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Ring news

Ring events are a popular way to meet members and network. The Editor reports.

Annual dinner

The annual dinner has always been a successful event. This year was no exception.

Proceedings kicked off at the Computer Laboratory, with an update on events in the Lab over the past year — thanks to Stephen Allott for providing a report of Professor Anuj Dawar's Lab update (page 4).

Dr Neil Dodgson, Reader in Graphics and Imaging, followed with a lecture on his research.

The first half of the programme ended with the Ring's AGM, chaired by Professor Andy Hopper (the Chairman's report is on page 4). With two seats on the Ring Council up for grabs, and three nominations received, members voted to increase the number of Council members from six to ten. Lorenzo Wood (CHR93) was re-elected, with Nigel Horne (CHU68) and John Brimacombe (T91) the new additions.

Nigel Horne received his PhD in Mathematical Programming in 1968, and spent many years in the telecommunications and computer manufacturing industries. His early career was with GEC, where he became managing director of the information systems division. He later joined KPMG as partner in charge of information technology consulting. For eight years he was chairman of Alcatel UK, and was founder director of a number of hi tech companies. In 2005 Nigel was interim director of engineering for National Air Traffic Services Ltd, responsible for the operation, development and safety aspects of the technical infrastructure for air traffic movements in the UK. (I bet Nigel's been asked more than a few questions recently about Eyjafjallajökull, Iceland's revenge for the banking crisis.)

John Brimacombe is a serial entrepreneur. After graduating he founded Jobstream Group plc, which provides specialist ERP software to the international financial services sector. He subsequently co-founded pioneering mobile entertainment start-up nGame Ltd., which was acquired by Hands-On Mobile Inc. John served as President/COO of Hands-On for over two years, leading the company through seven major M&A transactions and massive global expansion. Since 2006, John has served as Executive Chairman of Linguamatics Ltd, the 2009 Hall of Fame Company of the Year. He is also a Partner at Sussex Place Ventures, the resident venture capital firm at the London Business School, is a seed investor in multiple US and UK start-ups, and is a non-executive director of quoted investment fund Core VCT plc.

After the AGM, everyone converged on Queens' College. It was lovely to see so many new as well as familiar faces and, as always, Queens' Old Hall provided a splendid setting for the occasion.

London Ringlet bar

A former banking hall, which now houses top restaurant 1 Lombard Street, provided a beautiful location for the April London Ringlet Bar. Many thanks to London Ringlet Chairman, Alastair Gourlay, for organising another super event, and to Ring member Sue Primmer and Excelian for sponsoring it and securing such a lovely venue.

A number of other exciting events are planned during 2010 so I hope you'll be able to make at least one of them.

In the meantime, if you have any comments or suggestions on events — or on anything Ring related — please do get in touch.

Events calendar

2010

May

Thursday 27th, 18:30
Cambridge Ringlet bar
Castle Inn, Castle Street

June

Wednesday 2nd, 18:30
London Ringlet Bar

Tuesday 29th, 18:30
Technical Open House
Google, London
Admission is free but space is limited, so please contact the Ring office to reserve your place.

August

Tuesday 3rd, 18:30
London Ringlet Bar

October

Wednesday 6th, 7pm
Cambridge Roundtable Discussion
St Catharine's College
Guest speaker: Sean Phelan, founder of Multimap
Admission by ticket only

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

Ring AGM 2010

This year's Ring AGM was held on March 17th.
Chairman's Report by Professor Andy Hopper.

It gives me great pleasure to present the Ring's annual report. It has been an interesting year in which we have made some significant progress in growing the association.

Over the last financial year, there has been a sharp growth in members. Our free three-year membership invitations have boosted membership by almost 200. Moreover, the introduction of a lower membership fee for payment by standing order has not only helped increase renewal rates, but has also reduced the administrative time spent on chasing renewals. If your membership is due for renewal, and you have yet to convert to payment by standing order, I would urge you to do so. Not only will it help us, but at the reduced subscription rate of £12, it'll help you! As one Ring member recently put it, "it's a no-brainer and very good value". Our challenge going forward is twofold: to encourage more potential members to sign up for free membership and to convert those coming to the end of their free trial periods to become fully paid-up members.

Following Richard Jebb's departure to Shropshire, the last AGM saw the election of Robert Folkes to the Ring Council. I would like to thank the Ring Council (Stephen Allott, David Colver, Peter Cowley, Robert Folkes and Lorenzo Wood) for their hard work and for bringing fresh ideas and vigour to the council meetings.

There is now a number of events that have become part of our regular annual calendar, the annual dinner being the highlight. The Computer Laboratory is rightly proud of its graduates' achievements and I look forward to announcing the Hall of Fame award winners later this evening. 175 companies have been founded by Computer Lab graduates and it is pleasing to see the number founded growing exponentially. Let's hope the next ten years see a continuation of this remarkable trend.

The London Ringlet Bars are very successful and I would like to thank Alastair Gourlay for his hard work in organising these regular and popular events. Our Roundtable Discussion events also attract much interest. Over the past year, events have been held both in London and Cambridge, and I would like to thank Stephen Allott and Peter Cowley for chairing them so successfully. We are always looking for suggestions on possible topics and speakers, so if you have any thoughts please do contact Jan Samols. I would also like to thank Lorenzo Wood and LBi for hosting last year's London BBQ; over 40 members and guests enjoyed a memorable summer evening off Brick Lane.

It's hard to believe but January 2010 saw the publication of the 23rd edition of The Ring newsletter. The newsletter remains one of the association's most popular offerings and Jan Samols, the editor, is always keen to receive members' news.

I would like to thank all those who have posted jobs on the Web site's Job Bulletin Board. The board provides a valuable service connecting Lab grad job seekers with employers, and it is gratifying to see that — despite the difficult economic conditions — so many jobs have been posted.

Final thanks go to all those who have volunteered as mentors. Several recent graduates have benefitted from the mentoring scheme. However, the scheme is there for all, not just recent graduates. So, if you're interested in finding a mentor — or would like to act as a mentor — then please contact Jan Samols

A Year in the Life of the Computer Lab

Dr Anuj Dawar, co-Deputy Head of Department, gave an update on the last year. Report by Stephen Allott.

Prof. Andy Hopper was re-appointed as Head of Department for a second five-year term, starting October 1st 2009.

A new MPhil course in Advanced Computer Science admitted 35 students in October 2009. This is close to capacity and thus stretching the Lab's resources. Applications for 2010 are up.

The University has approved the creation of a Part III of the Tripos. Students admitted in 2010 may graduate in 2013 with a BA, or in 2014 with a MEng. The fourth year may be offered on a trial basis to the current first-year students.

Several faculty members received honours. Ross Anderson was made a Fellow of the Royal Society and a Fellow of the Royal Academy of Engineering. Jon Crowcroft received the 2009 ACM SIGCOMM award and Larry Paulson was elected a Fellow of the ACM.

A new lectureship in Computing for the Future of the Planet was advertised and an appointment made. The CFTFP research initiative was boosted by a Google Focused Research Award. Cambridge is the only university outside the US the US to receive such an award.

Peter Sewell received an EPSRC leadership award for "talented researchers with the most potential to develop into the UK's international research leaders".

Frank King retired after 37 years of service.

Who's who

Gil Asherie (PEM MA94) is now CEO of DBSophic (www.dbsophic.com), a provider of database performance solutions. He would be glad to connect with other Ring members with an interest in database performance, or enterprise software in general. He may be reached on gil@dbsophic.com.

David Atkinson (G Dip97) is a product manager for Red Gate Software.

Charles Brown (PET BA91) is division manager for .NET tools at Red Gate Software.

David Cleevely FREng (PhD82) has been appointed the Founding Director of the Centre for Science and Policy (CSaP) at the University of Cambridge. The CSaP is dedicated to bringing together the best scientific thinking across all disciplines in order to inform public policy.

Paul Coghlan (CHR BA92) is technical architect at G10K Ltd.

Brian Cowe (JN BA97) works for Zeus as a systems engineer. Brian is a member of the Latin American formation dancing team, and has been selected to represent the UK in the World Championships. He is also a British Gymnastics qualified trampoline coach.

Peter Cowley (F MA77) has founded Eluceda, a biotech startup, that has developed a method for rapidly detecting MRSA and other infections.

Michael Crogan (CHU MSc05) is working with Startup House in the US. Startup House helps students get jobs at start-ups in Silicon Valley, and provides a summer programme for the interns.

Steven Davidson (G BA99) works for Cambridge Circus Software, a company he co-founded to create iPhone applications.

Lerato Makenete (SS BA92) works in risk management for Liberty Life in Gauteng, South Africa.

Eur Ing Dr **Phebe Mann** (HH BA01) was commended for her article "What can UK's construction law learn from US copyright law in the protection of intellectual property rights of architects and engineers?", entered for the Society of Construction Law Hudson Prize 2009.

Sue Primmer (NH BA87) is in charge of PR at Excelian.

David Proctor (Q BA07) works for Red Gate Software as an infrastructure operations engineer.

David Simner (JE BA07) is a software engineer at Red Gate Software.

Andrew Smith (T MA95) works for Siemens PLM Software as a software engineer.

Bjarne Stroustrup (CHU PhD79) was promoted to Distinguised Professor at Texas A&M University — the university's highest academic rank.

Ian Willers (CC PhD72) is group leader of the CMS computing group at CERN. The group has special responsibility for CMS computing but is also an integral part of the CMS Computing and Core Software Project.

Lorenzo Wood (CHR BA93) is CTO at LBi, Europe's largest marketing and technology agency.

But you can't patent software!

Nicholas Fox, partner at intellectual property firm IP Asset LLP, discusses the interface between patentable inventions and computer science.

A little knowledge can be a dangerous thing. This is clear to me from the reaction I sometimes get when I tell computer scientists that I am a patent attorney specialising in computer patents. Frequently the response is, "But you can't patent software!"

That reaction is wrong, but quite understandable. The law really doesn't help. "Computer programs" feature prominently in the list of things that are excluded from being patentable inventions, grouped along with other unpatentable subject matter such as "business methods" and "rules for playing games." As ever, though, the devil is in the detail, and as any patent professional dealing with computer inventions knows, all the listed exceptions are qualified by the words "as such," which in practice means that all technical inventions can in fact be patented.

Limits on patentability

Ironically, the law on the patentability of something as modern as computer programs has its roots in very old law. Elizabeth I's second most famous speech (not the one beginning, "although I have the body of a weak and feeble woman…") was prompted by arguments about patents. This "Golden Speech," which contains the line, "Although you may have many greater and more mighty princes, you shall have none that love you better," arose from a Parliamentary debate about the abuse of patent grants. At the time, the country was in the middle of a recession and the cupboard was bare. Some things just don't change, do they?

The controversy stemmed from the Crown's decision to raise money for the wars against Spain by selling monopolies to rich courtiers, effectively getting ready cash up front for the imposition of taxes on everyday goods. One of the monopolies complained of was on playing cards. Although Elizabeth's speech effectively announced a royal enquiry into patent abuse, it evidently had little effect as regards the playing card monopoly. The government failed to take any action, only for the monopoly to be struck down in court two years later as being contrary to the public interest. The court rejected the argument that raising the price of playing cards discouraged gambling among the poorer sorts of persons and ruled that the monopoly had been granted in error. This demonstrated for the first time limits on what could and could not be patented.

Whereas Elizabeth was able to buy off Parliament with a few well-chosen words, the Stuart monarchs had a harder time, and in 1623 the Statute of Monopolies limited patentable inventions to "any new method of manufacture." This effectively restricted monopolies to novel inventions and formed the basis of British patent law up until 1977. All existing monopolies were called in and only those which fulfilled the new method of manufacture test were allowed to remain.

In its 300-odd years as the test for what was patentable, "method of manufacture" was a traditional British compromise. Anything which was patentable had to be a new method of manufacture. What was a new method of manufacture? Well, that was simply the sort of thing patents were granted for.

Computer programs and the modern law

In the late 1970s, however, that all changed when the UK joined the European Patent Convention. In contrast to the British common law compromise, European legal systems preferred codifying what was and was not patentable. Discussions of the European patent system had begun in the early 1960s. At that time, computer technology did not rank highly among technologies of economic importance and it was unclear whether computer programs were anything more than of academic interest, as they were mainly confined to the maths departments of universities. Certainly, the computer industry was nothing like what it is today.

It was against this background that the European governments agreed the list of excluded inventions. In the end, they decided to copy a list directly from another international patenting treaty, the Washington Agreement, which enabled applicants to obtain a search and preliminary opinion on an invention before having to file for protection in individual countries. In that Agreement, computer programs were

exempted from subject matter which had to be searched or examined where national patent offices did not have the facilities to do so. Such an exception made sense in the punch-card era and relieved patent offices from having to wade through source code and try to work out what on Earth the code was meant to do.

The exclusion of computer programs in the Washington Agreement related only to searching, but the exclusion took on a whole new meaning in the European Patent Convention, where it became a prohibition on what could actually be patented. In the absence of such a provision it would have been arguable that every new computer program would have been potentially patentable. On the other hand, it was recognised that a blanket ban on computer inventions would exclude certain meritorious inventions from protection, and it was for that reason that all of the patentability exceptions were limited to the excluded subject matter "as such." These words were included expressly to enable the courts to decide the boundaries of what would be excluded from patent protection.

Technical contributions and technical effects

The question of what exactly constitutes "a computer program as such" was soon answered by the Boards of Appeal for the European Patent Office in a case relating to image processing. In Vicom's Application, the Boards made "technical contribution" the touchstone for patentability, holding that a patentable invention must be novel, non–obvious and give rise to a technical effect. A computer program would not be technical just because computerising something would make anything faster and less liable to error.

Rather, in order to be a patentable invention a computer program would have to provide some kind of technical benefit which was arrived at in a new and non-obvious way. If a computer program did all these things, then it would not be a "computer program as such" under European patent law and could validly be the subject of a patent.

Since that case, the courts have frequently been asked to consider the boundaries between what is and is not "technical." Gale's Application was one such early case in the computer field. Mr Gale was an incredibly clever man who came up with a novel method of calculating square roots, and it is almost inevitable that everyone reading this article has taken advantage of Mr Gale's invention, as it is implemented in every pocket calculator. The great benefit of Mr Gale's invention was that the new algorithm that he had devised avoided the use of division steps which, in the computer field, are of course far harder to implement than addition, subtraction or multiplication. As a result, Mr Gale's algorithm was much easier to implement than what had gone before.

Unfortunately, although Mr Gale was a very clever inventor, his intelligence did not extend to appreciating that there is a reason why profes-

sional patent attorneys exist. Mr Gale wrote his own patent application and filed it at the British Patent Office. The application set out his algorithm on two or three pages of description and included a throwaway reference to possibly storing a program on a CD-ROM. Because of the way Mr Gale's invention was presented, the Patent Office rejected the case as being directed to a mere mathematical method. This was appealed through the courts, and ultimately Mr Gale's application was rejected. The Court of Appeal rejected an argument that recording an algorithm on a computer–readable medium such as a CD-ROM moved Mr Gale's invention out of the realms of the abstract and into the realms of patentable subject matter. Tellingly, however, because of the way the patent application had been drafted, the Court concluded that Mr Gale's invention did not solve any "technical problems" or give rise to a technical effect. It is clear from the later practical application of Mr Gale's algorithm that this was not in fact correct. However, the advantages arising from the lack of division steps were not made out sufficiently in the application.

The fate of Gale's Application is in stark contrast to that of the applicants in a test case I ran in 2008, *Astron Clinica & Others*. This case arose from a change of practice at the British Patent Office, which until late 2007 had followed an earlier EPO decision to allow patents including claims to computer-readable media where the recorded program solved a technical problem when it was run on a computer. In the modern world, such claims to computer programs are important as the computer program itself is the item of commerce which is bought and sold. The British Patent Office abruptly reversed this policy in late 2007, however, following a Court of Appeal decision relating to business methods.

The change threatened the prospects of many companies whose businesses depended on the commercialisation of new computer software. Because of the potential effect on my own clients, I put together a consortium of British applicants to challenge the change. The applicants were involved in a wide variety of technologies, ranging from printer drivers and software for micro-controllers through to image processing and software for analysing proteome data to identify drug targets. The lead applicant, Astron Clinica, had developed software for skin imaging, which had potential application for the diagnosis of skin cancer. The one common thread was that all the applicants had applied for British patent protection in respect of novel software which solved technical problems, for example by improving printer output or achieving more efficient micro-controller control, and the software in question had the potential to be sold as a commercial product. All the applications had been rejected under the new British practice, and we took an appeal to the High Court to challenge the practice's legitimacy. We won the case, the Patent Office reverted to its earlier practice, and the clients got the protection they needed.

The Court of Appeal has since reaffirmed the importance of assessing the technical contribution of an invention. In Symbian's application, a patent relating to indirect addressing of dynamic link libraries, the Court reiterated the test for patentable subject matter as requiring one first to determine the scope of a claimed invention, and then to assess the "technical contribution" and compare it with the prior art. If the manner in which the technical contribution is achieved is not obvious, a patent will be granted.

In Symbian, the novel indirect addressing scheme made programming and accessing resources easier. In Vicom, a new image-processing algorithm processed pictures faster than the prior art. Both cases and the technologies of the applicants involved in the Astron Clinica appeal exemplify what is meant by a "technical invention." Paraphrasing the Olympic motto, anything which improves performance, which makes things go further, higher, faster (and, to which can be added, makes things easier) has the potential to be a "technical effect," which can be used as a hook for obtaining a patent. The key with all such inventions is that there is a technical contribution not just because a computer is involved, but rather because there is some kind of novel processing or novel data structure which gives rise to improved performance. The skill of a patent attorney is identifying and presenting such contributions in a persuasive way to achieve grant.

End thoughts

Intellectual property and patents in particular can be highly valuable assets for innovative computer companies. However, the erroneous perception that computer software is not patentable can deter many from securing and exploiting potentially lucrative monopolies that could help them build their businesses. As is clear from the case law, though, computer software is not excluded from patentability if the software in question meets the relevant criteria and, in particular, provides a technical solution to a technical problem.

The fate of Gale's Application for what could have been an extremely lucrative monopoly shows that the stakes can be high. It also shows the value of seeking appropriate professional advice, the cost of which is, simply put, an investment with a view to a potentially much greater return where patented software meets with commercial success.

Nicholas Fox graduated from Pembroke in 1993. He is a patent attorney and solicitor at IP Asset LLP. If the article raises any questions and you would like to contact him, he can be contacted at Nicholas.Fox@ipasset.com

Letter to the Editor

As an alumnus who took the Cambridge Computer Science Diploma in 1967–8, and has worked in areas relating to computing since then, I was amazed to read in *The Ring* of many people trying to puzzle out why demand for computer science graduates has fallen off in the last 40 years.

The first problem with the articles is that they are all written by academics. That is to say, people who train computer scientists, not those who actually employ (or increasingly do not employ) them. Demand in the marketplace for Computer Science graduates has fallen steeply, and potential students, mindful of their need to get a job on graduation, have spotted this trend, and modified their course selection accordingly.

Although demand today in the software profession for technical computer graduates remains unabated, computing today is seen as a useful adjunct skill — rather like the ability to speak French, Japanese, Mandarin, or manage people, as opposed to a full professional skill in its own right. In the olden days — and for example word processors have existed since the 1960s — a computer science qualification was a rarity, and seen as a useful baseline skill not only for IT management but indeed for any other IT job. Today, with core IT expertise very widely distributed, this base expertise is perceived as fully adequate for all except the most technical roles, and computer science graduates are not essential. Indeed they are possibly at a disadvantage by comparison with other subjects where basic know-how is not widely spread, apart from either at Universities, or professional courses, such as Medicine, Veterinary Studies, Accountancy, Solicitors or the Bar, where practical experience is integrated with a further series of demanding exams, leading to an integrated job.

In the early days, IT was seen too as a specialist, although rather dead-end subject. It was extremely rare for any IT specialist either to move into general management, or into a wider role such as finance: they were seen as IT-only, which provided high employment prospects, although very limited career prospects after the first few years. Today, IT (except for tiny research departments) is widely integrated into corporate structures, which means broader career prospects, but these come from combining Computing with other skills — notably those which are rare and in high demand such as strategic management — not from core Computing.

Until the Ring starts to look at market demand — and the reasons behind it — as opposed to people training students, I fear that your readers will find understanding difficult.

William Bailey (CL68)

Jeremy Bennett

Open Standards, Open Source, European Interoperability and the EU Digital Agenda. An open letter to Commissioners Alumnia, Barnier, Tajani and Kroes.

Jeremy Bennett is Chief Executive of Embecosm Limited.

Dear Commissioners,

The draft proposals for the new EU Digital Agenda (note 1) indicate a strong commitment to the principles of open standards. This is underlined in section 2.6, which proposes six key actions, including:

"Issue a Recommendation to streamline the use of open standards in public services and public procurement";

and

"Promote the development of open standards for new applications and services by supporting industry-led platforms through EU-funded programmes".

This is excellent news, which puts into practice a commitment of the EU dating back to the European Interoperability Framework (EIF) (note 2) published in 2004. This was written following an action plan adopted by EU heads of state in 2002 which included a mandate backing open standards and open source software. This is reflected in the EIF, where section 1.3 states:

"To attain interoperability in the context of pan-European eGovernment services, guidance needs to focus on open standards. The following are the minimal characteristics that a specification and its attendant documents must have in order to be considered an open standard:

The standard is adopted and will be maintained by a not-for-profit organisation, and its ongoing development occurs on the basis of an open decision-making procedure available to all interested parties (consensus or majority decision etc.).

The standard has been published and the standard specification document is available either freely or at a nominal charge. It must be permissible to all to copy, distribute and use it for no fee or at a nominal fee.

Joaquín Almunia is European Commissioner for Competition and also a Vice President of the Commission.

Michel Barnie is European Commissioner for Internal Market and Services.

Antonio Tajani is European Commissioner for Enterprise and Industry.

Neelie Kroes is European Commissioner with responsibility for the Digital agenda and also a Vice President of the Commission.

Copies of this letter were also sent to Daniel Hannan, Nigel Farage, Richard Ashworth, Sharon Bowles, Caroline Lucas, Nirj Deva, Marta Andreasen, James Elles, Peter Skinner and Catherine Bearder, Members of the European Parliament for the UK South East Region in which Embecosm is headquartered.

The intellectual property — ie, patents possibly present — of (parts of) the standard is made irrevocably available on a royalty-free basis.

There are no constraints on the re-use of the standard."

The EIF also identified Open Source Software (OSS) as central to promoting the development of interoperability standards. Further on in section 1.3, there is explicit recognition of the value of open source software:

"Open Source Software (OSS) tends to use and help define open standards and publicly available specifications. OSS products are, by their nature, publicly available specifications, and the availability of their source code promotes open, democratic debate around the specifications, making them

both more robust and interoperable. As such, OSS corresponds to the objectives of this Framework and should be assessed and considered favourably alongside proprietary alternatives."

This document showed that the European Commission understood, back in 2004, the importance of open standards, and the use of an open source approach when developing such standards.

However, I am very concerned that the draft of the new European Interoperability Framework for Public Services (note 3) has completely redefined what is meant by Open Source Software, to include closed source software:

"There are varying degrees of openness.

Specifications, software and software development methods that promote collaboration and the results of which can freely be accessed, reused and shared are considered open and lie at one end of the spectrum while non-documented, proprietary specifications, proprietary software and the reluctance or resistance to reuse solutions, ie, the "not invented here" syndrome, lie at the other end. The spectrum of approaches that lies between these two extremes can be called the openness continuum."

This is completely meaningless. I may as well say that "dry" is one end of a spectrum which includes "wet". Furthermore, the original mandate backing open source software is completely lost:

"European public administrations need to decide where they wish to position themselves on this continuum with respect to the issues discussed in the EIF. The exact position may vary, on a case-by-case basis, depending on their needs, priorities, legacy, budget, market situation and a number of other factors. While there is a correlation between openness and interoperability, it is also true that interoperability can be obtained without openness, for example via homogeneity of the ICT systems, which implies that all partners use, or agree to use, the same solution to implement a European Public Service."

The European Commission is not the first organisation to fall for this "redefinition", which has sadly been promoted by a number of international corporations desperate to protect their existing closed source business using any market-distorting techniques they can muster.

It is the duty of regulatory bodies to resist such activity in the interest of promoting a free and fair market. There should be no doubt about what is meant by Open Source Software. The Open Source Definition (note 4) has been widely accepted for over a decade as an unambiguous statement of what comprises open source software.

The effect of this novel rewriting of the meaning of Open Source Software can be seen in the draft European Interoperability Strategy (EIS) (note 5). This implements the Framework for public services yet has no meaningful commitment to open standards or open source. Where is the grand vision of the Interoperability Framework of 2004?

Following on from this, I am alarmed at media reports (note 6) that, under pressure from developers of closed software, such as Microsoft, the European Commission is now considering removing the commitment to open standards from the EU Digital Agenda.

We have only to consider the development of the Linux operating system, created by a Finnish university student, to see how important open standards and open source are in Europe.

Open standards and open source make for a highly competitive market, since they maximize contributions from all developers. This in turn reduces the costs of businesses using such software, improving their competitiveness. A 2008 survey by the Standish group suggested open source had saved companies 60 billion dollars in costs (note 7).

Yet it is also possible to make very good profits from open source development, as successful companies like Red Hat and IBM demonstrate. The resistance is from other corporations who have grown up with the old way of closed standards and closed source. They will fight tooth and nail to protect their profits against newer, better ways of doing things, even if it is to the detriment of ordinary consumers.

History shows us such resistance always fails eventually — otherwise we would still be ploughing fields with horses and spinning wool by hand. The only effect of such delaying tactics is inefficiency in the market, to the detriment of consumers, until the old ways finally fail. It is incumbent on regulatory bodies to minimize this inefficiency by facilitating the adoption of new methods and technology.

I work in open source development. With my German colleague we develop open source tools for silicon chip and embedded software development. This technology, developed in Europe, helps companies around the world reduce the cost of developing new silicon chips.

It would be terrible news for us if the Commission were to remove or even water down their excellent commitment to open standards. We would like to see an explicit commitment now added to open source as the most efficient way of achieving open standards. In this way, the European Commission could add valuable impetus to European companies working in this growing business sector.

My requests to you are:

- That the European Commission reinstate the commitment to open standards and open source in the new European Interoperability Framework for Public Services, in line with the original European Interoperability Framework of 2004 and the mandate from Heads of State in 2002.

- That you refuse to contemplate any removal or watering down, and that you will stand behind the excellent text in section 2.6 of the Draft EU Digital Agenda.

- That you add a commitment in the EU Digital Agenda to the use of open source software as central to Europe's competitivenes.

I look forward to hearing your response to my requests.

Yours sincerely,

Jeremy Bennett

31 March 2010

Notes

(1) Available on the French website PC-Inpact. Download in English from http://www.pcinpact.com/media/draftdigitalagendaCIS-4.DOC.

(2) Download from http://ec.europa.eu/idabc/servlets/Doc?id=19528.

(3) Download from http://www.bigwobber.nl/wp-content/uploads/2009/11/European–Interoperability–Framework–for–European–Public–Services–draft.pdf.

(4) Available from the Open Source Initiative at http://www.opensource.org/docs/osd.

(5) Consultation until 6 April 2010 at http://ec.europa.eu/yourvoice/ipm/forms/dispatch? form=EIS2a.

(6) For example Glynn Moody's article in Computer Weekly at http://www.computerworlduk.com/community/blogs/index.cfm?entryid=2878&blogid=14&pn=1.

(7) Summary at http://www1.standishgroup.com/newsroom/open_source.php.

Dr Jeremy Bennett is Chief Executive of Embecosm Limited. Embecosm (www.embecosm.com) provides open source services, tools and models to facilitate embedded software development with complex systems–on–chip and develops commercially supported versions of the MILEPOST GCC optimizing compiler. He is an active contributor to the OpenCores project (www.opencores.org). Contact him at jeremy.bennett@embecosm.com.

The finance function, part II

In the January 2010 edition of *The Ring,* **Auriel Folkes** asked CEOs of Hall of Fame companies if they had a finance function, what were the priorities and expectations of that function, and the expected attributes of a Finance Director. In this article, Auriel provides her own thoughts.

The finance function in any company can be a fluid concept. The concept of finance can range from one book-keeper, processing the basic transactions, to a fully-fledged function providing a complete service including activities such as customer contract negotiation, managing the banking relationships, pro-active reporting and analysis. To a large extent you get what you pay for, and this should be driven by what the business needs at a particular point in time.

Finance function fundamentals

Assuming you have a book-keeper — or, if you are big enough, a team of people — to process the daily transactions, and you are thinking of hiring a Finance Director, what else should you expect? What questions should they be asking? At a minimum, finance should:

- Help the business set budgets and targets;

- Provide a controllership function;

- Manage cash and particularly ensure timely cash collection;

- Report results to interested parties such as management, investors, board directors;

- Perform any required *ad hoc* analysis;

- Manage external relationships.

The recurring basics are discussed here. Please note that activities such as fund raising, preparing for an exit, etc., are not covered as these are one off activities and not day-to-day activities addressed by this article. There are also other functions such as human resources, internal IT and facilities that may or may not come under the ownership of Finance. Again, these are not discussed here.

Budgets and forecasts

A good finance function not only looks back but also looks forward. This is particularly important in a business undergoing change, or where cash flow management is more sensitive than usual. The budget is an annual exercise and provides a place mark for bonuses, targets, milestones, etc. It should be completed before the financial year end and not allowed to drag into the new year. Remember, it is a "best estimate" only, and should not become an overwhelming exercise for all concerned with continual refinements. The forecast, however, should be a continual current assessment of where the business is going. Good business practice is to maintain a rolling twelve-month forecast. This should be an integrated model: profit and loss account (income and expenses); balance sheet (assets and liabilities); and cash flow (to see expected ins and outs and closing cash balances each month). This should be sense checked against banking facilities and covenants. If there is a danger of failure, the sooner this is known the better the chances of successful remedial action.

Although finance should own the master data and the integrity of reporting, distributed ownership is also good practice. Although there will always be exceptions, in general, sales or operations should own the information feeding into the revenue forecast (eg, orders and/or expected deliveries).

Controls, risk and process management

This is a significant subject worth an article in its own right, so it cannot be explored in depth here. In summary, a business will often look to the finance function to be the custodian of controls and processes and risk management. Finance is responsible for ensuring certain key controls are in place to ensure the accuracy, timeliness and completeness of transactions.

A few examples are:

- Are controls in place to ensure all work performed is invoiced?

- Are controls in place to ensure cash received is allocated to the correct customer account?

- Are there controls to ensure all employees are paid the correct agreed salaries each month (ie, no unapproved additions)?

- Are controls in place to ensure capital equipment cannot be purchased when it has not been duly approved?

Finance will often maintain an approvals authority matrix that defines who in the organisation can approve/sign what. It is up to finance to ensure that this matrix is adhered to. In addition, one would expect finance to be responsible for ensuring that additional discretionary costs (especially headcount) are approved in line with budgets and targets.

Working capital management

Cash is imperative and more important than profit. Any business needs cash in the bank to fund the monthly payroll costs, stock purchases etc., particularly if the business is in the start-up phase and not yet delivering revenues. A business can reflect profitable results but be haemorrhaging cash — and growth itself requires working capital (cash) to fund it. For example, think about a business where stock needs to be purchased and paid for 30 days in advance of a sale and the customer has 30-day credit terms. This means 60 days between having to spend the money and receive the corresponding cash.

Here are some issues to consider, and questions a Finance Director should ask:

Receivables: The sooner cash can be collected and the shorter the cycle between order and cash the better. In general, a smaller number of higher-value customers should be easier to manage, and smaller customers may be more cash-strapped and take longer to pay.

- What is the profile of the customers? Are they blue-chip?

- Are credit references being taken? How accurate are they?

- How clean and current are the receivables of the business?

- What are the payment terms? Are these sensible and are they being met? For example, if the business sells product, having terms that are "end of the following month" may incent customers to place all their orders in the first

few days of the month in order to get 60 days of credit, which will also place a strain on the business's sales order processing functions;

- Can the business negotiate up-front deposits or staged payments if there is a systems roll-out?

- Is factoring the receivables a sensible option?

- Is a credit insurance policy a worthwhile investment?

- Is it sensible to offer prompt payment discounts? If these are offered, ensure their take-up is monitored. Ensure the customers pay within the terms and don't take both extended terms and the prompt payment discount!

- Who is responsible for cash collection? How are they incented? Is the sales compensation plan geared towards orders or cash collection?

- Finally, ensure there is sufficient root cause analysis of aged debt. Are there trends which could be rectified, such as errors being made on sales order processing, inappropriate promises on payments being made by sales, a recurring functionality issue?

- Non-payment itself may be valuable information. Is it because a business cannot pay (ie, no cash) or is it because a business will not pay (eg, not happy with your service, product or after sales support)? Find out and resolve immediately.

- Debt collection starts with finance but ultimately lies with the business. Ensure there is a company wide escalation process for non-payment. Old debts only worsen with delay, so ensure these are promptly resolved.

Payables: While the key priority is to have minimal customer debts outstanding and collect this cash as soon as possible, the reverse is true of the suppliers to whom monies due must be paid. For most non-stock companies, the biggest cash outflow is payroll, followed by facilities costs such as rent and rates. It is unlikely there is much room for manoeuvre on the timing of these outflows. The dynamics change if the business needs to purchase stock.

- What is the profile of the suppliers? Is the business focused through a limited number of suppliers in order to get better terms and reduce the internal administration costs involved?

- Are there preferred suppliers? Who owns procurement?

- What terms are in place with the major suppliers? Are these favourable? Can these be negotiated? Is there any opportunity to negotiate a back-to-back arrangement (ie, they get paid when our business gets paid on major projects)?

- Is the maximum time to pay taken without interrupting service/supply?

- Is the payment cycle optimised? Where possible restrict payment to once a month and try to align to known customer remittance patterns to maintain bank balances.

Banking facilities:

- Is there are an overdraft facility in place?

- Are there additional facilities to borrow additional monies against the company's accounts receivable or some other criteria?

- What costs are being incurred for these facilities? Are they justified? Could another bank offer better terms?

- If the business has spare cash, where is this and how is it being used?

- Is the business measuring and forecasting against any banking covenants to ensure they will be met in future months?

Management reporting

Reporting requirements will always be unique to a particular company — there is no perfect format and content for a month-end financial report, whether directed at the investors and/or the senior management team. The key criterion is that they reports are of value to their readers. However, there are a few guidelines, namely: timeliness; accuracy; relevance; and ease of assimilation.

Timeliness: It is of no value producing a set of reports around the 20th of the month for the previous month, especially in a rapidly-evolving business. Deadlines should be established and worked to without fail. Publishing results on work day six (ie, excluding weekends and public holidays) should be achievable for most businesses assuming the function is well organised and managed.

Accuracy: This may be stating the obvious, but if company decisions are based on historical results, those results must be accurate or the wrong decisions may be made. Automation of the reporting helps accuracy. If there are manual processes in extracting the information, they are prone to error. Accounting is not precise — estimates often

have to be made at month end. For example, costs where the invoices for costs incurred have not yet been received, revisions to provisions for obsolete stock and possible bad debts. However, these should be informed and supportable assessments.

Relevance: It is important that the report provides information not data. There is generally a vast amount of data available — the key is highlighting and commenting on the important factors. There is no point producing 20 pages of Excel spreadsheets — no one should have time to read or absorb them. Think about what's relevant and important to the business and then ensure the report reflects this. For example, 30 key performance indicators (KPIs) are not manageable at a senior level — choose the top few and ensure these are reported and discussed in a qualitative fashion. The choice of key issues can and should change on a regular basis — the report should not be viewed as a static document. The key issue here is for non finance people to be able quickly to see and assess the key issues and make the appropriate business decisions.

Assimilation: The report should be more than a collection of numbers — graphs often speak louder than words. The question to ask is what are the three things keeping the CEO awake at night? Does the report the finance function generates allow that person to see easily what's happening and what they need to do about it? There is no point having comments such as "actual expenses were higher than budget" — this should be easily ascertained from graphs. The more important issue is whether this is a one-off or a trend (eg, one-off legal expense or a key supplier increasing its prices), and whether the business can or should be doing something about it.

The other issue to consider is frequency. While management reporting is typically detailed and monthly, a weekly one-page flash report may be as much — if not more —valuable to a busy management team if available last thing on a Friday, if relevant and if it aids decision-making.

The compilation of the report should be owned by Finance. However, depending on the contents, sections should be owned and provided by other parts of the business. For example, it may be helpful to have a section written by Sales on current sales activity and prospects, by Marketing on lead generation and by R&D on product development. This gives other people in the management team the ability to comment on events, important developments and planned activities.

Another key point is that Finance should be responsible for all financial information and financial reporting. It will cause confusion if another part of the business is reporting revenue numbers, receivables, etc., and they are not the same. Also ensure KPIs are agreed throughout the business and consistently reported on using the same methodology

and source data. It is not helpful to have one set of KPIs published in a Board Report and another set (with — heaven forbid! — different numbers) published via e-mails or on an intranet site.

The foundation of good management information is the systems from which the data is sourced. The finance function should own the financial systems and be responsible for ensuring those systems are robust, well managed and continuously refined to meet the needs of the business.

Analysis

This can be simple actual to budget operating expense analysis to understand differences, or full-blown company-wide reviews. It is important to step back sometimes and segregate the business into components to ensure the management team is aware of the dynamics. This is called an economic profitability analysis where the current (and perhaps traditional way) of viewing the business is ignored, and all costs are assigned to agreed activity streams. This can identify three types of activities, so rational and supported decisions can be made:

- Business-as-usual activities making an acceptable return;

- Activities where the return is not deemed acceptable (eg, there is a need to reduce supply costs, renegotiate customer contracts or somehow find a way of making existing resources more efficient);

- Strategic investments where cost is being incurred but with agreed and expected future revenue outcomes.

A finance function should be capable of providing on going analysis of business performance, and highlighting areas for improvement. It is also important to be pro-active. That means not waiting for the CEO to ask for an evaluation of an option but rather looking at the business and making suggestions.

External management

The finance function should manage all relationships, compliance and reporting requirements where financial data is sent outside the business. This will include the bankers, investors, insurance brokers, auditors, tax authorities, Companies House filings, and possibly the liaison with lawyers and/or external human resource advisers. A good FD can be invaluable to a busy CEO in alleviating the burden of this responsibility.

The structure of a finance team

Firstly, be realistic and honest about what you expect Finance to do. If there is only one resource then that person will have to do a significant amount of transactional processing, and they will have to mop up everything no one else wants to do. Also, don't forget Finance is required to undertake significant compliance work, such as completing the VAT returns, reconciling and paying the monthly NI/PAYE tax obligations. This may be perceived to add limited value.

What the business needs and can afford should be carefully considered. There is no magic profile, and complexities and volumes are different in every business. The degree of automation also has an impact. The better the systems and the fewer the number of exceptions that need to be reviewed and actioned, the smoother and more efficient the workflows.

Think about outsourcing. In the early stages of a company, it may be more cost-effective to outsource. If this path is taken, ensure the provider has the flexibility to provide the information needed on time and in the agreed format, and can support the business through growth until it is ready to bring Finance in house. If the business is small but outsourcing is not a palatable option, consider having one resource doing the low-level transactional processing (which does not require so much pro-active intelligence) and a more experienced resource on a part-time basis reviewing the results and asking the questions. Naturally there are downsides to having part-time resources — they are not at your beck and call as they will have other clients and priorities.

As the business grows finance resources must also grow, but not all finance resources have to report to the Head of Finance. For example, business analysts may well be better placed in Sales or Operations supporting these functions, with a dotted line report to Finance.

Profile of a Finance Director

What are the key attributes to consider in a Finance Director? Again, the needs will be determined and driven by the business model and how this person fits into the overall resourcing levels. They may well be the Devil's advocate or right-hand man when the CEO is away. These are some issues to consider:

- **Rapport**: There is no substitute for this. Missing skills can be purchased or outsourced but the relationship is fundamental. The CEO might spend more time with the FD than at home, so it is important to ensure the relationship is robust. The FD may also be the one person in the company in whom the CEO can confide and discuss ideas. It is also sensible to ensure there is a good match of working styles — don't hire a morning person if the CEO wants to be able to call the FD late at night! Equally, one might argue, variety helps. You may not want a risk-taking FD if the CEO is a risk taker.

- **Commercial awareness**: A finance function is not an entity in its own right. Salaries get paid as long as the company has happy, paying customers and it is up to Finance to support the customer-facing teams. The FD should provide support to (eg,) Sales and Customer Services. When visiting customers, the FD should be a credit to the company. She/he should be pro-active and contribute to discussions.

- **Ethics and integrity**: It is critical that the CEO can rely on the FD to provide accurate, truthful, objective and factual information. Honesty is an attribute that will certainly be sought if investors are involved.

- **Communication and influencing skills**: A Finance Director who cannot communicate effectively, especially with non-finance people, is of limited value. Often it is left to the FD to deliver bad news. The FD should be able to do this with sensitivity and maintain the respect of the rest of the senior management team. Nowadays everyone should have good people management and communication skills.

- **Experience**: Look at industry verticals on the resumé. Is there synergy? Is this important? A fresh perspective can be helpful, but so can knowledge of the industry sector. Have the candidates only worked in large corporates? Will they be prepared to roll up their sleeves and get their hands dirty in a smaller company? A mix is often good; not only will they understand the rigours of corporate governance but they will also have the mindsets to embrace the ownership and accountability traits required in smaller companies.

- **Qualifications**: An accounting qualification is not a pre-requisite but it is a good indicator.

Incentives

We all like to be praised and take pleasure in reward. Often the work of the finance team goes unnoticed until something goes wrong! Think of the monthly payroll; the processing and payment activities are of no consequence to the CEO unless and until there is a mistake. Incenting a finance function, particularly a Finance Director, is always fraught with difficulties. There is little they can do to influence revenues, customer satisfaction, but they control the results, and accounting is not a precise science. If they are incented on a certain result, it may be possible to achieve this on paper without the CEO realising that the reality is somewhat different. For example, if an FD were to be incented on month-end cash balance this might encourage delaying supplier payments, possibly compromising relationships.

Best practice is to align the FD's incentive with that of the CEO. An alternative to this is part profit, part sales growth for the CEO and part profit, part cash management for the FD. The one team where specific incentives are a good idea is credit control which has responsibility for collecting cash. Setting monthly cash targets and incentives based on ranges should be considered. Again, days of sales outstanding — which indicates the age of the debts — can be manipulated by crediting and re-invoicing. So, this measure should only be used where there is appropriate control and review in place.

Conclusions

The needs and desires (not always the same) of both the CEO and the business must be considered carefully. A simple, steady-state business will probably not need a Finance Director; a small business with complex transactions and/or high growth may require more than book-keeping. A third-party investor, will have more rigorous control and reporting requirements and, despite the additional cost, a Finance Director will be required. Business needs change over time, so it is important to check regularly that the right people are in the right positions. Consider other options such as outsourcing and part-time resources, hire the best possible resources, bear in mind the need for soft skills as well as competency skills, communicate needs and expectations clearly and ensure there is a two-way feedback mechanism.

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Red Gate Software

Ten years ago **Neil Davidson** decided to stop whining!
That's when he founded Red Gate Software along with school
and university friend Simon Galbraith. Here Neil, and Red Gate's
Technical Author **Brian Harris**, explain Red Gate's philosophy.

Ten years ago I was one of those irritating software developers who was forever whining about the imperfect judgement of "the management". Why did They decide to just port that system, field by field, from DOS into Windows rather than grasping the opportunity to create something new and remarkable? Why did They sell the software before we'd had the chance to even think about it, let alone develop it? Why did They outsource complex code to third-world countries?

People reacted to my whining by saying that running a software company was hard. They told me that I couldn't do any better myself.

I may have been bitter and cynical, but I was also toweringly arrogant and naïve. Of course I could do better. I called Simon Galbraith and we decided to give it a go. How hard could it be?

We've spent the past decade learning exactly how hard.

To understand Red Gate today, you need to understand why we created it. Our goal was to build a place where the two of us wanted to work; a place where we would fit. We figured that if we could build such a company, then other people would want to work here too.

It turns out that our assumption holds true. Ask software developers to say what they like about working at Red Gate, and three things stand out.

1.   Just as Simon and I do, they enjoy working with smart people.

2.   Just as Simon and I do, they like having autonomy.

3.   Just as Simon and I do, they like the chance to make a difference and do challenging, meaningful work

If these sound obvious, it's because they are. But if they're so obvious, why do so many workplaces fail on so many counts? It turns out that there's a huge gulf between believing in an ideal and actually implementing a policy. Most workplaces fall into that compromise-shaped gap.

Take the seemingly simple "work with smart people". That means hiring, on average, one in every hundred people who apply. It means never compromising on the quality of the people we hire; never hiring "just to get a body", even as deadlines slip and estimates bloat. It means working hard to help people reach the potential we think they have, and then firing them if they can't.

Autonomy means trusting those people to produce something amazing without supervising them the whole time. Give them an outcome and let them find their own way there. It's not just during Down Tools week, when teams get together and do whatever they like; it's how all our projects are developed — with faith in smart people to invent the right solutions collectively.

Challenging, meaningful work means allowing people to innovate, contribute, question everything — basically to be a constant pain in the ass. Micro-managing the life out of everything is reassuring for the bean counters and nervous CEOs, but when people merely follow orders without engagement, without passion, mediocre products and a mediocre workplace are the inevitable result.

Do we always succeed? Hell, no.

Is it worth the effort? Hell, yes.

We're hiring.

Visit http://www.red-gate.com to find out more and download the wonderful Book of Red Gate.

TouchType

Frustrated with your mobile's text prediction? **Ben Medlock** explains how TouchType is making it smarter.

TR: Ben, can you tell me about TouchType and how you got started?

BM: TouchType designs and builds next-generation text prediction technology. The company was founded just under two years ago by me and a friend from Cambridge, Jon Reynolds (Physics, Selwyn). We saw the limitation of existing mobile text entry methods, particularly on touchscreen devices, and wanted to explore how much we could improve things by looking at the problem from a mathematical perspective and deploying advanced language modelling and NLP techniques. Currently our main products are our prediction engine Fluency™ and our new Android app SwiftKey™.

TR: I have to confess to switching off the predictive text system on my mobile phone; it seems to take less time pressing the appropriate key a number of times for a particular letter than dealing with predictive text clashes. Can you tell me why SwiftKey™ is better suited to the conditions of text messaging?

BM: SwiftKey™ utilises language modelling technology to make predictions that are contextually sensitive. This is very different from dictionary-based approaches such as T9. Experiments show that Fluency™ accurately predicts around a third of a user's intended next words without any character entry and around 85% within two characters. This reduces the frustration associated with predictions that are irrelevant to the context of the message.

TR: Can your software deal with foreign languages?

BM: Our approach is data-driven which means we train our language models on large quantities of real-world text data. This enables us to rapidly expand to foreign languages as we gather the relevant data.

TR: What is TouchType's business model?

BM: Our goal is to license our prediction and text entry technology to manufacturers, operators and third-party software providers in both the mobile and assistive technology markets. Our ultimate target is to become a global leader in text prediction solutions.

TR: What technical challenges are you working on now?

BM: There are many challenges to overcome as we adapt our approach to cover the majority of global languages. Developing solutions for highly inflectional languages such as Finnish, and non-Roman languages such as Chinese, poses a particular challenge. We're also exploring the application of various machine learning techniques to the prediction problem, in unison with our core language model technology.

TR: What do you think the market will look like in the next couple of years?

BM: In the smartphone market, software will increasingly become the key differentiator as mobile device hardware becomes more and more standardised. I think we'll see a trajectory not unlike the development of the desktop PC through the late '80s and '90s with the familiar struggle between "open architecture" devices running standard OS software (eg, Android) and bespoke hardware running tailored device-specific software (eg, Apple's iPhone). Mobile devices will begin to challenge PCs as the main portal through which people engage with the Web, and software services that make the mobile internet experience more compelling will be increasingly important.

TR: What are the main challenges of the future?

BM: That's a big question! For mobile operators, delivering a robust, efficient, global mobile data network is a huge challenge, and currently we're still a long way off. For mobile device manufacturers, the challenge is to design devices that enable users to achieve the same level of interaction they have come to expect from PCs/laptops. From a more general computational perspective, designing "intelligent" software that allows users to interact more naturally with computers has been — and still is — one of the fundamental challenges in computer science. TouchType has a small part to play in this big picture.

TR: What are the next steps for TouchType?

BM: We are currently expanding our development team as we look to become a significant player in the text entry/prediction market over the next 6-12 months. It is vital that we also maintain our focus on innovation as the challenges of commercial deployment become increasingly demanding.

Touch Type is hiring. To find out more, please contact ben@touchtype-online.com

I have been sent the following, which some of you may be interested in entering:

Venturefest is an annual event, now in its 12th year, which brings innovative businesses and investors together. In 2010 it is being held on 22nd June at the Kassam Stadium, Oxford.

Venturefest is running a "Best of British Innovation 2010" competition, which is free to enter. This new competition aims to identify and showcase three businesses either producing or developing the most progressive technology in the UK.

Just getting involved in the competition will provide attention from potential investors, as well as generate publicity for your business, and Venturefest's team of judges will select the three businesses with the most potential, who will each win a stand at Venturefest 2010, worth £2,500, putting them in front of the UK's most influential investors, entrepreneurs and industry leaders.

The competition is open to all UK based companies which think they have come up with a revolutionary technology. **The closing date for entries is 21 May 2010**, and winners will be informed by 4 June 2010.

Hall of Fame Winners 2010

Company of the Year

Ubisense
Founded in 2003 by Professor Andy Hopper.

Product of the Year

The Custom Action Figure by That's My Face
Founded in 2008 by Marc Cardle.

Publication of the Year

NURBS with Extraordinary Points: High-degree, Non-uniform, Rational Subdivision Schemes.
Thomas J. Cashman, Ursula H. Augsdörfer, Neil A. Dodgson and Malcolm A. Sabin
This paper solves a thirty-year-old problem: how to produce subdivision surfaces that have all of the properties of NURBS surfaces. In it the authors present a subdivision framework that adds extraordinary vertices to NURBS of arbitrarily high degree. The surfaces can represent any odd degree NURBS patch exactly. Their rules handle non-uniform knot vectors, and are not restricted to midpoint knot insertion. In the absence of multiple knots at extraordinary points, the limit surfaces have bounded curvature.

Rapportive

"Stop what you are doing and install this plug-in: Rapportive", was the headline on ReadWriteWeb. 30,000+ users did exactly that on Rapportive's first day. Clearly, Rapportive's co-founders, **Rahul Vohra** (CHR BA05), **Sam Stokes** (R BA05) and **Martin Kleppman** (CC BA06) had touched a nerve.

TR: Rahul, can you tell me about Rapportive? What persuaded you that there was a gap in the market?

RV: Rapportive is a simple social relationship management tool which plugs right into Gmail. When you're replying to an e-mail, you can automatically see that person's recent tweets, LinkedIn info and blog posts. We aim to provide a full picture of the folks you communicate with, allowing you to scale VIP service to many people and to get more sales.

Like many other companies, we started by scratching our own itch.

I had been building a large twitter community for a previous project. Whenever I found a new lead, I would take them through a sequence of seven interactions that would almost always convert them into active members of the community. To do this effectively, I was relying on a very simple note feature built into my twitter client. Why isn't there an easy way to do this in email?

Martin had received a lot of inbound mail at his previous company. Why couldn't he see at a glance how likely those people were to buy,

based on their job title and company size? Why did he have to search the Web for these details, copy them into his CRM, only to have the data go stale?

We began by wanting to make our lives easier.

TR: Currently Rapportive pulls contact information from the Rapleaf database, so much depends on how well Rapleaf has managed to tie that contact's email address to the various social network services. This is fine for contacts who use their work e-mail address for their social networking accounts, but what about those who don't? Does the system allow for integration with a company's local data stores so that they can look up an e-mail sender on their own system as part of the Rapportive display? Do you have plans for integration with paid CRM services?

RV: We're working on several ways for people to take ownership of their Rapportive profiles. We want to tell you what the Web knows about you, and at the same time we want you to take control of your on-line footprint.

Currently, all Rapportive users can edit their profiles and correct any stale information which Rapleaf might have. Soon, we will allow you to link e-mail addresses together and display a unified profile for them all.

We do allow companies to integrate their own data stores into Rapportive. If I may say so, the architecture is somewhat cunning, as it allows you to securely display resources stuck behind your corporate firewall in a hosted environment like Gmail. For example, one of our users sells an iPhone news application. Whenever a customer e-mails him, right next to the e-mail he can see that person's iPhone OS version number, application version number, and even the news that she or he reads. He can deliver excellent service and be personal at the same time. In a similar vein, we also plan to integrate with paid CRM services.

TR:While Rapportive doesn't need your Gmail password to work, it does have access to your e-mails. How do you assuage concerns over privacy?

RV: The trust our users place in us is sacrosanct. That's why we don't just have a privacy policy, we have a pledge of privacy. The pledge covers our founding principles, which include our promises to separate clearly what is public and what is private, and to be transparent and very clear about what happens to your information. For example, we will never share your notes, e-mails or contacts with anyone unless you explicitly ask us to.

As an interesting example of how not to handle privacy, Google's recent social networking product, Buzz, revealed to the world who you e-mailed without explicitly asking for your permission. The resulting fiasco was intense. We keep anti-patterns like this in our mind when designing workflow.

TR: How does Rapportive differ from MailBrowser?

RV: MailBrowser is about attachment workflow and e-mail analytics, whereas Rapportive combines public and private information to paint full pictures of the people you communicate with. We also put a great deal of effort into user experience design, and you can feel it when you use Rapportive.

TR:What is Rapportive's business model?

RV: You can view the public information about your contacts entirely for free. We plan to charge people for integrating their paid services into Rapportive, including CRM, helpdesks, e-mail marketing systems and user feedback tools.

TR:What are your plans for Rapportive over the next 12 months?

RV: We're currently in Silicon Valley closing our seed round of investment. After that, the plan is simple: focus on making a product that people really want!

If you use Gmail on Firefox or Chrome, go to www.rapportive.com and hit "install". If you use Safari or Opera, use our bookmarklet at rapportive.com/bookmarklet.

Rapportive's pledge of privacy is at www.rapportive.com/privacy.

Hall of fame news

blinkx

blinkx–powered **BBC Democracy Live** has been short listed for a MediaGuardian Innovation Award 2010. The BBC Web site, which offers live and on-demand video coverage of the UK's national political institutions and the European Parliament, has been recognised in the "Use of Web Platforms" category. The platform, powered by blinkx (the largest video search engine), allows viewers to pinpoint the exact moment of a debate that is of interest to them with its audio, text and visual search capabilities.

Jagex

Jagex, the winner of the Golden Joysticks UK developer of the year award 2009, recently announced that its third-party publishing title "War of Legends" has successfully reached the end of beta testing. War of Legends is a Flash-based strategy game where players build vast empires, appoint legendary leaders and form multi-player alliances to reach eternal glory. The game's story — based on ancient Chinese mythology — paired with the highest levels of development quality, depth of content, graphics and community support, has positioned it as the leading free-to-play real-time strategy game.

According to the *UK National Gamers Survey Report*, British gamers spent £250m playing casual on-line games in 2009. The survey estimated that there are 13.3m Britons playing on various game portals but only 2.4m pay to play.

Linguamatics

Linguamatics, a leader in enterprise text mining, has expanded its US-based operations and has opened a new North American regional headquarters in Newton, Massachusetts.

Netronome

Netronome's NFP-32xx has been named the winner of the 2010 Product Innovation Award for Network Flow Processors by the Network Products Guide. The Network Products Guide is the industry's leading information technology research and advisory publication. The annual award recognises and honours vendors from all over the world with innovative and ground-breaking products that are changing all areas of information technology.

Netronome's NFP-32xx brings breakthrough performance to a broad range of demanding networking applications, including shared service blades in switches and routers, 3G and LTE wireless infrastructure, security appliances and virtualised servers.

RealVNC

RealVNC and Intel collaborated to embed VNC® remote control technology in the all new 2010 Intel® Core™ vPro™ processor family to provide IT professionals with a built-in, fully graphical remote control capability to facilitate problem diagnosis and resolution.

This innovative solution enables IT professionals, with PCs based on Intel vPro technology, to see the system as the user sees it providing an advantage even when client software is not functioning, or while PCs are rebooting, in BIOS setup screens or an operating system failure. In combination with the other Intel vPro Technology features, IT departments can troubleshoot and in many cases recover systems viewing the system as if they were physically there, helping reduce downtime to a minimum. Efficiency is improved as the need for desk-side visits is further reduced.

Spektrix

Spektrix, a leading box-office solution provider, has partnered with YESpay International to assist theatres in the UK with their ticketing and payment processing requirements.

Ubisense

Ubisense, Hall of Fame Company of the Year Award winner 2010, has won the Business Weekly Award for International Trade.

Ubisense, the world leader in Precise Real-Time Location Systems, has over 400 customers in 25 countries, and was recently ranked 8 in The Sunday Times Tech Track 100. It also won the Best British Inside iaward 2009. The iawards celebrate the best of British science, technology and innovation.

Don's diary

Stephen Clark joined the Natural Language and Information Processing Research Group in 2009 as a Senior Lecturer. His core research interest is natural language parsing.

Much of my time in 2010 has been spent being a programme co-chair for the 48th Annual Meeting of the Association for Computational Linguistics (ACL), to be held in Uppsala, Sweden, in July. My co-chair is Prof. Sandee Carberry from the University of Delaware. The ACL conference is the biggest and most prestigious in the field, and organising the programme is a lot of work, and at times a challenging task.

We received over 1,000 submissions, and each of these requires three reviews. The review process is organised by Area Chairs, senior members of the programme committee that Sandee and I appoint, each responsible for a particular sub-field of research, for example Dialogue or Psycholinguistics. The Area Chairs appoint reviewers and assign papers, and then make recommendations to us about which papers should be accepted.

Many members of the field have begun to feel that Computational Linguistics has become too narrow in the last decade, with a focus on Machine Learning applied to particular Natural Language Processing tasks (such as parsing or part-of-speech tagging). One of our goals for the conference has been to widen the scope to reflect the exciting, inter-disciplinary nature of the field. We therefore solicited papers from allied fields, such as psycholinguistics, information retrieval, speech processing, multimodal language processing, and language issues in emerging domains such as bioinformatics. We have also tried to encourage different paper types, in addition to the empirical research papers that have begun to dominate the conference. These include theoretical papers, position papers, challenge papers, and survey papers. As I write this we are in the discussion period, which is a week where the reviewers look at the other reviews for their papers, and try to come to a consensus. The indications are that we will have a very diverse and exciting conference in July.

In mid-March I was an external examiner for a PhD thesis in Vigo, Spain. The viva process is very different to that in the UK, consisting of a public seminar addressed to the five members of the examining committee. The candidate's family were in the audience, and after the presentation the members of the committee and the candidate were taken for a very pleasant meal in a local seafood restaurant. Apparently this was all paid for by the department. As I said, this is rather different to the PhD viva experience in the UK, which can be a much more brutal affair.

I expect to spend much of 2010 writing grant proposals, with the hope that one or two will get funded. We have many excellent students and postdocs wanting to work in our research group, but not the money to fund them. The funding situation for UK academics is not so good at the moment, with little money available and an increasing bureaucratic load as part of the grant writing process. I did recently receive money from the EU, which is employing Yue Zhang, a PhD graduate from Oxford, for three years.

The project is in the area of Machine Translation and coordinated by Bill Byrne from the Engineering Department. The focus of the project is how to exploit feedback from users of a web-based translation engine. The EU likes project acronyms. Ours is FAUST: Feedback Analysis for User adaptive Statistical Translation.

Stephen Clark joined the Natural Language and Information Processing Research Group in January 2009 as a Senior Lecturer, having spent four years as a University Lecturer at the Oxford University Computing Laboratory, and as a Tutorial Fellow of Keble College. Before that he spent four years as a postdoctoral researcher at the University of Edinburgh's School of Informatics. His first degree was in Philosophy (with Part IA Maths), from Cambridge (Gonville and Caius), and he has a PhD in Artificial Intelligence from the University of Sussex. He works in many areas of Natural Language Processing and Computational Linguistics, but his core research interest is natural language parsing.