The Ring

Ring Events

An Evening with Professor Andy Hopper

We are delighted to welcome Professor Andy Hopper as guest speaker at the Ring's first roundtable discussion event on November 15th 2005.

The event, at which topical issues will be discussed over dinner, will provide a forum for robust exchange and will cut across the usual divides. The meeting will be held under the Chatham House rule.

If you would like to attend, please reserve your place by returning the invitation form, which can be found on page 21. Tickets are limited to 24 and will be allocated on a first come first served basis.

Welcome to London Event

We are pleased to announce the first 'Welcome to London' event to welcome the class of 2005 to London and into the Ring. While some of you will have been in London for the past couple of years, many will have just arrived. This makes the evening a great opportunity to catch up with friends, welcome new members to London, find out about the latest in the London Ring and or just network and chew the fat in a relaxed and informal environment over drinks and food.

As an added bonus for those who are interested in finding out about job opportunities, we have invited a small number of companies who are looking to hire CL grads. Each will give a short (4mins) presentation describing their current opportunities.

If you would like to attend, please fill in the invitation form which can be found on page 23.

If you have any questions or would like more details, please contact London Ring Committee Member and event organiser Matt Wiseman (matthew_wiseman@mckinsey.com) or Jan Samols in the Ring office.

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Annual Dinner: Ring Awards 2006 – First Call for Nominations

Following on from the success of the 2005 Ring Awards, the highlight of the Annual Dinner (to be held on March 20th 2006) will be the presentation ceremony for the 2006 Ring Awards.

The format this time will be slightly different. Instead of the Ring awarding a student prize, the companies sponsoring the prizes for those who have just graduated will also be presenting their awards at the event. This will make for a more diverse awards ceremony, give the student prize-winners a night to remember, and perhaps most importantly provide a tangible recognition of their efforts.

Winners of the awards receive much kudos, a trophy and the right to use the Ring Awards logo. In addition to publicity on the Ring website, the event also provides winners and nominees with an excellent opportunity to generate a press release.

There will be three categories for the 2006 Awards:

1. Company of the Year, open to all Hall of Fame companies.
2. New Product of the Year, open to all Hall of Fame companies
3. Publication of the Year, awarded to the most significant peer-reviewed paper by a Ring member or Lab member published in calendar year 2005.

For the first two awards, please note that:

- The company must be a member of the Ring Hall of Fame, as shown on the Lab Ring website. 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.

- If applying for the Product of the Year award, the product concerned must have been (or is planned to be) released commercially in the calendar year 2005, and principally developed by the company itself. The product must be hardware, software, licensable technology, or a service.

Nominations can be submitted via the Ring website (www.camring.ucam.org). Go to the Business and Professional link and click on Hall of Fame nomination form. The full regulations can also be found there.

Ring Careers Committee

The Careers Committee, set up to provide assistance to members in helping them achieve or enhance their career potential, is delighted to welcome Chris Morgan (*JE01*) as a member. Chris is back in Cambridge working for i2 Ltd as a technical pre-sales consultant. Previously, he worked for Barclays Capital in London.

Careers Questionnaire

To help us to better understand the career development of Computer Lab graduates, we have posted a Careers Questionnaire on the Ring website. Thank you to all those who have already completed it. If you have yet to do so, please do! It can be found at http://www.camring.ucam.org/cl/page?sp =69. All those who have submitted a completed questionnaire will be entered in a draw for a free ticket to the 2006 Annual Dinner.

Job Bulletin Board

"Thank you…. it [the Job Bulletin Board] has consistently been the best place for me to find interesting jobs" (DD 21/06/2005 who found his new job through the Bulletin Board)

If you're looking to hire or are looking for a new job, use the Job Bulletin Board. Just go to the Business & Professional link on the website (www.camring.ucam.org) and click on Job Bulletin Board.

See p.22 for the current board postings.

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Hall of Fame Profile

Codian

In the latest in the series of articles profiling companies founded by Computer Lab graduates, "The Ring" was delighted to talk to David Holloway, co-founder of Codian. David is a graduate of Magdalene College.

TR: David, can you run me through your career up to the point of founding Codian?

DH: After leaving Cambridge, I joined Madge Networks as a software developer; I think I was their 15th employee. Madge grew at a phenomenal rate thanks to its success with token ring networks. At Madge I did a whole range of different jobs. When I left 10 years later Madge had over 1,000 employees and I was running one of the R&D teams. I was asked by Mark Richer (also ex Cambridge and my first boss at Madge) to become Vice President of Calista heading up the UK operations. Calista produced a range of Voice-over-IP products and was bought by Cisco Systems in 1999. At Cisco I led the UK engineering team, as part of the Voice and Video Business Unit where we produced high-density analogue gateways and a videophone among other projects. In December 2002 I left Cisco and, with Mark Richer and Will MacDonald (also ex Cambridge, ex Madge and ex-Calista), founded Codian.

TR: Tell me about Codian and how you got started.

DH: We got started in my dining room (while we sorted out an office). We had no preconceptions of what product area we would focus on; we knew we wanted to do high-tech involving networking, voice and video. After a few months we settled on video conferencing infrastructure which we felt was poorly served by the existing products. Our rule of thumb was that if we couldn't make a product at least twice as good for half the price, it would not be worth trying. We hired most of the development team we had at Calista and Cisco - a product is only as good as its engineers and we wanted the best. Every employee receives shares in Codian so we will all benefit from its success. We also managed to avoid VC money so we get to choose the direction we take.

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

DH: It's always tougher than you expect to get a product from something that "works" to complete and shipping. For example, we had a number of nasty hardware issues to sort out before we could ship. We make sure that we have the best engineers and develop as much of the software and hardware ourselves as we can, so that the project is under our control.

Early in our production our UK manufacturer closed down and we had to find another one. This turned out to be a blessing in disguise as we have found a great firm in Nottingham, SMS – a Siemens fall out company – who are doing their best to meet our growing demands.

One practical thing that causes real problems for a small growing company is finding flexible office space. This may seem simple but this is one of the big differences between the UK and San Jose, where the whole process is much easier.

At the moment our main obstacle really comes from our success. We are growing so fast –sales increasing at a rate of 100% every 3 months – that recruitment has become important. We are not only recruiting graduates - please apply now if you want to join our development team - but also more experienced engineers and test/production engineers to help with all aspects of product design, development and shipping.

Another obstacle is time: there just isn't enough of it!

TR: What are the key trends that you have spotted in the video conferencing industry in the last year?

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DH: One of our products is a Video Conferencing MCU or Multipoint Conference Unit. This is the box that sends the voice and video data down the IP network and enables the user to display the conference participants on their endpoint screen in the format they choose. Certainly in the last year a key trend has been for better and more powerful MCUs .

IP based video conferencing is growing fast. Along with this has come better products which are easier to use, with new applications such as combining video conferencing with streaming. Voice over IP is pushing video to the desktop and at the same time higher quality, High Definition, video conferencing is coming onto the market.

TR: What factors would encourage people to adopt and use video conferencing tools on a daily basis?

DH: We are under no illusions. Video conferencing has been around for a long time with generally slow penetration. The relatively slow market growth has mainly been due to prohibitive costs for rather average systems. Like any high-tech area, as more players come into the market and performance and user-friendliness increase, we expect more and more companies to see the benefits of video conferencing.

TR: How has the competitive environment changed over the past year?

DH: When we launched our first product line in February 2004, we were asked 'why are you entering the video conferencing market? It's already saturated – there's no need for another manufacturer.' Well only two and a half years later we have proved them wrong. Not only is there plenty of room for us, as our sales demonstrate, but we are seeing more start-ups enter this field including LifeSize – an end-point manufacturer. I think it would be fair to say that we have changed things permanently in this market. Our competitors refer to the video conferencing market before we came along as BC (Before Codian). However, we have to keep busy as our competitors are bound to try to improve on our innovations. We just have to stay at least a couple of steps ahead!

TR: What do you think the future of video conferencing has in store for us? Are things going to change dramatically over the coming 18 months? How is Codian positioned to capitalise on these changes?

DH: IP video conferencing will continue to grow. High Definition will become a reality. The use of video will become more normal and less of a specialist activity. As with audio there will be lots of ways of accessing video: conference systems, videophones, 3G phones and PCs. I don't expect dramatic change as such, but steady, relentless improvement in the products driven by technology, competition and the liberating power of IP. I'm sure there will be some surprises on the way. Codian is in a great position to exploit and drive the changes in the market.

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

DH: Our plans are to continue to expand and improve our product line. High Definition is an area in which we will have products. Similarly we have recently launched a super-size MCU chassis to offer 340 video and voice ports aimed at big business and service providers. We plan to stay ahead of the competition by having technically the best products as well as doing a good job of looking after our customers. As sales growth continues we will no doubt open more sales offices worldwide to supplement our current operations in San Jose, Chicago and Hong Kong. Immediate plans include an office move in the UK to make space for all our new recruits!

TR: What is the most important thing that you have learned about business?

DH: Work with great people and aim to be the best. In high tech you can take on any competition. Tenacity.

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Computer Scientist and a Woman?

Dr Mateja Jamnik
Lecturer and EPSRC Advanced Research Fellow

Linus Torvalds (Linux), Bill Gates (Microsoft), Steve Jobs (Apple), Sergey Brin (Google)... What do they have in common? They are geeky? They are rich? The answer is yes to both of these, but just as importantly they are all men. Why is this? Are there no women in Computing?

You may have heard that women are badly under-represented in sciences, but did you know that in computer science, 33% of women aspire to leadership position, in contrast to "only" 22% men? You'll probably be even more surprised then to learn that despite this statistic, only 1 in 20 computing professors, 1 in 8 computing researchers and 1 in 4 PhD students are female. What can we do to shatter the "frosted glass ceiling" that prevents many women in computer science research from rising to the top of their profession?

I am one of the few female computer science academics in my department. I am also a parent and I work part time. Juggling the many roles that I have is not easy, but it is doable. I did not have female role models that I could look up to in my student years, because there just weren't any women that I was taught by. Now that I think back, I never felt that gender was an issue, neither for me nor for my fellow students. But just the fact that I wasn't taught by any female academics at all tells the story that all is not well. This became more apparent when I was finishing my PhD and was thinking of what next... I wanted to be a researcher and an academic, and I also felt that in the future I would have a family. But there were no other examples of women with similar plans and ambitions around me. Why is this? Can we do something to improve this damaging situation?

In order to redress the imbalance in computing research, and to encourage other women to do computer science research and stay in these jobs, Prof. Ursula Martin and I started a networking project called **women@CL**. women@CL provides local, national and international activities for women engaged in computing research and academic leadership. The project is based in the Computer Laboratory of the University of Cambridge.

At the local level we're aiming for a simple grass-roots model that is effective, replicable and sustainable across science and engineering departments in a complex institution. Our women@CL lunch talks provide an opportunity for everyone to network with early-career women role models in research, industry or start-ups. These informal meetings have been very popular with everyone, women and men, not least for the obligatory chocolate cake that is on offer. women@CL is also involved in a more formal positive action program in collaboration with the University Equality and Diversity Unit.

At the national level we support women in computing research, with a focus on interdisciplinary research, leadership and enterprise, through a programme of career development activities. This includes regional and national meetings, some with technical programme, others are more career development oriented workshops. We are also involved with mentoring and provide networking opportunities.

Within women@CL we started a childcare initiative scheme in order to alleviate the problem that parents face with childcare while going to research meetings. Many academic parents are prevented from attending conferences, because there is no provision for the costs incurred in looking after children. women@CL is willing to make a supplementary grant of £150 as a contribution to childcare costs. Grants are open to anyone employed in a UK University in a position whose duties include computer science research, or

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studying for a PhD in computer science in a UK University. Eligible candidates may apply for funding for childcare costs incurred while attending any conference which is primarily devoted to computer science research.

women@CL is made possible with support from EPSRC through a Network Grant, Microsoft Research Cambridge, Intel Cambridge Research, CMI, the University of Cambridge and Newnham College Cambridge and the British Computer Society.

To stay in touch with the activities of women@CL, you can subscribe to our WiCR mailing list from http://www.jiscmail.ac.uk/wicr. You can get more information about the women@CL project from our web site http://www.cl.cam.ac.uk/women/.

It is laudable and necessary that there are various initiatives to encourage more women to study computer science at school and university, but what about beyond? women@CL at least partially addresses this by celebrating, informing and supporting women in the UK who are, or plan to be, engaged in computing research or academic leadership.

On a personal note, my hope and goal is that projects like women@CL will provide female students and researchers with role models, along with help and support to break the glass ceiling and rise to the top of computing professions. Recalling the list of names at the start of this article, how long will it be before at least two of the first four computing leaders that come to mind are women?

Technology: Interaction and Design

Report on the University of Cambridge Horizon Seminar

Bill Thompson *(CTH Dip84)*

I spent the day in the post-industrial theme park that is Cambridge University's Centre for Mathematical Sciences, where the Research Services Division was holding the first of this year's 'Horizon' seminars – a day of presentations by university research staff and industry representatives, looking at interesting projects and collaborative work in a specific area. Today the topic was interaction and design, focused particularly on interdisciplinary research into areas like usability and accessibility, product design, interfaces and all that other good stuff.

It's an area that is as important for the design of user interfaces to programs and information sources as it is for inventing useful tools like cordless kettles, and I was hoping to spot some trends, make some contacts and generally have a stimulating time. And I wasn't disappointed. There were some ok presentations, one or two brilliant ones, and some where the speaker either hadn't read the brief or hadn't bothered to take it into consideration, but overall the quality was high.

This is a long report – 5000 words – but there was a lot to write about.

Design Matters

We assembled around 9 for coffee, before heading downstairs into the Wolfson Room for the sessions, which were introduced by David Secher, who runs the Research Services Division, responsible for technology transfer and research policy in the University.

John Clarkson
The opening presentation from John Clarkson, a professor in the engineering department and head of the Engineering Design Centre, looked at the business case for inclusive design, making mainstream products usable by the

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widest possible consumer base, irrespective of age or ability. As we see with web design, it's easy for designers and their managers to treat accessibility as an unnecessary and expensive add-on that reduces functionality, but Clarkson argued convincingly against this.

For one thing, the number of people who don't count as 'able-bodied' is large and getting larger, and these people have a lot of money to spend. The estimated 54m people with disabilities in the US spend $1 trillion a year – and even in the UK there are 10m disabled customers who have £10bn to spend. Not only that, but as the population ages more and more people will require some help, and they are an important market.

Clarkson gave a fascinating presentation, well-paced and supported by a powerpoint presentation which didn't overwhelm what he was saying, and he has a stage presence that clearly comes from years of lecturing on complex topics to recalcitrant students. It certainly worked here, and I could see that the industrial representatives in the audience were taking it very seriously.

He told us about a short DTI-funded project earlier this year which looked at how businesses were doing in this area, and asked what sort of help they needed – see http://www.betterdesign.org/ - and the results were interesting. Most of the 30 companies they surveyed thought they were doing well but weren't, and most thought they needed more help and support – and they do. His best prop was a pack of around 30 A5 cards with usability and accessibility advice on them, which they handed out to companies taking part in the project. There was a pack for us to play with at coffee break, and there was something very effective about holding them and reading them, something that worked far better than having yet another website about the topic. Maybe it's because it brings back childhood memories of flashcards at school – because these ones are A5 they feel oversized, but they are probably the

same relative size as normal cards to a six year old's hands. Cool stuff.

Nathan Crilly
Next we heard from Nathan Crilly, a PhD student at the EDC who has a background as an engineer. He is trying to provide product designers with an insight into visual aesthetics – the way that things look – and how it influences usability and desirability. Although rather nervous at first, he soon settled into his stride and though it was clearly impossible to give enough detail in a 20 minute talk, made a convincing case for the value of unpicking the different aspects of aesthetics and trying to build a functional model which can be used to help designers and – perhaps more importantly – their clients understand how users feel about products.

Max Bielenberg
The first session finished with a talk from Max Bielenberg of the Design Centre about their current campaign to help early-stage businesses use design skills more effectively. Unfortunately it was such a dull talk, with a collection of slides consisting of unadorned text on a white background and a whole collection of 'top three takeaways', 'things to take away' and random assertions dressed up as deep research that I can't remember very much of what was said at all. Had I not been sitting near the front I'd have got my laptop out to check my email too, as many of those sitting at the back did. Over coffee I chatted to Lize King, the Communications Manager at the Cambridge MIT Institute and was really pleased when I bumped into Pete Ferne, an old friend and comrade from the days of the Community Computing Network.

The Technology of Interaction

Phil Tuddenham
The second session was called 'The technology of interaction' and was more computer science oriented. It began with a look at the 'Escritoire', developed by the Rainbow group in the Computer Lab to provide a desk-sized user interface which uses projectors and pen-based input to offer a virtual desktop that provides a convincing simulacrum of a

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real-world paper-based desktop. You can run virtual screens in and even network several desktops together.

Paper thrives as a display medium because it has affordances that have not been surpassed (by screen-based systems) – the Escritoire tries to offer all that paper can, in a networked, electronic environment. It's extremely cool - at least the demo was. Sadly it was just a video, we didn't have a real desk in there to play with. But Phil Tuddenham from the Lab talked about his work to extend the Escritoire by providing gestural input – so we can turn the pages of our virtual book with a page-turn gesture instead of having to scroll. Of course, hand tracking is easy, but the obvious ways to do it would interfere with the desktop's use as a data input device too, since anything that involves electric fields would be picked up by the desk surface. So they track hands with a camera mounted above the desk, an increasingly common way of doing this. It seems everywhere you look someone is doing visual identification of human forms, features and faces, and using it as an alternative to other input devices. It's not even the next big thing – it's the current big thing.

James Scott

After the Escritoire we had more videos from James Scottt, who works at Intel's Research lab. It might just reflect the easy availability of video editing tools on today's powerful computers, or perhaps more showing that it's a lot safer to make a video in a controlled setting and then edit it to be convincing – the Derren Brown approach to magic – than it is to do a live demo.

So we got to see the use of cameraphones to provide a 'ubiquitous interaction' service by printing specialised circular barcodes which can be read and used as tags, feeding information back and forth to the phone. Slick but not very compelling, simply because it wasn't live.

It was the same with the audio networking demo – again, it's very cool

to use built in speakers and microphones to transfer information between devices, but somehow it felt a bit like the reinvention of the modem.

Lastly, how to work with a 3D user interface by using finger clicking and figuring out the location with six microphones. Specific locations in the 3D space are associated with events/actions which are then triggered when a click is detected within it. It's cool – six mikes and a PC with six sound cards on a Linux distro, and it works – sort of at least, in the video we saw.

It's good to see this early work, because it gives us an idea of some of the things that are in the lab now and that will be in products in five years – it's the Gibson model again. And the final video, controlling a music player with finger clicks, was persuasive – this one will happen. But I'd like to see it for real, rather than just on screen.
Details at http://www.cambridge.intel-research.net/

Neil Dodgson

Next up, Neil Dodgson from the Lab's Rainbow group, where he works in graphics and display technologies. He was talking us through some research by Rana el Kaliouby and Peter Robinson which they call 'mind-reading'. It's not telepathy, but how to make inferences from non-verbal cues (or, in the case of a computer, those interactions that are outside the specified scope of normal input devices like keyboards and mice.)

This is obviously derived from the early work of Lucy Suchman at Xerox Parc, where she looked at human-photocopier interactions. But we've come a long way – the idea that a computer is 'mind-blind' now seems obvious rather than revolutionary.

How can a computer understand your emotional state? Well, it can't, but if it looks at facial expressions and head gestures it can categorise your emotions according to a fairly-well-understood taxonomy developed by Simon Baron-Cohen, going beyond the six basic emotions – happy, sad, angry, afraid,

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disgusted and surprised. It's not easy, as we know from our personal lives, but it can be done, at least when considering agreement, interest, concentration and the other axes chosen for the project.

We were back in video territory here – and again, I'd much rather have a live demo – and it was pretty interesting to see how the inferences develop over time, with the internal probabilities settling in the 'dynamic bayesian network' that is trying to figure out what's going on – in one example someone is nodding their head to agree.

It's real time, unobtrusive and automated – all you need are places to use it, or otherwise you could be even more annoying than Clippy. But in assistive technologies, car navigation systems, tutoring and computer-mediated communication could all make use of it – at least some of the time. A car that knows you're angry might be able to tone down its unbearable chirpiness while you're driving, for example.

A quick run through the internals of the system revealed that this is a pretty complex task, and doing it in real-time takes a lot of processing power – but the systems are getting faster and the algorithms are improving. It's another one of the technologies that seems destined for mainstream in a few years, and it was valuable to see it in this early stage. We're heading for a world in which cameras provide the core interface, with our computers looking at us and interpreting our voices, gestures and – perhaps – intentions. The work we've seen here today meshes with other stuff I've seen from Sony, who have big plans for the PlayStation EyeToy as a user interface.

The major issue at the moment is that all their test data, and all the knowledge acquired by their system, is based on people who are acting emotions, asked to pretend to be thinking or concentrating or sobbing uncontrollably after their USB key drive has trashed their data. They don't have a corpus of real facial expressions tagged with emotional states that they can use, and this raises the possibility that the system won't work when it encounters the rapidly changing emotional ocean that is a real human being engaged in real tasks.

Nicola Millard

The morning concluded with a lively presentation from Nicola Millard, a 'Lead Customer Experience Consultant' with telco BT, based at the Adastral Park research centre. She was looking at user interaction and the emotional aspects of our relationship to technology, arguing that mere efficiency is not enough when we are developing user interfaces.

After the obligatory reference to Maslow's hierarchy of needs she took us through a model which considers both efficiency and pleasure – what she called the 'hedonic quality' of a technology. As she pointed out, there's a lot of pleasure-based design in physical products, from a rollercoaster to an iPod, via the new Mini where the metal gearstick is not functional (it gets hot) but viscerally appealing. The question is how to get it into screen-based technologies too, especially where the user's relationship to the technology is not fundamentally identified with pleasure – like at the office.

Most of her talk was a case study of how workers in a BT call centre were encouraged to explore the knowledge system which supported their work, in a way which engaged them emotionally and was fun rather than work-oriented. They offered a cartoon house and a games-style interface which went down very well in trials – but has not yet been rolled out because of management concerns that it's not appropriate for work systems!

Her talk was a delight partly because she obviously enjoys what she does and is deeply engaged with it, emotionally and intellectually, and also because she is more on the standup side of the speaker spectrum – where I usually find myself – than the academic. As a result, she complemented John Clarkson's introductory session beautifully and sent

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us all of for lunch with a lot to talk about.

Technology in Context

Post lunch – a rather nice buffet – we were back for a selection of presentations loosely linked by the issues of interdisciplinarity.

Ken Wood

After introductions from Alan Blackwell, one of the leaders of the Crucible project, we heard first from Microsoft Research's Ken Wood. He began by telling us about the team he's assembled into the social-digital systems group, part of the Computer Mediated Living Group at his lab, a team of sociologists, psychologists, computer scientists (natch) and hardware developers. They are looking at ubiquitous computing – the interplay between digital things and physical things in everyday life.

We're already living in an era of ubicomp – I typically carry a laptop, 2 phones, ipod, smartcards and a digital camera – so the issue is how we live in the world, not how we create it. At Microsoft they have done some research and ethnography looking at how to augment fridge magnets, a key tool for the management of information flow in the home.

According to Wood, the process is normally supposed to be observe, invent, deploy, fix. But too often the technology is already available so the invention happens first. But even then observation is key – and he is finding more and more that detailed ethnographic observation is a core tool for really understanding what people do – as opposed to what they say they do.

So his team has spent 18 months working on close observation of informational surfaces – fridge doors in family homes – and the way that magnets are used. One of his team, Alex Taylor, observed that magnets are important as an organisational tool – one mother puts all school letters under a single magnet, and when it falls off it's time to deal with them!

So they are building active magnets, like one that has a timer in it and glows brighter until the deadline – which can be hours, days or weeks – arrives. The idea is to enhance what the magnet does, but to do so in a way that fits with current usage rather than try to introduce something totally new.

They are currently building a range of augmented magnets and they plan to put them into real homes in Cambridge – a panel is being set up – and see what happens. It's social-science led interaction design – the ethnography drives the project.

Wood, with a relaxed and entertaining style and a good sense of humour, was the ideal post-lunch speaker, engaging the audience and pulling us out of the carbo-induced slump into which we were all in danger of succumbing.

After the magnets, he talked briefly about the work being done with Sensecan, [www.engadget.com/entry/24884855273 27140/], a wearable camera pack that takes around 2000 images in 12 hours. It's a neat idea, and one of the tools where the technology came first, as researchers were playing with a device to continuously capture data like temperature when they realised that it was cheap and easy to put a camera in there too.

It takes pictures automatically, based on motion, light level, temperature, people in field of view and so on, and tags each image with time and the sensor data it is also collecting – and the next iteration will have GPS to tag location too, and perhaps an audio feed.

We saw a cool video of the photos taken during a trip from Cambridge to London by bike and train, a speeded up day which was surprisingly coherent and worked well. Although it raises many issues – as Ken pointed out, at the start of the video if you look really closely you can see that the person wearing the Sensecam went into the ladies' toilet to check herself in the mirror – it's an extremely interesting tool.

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Ken mentioned ideas like augmented tourism, ethnography and - of course - child monitoring, but one practical application is to help memory-impaired people in their daily lives. They have already done a project in collaboration with Addenbrooke's Hospital with twelve patients who have suffered memory impairment after a stroke or trauma. The patients wear the Sensecam and at the end of the day review the images with their family or carer – and the results are very interesting. It seems to reduce anxiety levels, simply because there is a record of what they did, and it also seems to help general memory performance, perhaps because the rehearsal helps them find new strategies.

And so one experiment has generated a computer science paper and a medical paper – a good example of cross-disciplinary collaboration. So although, as he admitted, managing an interdisciplinary group is very hard work – people speak different languages, understand things very differently – it definitely leads to interesting results.

David Good

The theme was continued by David Good, who was talking about the Distributed Working project, www.sps.cam.ac.uk/dwcmi/, which is currently taking up what time he has when not working as education director for the CMI or as co-director of Crucible.

I've known David a long time, and indeed was one of his first group of students when he started lecturing in Cambridge, and it's always fascinating to hear about his research. This time he's got his own massively distributed team – geographical, institutional and in terms of discipline – working on the issue of how to solve the problem of distributed working. It's very reflexive, but that's a good Cambridge tradition.

The first point he made is that existing tools, technologies and organisational modes fail to address the many issues that arise – from time zones to cultures of cooperation. Since his first interest is communication – and failures thereof –

it's not surprising that he's fascinated by this topic. And because it's directly relevant to industrial effectiveness and productivity, it's a research topic that attracts funding, a key determinant in these accountancy-obsessed times.

Distributed working is a fundamental aspect of human social behaviour - making things happen in a coordinated way is a core aspect of what it means to be human, but too often the technologies that should solve the problem just make it worse. New technologies have to evolve cultural practices around them - and cultural practices sometimes demand or depend on new technologies.

Both the Cambridge-MIT Institute and the Crucible project came about partly from realisation that cross-boundary thinking is needed to deal with industrial liaison/consulting issues within a University setting, and that knowing how to organise across departments is a vital skill. But it's hard to achieve, and often hard to create the respect between disciplines that is the core of productive joint work.

Disciplines talk different languages. With real languages we see pidgin/barter languages emerge in order to support trading, but these languages are diminished and so distort each side's view of the other. For real collaboration we need a proper, full shared conceptual space which allows full appreciation of complexity and sophistication. If that is available then the two sides are a lot more likely to respect each other. And for Crucible the practice of design - a shared enterprise - is the discourse within which they are attempting to achieve this.

David's talk upped the intellectual ante seriously – there wasn't a video in sight, just text and the odd diagram, embedded in a coherent narrative. It showed the difference between a demo, a presentation and a lecture, where those listening are expected to engage, to bring their own knowledge to the exposition and to work hard to make it all fit together. It was great.

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The distributed working group is, he says, 'rabidly eclectic' and will use anything that might work or look workable. They want to intervene and make a difference to practice, design, deployment - with a resulting fast feedback loop between enquiry and intervention. Just publishing the papers doesn't count as dissemination, so they are already looking at companies that are trying to make DW effective - he mentioned GE's network group, ARM, Nokia, and Highlands and Islands Enterprise Group, All of these try to support distributed working but have problems, and they often come up with good ideas for solving them. So David and his team observe how company cultures evolve and so they study the changes and how effective they are, extract generic messages and methods and make them more widely applicable and applied.

One important aspect of their work is that it's not just about communication. The issue is too often seen as essentially a communication problem, represented by nodes and links and failures of communication due to distribution. But a fuller view of the individual locates us in home, work and society - work is a defining aspect but not all. And any understanding of work practice has to allow that to be expressible or it will be inadequate.

So - practical interventions? iCom, to allow for multipoint connectivity with always on video link, providing space for 'watercooler' conversations and informal communication. Sometimes works as intended, but not always – what people see as 'informal' varies a lot, of course. And from the 2006/7 academic year the Computer Lab will offer a Masters in Digital Product Design which will incorporate a lot of the material they are looking at now.

The final goal of the work, he claims, is suitably ambitious. It is to produce disciplinary polyglots, with humanities, social sciences and technology students working together and sharing language, in a digital analogue of the architectural studio.

This was a lovely, challenging talk, with some excellent ideas and a thread running through – that understanding breeds respect – that I agreed with entirely. Nice stuff.

Alan Blackwell
Then it was Alan Blackwell's turn, talking on 'foundational research for interdisciplinary design.' He's an extremely bright soft spoken Kiwi, based at the Computer Lab, and co-director of Crucible along with David Good.

A former product manager at Hitachi, and consultant before he joined the lab, he's experienced the standard way of doing cross-disciplinary work. It usually involves a matrix design with structure according to technical discipline and mixed-discipline projects, checking the experts out of the warehouse as needed. It's traditional, designed to let specialists complement the client company team, and not especially effective in many cases.

So now he's looking at how university and business work/link together and who does what. He observes that in Cambridge some 'assets' – sci and tech – are well connected to industrial partners while others – arts, humanities, social science – are under-utilised and not central to corporate research. It's low risk to do corporate-oriented stuff like nanotech and computational biology, but there's a lot of unexplored potential in the higher risk areas, and it should be explored.

So he thinks that companies should have a balanced mixed portfolio of research investments, mixing low risk (closely related research disciplines) with higher risk interdisciplinary adventures. By this point I was starting to switch off, since I'm not a corporate manager with a research budget to spend, and Alan's pitch was getting a little too explicit for my tastes, but I can see why he was doing it.

Then he moved on to talk about Crucible itself, and how they can complement straight approaches, mixing creative design with core research. This has to be

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done in a sympathetic and intelligent way so as not to disrupt too much or waste money, but experimentation is also needed.

We then had a quick run through some Crucible projects – Webkit in classrooms, structuring discussion with RFID tags, AutoHAN (home area networking – single button remote controls), ArQule – quantum modelling of chemical behaviour to predict drug effects with crap user interface which they improved, improved new design for Domino industrial printers, rethinking history/favorites in IE for Microsoft – smartback [look at it!]. There's also lots of work bringing artists and scientists together – active images in a gallery that do use expression recognition, dance, sculpture, and so on. But the real goal, as Alan succinctly expressed it, is to "produce professional work not just a piece of academic meddling".

It was entertaining, but really his talk was a bit of PR puff for the project when compared to David Good's exploration of the philosophical underpinnings of the project – but the two complement each other well, and it's clear that they make an excellent team in charge.

More at www.crucible.cl.cam.ac.uk

Design Applications

The final session of the day was about applied design and kicked off with a talk from Ian Hosking of Scientific Generics, whose title was "Inclusive design – a reality check"

Ian Hosking
He started by emphasising the importance of John Clarkson's comments on the shifting population. In 2002 there were 629m people over 60 worldwide. By 2050 it will be 2 billion of us. And if we look at the 'potential support ratio', or how many people aged 15-64 are there to provide support – in principle – for each one over 65, then it's really frightening. In 1950 the ratio was 12:1, in 2000 it's 9: 1 and the projection is that by 2050 it will 4:1 globally, and only 2:1 in developed world.

We have an issue. Independent living is an aspiration today, it will be an imperative in 2050 because there's nobody there to offer support. Unfortunately, while we talk about accessible and universal design, quarterly reporting, fast product lifecycles (e.g. in mobile phones its down to weeks for product dev), and price pressure mean no space/priority on design, never mind inclusive design.

So he wants to argue that design is a good response to business pressure, offering product differentiation, reduced support costs, enhanced brand preference and sometimes the chance to create breakthrough products/services sometimes.

But some things suck, like the casio tag writer mouse, and there is a lot of what he calls 'misguided innovation'.

Then he turned to the research into the ageing population, just to show that things don't change as much as we might think. The top ten leisure activities shift relatively little over time, with the pub still significant (but down slightly), restaurants going up – perhaps because there's more free time. But not a step change.

He also argued that inclusive design is part of general design evolution from design for one to mass production to design for people to mass customisation. Now we have design for people with a focus on diversity.

The real impact of inclusive design is felt at the prioritisation stage - exclusion audits, looking at the ways products exclude people - are a good a place to start. Result of inclusive design is better design.

Issue for companies - where to start? Niches can flop, early adopters may want features that the mass market doesn't like, customers may have superficial buying criteria. Not to mention sectoral inertia - radiator valves should be at the top but aren't.
So need to look at real needs, involve users and map population capability - do

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the demographics. But be careful - in one usability trial older users were given two displays to choose from, and after two weeks they selected the larger display even though they also said that the smaller one was easier to read. The evidence didn't overcome their prejudice.

If this is going to happen we need some things. We need relevant tools for measuring exclusion, a better way of modelling human capability so that design can come from understanding not guidelines. And we must not always go for the 'same but simpler' approach - maybe older people think differently and need new UI approach. He's got a cupboardful of videos of older people struggling to turn a product on or off, so we're clearly doing something wrong.

Ian was a good and convincing speaker, even though he has obviously suffered at the hands of difficult clients and difficult markets. H wants things to be better tomorrow, and remains an optimist despite previous disappointments.

Shelly Jeffcott
Shelly an Australian postdoc from the Engineering Design Centre, was talking about risk perception towards foetal monitoring incidents, looking at how professionals respond.

It would have been an interesting academic paper, but rather too much of a conference presentation than the audience was looking for at this sort of event. And so although she did well, it added little to our understanding of the issues of industrial design.

Tony Temple
However she was followed by Tony Temple, an IBM Fellow and the guy in charge of ease of use. He's an accomplished and confident speaker, which is what you need at this stage of a long day, and he was clearly enjoying himself.

He started by dissing usability testing - it's expensive, it happens too late and it annoys everyone. Testing the design is ok, testing the product just costs you a lot when you find mistakes. So you try to

make user-centred design work and in the first half of the 90's it was the favoured approach. But it wasn't enough, and they now have what they call 'outside-in design' and they like it lots.

Usability testing used external teams; user-centred used multi-disciplinary teams; what they really want is for everyone on the project to be involved in the design and development - and that implies cultural change and a balance between different interests.

Both customer and supplier have goals from a product, and they are not the same - customer value and supplier payback may well be in opposition. And products now have a complex and rich lifecycle.

A lot of what he said was standard marketing/MBA speak, and a chart of a 'series of touch points' which includes 'evaluate' 'buy' right through to 'service' and 'upgrade' was a little basic. And the design diagrams were the usual collection of boxes and coloured arrows, all in a delightful range of pastel shades. It would have been nice to have had some good anecdotes, especially tales of expensive failure, but they weren't forthcoming.

And when he did talk about design, he was presenting as novel insights the sort of stuff that many of us would consider so obvious as hardly worth saying - that instead of concentrating on colours and layouts we should be looking at conceptual design, for example. Well, duh! And apparently successful things have a 'very simple underlying conceptual model' that users can relate to. One could argue that 'simple' means 'having an underlying conceptual model that users can relate to', of course.

'Outside-In' design is another model - probably called a methodology by now - which seeks to order and organise the process and functions that many of us already know, understand and put into practice. The main breakthrough seems to be that they don't do usability testing very much any more. Instead, the final

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product is usable - though anyone who's used IBM systems extensively may argue that there are still improvements to be made to the process.

I'd been looking forward to hearing Temple's talk, because he's pretty distinguished and is clearly well thought of within IBM - you don't get made a Fellow for noodling around. Perhaps he just decided that a showcase seminar for industrial/academic liaison wasn't the place to say anything interesting, and went for the marketing department's blandest presentation.

His main theme seemed to be how to make usability pass within the business, like a bunch of hippies who decide they have to compromise with the man and keep down steady jobs. After all, we had heard earlier from Ian Hosking that scorecards and checkboxes aren't the way forward - and here was IBM's ease of use guru telling us all that he's writing scorecards for his designers.

Towards the end he talked about usability and tried to put it all in context by saying 'we're not doing this sort of stuff because it's fun but because we want to invest… for business reasons and nothing else.' But I don't think he really believed it, at least I hope not. He just knows that he has to jump through the spreadsheet hoops if he wants to get listened to at board level.

Garden Party

And that was it - we all headed off to the garden party in Jesus' Fellows' Garden, which proved to be a wonderful way to spend the post-solstice evening. But far too much champagne was taken for any sensible report to be available.

Bill Thompson has a weekly column on the BBC WebWise site and contributes to other publications including The Guardian, The New Statesman and The Register. He appears weekly on 'Go Digital' on the BBC World Service. He is visiting lecturer at City University where he teaches Online Journalism.

7th Cambridge Enterprise Conference

14-15th September 2005, Churchill College

Speakers include: Alastair Baker, MD Microsoft Ltd, William Kendall, CEO Green & Black's, Doug Richard of Library House and Dragon's Den, Charles Wessner, Dr David Cleevely, Adrian Critchlow, Dr Jonathan Milner, Philip O'Donovan

Innovation. Knowledge. Networking.

The 7th Cambridge Enterprise Conference is the latest in a series of ground-breaking events for everyone involved in growing innovative companies, from entrepreneur to academic, from venture capitalist to policy maker. The conference is unique in bringing together such a wide range of interested parties. At previous conferences, delegates have found business partners, board members, customers, funding, policy initiatives and companies to invest in. It is a chance to learn from top entrepreneurs around the world who share their experiences of what worked - and what didn't. Whether you are looking for seed funding or preparing your IPO, there are pertinent presentations and unique networking opportunities.

The conference is agenda-setting for policy makers as it provides an opportunity to hear from entrepreneurs what really does affect their choices of where and how to grow their businesses.

Academics share information from round the world on innovation and the development of fast growth technology companies.

The conference has a strong international connection, with delegates from over eight countries already booked for this year's event.

For more information and to book your place, visit www.cambridgeenterprise.co.uk

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Hall of Fame News

Aspirin for Elephants

One young UK Company, founded and staffed by Cambridge graduates, is providing the means for some of the world's largest corporations to solve their enormous IT headaches

While most start-ups focus on innovations frequently in advance of market requirements, **Tideway Systems**, who won the Cambridge University Computer Lab Ring Product of the Year award 2005, is taking a new approach to an old and rather dull problem - with surprising effects.

Rather than realising the oft-cited 'nimbleness' that all IT vendors promise, most large IT departments [read: over 500 servers] have come to resemble lumbering elephants that have been left with a major headache to deal with after years of investment, mergers and acquisitions. Further, in order to gain optimal performance from existing investments, different organisations are expected to share platforms, leading to complex cross-dependencies which are difficult to unravel.

Tideway Systems' mission is to address the fundamental challenge snappily referred to as '*effective IT service configuration management*'. This is the back-breaking housework which every IT department needs to do, and which does not deliver recognition or reward in spite of the effort it demands. However, if it is not done effectively then the whole IT environment can quickly become unruly. Over 40% of companies recognise that they need to address the problem, which demonstrates just how prevalent the problem is.

Founded in 2002 by Richard Muirhead, (Jesus College), Tideway Systems has a total of 50 staff - with over 10% being Cambridge graduates. The idea for Tideway's Foundation product came from a similar need to manage large, convoluted IT environments within the telecoms markets. Incorporating the IT Infrastructure Library's Configuration Management Database (CMDB) concept, Foundation has been designed to rapidly and safely automate the challenge of identifying, capturing and reporting on any IT environment it is introduced into.

This saves the need for employing large teams over long periods of time to do the data gathering required to establish a full inventory of everything that makes up the IT environment, and to identify all the dependencies between both the hardware and software elements. However, due to the rapid rates of change and adoption in today's IT environments, and the time between initiating and concluding such projects, the data is usually out of date before it is even complete.

As initial projects demonstrate the speed, scope and reliability of the data Tideway Foundation is able to gather, companies are recognising that there may indeed be a new way to solve the painful but necessary process for establishing a sound basis for IT service configuration management.

As testimony to the popularity of Tideway's proposition, the company, which has also been named a Tornado Insider winner and a Red Herring 100 finalist, has seen rapid customer acceleration in the first half of 2005, and has just closed a record quarter, taking them well beyond their total for 2004.

Contacts from JPMorgan Chase, Dresdner Kleinwort Wasserstein, Carphone Warehouse, UBS, Sun Microsystems, Barclays, Barclays Capital, HSBC, CSFB, ING, Citigroup, Bank of America, British Telecom and Virgin Group amongst others, have been attending Tideway events to learn more about this innovative solution.

So what makes Tideway's proposition so attractive?

It is the speed to deployment and to which reliable and up to date intelligence can be made available. It is the reliable inventory that provides a solid basis for all IT changes and which

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can be delivered for all parts of the IT organisation. It is the flexible reporting that the tool delivers, and it is the resource savings that can be achieved through automating the bulk of the data gathering - cutting the time to build and maintain a CMDB by 80%, and cutting costs by up to 90% in the process.

However, the most surprising revelation to have come from Tideway's customers is that this very un-sexy product is doing something very sexy indeed: It is gaining a level of strategic interest not normally associated with infrastructure projects thanks to the simple way it unites the infrastructure world to the application world. Simply put, Tideway is being recognised as the means to relate IT investment directly to business benefit, for the entire shop - not just individual silos.

As such – Tideway's mission has become the means not only for IT operations to tame their IT headaches, but to revolutionise the role IT plays within the corporation –putting it on an equal footing with all other parts of the business.

Artimi, the single chip Ultra Wideband (UWB) systems semiconductor company, has expanded its board of directors with the appointment of veteran executive and strategist Jon Castor. Mr Castor has over 25 years of industry experience, including CEO and co-founder of TeraLogic.

Artimi is hiring. For details see page x.

Bango has entered into partnership with Cingular Wireless - the largest mobile network operator in the US - to give subscribers the widest choice of music, games and other mobile content available on any US operator network.
Bango has integrated its technology with Cingular access and billing. This means that all of Cingular's 51.6 million subscribers will benefit from single-click 'browse and buy' payment for games, ringtones and other services promoted by thousands of content providers round the world that use the Bango service.

Codian (see Hall of Fame profile on page 3) will be showcasing its products at the AV in the City Exhibition in London on 21 September 2005. Go and see them at stand 12.

Equisys plc (established by Ring member Chris Oswald) has added Zetadocs PDF to its range of software packages for document production and delivery. Zetadocs creates personalized PDF emails for use in sales quotations, marketing campaigns and accounting to save time, effort and money whenever there's lengthy or tedious document production and delivery processes.

Zetadocs can create really good looking sales quotations as PDF emails with brochures for the goods quoted included automatically, along with a copy of the terms of business. In marketing campaigns by email, Zetadocs will send personalized PDFs for each contact rather than a standardized PDF attachment. PDF emails give control over how the marketing message looks, while still getting through firewalls and anti-spam defences. For the accounting department, the company's debtor days can be reduced by emailing statements as PDFs instead of printing, stuffing, franking and mailing paper - encouraging prompter payment by customers and saving time spent on credit control so that the accounts team will have time to pay your expense claims faster!

Envisional has appointed George Robbins as head of sales. This new role has been created to further build Envisional's profile among large companies with a substantial Internet presence. Mr Robbins has more than 18 years' experience with companies including Smallworld, Logica and Zeus.

Level 5 Networks has raised $30mio in series B funding from Oak Investment Partners, Accel Partners, Amadeus Capital Partners and IDG Ventures. It has also announced general availability of the first solution in its product line, EtherFabric ™.

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EtherFabric is a complete solution of software, specialized silicon and high performance NIC hardware that allows Ethernet Networks to be used as high-performance server interconnects that are future-proof even as performance requirements continue to increase.

MessageLabs has been positioned in the "Leader" quadrant in the Gartner Magic Quadrant for Email Security Boundary, 1H05 report.

nCipher plc's SecureDB™ database encryption solution has been selected by the Irish Department of Defence to protect military personnel records and sensitive inventory information.

Newnham Research has secured $8mio Series B financing from Atlas Venture and Benchmark.

Operis provided financial advice to funders Nationwide, Barclays Private Equity and Hochtief PPP Solutions (UK) on the Manchester School PFI project for Wright Robinson Sports College in Gorton.

Sophos has appointed Charles Southey as vice president of IT (see Who's Who page 19). Mr Southey will be responsible for managing Sophos's internal systems and infrastructure, along with the 60-strong global IT team.

Zeus Technology has formed a strategic partnership with US-based Iron Systems - an expert in the design and manufacture of advanced network system solutions. As part of the agreement, Iron Systems becomes the first US company to manufacture the Zeus Extensible Traffic Manager (ZXTM) appliance for delivery in the US.

ZXTM won both Accelerator Product of the Year and Editor's Award for most innovative use of technology at the IDG Techworld.com Networks Awards.

Who's Who

Stephen Allott (*T MA80*) has been appointed Chairman of Tideway Systems. He is currently chairman and co-founder of Trinamo Ltd, a sales consultancy for technology businesses.

Victoria Boon (*NH BA03*) is a consultant for Huxley Associates.

John Brimacombe (*T Dip91*) has been appointed Chief Strategist, Games, at Mforma.

David Budenberg (*JN BA83*) is Product Development Director for Mediatheme Ltd, a market leader in multi-media entertainment solutions for the hospitality industry.

James Chapman (*EM BA05*) offers custom web solutions for businesses and individuals through his consultancy, SiteScream.

Simon Crosby (*JN PhD96*) is VP Strategy and Corporate Development at Xensource. He previously worked at Intel, where he was a Principal Engineer leading strategic research in distributed autonomic computing.

Nathan Dimmock (*JE BA01 PhD05*) has just returned from travels around Australia and New Zealand. He will soon join the IT department of Morgan Stanley in London.

David Dunwoody (*CHU BA00*) is a Java Developer for Kizoom. He previously worked for Accenture.

Nigel Gamble (*CAI MA79*) works for Azul Systems in California as a Senior Software Engineer.

Adam Hart (*JE BA04*) is an analyst at Accenture.

Mathew Inwood (*R BA03*) is working for Symbian as a Technical Consultant.

Stewart Lang (*SID Dip71 PhD75)* is Non-Executive Chairman of Camaxys, one of Europe's leading producers of Risk Management information software and

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services for Environment, Health and Safety.

Kyle Maddison (*JE BA04*) is working for Citrix as a software engineer.

Ewan Makepeace (*T BA86*) is living in Jakarta where he founded PT Jawasoft, a software development company. He previously spent 9 years with Schlumberger.

Hussein Mehanna (*W MPhil04*) is a Systems Analyst at Procter and Gamble.

Chris Morgan (*JE BA01*) is working for i2 Ltd as a Technical Pre-Sales Consultant.

Akira Nakamura (*W PhD94*) has enrolled on the Graduate Diploma in Law course at the College of Law in London.

James Revill (*CL BA05*) has joined Ideaworks 3D as a Software Engineer.

David Scott (*R BA99 PhD05*) received his PhD in February 2005. He is now working for Fraser Research in Princeton, NJ.

Charles Southey (*T BA80*) has been appointed Vice President of IT at Sophos Plc. Prior to joining Sophos, Charles was a strategic IT consultant at global law firm Baker & McKenzie. He has also held senior IT management roles at Allen & Overy and Procter & Gamble.

Richard Smith (*T BA04*) is an Engineer at Azuro (UK) Ltd, an electronic design automation software company.

Stuart Smith (*CHU BA02*) is a Software Engineer at Real Time Worlds Ltd, a software technology company specializing in the entertainment sector.

James Sutherland (*JN BA02*) is working as the sole programmer for Whole Life Consultants Ltd, an University of Dundee spin out company.

Richard Tandoh (*F Dip98*) is currently working at BP.

Richard Tarling (*CAI BA95 MPhil96*) has moved to New York where he is a VP for

Goldman Sachs working in project management.

Computer Laboratory News

UK Home Secretary cites John Daugman's Technical Report

John Daugman's Technical Report, "Results from 200 billion iris cross-comparisons", was cited during the Identity Cards Bill debate in the House of Commons on June 28th 2005.

During the debate, Charles Clarke, Secretary of State, Home Office, stated "There has been a lot of concern about biometric identity cards, especially those using iris recognition, so I draw the House's attention to a report published earlier this week by the **University of Cambridge Computer Laboratory**. Its conclusion and recommendations indicate clearly and categorically:

"Iris recognition can be reliably used on a national basis in an Identity Cards scheme, including the capability for exhaustive iris code comparisons to detect multiple identities, if the decision policy employs a threshold criteria"

If you would like to read the Technical Report in full, it can be found at: http://www.cl.cam.ac.uk/TechReports/UCAM-CL-TR-635.pdf

Team from the Computer Lab wins £50k Business Creation Competition

BOPPHY Technologies, founded by Dr Inaki Berenguer and Stavros Tsiakkouris from the Digital Technology Group, together with Michele Palazzi, Prof Xiaodong Wang, Dr Mohammad Madihian and Prof Jon Crowcroft, was named winner of the Cambridge University Entrepreneurs' £50 Business Creation competition.

BOPPHY Technologies is a fables semiconductor company designing innovative integrated circuits to enable

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broadband communications over existing power lines. Power line communications is the promising technology that can transform every power outlet into a high-speed gateway to the Internet. The technology is particularly useful in rural areas and in developing countries where there are many more power lines compared with telephone lines.

Honours and Distinctions

Professor Andy Hopper was made an Honorary Fellow at the University of Wales Swansea.

Prof Hopper was presented with the award by Swansea University's Vice-Chancellor, Professor Richard B Davies, who said "Andy has had a fast-moving career in a fast-moving area. He has made outstanding contributions in science but most significantly, he has vast experience of commercializing the results of academic research. In an age where the government is pushing universities to ensure that industry is benefiting from this research, Andy is truly ahead of his time."

At the Computer Lab, **Jean Bacon** and **Peter Robinson** have received Professorships. **Marcelo Fiore** has been promoted to Reader. **David Greaves**, **Steven Hand**, **Peter Sewell** and **Simone Teufel** have been appointed Senior Lecturers.

Speaking Engagements

Professor Andy Pitts has been invited to speak at the 18th International Conference on Theorem Proving in Higher Order Logics, in Oxford on 22-25th August.

Professor Pitts will also be lecturing at the International Summer School on Applied Semantics 2005, which will be held from 8-12th September on the island of Frauenchiemsee, Germany.

Student Prize Winners

This year's Part II prize winners are:

Michael Smith (Robinson) - Microsoft Research Prize for the best student

Andrew Medworth (Selwyn) - Microsoft Software Prize

Kai Krueger (Churchill) - The AT&T Prize for the best dissertation

Computer Laboratory's Supporters' Club

The Supporters' Club recruitment fair will take place on **November 30th 2005** in the Computer Laboratory.

If your company is looking to recruit graduates, or has summer placement opportunities, and would like to attend the fair please contact the Supporters' Club at:
supporters-club-organiser@cl.cam.ac.uk

Further information on the Supporters' Club can be found at:
http://www.cl.cam.ac.uk/ext/supporters-club/

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An Evening with Professor Andy Hopper

7.30pm, November 15th 2005

Senior Common Room, St Catharine's College

The Roundtable discussion event, over dinner, is open to Ring members.

Tickets are limited to 24 and will be allocated on a first come first served basis.

To book your ticket, please send a cheque for £37.00 (made payable to Cambridge Computer Lab Ring) along with this form to:

Cambridge Computer Lab Ring
William Gates Building
JJ Thomson Avenue
Cambridge
CB3 0FD

Please book a place for me at "An Evening with Professor Andy Hopper"

I enclose a cheque for £37.00

Name: …………………………………………………........................

Email: ………………………………………………………………….

Contact telephone: …………………………………………………

Special Dietary Requirements: …………………………………...

In the event that I do not get a ticket initially, please put me/do not put me* on the waiting list in case of cancellations.

*delete as applicable

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Job Bulletin Board Postings

(to post a job just go to www.camring.ucam.org and the Business &
Professional link. Then just click on Job Bulletin Board)

Software Engineer: USB Protocols/device expert	Artimi Ltd
Software Engineer: Wireless MAC Software	Artimi Ltd
RF Analog ASIC Engineer	Artimi Ltd
Software Engineer: Bluetooth Protocol Specialist	Artimi Ltd
Semiconductor Test Engineer	Artimi Ltd
Unix/C Software Developers	CacheLogic Ltd
Linux Kernel and Systems Developer(s)	Xensource Inc
Systems Administrator/Development Support Engineer	Applied Generics
Software Engineer	Applied Generics
Senior Software Engineer	Applied Generics
Global Sales VP	Tideway Systems
Head of IT	Abel & Cole Ltd
Senior XP Java Developer	Kizoom Ltd
XP Java Developer	Kizoom Ltd
C#.NET Technical Consultant	Financial Consultancy
Junior Developer (C++/Java)	Major global investment bank
3D Technology Programmer	Real Time Worlds
Software development engineers	VisionOSS
Fraud and Collusion Manager	Involve Ltd
Software Architect	PT Jawasoft
Web Developer with UI focus	e-commerce start-up
.NET Framework/Web Developer	e-commerce start-up
.NET Architect/Web Service Developer	e-commerce start-up
Junior Tandem Analyst Programmer	Software Integrators
Test/Software Engineer	Smartner Ltd
Test Analyst	Software Integrators
Software Developer	Orbis Technologies
Full Time Senior Application Developer	Snowflake Software Ltd
UK and European Sales Director	COE Group plc
Sales Rep	Nexagent
Global Sales Director	Nexagent
Senior Presales Consultants	Tideway Systems
CFO	Tideway Systems

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Welcome to London Event

September 22nd 2005

at

Oyster
1 Naoroji Street
London
WC1X 0JD
(conveniently located about 10mins walk from Kings X station)

Drinks from 7pm, food from 8pm

To book your ticket, please send a cheque for £15.00
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