom (BT), Grand Island, Manchester**                      Personnel Line Management (PLM)  
06/2003 - 08/2003

Upon my return from a period of travelling, I accepted a role in Personnel Line Management at British Telecom (BT), this position involved analysing and monitoring the output of those working in the broadband assurance department (my previous role, see below) and attempting to improve the efficiency with which they worked by manipulating the processes and techniques used.

In this role I performed a lot of statistical analysis, developed graphs to represent trends and performance results and proposed alterations to existing work practices. The role also required

continuous communication between disparate departments within the BT corporation, when collating and disseminating statistical information.

- British Telecom (BT), Grand Island, Manchester Broadband Repair  
10/2002 - 12/2002

In this role I accepted incoming calls from Internet Service Providers (ISP) and used proprietary in-house database software to log and update customers' network fault complaints. In addition, when not dealing with a customer directly I would identify, diagnose and repair any previously reported faults in the broadband network, again using BT's in-house software.

For the position I received 3 weeks intensive training on BT's ADSL network architecture and the technologies they utilise which I found interesting and rewarding. I also received on-going web based training, for the duration of my employment. I felt that this position improved my person to person communication and phone manner as well as gave me an insight into how a large scale company manages its IP network.

- St Martin's College, Lancaster Catering Assistant  
10/99 - 06/2002

Whilst studying for my degree I worked 5 nights a week as a Catering Assistant. Duties included serving customers, general cleaning duties and stock control.

## *Activities / Interests / Travel*

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- Activities: I am a passionate skier and snowboarder and have been a member of the Lancaster University Ski Race Team. I also enjoy many other outdoor activities such as rock climbing, skating and biking. I regularly play football and currently hold a position in the University Football team and have also been a member of the Trampoline club.
- Interests: Apart from sports I also take pleasure in cooking, going to the cinema and socialising in general.
- Travel: I took a gap year between completing my Bachelors degree course and beginning my Masters degree course (07/2002 - 09/2003), during which time I worked in the USA (summer job in Nantucket, MA), lived and skied for the winter season in Chamonix, France and traveled extensively throughout Europe using an Inter-Rail pass.

## *Referees*

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Available upon request.