

The Ring

THE JOURNAL OF THE CAMBRIDGE COMPUTER LAB RING

Issue XX — January 2009 — £20

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Ring news

Annual dinner

We hope you will join us at the Ring's annual dinner on April 2nd 2009.

We are delighted to announce that **Mike Muller**, CTO of ARM and one of its founders, will be guest speaker. ARM is the market leader in the 32-bit embedded RISC processor marketplace and its processors are found in a wide variety of popular consumer electronics products. Indeed, it designs microchips for 95% of the world's mobile phones.

Please do join us at Queens' College on April 2nd. The reception and dinner will be preceded by a lecture in the Computer Laboratory at 5pm.

Tickets for the dinner cost £55 and can be obtained from the Ring office or by returning the invitation form included with your copy of *The Ring*.

Roundtable discussion event

We are delighted to welcome Sir Tony Hoare as guest speaker. The event, which will be held over dinner, will take place on February 12th 2008 at Peterhouse, Cambridge.

The topic for the evening will be "Computers that understand their own programs. Will they ever do so, sufficiently to check their safety and security properties?"

In 1980, Sir Tony received the ACM Turing Award for his "fundamental contributions to the definition and design of programming languages", and in 2000 he was awarded the Kyoto Prize for his "pioneering and fundamental contributions to software science". In 2000 he was also knighted for services to education and computer science.

Tickets, which are limited and will be allocated on a first come, first served basis, cost £53 and can be obtained from the Ring office.

Events calendar

2009

February

Wednesday 4th, 18:30
London Ringlet Bar

Thursday 12th, 19:00
Cambridge roundtable
Peterhouse College, Cambridge

April

Wednesday 1st, 18:30
London Ringlet Bar

Thursday 2nd, 19:00
Ring annual dinner
Queens' College, Cambridge
Reception 19:00; dinner 19:30
Admission by ticket only

Visit the RingWeb site at www.camring.ucam.org for the latest news about Ring events.

NOTICE of the Annual General Meeting of the Cambridge Computer Lab Ring

Thursday 2nd April 2009
In LTI, William Gates Building
at 6.00 pm

AGENDA

1. Minutes of 2008 AGM
2. To receive and approve the audited financial statements
3. Council Membership
 - Retirements of appointed members
 - Nominations for Council membership
 - Elections to the Council
4. Re-appointment of Auditors
5. Chairman's Report
6. Any other business

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The Ring is the journal of the Computer Lab Ring, which is the graduate association of the University of Cambridge Computer Laboratory.

Governing council: Prof. Andy Hopper (TH78) (Chair); Stephen Allott (T80); David Colver (CHR80); Peter Cowley (F77); Lorenzo Wood (CHR93)

Careers committee: Peter Cowley (Chair); Andrew Herbert (JN75); Chris Morgan (JE01)

London Ringlet: Alastair Gourlay (SE02)

The Ring is growing: help us build it

The Computer Laboratory has created an annual post for a full-time industrial fellow who will be based in the Laboratory.

In this new position, your role will be to drive the continued development of the Cambridge Computer Lab Ring, the Laboratory's Graduate Association.

You will spend a year getting to know the 5,000-member Ring community worldwide, the Cambridge business community (the largest technology cluster in Europe) and the Laboratory faculty and students.

You will be an ambassador for the Ring, networking, speaking and writing where relevant and organising speakers and sponsors for Ring events. You will also be responsible for key 2009 initiatives.

You will have experience in industry and be looking for a stimulating opportunity

to contribute to the success of the Lab, its graduates and the businesses they create. You may be an entrepreneur, taking a sabbatical within your current role or between roles and looking for a new challenge.

The position is *pro bono* and therefore unpaid. You will be working for the Director General, Jan Samols, and will need to be within reasonable commuting distance of Cambridge.

To apply: send your CV and covering letter explaining why you want the position to jan.samols@cl.cam.ac.uk or by post to CCLR, William Gates Building, JJ Thomson Avenue, Cambridge, CB3 0FD

Leaders sought for the Ring Governing Council

Members seeking a leadership role in the Ring are invited to stand for election to its Governing Council, which is chaired by Professor Andy Hopper and meets four times per year.

If you would like to be part of the leadership team building the Ring and have a particular area where you feel you could contribute, this is an ideal opportunity to get involved. Council members are elected for a three-year term.

To apply, please write to the Director General by February 1st 2009, including a statement in support of your candidacy. Alternatively, candidates for election may be proposed and seconded at the AGM itself. All candidates, recommended and otherwise, are voted on at the AGM which takes place on 2nd April 2009 in Cambridge.

We've been thinking ahead for a long time now...

AVEVA
CONTINUAL PROGRESSION



AVEVA is the world's leading engineering software provider. Our vision and commitment have completely redefined the plant, power and marine industries. Are you a high calibre, inventive and flexible individual who can make a real contribution to our company?

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You will benefit from the AVEVA graduate development plan; a two-year programme during which you will have the opportunity to develop and implement our exciting products, using innovative AVEVA technologies. We also have opportunities for summer and industrial placements.

To find out more visit our website www.aveva.com, or to apply contact us at careers@aveva.com.

AVEVA welcomes all applicants regardless of gender, sexual orientation, marital/civil partnership status, race, religion and belief, disability or age.

Who's who

Stephen Allott (T MA80) completed the 2008 Dragon ride, the UK's Premier Cyclosporive, in 8 hours 3 minutes.

Toby Austin (JE BA05) has founded Transentia, which specialises in early stage technology commercialisation.

Andy Clark (K BA02) is working at RealVNC as test team leader.

Ben Coppin (Q MA96) has just graduated with an MPhil in Linguistics. Ben, who co-founded Envisional Ltd, is now a consultant at Amazeme.

Daniel Craig (PEM BA05) is a product manager at Hotels.com.

Dan Cvrcek (RA) is a senior consultant at Deloitte.

Neil Davidson (T BA93), co-founder of Red Gate Software, has set up *Business of Software* (network.businessofsoftware.org),

a social networking site for anyone who is interested in building long term, sustainable, profitable business software.

Tom Godber (CC BA00) is in the UK after spending the last year in Estonia, where he co-founded the Mobile Monday Estonia networking group. Mobile Mondays facilitate networking between companies both small and large, and also between local and foreign talent. During the monthly events, attendees present innovative visions, trends, studies and forecasts from the mobile marketplace.

Jagdip Grewal (CTH BA93) has left NHS Connecting for Health where he was chief technical architect. He now works for Openreach as head of change architecture.

Dinan Gunawardena (PEM MA95) is a senior research software development engineer at Microsoft Research in Cambridge, UK.

Charlie Hall (SE BA03), a qualified medical doctor, has finished a Masters at Imperial College London in Science Media Production. He has worked in the BBC Radio Science Unit and on Radio 4's Material World programme "The Baby", which celebrated the 60th anniversary of the first ever task performed by a computer.

Mattias Linnap (CHU BA08) is working as a software engineer intern at Google.

Susan Luke (G MA99) is now a technical account director at Orbis, the world's leading provider of interactive gaming and betting solutions.

Amir Nathoo (JN MEng02), founder of WebMynd Corp, has raised \$400k from UK and US angels. The company is now busy developing new releases and acquiring more users.

Alison Spottiswoode (CL BA81) is a director at Cable & Wireless.

EXCITING HIGH TECH CAREERS

Ash Gaming is always on the lookout for graduates and technical placements with an appetite to learn by working hard and getting involved.

Working on projects for high profile clients, you'll benefit from being surrounded by some of the best skills in the gambling software industry.

We're interested in anyone with a broad range of capabilities.

- Flash Action scripting
- JAVA programming (J2ME, servlets, .jsp),
- Web skills, HTML, Javascript, PHP, mySQL.
- Good understanding of search engine technology
- C++
- PC hardware and networking
- Good written documentation skills
- Visualisation and Graphics
- Statistics and Probability

If you have some of the skills listed above (or even some that aren't) and have more than a passing interest in interactive betting and gaming then you may be the right person! Successful applicants will be encouraged to develop their skills wherever they show their talents to be.

Interested? Email your CV to Jacqui.roberts@ashgaming.com stating clearly that you're a placement or graduate.



www.ashgaming.com



INVESTOR IN PEOPLE

Mentoring



Stuart Newstead's company, Ellare Ltd, has been an independent consultancy since 2002, providing expert advice on telecommunications, as well as executive mentoring. Here Stuart provides ten top tips for mentoring.

What's a "mentor", then? Most of us have heard of Odysseus. Fewer of us may have heard of his son, Telemachus. Even fewer of us may have heard of Odysseus's trusted friend, who agreed to Odysseus's request to be Telemachus's teacher while his father was away on walkabout. This teacher was called Mentor. Later the goddess Athena disguised herself as Mentor and supported Telemachus as he travelled on a series of journeys looking for Odysseus.

Modern-day mentors don't need to have the skills of a Greek goddess or the time and money to take long sabbaticals, but certain principles can ensure that a mentor-mentee relationship can really work well.

The definition of mentoring that I find most helpful is "an aid to self-development ... which calls for a perspective that looks for future possibilities." This definition allows us to recognise the principle that mentoring is about the development of the mentee, not the knowledge of the mentor. It also highlights the importance of a supportive and forward-looking approach, and one that recognises that adults learn

best when they have autonomy over their learning and time to practise and reflect on new skills learned. By way of illustration, look back over your own life and think of a person who has been massively influential to you, then have a think about what it was that made that person figure so importantly in your life.

Extending these mentoring principles into "ten top tips" — five for the mentor and five for the mentee — we get the lists below.

I'd like to thank Anne Donald, CEO of Oxford Meta Ltd, and William Walker, Cambridge Ring member, for their invaluable help in preparing this article.

For more information, please contact Stuart Newstead at stuart@ellare.biz. If you would like to join the Cambridge Ring mentoring scheme, either as a mentor or mentee, please contact jan.samols@cl.cam.ac.uk

Mentor

1. Continually validate — ask what your mentee wants and check regularly that what you are doing and the way you are doing it are what he/she wants.
2. Don't give advice — enter and stay in the mentee's world. Switch on alarm bells in your head whenever you find yourself about to say directive phrases like "what you need to do is...", "of course, that's because..." or "why not do/try/say...".
3. Listen actively — see the world as your mentee sees it. Check it, synthesise it and reflect it. Challenge it, but in a positive way. Check you are doing no more than 30% of the speaking.
4. Allow for plenty of silence — it gives your mentee more time and space to process ideas and feelings.
5. Believe in your mentee — he/she has the ability to own the solving of his/her problems; you can help most by asking questions that open up his/her own thinking and feeling. Give positive feedback. Have fun.

Mentee

1. Be honest — before you seek a mentor, ask yourself if you really want to change something in yourself and whether you're prepared to do it.
2. Find the right mentor for you — someone who you believe will be genuinely interested in you; someone who can be objective; someone with broad experience to help you widen your own possibilities.
3. Own the process — build your confidence by testing ideas and following up on suggestions and actions.
4. Challenge yourself — be prepared to confront your fears; be open to new possibilities; be clear on your own motivations.
5. Enjoy the relationship — learning is fun.

Letter from America

The US election, the financial crisis and *American Idol* have made for very interesting times, writes Damian Reeves, co-founder of Zeus and CTO at Quantcast.

When I relocated to Silicon Valley in 2006, it felt like it did when I was working out here in 1996, except someone had removed the “dot com” moniker only to replace it with the trendy “2.0” label. Google had just spent \$1.65 billion acquiring YouTube, and a giddy wave of social media startups had sprouted across the valley floor. The speed and momentum of startups in the Bay area is astonishing.

This time eyeballs are worth real money due to the advances being made in on-line advertising and behavioural targeting. It is astonishing how much sophisticated maths, computer science and sheer scale of compute power goes into this, and it’s where I’ve been applying my energies in a crazy-paced audience intelligence startup based in San Francisco.

After YouTube came iPhone fever, and Twitter mania, location services and social networks. Microsoft invested in Facebook at a valuation of \$15 billion, VMware went public, rising 76% in value on the first day, and 300% in under 8 weeks to \$34 billion. Heady times indeed.

It is also interesting how the social policies of the large valley technical companies can dramatically change the landscape. As Al Gore managed to move the national discussion to global warming, my town of Mountain View became a Toyota showroom. Google employees armed with super-sized company subsidies purchased Priuses *en masse* to appease their consciences from operating a million energy-hungry servers (and gain access to the busy motorways’ “diamond” commuter lanes).

Beyond technology the culture of Silicon Valley is very much at one with the popular culture of America. It was astonishing to watch as American Idol gripped the country, with over 30 million viewers following the drama — amazing considering the huge media fragmen-

tation in the US. Even more surprising to me was the 97.5 million paid phone-in votes to choose the winner: that’s ten times as many votes than Tony Blair received to win the 2005 general election.

But that was all just a warm-up for the main event — the 2008 US election and the unfolding of the finance crisis. One of the empowering things about US culture is how involved and passionate people get with politics and the desire to improve their country. Debating policies, parties and candidates is cool here; it’s so much part of everyday life that “Obama” was one of the first words my infant son could say.

In the Bay area, technical and business talent is abundant. But recruitment has been no easier than my previous start-up in Cambridge. Offsetting the volume and quality of candidates is the amount of competition — the sirens of Google, Yahoo, VMware and a plenitude of enticing startups backed by top-tier VCs. At least, that was the case until October. As the full force of the financial crisis took hold and the NASDAQ dropped to its lowest point in five years the valley went into emergency cost-saving mode.

By one estimate I saw this week, 140,000 tech jobs have been shed so far this year — thousands at a time from household technology names like HP, Sun, Yahoo, eBay, and with those same VCs now demanding scalps from their portfolios. It’s a traumatic time for those caught up in the layoffs. Last week, an RF engineer at a nearby startup who lost his job killed the CEO, VP Ops and HR manager.

Yet through all of this, people here are optimistic, entrepreneurial and impatient. For me, it’s this attitude, of embracing risk even in times of woe, that most clearly separates Silicon Valley from Silicon Fen, and makes it a fascinating place to spend some time. The excellent weather and good wine help too!

For more information about Quantcast visit www.quantcast.com.

Nic Brisbane



Nic Brisbane tells *The Ring* that the good times will return to the venture capital industry.

TR: Nic, can you start by telling me how you got into private equity/venture capital?

NB: Well, I should probably start by explaining the difference between venture capital and private equity. Venture capital is all about investing in high-growth, risky businesses that can't raise money via other sources. Private equity is more about lower-growth profitable businesses that can take investment in a mixture of debt and equity.

Another big difference is the number of people employed in each sector. The number working in venture capital is relatively small, so unlike private equity there are no established career paths or routes in. Prior to starting in VC I spent a bit of time working as a strategy consultant before joining a start-up in the late 1990s. This took me to the time of the dot.com boom and I decided venture capital was the fun place to be and so after a year or so of working to get into the industry I got an associate position at Reuters Greenhouse, the venture capital arm of the global information and news group.

TR: Before we go on to talk about the impact of the current credit crunch and economic downturn, could you describe your ideal start-up? What kind of entrepreneurs are you looking for?

NB: The three most important things to look for when assessing a start-up are a large market, a great product and a great team. If I had to stress one of them then it's the market — the market needs to be large. When it comes to team, you want people with lots of ambition who often want to change the world in some way. Passion is also very helpful especially when it comes to recruitment. Entrepreneurs need to be good with people, have a good strategic brain, be strong tactically and have a strong sales bent.

TR: What impact has the credit crunch had on venture financing for start-ups?

NB: The credit crunch is certainly having an impact on start-ups and on the venture capital industry. However, it takes a long time for

the turmoil in the financial markets to feed through fully to venture capital. Companies that are turning to us for finance are a year or two old, and so were founded before the credit crunch. They still need money. However, fast forward a year or two and we'll feel the impact of the deterioration in the macroeconomic climate and there will likely be fewer start-ups. According to Calibre One's Quarterly Transatlantic Tech Investment Review, venture capital investment in Europe for Q3 2008 was roughly flat on Q2, but I would expect that to start declining.

Fast forward a year or two and we'll feel the impact of the deterioration in the macroeconomic climate: there will likely be fewer start-ups.

TR: Have you seen a reduction in the volume of deals?

NB: Not only will there be a change in the volume of deals but also the value. Some start-ups won't get financing, while a lot will get financing but at lower valuations. Moreover, a VC's ability to sell a company for top dollar will take a big hit. A VC relies on the spread between the entry price and the exit price. If you're looking to sell a company to a large corporation and they've seen a sharp drop in their market capitalisation then they're going to want to reflect that in the prices they pay when acquiring businesses. This will have an impact on the performance of our funds in the short term (at least) and will need to be reflected in entry valuations.

TR: How long is it taking to arrange deals? How does this compare with six months or a year ago?

NB: Deal cycles will lengthen a bit though the huge variations between companies won't change. Well-organised companies that have invested in a lot of pre-marketing have a much shorter cycle. However, even their cycle will likely lengthen from 2–3 months to, say, 6–9 months.

TR: Do you think that, as companies rush to sell off assets, there'll be a rush of deals?

NB: In venture capital, businesses are small with only one product. Trying to sell them in a rush is not a very rewarding business.

TR: Do you see a difference between the tech scenes in Cambridge and Silicon Valley?

NB: The big difference is sentiment. Sentiment in the US has been very negative. There has been an unprecedented wave of layoffs and it seems that everyone is desperate to be seen to be frugal. Sentiment has shifted from irrational exuberance on the way up to disaster on the way down. In Europe the response has been much more measured; we've not seen the same across-the-board redundancies.

TR: What effect is the economic downturn having on VCs?

NB: In a downturn returns come under pressure. It's much more difficult to exit businesses at good valuations. However, this is a short-term feature of the cycle. The good times will return and exits will pick up again. Innovation happens outside large companies and the number of people wanting to work for small companies will continue to rise. The number of small companies, as a percentage of the economy, will continue to rise. While 20 years ago working for a small company was viewed as risky, sentiment has shifted in favour of small companies. Indeed, one of the positive effects of the credit crunch is that banking now looks every bit as risky as working for a start-up! All this favours the industry.

TR: If venture capital isn't doing the volume of deals it has done in the past, how are you going to attract and retain talent? Why would a new graduate consider venture capital today?

NB: We don't recruit many new graduates through the traditional avenues. Those looking to get into the industry normally do an MBA and/or spend time working for a start-up. The European venture capital market has capacity for many more funds so it's still a growth industry.

For Nic Brisbourne's blog, *The Equity Kicker*, visit www.theequitykicker.com

CamrivoX



Jonathan Custance, co-founder of CamrivoX, tells *The Ring* how the company is providing SMEs with an integration path into customer relationship management.

TR: Jonathan, can you tell me how CamrivoX got started?

JC: Co-founder James Green and I previously worked at Conexant Systems in Cambridge. Conexant acquired Virata for whom I was working, and it was the success of Virata from the early ATML days that inspired us. Indeed, its success inspired a number of ex-Virata employees to start their own businesses.

CamrivoX's original goal was to produce a series of simplified VoIP products. Initial research with customers indicated they were using complex products that were hard to deploy. We developed an initial prototype and started demonstrating it to customers in May 2005. Feedback was positive and so we planned a reduced-cost production solution.

As a hardware company it was also clear that we would need to raise external finance, a portion of which would be needed as working capital.

TR: Can you describe some of the obstacles you encountered along the way? How were these overcome?

JC: CamrivoX has faced two significant challenges. First, raising the initial capital and second, being a British hardware company.

In order to raise finance we sought a great deal of advice from Charles Cotton (ex-CEO of Virata who raised a total of \$600 million at Virata), who agreed to act as our mentor. He helped us network, introducing us to other Cambridge entrepreneurs and venture capitalists. Through Charles we met Dr Phil O'Donovan, co-founder of CSR, who became our first investor. He also provided advice for the Library House *Running the Gauntlet* competition, which we had been encouraged to enter. We won the competition and with it a £1 million investment. This initial investment set us on our way. Phil is now Chairman of CamrivoX and has helped us to develop the business.

We have found little appetite for financing hardware companies in the UK. This ultimately led us to change our focus. In 2007 we introduced our first IP phone product, which had an excellent price point and feature set. We had a number of small product successes but lacked the sales and marketing budget to penetrate the key distribution channels needed. While our VoIP products had the ability to link with PC applications, many partners, distributors and customers asked if we could do the same thing using other VoIP hardware. These requests led us to change direction and focus entirely on unified communications software in late 2007.

TR: I notice that you have a number of solutions targeted at SMEs, a group that often seems to be ignored by the major providers. Can you tell me about the solutions and what they bring to the market? For example, I see that uniquely CamrivoX offers Microsoft Outlook and Salesforce.com integration.

JC: CamrivoX's products integrate your contact management tool, be it Outlook or a CRM tool, with your telephony. For example, when a call comes in the contact opens, you can manage the call on screen, type the notes for the call and wrap up as the call ends. We do this by allowing customers to purchase and install a small piece of software on their PCs to link the two together. This is a cheaper and simpler approach compared with typical computer-telephony integration (CTI) solutions provided by companies supplying software to contact centres and enterprises.

On the hardware side we have announced partnerships with Snom, which makes VoIP handsets, and Digium, which is behind the Asterisk open source PBX, and there are others in the pipeline. On the application side we work with Outlook, Salesforce.com, Netsuite and Microsoft Dynamics CRM. We started with VoIP partners and hosted CRM applications because it was clear that we could immediately offer something new to that segment of the market.

Our customers benefit from increased efficiency and productivity, while we provide our partners with additional product differentiators and potential sources of revenue.

TR: Is your intention to give SMEs an integration path into CRM?

JC: I suppose there are two answers to that question.

Everyone probably has a CRM tool — albeit a basic one — in the form of Outlook. By improving the way in which telephony and Outlook integrate, you can provide small businesses that really don't want to invest in more expensive CRM software with a more usable contact management system.

If a small business has a CRM tool then, for a small additional cost, it makes perfect sense to integrate it with the telephony solution. I know this may be an extreme example but we had a US customer who started using our solution, and within a week he had fired a member of the sales team. By analysing the logged call data he found the employee simply wasn't doing his job. The benefits garnered from accurately managing and understanding customer relationships should not be underestimated.

TR: Does CamrivoX plan to offer a software development kit?

JC: Our goal has always been to offer a development kit to third parties, and the software has been designed with that goal in mind. As we won't have the time to support all hardware platforms and applications, we will be offering a software development kit (SDK) that will allow any partner to develop integration with its chosen hardware or application.

We also see an SDK as a great way to proliferate the software throughout the community, and it is something that most software companies look to offer these days. We have not yet decided whether to follow a closed model — that is, by application only — or just make it available to all. Both paths have their pros and cons.

TR: How has the competitive environment in VoIP changed over the past year and how do you see it developing over the next 12 months?

JC: VoIP covers a vast array of customer propositions and solutions and means different things to different people. Mention VoIP and most people think of cheap calls. However, that's not what it's about. What's important is how you make use of any communication tool, how you add new applications on top of it in order to deliver greater benefits to customers and provide additional sources of revenue to partners. I expect a number of companies will start offering new innovative services in 2009. BT and Google both acquired VoIP start-ups (Ribbit and Grand Central respectively) and it will be interesting to see how they are positioned.

The credit crunch will have a clear impact on the market and times are tougher, but there will likely be some benefits. For example, it is

possible that video conferencing over IP will increase as people look to cut down on long-distance travel. CamrivoX may also benefit as we provide solutions that can complement an existing phone system and applications. This will deliver bottom-line cost savings to the customer in contrast to our competitors whose solutions require capital expenditure.

TR: What are CamrivoX's plans for the future?

JC: First, we are going to add to the range of communications devices that we work with. We are already in the process of testing solutions that work with Skype, mobiles via Bluetooth and existing TAPI-based equipment.

Second, we are focusing on the delivery of a new suite of applications to complement the application and telephony integration. I can't comment further now as we are in the process of protecting our IP. However we feel that CamrivoX will be able to start demonstrating what we mean by Unified Communications, and what you can really achieve with application and telephony integration.

For more information about CamrivoX visit www.camrivoX.com

Sheila Butterly



Sheila Butterly graduated from Hughes Hall in 2001. She looks back with fondness to her year in Cambridge.

I have very fond memories of my time in Cambridge and made many friends while I was there. I came from a business background, my first degree being from Trinity College, Dublin in International Business and Marketing. I went to Cambridge to study for the Diploma in Computer Science in October 2000 at Hughes Hall, the graduate college beside Fenners. The Diploma in Computer Science, or DipCompSci as we called ourselves, was a taxing course especially for those of us who didn't have a background in the sciences, and there were times (I have to admit) when some of the material went over our heads. I however made it through and managed to pass all of the exams and the project in September 2001.

From there, I moved to London and started searching for suitable employment. After a brief stint in public relations for Compaq Computers, I went on to work at Sanford C. Bernstein Limited in sell-side research for nearly four years. I worked with various analysts covering industries as varied as insurance, media, banking and automotive, finally ending up assisting the Director of Research in the day-

to-day running of the business. This included interviewing prospective candidates, helping with quantitative assessing of the various sell-side analysts. From there, I moved to Investec Asset Management where I now work for the Chief Executive Officer, and also for the Chief Operating Officer. My role is wide and varied and includes writing external reports, internal reports, assisting with the budget preparations and analysing both internal and external data along with other tasks. The skills I learned while at Cambridge still stand the test of time and I use many of them.

On a personal level, I made many friends at Cambridge and am still in contact with them. Many have moved to different countries and to jobs as diverse as the gaming industry, bioinformatics, telecoms, architecture and the public sector. Some have started their own businesses.

The Diploma in Computer Science is no more but I will always remember my year as a DipCompSci. Cambridge is a unique place and it is not until you leave that you realise how special it is.

Hall of fame news

Bango

For the second year in a row, Bango was recognised as the “Best Transactions Provider” at the ME Awards, one of the key global mobile entertainment industry events.

blinkx

blinkx, the largest video search engine, has reached new growth milestones. With an index of over 32 million hours of online TV and video and more than 420 content partners, blinkx gives users a single point of access to the largest and most diverse array of rich media content on the Web.

Cronto

UK banking security specialist Cronto and Germany’s second largest bank Commerzbank AG, have launched the first deployment of the Cronto Visual Transaction Signing solution. A number of selected Commerzbank customers will be able to secure their domestic transfers using the photoTAN mobile phone application.

The Cronto patent-pending transaction authentication solution uses the optical channel to establish trusted communication between the bank and the customer. With the photoTAN mobile application, customers are only a picture away from secure verification of their banking instructions. The Cronto visual signing technology eliminates both the inconvenience of entering transaction details manually into separate authentication devices and the risk of a Trojan soliciting the customer to authorise a fraudulent transaction.

Cronto and Commerzbank are open to share their visual signing deployment experience with other financial institutions, to promote safe and efficient on-line banking.

Masabi

Masabi has appointed Fred Metzgen as CEO. Mr Metzgen brings more than 30 years of leadership experience in the IT and telecommunications industries. He was CEO of France Telecom Network Services, International Business Development Director at BT and European Sales Manager at IBM.

MessageLabs

MessageLabs has been acquired by Symantec Corp. Under the terms of the agreement, Symantec acquired MessageLabs for a purchase price of approximately \$695 million in cash, payable as approximately £310 million and \$154 million.

RealVNC

RealVNC, the home of VNC remote control software, is extending its flagship VNC Enterprise Edition product to mobile devices. VNC now supports a wide range of mobile handsets and PDAs including Symbian, Microsoft Mobile, iPhone, Linux and Blackberry platforms, with support for additional platforms to follow. As well as providing remote control and management of PCs from mobile devices, for the first time it will be possible for a system administration department to support and maintain its organisation’s mobile devices using VNC.

Sophos

Sophos has been named one of the top places to work in Massachusetts in the debut of an employee-based survey project from The Boston Globe. *The Top Places to Work 08* recognises the most progressive companies in the state based on employee opinions about company leadership, compensation and training, diversity, career development, family-friendly flexibility, and values and ethics. Private companies and not-for-profits as well as public companies were included in the analysis.

Trampoline Systems

Trampoline received CRM Magazine’s “Rising Start” award for 2008.

The award comes as recognition for the impact Trampoline’s automated discovery of contacts and relationships is having on how businesses think about CRM systems. Trampoline’s SONAR automatically maps the flow of communications between sales executives and a customer, offering the potential to integrate with any mainstream CRM system to present a comprehensive overview of the relationship.

Ubisense

Ubisense has been ranked number two in the 2008 *Deloitte Technology Fast 50*, a ranking of the 50 fastest growing technology companies in the UK. Rankings are based on average percentage revenue growth over five years. Ubisense grew 15,324% during this period.

The Fast 50 list is compiled from Deloitte’s nominations submitted directly to the Fast 50, and public company database research. To qualify for the Fast 50, entrants must have had operating revenues of at least £34,000. Deloitte researchers examined financial statements to validate operating revenues. Entrants must also be public or private companies headquartered in a participating region of the UK and must be “technology companies,” defined as companies that own proprietary technology that contributes to a significant portion of operating revenues; or devote a significant proportion of revenues to the research and development of technology.

Sandy Fraser

Hall of fame Awards 2009: final call for nominations

Let us have your nominations by February 1st 2009.

The 2009 Hall of fame Awards, honouring the achievements of Ring members, will be announced at the annual dinner on April 2nd.

The date for final submissions is February 1st so don't forget to submit your entries.

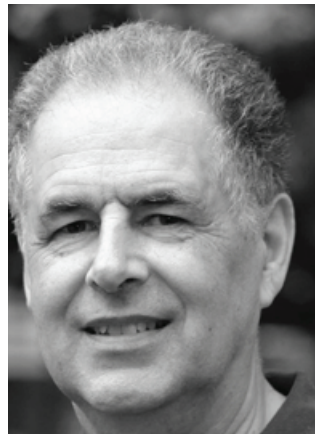
There are three categories for the 2008 Awards:

- **Company of the Year**, open to all Hall of Fame companies.
- **New Product of the Year**, open to all Hall of Fame companies
- **Publication of the Year**, awarded to the most significant peer-reviewed paper by a Ring member or Lab member published in the calendar year 2008.

For the first two awards, please note that the company must be a member of the Ring Hall of Fame, as shown on the Ring Web site. If a company is eligible for the Hall of Fame but not currently listed, please contact the Ring office to ensure that it is added.

For the New Product of the Year award, the product concerned must have been (or is planned to be) released commercially in the calendar year 2008, and principally developed by the company itself. The product may be hardware, software, licensable technology, or a service.

Please send all nominations to jan.samols@cl.cam.ac.uk. Please give reasons for your nominations.



Sandy Fraser established Fraser Research after his retirement from AT&T. He founded AT&T Labs Research in 1996 and was appointed Chief Scientist in 1998. He is an IEEE Fellow, a member of the ACM and was a Fellow and a council member of the British Computer Society. Sandy is a graduate of Fitzwilliam College.

What's your favourite gadget at the moment?

The next generation Internet is where I am putting all my energy. Apple's iPhone is my favourite product.

What's your favourite Web site?

Don't have one.

What was the last book you read?

3 cups of tea by Greg Mortenson.

What was your first job?

Ferranti — computing research and development were indistinguishable at that time.

What has been the most exciting moment in your career so far?

The early days of networked music — unlike other technologies, music was one subject that elicited excitement in everyone, technical and non-technical, who came in contact with it.

What do you miss most about Cambridge?

Our friends.

What do you miss least?

The weather.

What annoys you most?

Deceit.

Who would you invite (past or present) to your ideal dinner party?

This year's brightest graduate students.

What do you do to relax?

Read, design, tinker.

What's going to be the next big thing?

Mobile computing.

Don's diary



A day in the life of David Greaves, a senior lecturer in the Computer Laboratory

8:00am: My week always has a lot of structure; my diary is nearly always full and my day runs like clockwork. Today I must conduct a first-year PhD *viva* for a postgraduate student called Bence who is studying badgers. I have not read his report and proposal yet, so I read it in bed while breakfast arrives. Bence's proposal is all about establishing a data network where the badgers each carry tiny computers that can send to each other when sufficiently close, but it's not clear to me quite what fundamental question the candidate is aiming to answer. Is he reading computer science or animal behaviour?

9:00am: I process my e-mail. I learn I've had a paper accepted: that's always good news. This is just a two-page position paper at a conference on system design languages. The conference chairman says he wishes we had put in a full-length paper. That's nice too. The paper is a report on the how we have marked up software programs in the C# programming language for compilation to hardware designs. I forward the news on to my co-author, Satnam, at Microsoft Cambridge. I ponder that his e-mail goes via Redmond, Seattle, but that sort of thing adds negligible delay these days.

10:00am: The next piece of clockwork is that I cycle into ARC Cambridge for my weekly Tuesday morning meeting. ARC makes multimedia subsystems for mobile phones, and last year they purchased a company that I originally created, so I'm still slightly involved in technical decisions. Their main software, that I originated, but which now runs to two hundred thousand lines, is one of the longest programs ever written in the language ML. In the Computer Laboratory, we teach ML to the first-year undergraduates, and use it extensively for research, but most people don't believe it has any commercial use. I have disproved that at least!

12:30pm: Today's lunch has to be rushed, because there's a lunchtime research seminar at the William Gates Building that I want to catch.

1:00pm: I arrive at the Automated Reasoning Group seminar and listen attentively to the latest ideas for solving the infamous halting problem. It's a standard result in computer science theory that this problem cannot be solved in general, yet quite serious effort is going

in to solving it in practice. It's beginning to look as though a general solution will never be needed, because all practical programs stick to a limited number of design patterns that can be handled separately.

2:00pm: I cross the road to the Roger Needham building, the home of Microsoft Cambridge. I'm meeting with Satnam every Tuesday at the moment. Also present is Tim Harris, who used to be at the Computer Laboratory, and our project intern, Sanyal, who will report on whether he has completed the work we spoke about last week. It's a good meeting, not only because of the paper acceptance news, but because Sanyal has adapted the code for a DNA sequencing algorithm to serve as one of our tests. Our project involves implementing it in three different ways and seeing which works the best, where the ways are fully in software, fully in hardware and on a soft processor core with synthesised hardware assist.

3:00pm: I return to the William Gates Building and conduct the *viva voce* examination of the badger candidate. Bence sits opposite me and explains his plans, while on my left is Professor Jon Crowcroft. Jon has recently been leading a "pocket-switched" networking project where data makes its way between mobile phones and PDAs and so on, from one person's pocket to another, in the hope of finding its desired destination, or else a munificent pocket wherefrom the data can be sent to the Internet. The badger project is rather similar. I learn that badgers live in small groups whose leaders tend to meet up at central places. We have a general discussion of the traffic patterns and quality of service needed for sensor data and how to remotely re-program the sensors on the badgers. I'm happy to say, the outcome is entirely satisfactory: the badger man has had the opportunity to present his ideas in an organised way and perhaps been made to look at them from another vantage point, and we have benefited from an interesting discussion.

7:00pm: I don my gown and walk through to the Senior Combination Room where I greet my guest for dinner.

10:45pm: I cycle home. As usual in my clockwork world, the post from Monday and this morning lies on the front door mat. I'll open it in the morning.

Computer Laboratory news

Teaching

The first year of the Computer Science Tripos has been thoroughly revised and now incorporates two new options in Mathematics and Social Psychology. It is thought that this change is partly responsible for the dramatic increase in applications for October 2009 — up 53% year-on-year. There is also a first-year option in the Natural Sciences Tripos that allows transfer into Computer Science at the end of the first year. This change has resulted in a sharp increase in the number of first-year Natural Scientists taking a Computer Science option in 2008-2009 (up over 300% year-on-year), some of whom may decide to switch to Part IB of the Computer Science Tripos.

Plans for the new course, the MPhil in Advanced Computer Science (the ACS), are well advanced and the course will take its first students in October 2009. The course is designed to prepare students for doctoral research, whether at Cambridge or elsewhere. Applicants will have taken a first degree in computer science or an equivalent subject, and will be expected to be familiar with basic concepts and practices. The ACS will cover advanced material in both theoretical and practical areas as well as instilling the elements of research practice. It will combine lectures, seminars and project work in various combinations tailored to the individual student.

Awards and publications

Professor Andrew Pitts was elected a Fellow of the British Computer Society in October 2008.

Robin Milner, Emeritus Professor, has brought a decade of research to fruition with a book *The Space and Motion of Communicating Agents*, to be published by Cambridge University Press early in 2009. With the advent of Ubiquitous Computing, which will dominate the 21st century, his new model aims to bridge well-known process theories and the extraordinary challenge that Ubiquitous Computing presents for sound engineering and rigorous foundation. His vision was the subject of an invited lecture at the recent British Computer Conference *Visions for Computer Science*.

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