The Ring

Ring news

Our Chairman **Andy Hopper** announces a new phase in the development of the Ring.

Dear Fellow Ring member,

It was a great pleasure to see so many familiar faces from the past at the recent annual dinner, which was a fitting celebration of the Ring's tenth anniversary.

The Cambridge Computer Lab Ring, to give it its full title, was founded in 2002 when Ian Leslie, my predecessor, asked Stephen Allott to set up an alumni association. It was founded to enable graduates to get a life-time benefit from their Cambridge degrees, professionally, technically and socially. While it is endorsed by the Computer Laboratory, it has been constitutionally and operationally independent.

The association's governing council, elected at the AGM, has worked to design a programme of events that not only allows members to re-discover and engage with the intellectual rigour associated with being a graduate of the University, but also provides the opportunity to catch up with old friends and make new contacts within the computing industry.

To help contribute to meeting the administrative costs of running the association, the Ring has charged a membership subscription and I would like to take this opportunity to thank you for your support.

While the Ring has come a long way in the last ten years, its launching years have coincided with the dramatic changes in the way that people have connected and communicated. Shortly after the Ring was founded, LinkedIn was launched, followed by Facebook in 2004 and Twitter in 2006. Last year,

The Harvard Business Review featured a post which stated that "Social networking is the most significant business development of 2010". Indeed, social networking has certainly made people more connected, more engaged and more open to creating new relationships.

This change in the social media landscape has made us take a long hard look at the Ring's future, and so the tenth anniversary offers an appropriate milestone at which to address the next ten years.

Of one thing the Computer Laboratory is adamant: the Ring is an important asset and should be helped to flourish. So, to ensure the Ring's continuing presence and to help it to grow, the Computer Laboratory has decided to bring the association in-house. What does this mean for members?

The most noticeable change will be that, from July 1st 2012, the association will not charge a membership subscription; membership will be free for all graduates of the Computer Laboratory and Cambridge graduates of other disciplines who work in the computing industry.

No doubt there will be other developments as the Ring continues to evolve. However, while times and the landscape in which it operates change, one thing will remain the same; the Ring — with the support of the Computer Laboratory — will work to enable graduates to get lifetime benefit from their Cambridge degrees, professionally, technically and socially.

Yours

Andy Hopper

Cambridge Computing: The first 75 years

A new illustrated history is to be published, marking the 75th anniversary of the Computer Laboratory and the centenary of Professor Sir Maurice Wilkes who directed the laboratory for 35 years.

The story begins with Charles Babbage and his "magical machines" and includes Alan Turing, whose "Universal Turing Machine" defined the theoretical basis of computability.

The central theme of the book is the 75-year history of the Computer Laboratory. Under Maurice Wilkes, a team of dedicated and exceptionally talented computer experts designed and built a series of computers which were capable of serving a large community of users. Known as EDSAC 1, EDSAC 2 and TITAN, these computers provided an incomparable service to the University.

The book covers the halcyon years of Roger Needham's reign and the expansionist eras of his successors, Robin Milner, Ian Leslie and Andy Hopper.

The book will be published in April 2013, but if you place your order by September 30th 2012, you will save £10.50 on the published price. In addition, as a subscriber, you will have your name (or a name nominated by you) printed in the book as an enduring record of your links with Cambridge Computing.

You can order your copy securely on line direct from the publishers at www.tmiltd. com, or by using the enclosed form.

Who's who

It's just over a year since **Stephen Allott** (T MA80) was appointed Crown Representative for SMEs at the Cabinet Office. Stephen is building a strategic link with, and promoting dialogue between, SMEs and the highest levels of Government, as well as taking direct interventions in procurements to ensure they are as SME-friendly as possible. Stephen has developed Product Surgeries, where suppliers are invited to pitch their innovative new ideas and services directly to senior Government officials. If you're from an SME and would like to give your feedback about your experiences with a specific public sector procurement exercise, or are interested in registering your interest in a future Product Survey, visit http://www.cabinetoffice.gov.uk/content/crown-representative-smes-stephen-allott

Jonathan Ayres (R MA92) is now Chief Financial Officer at C Hoare & Co, the United Kingdom's leading independent private bank.

Dave Barker (Q BA80) has recently joined ZBD Displays as VP Services and Product Management. He is responsible for the delivery of the overall product strategy and all aspects of customer service including support, implementation and training. ZBD is a world leader in the design and supply of the next generation of electronic shelf labels and associated software solutions for the retail industry.

Steve Barlow (EM BA82) is CTO at Argon Design, a young and rapidly growing design services company specialising in electronics and software design in the areas of multimedia, multicore processors and networking.

Tim Checkley (JE BA10) works for The App Business. His work includes projects for Aviva, IRB and Hello!

Matthew Cleevely (DAR MPhil08) is at Imperial College London doing a PhD investigating the role of networks, innovation and entrepreneurship in economic growth and the implications for government policy. He is also a director at 10to8 Ltd.

Chris Conn (GIR BA07) is CTO at FusePump Ltd, a company he co-founded with Robert Durkin. FusePump provides simple and profitable on-line product marketing solutions.

Ben Coppin (Q MA96, MPhil08) recently left AlertMe.com and is now head of product design at an AI startup in London.

Peter Cowley (F MA77), Investment Director at Martlet, has become a member of the Advisory Board at RISE Youth. RISE Youth provides volunteer adult coaches to young people in custody. The volunteer coaches commit to a one-year relationship with a young person for the final three months of a youth's custodial sentence, and for nine months in the community after release.

Dave Gwilt (CHU MEng97), co-founder of BlinkPipe, is Chair of the Cambridge Area Board of Young Enterprise. Young Enterprise is the UK's largest business and enterprise education charity. Every year they help around 250,000 young people learn about business and the world of work in the classroom under the guidance of volunteers from 3,500 companies.

Events calendar

2012

June

Thursday 7th, 6.30pm
London Ringlet Bar
Venue to be confirmed

August

Wednesday 8th, 6.30pm
London Ringlet Bar
Venue to be confirmed

October

Thursday 4th, 6.30pm
London Ringlet Bar
Venue to be confirmed

December

Tuesday 4th, 6.30pm
London Ringlet Bar
Venue to be confirmed

Garan Jenkin (JE BA01) works for the Foreign & Commonwealth Office as a technical manager.

Martin Kleppmann (CC BA06) is now a senior software engineer at LinkedIn. Rapportive, a company he co-founded with fellow Ring members Sam Stokes and Rahul Vohra, was acquired by LinkedIn in February 2012.

Prof Miriam Leeser (Q Dip84, PhD88) has received support for her work at Northeastern University from MathWorks. The opening of the MathWorks Systems Modeling and Radio Technology Laboratory marks the latest research development in the successful collaboration between the university and the software development firm.

Martin Lester (CAI BA06) is a research student at the Department of Computer Science at the University of Oxford. Martin was part of the winning team in the ICFP Programming Contest 2011.

Andy Li (T BA10) has recently launched an innovative range of electronic cycling jackets called Visijax®. Visijax®, the ultimate commuter cycling jacket, is made with LED and motion-sensing technologies. The main features are integrated high-intensity LEDs designed to replace standalone cycle lights, iMASS motion–activated turn signalling system (arm signal triggers the appropriate flashing amber indicator) and one-touch operation. The jacket is rainproof, breathable and has all–round ventilation. Visijax® is currently available exclusively on line at amazon.co.uk.

Ben Medlock (F MPhil03), co-founder and CTO of TouchType, is a partner at iLexIR, which develops bespoke intelligent systems based on NLP and machine learning.

Barney Pell (T PhD94) is Executive Chairman at QuickPay Corporation. Headquartered in San Francisco, QuickPay is a leading provider of unified mobile parking technology.

Dr David Platt (F MA83) is a post-doctoral researcher at Bristol University. He supports Everton FC.

Tony Qin (CAI BA11) is an analyst at Deutsche Bank.

Damian Reeves (CHU BA96) works at Google in the San Francisco Bay Area where he is Engineering Manager, Ads.

Olivia Scarlett (EM MPhil09) is a business development manager at Stratajet, a start-up company in the private aviation industry.

Dan Walker (F BA11) is an analyst at Board Intelligence where he is responsible for project management and is leading the development of the company's software solutions.

Pengyu Wang (CHU MPhil11) is at the Department of Computer Science at Oxford University where he is a research student.

George Wright (CC BA09) has recently joined Mozilla Corporation where he focuses on optimising the graphics back end for the Gecko rendering engine, which is used by the Firefox Web browser. Like Nick Brasier (see *The Ring* Issue XXIX January 2012), George was in Australia shooting in the World Long Range Championships for the Canadian Under 25 shooting team. As well as winning a bronze in the team World Championships, George came ninth in the individual Under 25 world Championships.

Andy Li sporing the Visijax® jacket

Trigger
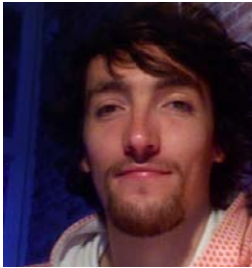
James Brady (F BA05), co-founder of Trigger, explains how Trigger.io has you covered whether you're building apps for one mobile platform or many.

TR: James, you and Amir Nathoo (Trigger's co–founder) both worked at IBM after graduating. Is that where you met or had your paths crossed at Cambridge?

JB: We first met at IBM. Amir was IBM's main point of contact for the university, and I was looking for ways to increase collaboration between the company and the Computer Laboratory. We ended up soliciting some interesting ideas for Part II projects, and managed to secure a £30,000 grant for research into transport and localised environmental pollution for the university.

If I remember correctly, we actually first discussed starting a company together in the St. John's JCR!

TR: What was your experience of working for a large international corporation, and what made you decide to leave and set up on your own?

JB: I do think that large companies are a good fit for some people, but I also think that many graduates aren't really aware of the other options open to them when they leave university. I fit into the latter category.

At IBM my main frustration was how accepting the culture was of mediocrity. It's something that Cambridge alumni may feel especially keenly, after several years in an environment where academic excellence is the norm.

One of the main appeals of working at a small company is that there's nowhere to hide: it's incredibly exciting to be surrounded by highly motivated, productive people. Although it may sound daunting, I personally find it incomparably less stressful than the prospect of carrying others around you.

Alongside that, there was the growing realisation that I was actually quite employable — everyone who graduates from the Computer Lab is. In the worst-case scenario of my company failing I knew I didn't need to worry about being left destitute and unemployed. So starting on my own meant I could gain some incredible experience, have a blast, make some new friends, and still be able walk into a great job in one of the many other companies I knew I would be exposed to. Rationalising away the downside was very easy.

TR: Before starting Trigger, you co-founded Cambridge Data Limited with Amir. What did you learn from your first start-up and did those lessons help when you came to starting Trigger?

JB: Cambridge Data was a relatively short-lived affair, but will always hold fond memories as it was the first company I founded. It was basically a vehicle for Amir and me to do some contracting work, whilst brainstorming ideas and prototyping products on the side.

The first time you start a company, there are so many new concepts and ideas to assimilate, from the legalities of forming a company to setting up corporate bank accounts, website hosting, payroll — things which seem familiar now can be very off-putting.

I think that learning process did help us when setting up our next company (then called WebMynd), but it also taught us a more important lesson: no company was ever successful because of perfectly executed legal, accounting and incorporation paperwork. Of course, that's not to say the nuts and bolts of setting up a small company are unimportant — a small number of companies probably have been scuppered by early accidental oversights that have become chronic problems.

We learned that we had to do just enough in those administrative areas to make us palatable to potential recruits and investors, but knew that what we really should be focusing on was creating a great product. That's the true challenge.

It's easy to get hung up on the details, because the risks and issues in those areas are clear and easily defined. Much more dangerous are the pernicious risks: missing out on a great first hire, failing to close a key early partnership, inadequate user retention.

TR: Can you tell me about Trigger?

JB: At Trigger, we offer the easiest way to create apps: mobile apps for your phone and tablet, along with web apps and browser extensions.

There is a huge army of web developers that see this explosion of interest and opportunity in the app market, but don't have any easy way to get involved without learning a whole new toolchain — in fact, a whole new toolchain for each platform they're interested in.

Our vision is to meet the needs of those Web developers — and true native developers who are tired of cross-platform compatibility headaches — by letting them write apps in standard web languages (HTML, CSS and JavaScript), without sacrificing native functionality like camera or address book access.

> *Our defining goal from the start has been to make the development process for our users as simple as possible.*

We initially received funding in January 2008 from Y Combinator in California, although with a very different vision back then. We've had our fair share of ups and downs, but are now up to about 10 full-time employees and are enjoying strong growth in an exciting market.

Our current offering includes a run-time platform on which our customers' code executes, various pieces of tooling to create native apps from the customer's source, and a debugging tool that allows for live inspection of an app running on a mobile device.

TR: How does Trigger.io Forge differ from Rhomobile, Titanium and PhoneGap?

JB: Our defining goal from the start has been to make the development process for our users as simple as possible. We're targeting Web developers looking to get involved with mobile apps, so we need to make our tooling and platform fit their skills and way of working as much as possible.

We've taken a large number of decisions to enable us to achieve this goal. Our customers are probably most grateful for our agnostic stance when it comes to the development tools that can be used in conjunction with Trigger. Most, if not all, of our competitors dictate the IDE that must be used to get started with their platform. Using Trigger, developers appreciate the freedom to use whatever text editor, testing framework or other tools they want, as our tools are easily composable and deliberately lightweight.

We're also really proud of our architecture and implementation of the runtime platform. The way we've structured our code means we

are able to add new features extremely easily (for example, adding a fine-grained geolocation API in 3 hours, in response to a customer request), and on some platforms, our JavaScript-to-native bridging technology is five times faster than our nearest competitor.

TR: I see that you received initial $1m funding from SV Angel, Paul Graham and John Taysom among others. What is your business model and will you be looking for additional funding?

JB: In contrast to our competitors, our business model is license our technology, rather than generate revenue by offering services around a "free" platform.

The reason we prefer this approach is that services businesses are inherently limited by manpower. There is an upper limit on how profitable, and how big, they can be. Technology companies, however, can reduce the marginal cost of a new customer to nearly zero by having a feature-packed, reliable and intuitive product.

I think the incentives are much better aligned in a technology company: for us, it's in our interests to make the product as easy to use as possible, and it's obviously great for our customers too!

Of course, in the short term we will offer services, training and consultancy as our product matures, to get us over the chasm of adoption and to keep the money coming in. It's a strategy we should really acknowledge Stephen Allot for: Amir and I both worked for a while at his company, Trinamo, which was pursuing a similar approach — it would be facile of me to claim we were not influenced along the way.

> *Being "iOS only" will meet with the same sort of groans as those awful Web sites that only support Internet Explorer 6 and 7.*

TR: Somewhat unusually for an early stage start-up you have offices in both London and San Francisco. What made you set up in two centres so early on in your development? How are responsibilities split between you in London and Amir in the US?

JB: To some degree, having offices in London and San Francisco was just the way things worked out. Fortunately, we're really happy with the situation, as it gives us some interesting advantages.

At the root of a convoluted chain of events that led to where we are now is US immigration policy and enforcement. To cut an extraordinarily long and dull (and expensive) story short, I was not welcome in the US for about two and a half years, from November 2009 onwards.

After bouncing around the globe for a year or two, I decided to set myself up semi-permanently in London, while Amir, who had had better luck with the immigration service, had moved to San Francisco with his wife.

Although we were initially frustrated with the geographic split, it's now a key strength in our company. We have business development and sales work based in San Francisco, where most of the business development and sales opportunities are. I look after the London office, where the development work happens: we've found it much easier to hire good technical talent in Europe than in California. I am in no doubt that we could never have built up the excellent technical team we have now if we'd tried to do it in San Francisco.

By having two teams, we can easily offer almost round-the-clock support for our customers, but it does present some challenges, mostly around efficiency of communication. Amir and I make sure we speak regularly, and we use a raft of different intra-company communication mechanisms to keep everybody synchronised.

We also take regular work trips to get key teams together: last year, a subset of us went to Mexico a couple of times, and we got the whole company together in Montreal. These are really productive times for us, and absolutely key for forming a strong team based around a company culture.

> *...as mobile apps cement their position as a cornerstone of a company's persona, supporting all devices will become increasingly important.*

TR: What do you think the future is for cross–platform mobile development?

JB: I'll pick up on three threads:

Firstly, in the same way that having e-mail and a Web site became the new foundation for marketing and branding in the late 90s, so mobile app availability and uptake will continue to grow in future. The Web will continue to be the medium through which consumers first experience a particular brand, but there will be a move towards deeper engagement being built through apps — potentially "throwaway" apps which are only really relevant for a period of months or weeks. For cross-platform mobile development, this means developers need ways to create apps as easily as possible, as quickly as possible, and have them running on as many different devices as possible.

Secondly, the mobile OS market is fragmented. We're seeing lots of interest from our customers in Windows Phone 7 — and all other polls support this — meaning that even with Blackberry falling away

it's still not a two-horse race. For us, this is great news: as mobile apps cement their position as a cornerstone of a company's persona, supporting all devices will become increasingly important. Being "iOS only" will meet with the same sort of groans as those awful Web sites that only supported Internet Explorer 6 and 7.

Finally, the performance problems that have traditionally hampered apps not implemented in low-level native code will become even less of an issue as Moore's law comes to the rescue of anyone interested in programming at a higher level of abstraction. Over just the last few months, we've seen a large number of exciting improvements to the WebKit rendering engine available on iOS and Android devices to make the end result of an app built on Trigger's technology even closer to native app performance.

TR: Where do you see Trigger in two years' time?

JB: We're lucky enough to be working a rich vein of opportunity. There are striking parallels between mobile apps and the rapid shift that the Web saw from early-adopter to mainstream usage ten or fifteen years ago.

Speaking as the technical founder of Trigger, my priorities are to grow a happy, talented team, and to improve our product to keep delighting our customers. Therefore, the key facets of the company I hope to be a part of in two years' time will be a developer headcount increased by an order of magnitude, and revenue increased by two orders of magnitude.

After we've maintained and grown our solid foothold in the market for a year or so, we will start looking up and down the technology stack for new ways to expand: in two years' time, I would like Trigger to be the default choice for any work starting on an app.

For more information about Trigger go to https://trigger.io/

Bjarne Stroustrup

Bjarne Stroustrup, Distinguished Professor and holder of the College of Engineering Chair in Computer Science at Texas A&M University, returns to Cambridge after 33 years.

Heraclitus was right: you cannot bathe in the same river twice. Even the Cam. The river has changed and so have I, but I hope both are similar enough to be easily recognised.

I left Cambridge (with a PhD from the Computer Lab) with my wife and our young daughter before dawn on March 20th 1979. In January of 2012, I returned with my wife for a sabbatical as a visiting professor. Our daughter and her young family came for a brief visit to see the English spring. As before, I'm at Churchill College. Between then and now, I have worked in industry for 24 years (AT&T Bell Labs) and in academia (Texas A&M University) for 10.

Inevitably, I think a bit about what has changed, what hasn't, and how much has happened over those years. I consider my time in the 1970s Computer Lab well spent. It enabled me to land the best job in the world: do something useful of my own choice in the world's premier computer science research centre with outstanding colleagues. The Computer Lab helped me develop the confidence and ambition level to cope with that opportunity.

Back in the 70s the Lab was a small place. My recollection is that there were maybe a dozen academic staff, a couple of dozen PhD students, and of course just one professor, Maurice Wilkes. There was a close connection to the Computing Service. It was easy to talk to anyone, with the possible exception of the awe-inspiring Maurice Wilkes, who I really didn't get to know until a few years later. He turned out to be very nice as long as you were neither pretentious nor ignorant. Maybe my memory deceives me, but everyone seemed to fit into the tea room and it seemed that you could find anyone by turning up for tea a couple of times. Alternatively, you could try The Eagle at 6pm.

My thesis advisor was David Wheeler. His supervision style was — at least from an American academic point of view — unusual. He never specifically asked me to do or read anything. Instead, once a week I went to his office to tell him all the great ideas I had had since our last meeting. Then, he quietly and politely demolished them through a series of stories: "That's a good idea, Bjarne, quite a good idea really;

we almost used it for the EDSAC 2, but then we realized that…" and he would discuss the whole set of related problems and solutions. After a year of that, where I was busy experimenting, reading enough to understand the stories, and despairing over my lack of sufficiently good ideas, I finally found something that David Wheeler hadn't tried a decade or two before. That, then, became my PhD project. I had many similar, but less formal, discussions with Roger Needham — in the tea room, the corridor, and the Grad Pad. I guess in modern terms I was taught through case studies and by example.

> *The difficult transition from the home of a small band of academics to a large modern research and teaching establishment has been successfully accomplished.*

Today, the Computer Lab is much bigger (in physical size and numbers) and everybody seems busier, more focused, better organised, and (apparently) better connected to industry. The difficult transition from the home of a small band of academics to a large modern research and teaching establishment has been successfully accomplished.

Cambridge is still the best place for computer science in Europe. The change was essential to survive in a more cut-throat modern world. But something seems lost.

I have only been in the new CL for as many months as I was years in the old, so maybe my impression is all wrong. If so, I'd love to be corrected. Also, as a professor, I'm more isolated than a grad student and have more distracting outside obligations: since arriving in Cambridge, I have been to Seattle, Kona, Tallinn, and Wroclaw. I'm writing this in College Station, Texas, en route to Copenhagen. This is not the ideal way of getting reacquainted with Cambridge. People are friendly, but busy. When people meet, it is typically as a small homogeneous group discussing a specific, specialised, topic. I miss the tea room and the Eagle where you could — almost couldn't not — learn about what

everyone was doing. Out of necessity, everyone could describe what they were doing without getting into project-specific obscure details. Today, it seems that specialisation and the pressure to deliver results have taken their toll. The CL has become more like other CS departments.

People do seem to know each other. That's good, but it is also a barrier to newcomers. It's assumed that I know everybody. There is no face board anywhere to help me connect names to faces, and the members of the CL seem unusually adverse to posting photos of themselves on their home pages. Despite the many nice displays, the history of the CL seems understated. Where on the Web can I read of the past glories of the Lab? In my humble opinion, we should toot our horn a bit more. Prof. Haroon Ahmed's new book should help a bit here. And again, I crave for a place for people to meet regularly. Friday beer in the fishbowl is nice, but it's almost exclusively grad students talking to grad students.

As a research manager and later as a professor, I have given some thought to what makes a place, an organisation, great. I think the key is the level of ambition.

Despite my grumbles — presented to encourage further improvements — the CL is an exceptional place and an exceptionally nice one. Cambridge is one of the world's magical places. As a research manager and later as a professor, I have given some thought to what makes a place, an organisation, great. I think the key is the level of ambition. In great places, the bar is set outrageously high: "change the world" (preferably for the better). In most places, success is defined conventionally: get three papers a year into good peer-reviewed venues and gain some more funding. In my humble opinion that is all wrong! There are thousands, probably tens of thousands, of academics who can do that. That's not greatness; that's not making a difference! I want the CL to remain great, not just good, and I think it can. Try hard to avoid getting sucked into the "publish or perish" machine. It consumes time that could have been used productively. Preserve time and effort for projects and publications that matter. The CL has changed the world, and is involved in projects with the potential to do that again. Don't lose sight of that!

David Wheeler's only direct recommendation to me in over three years came on the last day: "Keep a high external profile". That's good advice even if it is harder to follow than it might sound. My first department head at Bell Labs, Sandy Fraser (a CL graduate), rejected my request to publish my first paper: "It's good, but if you work on it for another year, you'll know if it really works and it will be much better." That's good advice, even though it is hard to imagine a modern academic delaying publication of an interesting result "just" to significantly expand its scope and test it on real-world users.

Hall of fame news

Bango

Bango has been accumulating accolades. First, Ray Anderson, CEO and founder, was named Businessperson of the Year at the Cambridge News Business Excellence Awards. This was swiftly followed by Product of the Year for the Bango Solutions Suite at the Cambridge Ring Hall of Fame Awards 2012.

BlinkPipe

Says Dave Gwilt, co-founder of Blink-Pipe, "It's been a busy six months in Blink-Pipe land. As in any startup, we have had a series of firsts: first major investment; first commercial interest in the product; first industrial design; first manufacturer selection (UK, you'll be pleased to hear); first office and first attempt to recruit.

Our prototypes are running reliably between Red Gate's Cambridge and Pasadena offices, and we are working hard to make our video conferencing product available by the end of 2012. There's still a heck of a lot to do, but we're on track and loving every minute of it."

Cronto

Cronto, a leading provider of secure transaction authentication solutions for internet banking, and CorpBanca, the fourth largest private bank in Chile, launched the Cronto Visual Transaction Signing solution to secure on-line banking transactions against Trojan malware attacks.

Customers at CorpBanca, the fastest-growing bank in Chile, can now protect their financial transactions with the CrontoSign technology, by using the ClaveMóvil Corp-Banca mobile application. Available from the App Store, Android Market and Blackberry App World, the mobile application delivers "What You See is What You Sign" transac-

tion authentication: enabling users to verify transaction details in a secure, fast and easy way.

Fonleap

Fonleap was a finalist at the Making it Mobile (MiM) Awards 2012. Its first product, Pocket-VM, makes it possible to work on any computer as though it was your own, without relying on remote access. Your mobile device is used to transport the state of your desktop from one computer to another. You can leave one computer, and can resume on a different one, with your desktop, files and applications exactly as you left them. Moreover, all your documents are accessible on your phone/tablet, even without Internet connectivity.

FusePump

FusePump and the Internet Advertising Bureau (IAB) have launched new guidelines on data feed best practice. There are four titles in the series that can be downloaded from the FusePump or IAB Affiliate Marketing Web site. The first title in the series, *Why do I need a product feed?*, sets out the reasons why an e–commerce business may want to consider utilising data feed technology for on-line marketing.

Hubdub

Hubdub is the developer and operator of FanDuel, the leading single-day fantasy sports game for NFL, MLB, NBA and NHL in the US. FanDuel offers players a chance to pick teams and play for daily prizes. Its "seasons" each last a day or a week. You can pick a team in the morning, pay a fee and, if your team wins, get paid that night. The site has grown from 1,000 players and US$1.5 million in payouts in 2010 to 100,000 players and more than US$ 10 million in payouts in 2011. The company takes a commission on the payouts.

On the back of this success, FanDuel has raised another US$1.3 million round of funding from existing investors, including Pentech and Piton Capital, taking the total raised to date to US$7 million.

FanDuel is based in New York and Scotland, and focuses solely on US sports.

Jagex

Jagex, the UK's largest independent games developer and publisher, has been crowned overall winner at the National Council for Work Experience (NCWE) Awards 2012.

Jagex has been offering undergraduate work experience opportunities since 2006. Its current scheme runs for 12 months and provides a well-rounded view of the skills and opportunities that occur in the games industry. As well as gaining valuable industry experience, students working at Jagex help to provide vital support for the on-line game RuneScape, the company's multi–award-winning flagship title.

After beating IBM and four other companies in the category for large organisations offering long-term scheme for more than 20 students, Jagex went on to be crowned the overall winner of the NCWE Awards 2012.

Masabi

redspottendhanky.com, the on-line travel retailer, is using Masabi, a developer of mTicketing technology for the transport sector, for its mobile ticketing service. The mobile application allows travellers to search for train times, buy tickets and earn loyalty points for any route in the UK, with displayable mTickets available on certain routes, eliminating the need for many passengers to use ticket machines. The apps currently support iPhone, Android, Blackberry and Nokia smartphones, as well as most everyday phones, with a Windows Phone 7 version launching soon.

Masabi US Ltd and the Massachusetts Bay Transportation Authority (MBTA) will be bringing mobile ticketing to MBTA commuters this autumn. Once tickets are purchased, customers will be able to use and display them directly via their phone screens.

Rapportive

Rapportive has been acquired by LinkedIn.

Rapportive makes a Gmail add-on that displays social media information about contacts as you e-mail them.

Red Beacon

Red Beacon has been acquired by Home Depot.

Red Beacon is a home services specialist with a software platform that lets pre–screened home service professionals such as plumbers, painters, house cleaners bid for jobs.

SaleOrigin

Jonathan Custance and James Green have founded SaleOrigin. SaleOrigin's goal is to be the definitive mobile app analytics solution. SaleOrigin is designed to bring in details about your app campaigns, installs, user engagement and app store data into one place to help give you a better picture of why people install, how they use and what effect app stores have.

To get started with SaleOrigin go to www.saleorigin.com to create a free account.

Sintefex Audio

The JoeCo BlackBox Recorder, designed in partnership with Sintefex Audio Lda, has won the Recording Devices category at the 27th Annual Technical Excellence & Creativity Awards.

TouchType

TouchType has won the Best Startup Category at The Guardian Digital Innovation Awards 2012.

Its SwiftKey™ product was a finalist at the Making it Mobile (MiM) Awards 2012. The SwiftKey™ consumer app is among the most popular global apps on Android and won Most Innovative Mobile App at MWC's GMA awards.

Ben Medlock (centre), founder of TouchType, receives The Guardian Digital Innovation Award from comedian Tim Minchin (left) and Vincent Hoogsteder (right), CEO of Distimo.

Ubisense

Ubisense, a market leader in location solutions technology, has won two prestigious internationally–renowned UK Queen's Awards, for International Trade and for Innovation.

The first award for International Trade recognises Ubisense's outstanding growth in overseas earnings, with export markets now representing 97% of total revenues. Ubisense has shown overall overseas earnings growth of 83% since 2008 and it now sells its products and solutions in Canada, China, Korea and Japan, in addition to its original US and European markets.

The second award for Innovation has been given to Ubisense for developing a real-time location-tracking system that can precisely determine the 3D position of tagged objects to a much higher accuracy than is possible with technologies such as GPS. The system is deployed in a variety of environments. For example, in vehicle production lines it reduces manufacturing costs by allowing the monitoring, optimising and automating of existing processes.

Xsilon

Xsilon, the leading in-home M2M connectivity developer, has launched its HANADU "Whole Home, Every Home" connectivity technology.

M2M services delivered wirelessly struggle to reach devices that are located inside homes, as external wireless networks struggle to penetrate the shell of the building and internal wireless networks continue to face challenges with the obstacles, clutter and coverage dead spots within a typical home environment.

HANADU delivers a ubiquitous In–Home experience for service operators and equipment vendors. It delivers "Whole Home, Every Home" connectivity at a cost point compatible with low margin domestic appliances as well as higher-value consumer electronics. It reaches within the home to every point where M2M connectivity might be needed, and overcomes the dead spots and range problems typically associated with previous in-home deployments.

Xsilon has also announced the completion of the latest funding round. The funding has been led by Ring member David Holloway (M BA85, Dip87) who was a co-founder of Codian, a videoconferencing hardware vendor, which was sold to Tandberg (now Cisco) in 2007. The investment enables Xsilon to accelerate its product development programme, with its M2M Connectivity Evaluation kit now targeted for customer availability in Q3 2012. The HANADU product line is planned to launch in 2013.

Matthew Johnson

Dr Matthew Johnson, who graduated with a PhD in Computer Science in 2008, started his career developing event-processing software Apama at Progress Software in Cambridge.

I grew up around computers. My father wrote business software for the BBC Micro and later the Acorn Archimedes in his spare time. As a result, even when Windows was becoming popular, I was still using Risc OS and looking for alternatives when Acorn stopped trading. I dabbled with Linux throughout college, but my first real dive into it coincided with going up to Cambridge to start my degree.

Eight years, two degrees and a lot of interesting times later I was definitely looking for a job. My PhD with the Cambridge Security Group was hard work, but I came out of it eventually, and with a lot of additional experience as a Debian developer in my spare time along with sysadmin work for Trinity Hall. I was initially looking for work in the security community, but as I was also intent on staying in Cambridge due to strong ties to the University and friends in the area, this turned out not to be.

As I was casting around for something interesting to do in Cambridge, I came across Progress Software and was immediately impressed. While nothing they did was particularly related to my PhD, there was no doubt that there were interesting challenges to be had in high-performance event processing and language design, and so I applied. One of my concerns was being able to keep up with the extra-curricular activities I'd taken up at the University. I play bridge to a reasonably high standard and now am on the national panel of tournament officials running many of the major English tournaments. Progress has provided me with a work environment with the flexibility to keep up with these activities. I even formed a successful bridge partnership with one of my colleagues, winning our section in the national Ranked Masters Pairs.

Progress Software is a global software company with a portfolio of enterprise products providing solutions for integration, application development and responsive computing. Many of the products are regarded as leaders in their markets, including the Apama Complex Event Processing platform. The Cambridge office for Progress works on the core part of the Apama product, which is developed in C++, Java and C#. We also develop our own domain-specific language.

The group internally has acquired a reputation for quality, technical expertise and an uncompromising attitude. Combined with stringent requirements for a low-latency and high-throughput product, this position was exactly what I was looking for. I was not disappointed.

Progress Software has a very relaxed working environment and is full of intelligent, knowledgeable people who, above all, are enjoyable to work with. I'm very lucky to be able to work largely with Linux, including as my primary desktop environment. That said, knowing my OS preferences, my first major assignment was our initial port to 64-bit Windows. The management is not without a sense of irony! I have worked on a variety of internal projects both independently and taking technical lead roles within the team. Progress is a very rewarding place to work. Since joining I've learnt a lot about real-world software development and I have quickly become a very knowledgeable C++ programmer.

The technical challenges haven't stopped since I joined, although some of them have changed. Our current strategy gives us the opportunity to be more aware of our other products and integrate with them. We also continue to expand into verticals outside capital markets. Recently I had opportunity to engage with some of our high-profile clients while assisting with pre-sales presentations. This is always an excellent opportunity to see beyond the borders of our engineering office. Getting these insights into how the product is actually used to implement real-world solutions is important when thinking about how to evolve it. This is particularly valuable as the company moves from just serving capital markets into, for example, monitoring and optimising the travel of airline and train passengers, responding to supply chain disruption, coordinating cargo ship movements and looking for fraud in ATM withdrawals across a country.

As we wrap up our next major release we are busy developing plans to take the product to the next level. Changing market conditions require us to constantly anticipate future needs and adapt our technology. In the end, for me, that is the most exciting challenge of all.