

IAPetus



**Quarterly Bulletin For the Institution of
Analysts & Programmers**

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4GreatJob.com

Ruth Samuel AMIAP explains how she started a successful web-based magazine. What she has to say is highly instructive; a lot of it applies to any business start-up.

Ten years ago, I was offered half a million pounds to edit a home-working magazine... I turned it down. Obviously there is a lot more to this story than meets the eye but let's just say that it was my business concept and I did not like the strings attached.

By the end of April 2000, an online version of this magazine had been launched. 4GreatJob.com will help more people, promote more goods/services, be more interactive and eventually generate far more profit than the original magazine ever could but do you want to know the best bit ... It cost me less than £400.

4GreatJob.com will offer free access to a huge selection of jobs including telework and homebased jobs/opportunities. Users can browse through useful tips, information and news sections to improve their chances of getting these jobs.

For the more enterprising, motivational articles will inspire new business start-ups particularly new Internet businesses. Users will be able to put their questions directly to the Editorial board, Avril Harper – one of the UK's leading small business/homebased work experts or pass on advice to each other.

There will be details on the latest products and software as well as

classified listings of useful contacts, services and recommended web sites. In short, you will find all the help and support you need to secure a brighter future.

So how was I able to set up a dot.com company for £400? Firstly, I refused to give up on the concept. Secondly, I kept in touch with my contacts and constantly looked for an opportunity to realise the dream. Finally, I got up off my bum and did something!

The UK's Internet take-up meant that the magazine could be self-published for a fraction of the original costs. Thanks to some great advice, I was able to register the domain name for £30 plus VAT in a matter of minutes.

I made a list of the essential goods/services that were needed to launch the site and then worked through my contacts address book. Luckily for me I had kept notes beside each person's name to remind me about their particular strengths so it was simply a matter of contacting the right people and inviting them to get involved with the project.

Ten years ago, it was quite hard work to persuade people to take an interest in the magazine, now for some reason, everyone seems to be excited by it. As I did not have any money, I offered people a 3% share in the company in return for their help. I know that 3% of nil does not sound like much but when 4GreatJob.com, is up there with

lastminute.com, 3% will justly reward all their initial efforts and commitment. This turned out to be a great decision. It's funny how a stake in the company can bring out the best in people.

The best bit for me was the inaugural Board Meeting. It was so exciting to hear people seriously discussing my idea and to realise that the web site was actually going to be launched. What a buzz, part of me wanted to jump up and down like a child. I would strongly recom-

Continued on Page 3

Inside this issue

4GreatJob.com.....	1, 3
New Fellows	2
Coat of arms, Bletchley Park.....	2
Director General	3
IAP2000 Symposium info.....	4-5
IAP2000 Symposium outline ...	6, 8
Register of Consultants	7
AGM, Dinner at Commons	7

Sam Reaney BA(Hons) FIAP MIMIS

We must congratulate Sam Reaney who was recently upgraded to Fellow after five years as a Member of the IAP. Now aged 45, Sam is a Civil Servant in Northern Ireland, and has worked continuously for the Valuation and Lands Agency in Belfast since joining in 1987. A back problem prevented him from following his intended career as a surveyor, and precipitated a fortuitous move to

the Agency's fledgling computer department.

The Agency is responsible for rating assessments and a growing range of general valuation and estate management services. It holds a master data bank of property in the province, and Sam's work has been concerned with developing systems to make this data more conveniently accessible for government and the public. The 1990's Valcom system, which ran on an ICL Series

39 mainframe, has been progressively extended, and now provides a Capital Assets Information Service accessible by a wide range of public agencies. Sam is currently working to overcome the constraints that still remain due to the non-relational and hierarchical nature of the original database. Faster machines are on order, with much greater processing power and storage capacity, permitting the use of CD-RW storage media.

IAP Coat of Arms

Use of the Institution's Coat of Arms is governed by laws that date back to mediaeval times.

The original purpose of Arms was to identify participants on the battlefield, and avoid confusion leading to disastrous mistakes.

The misleading or inappropriate use of such designs was a serious offence. These ancient laws are still in force, and the Institution is obliged to ensure they are respected.

Use of the design by individual IAP members is subject to approval by the Institution.

If you follow the guidelines below you should have no problem, but if in doubt fax a copy of your intentions to the office and we will

give you an immediate decision.

1. We expect members to use the design in a manner appropriate to the status of the Institution. This would permit its use on a member's professional or company letter-headings, and on reports, proposals, brochures and other promotional documents. We would not normally expect to see it used by members on balloons, tee-shirts, or the office wallpaper, but we are willing to consider special cases.
2. It should be clear that the design is being used merely to explain the member's professional relationship with the Institution. The reproduced size should be modest, and explanatory wording such as 'Member, Institution of Analysts and Programmers' should be printed underneath.
3. The design should not give the impression that the IAP is endorsing services or products supplied by a member or his company.

Until now the Council has always restricted members' use of the design to a single colour. However it has now become so easy for members to lift full colour images from the Internet, that we have decided it is no longer practical to enforce this rule.

Thus the IAP has decided to make its own high quality full colour images available in GIF, TIF and JPEG formats for those members who want it, at a price of £5.00 including VAT and postage.

IAP Visit to Bletchley Park

A dozen members and their friends gathered at Bletchley Park, including IAP President Jim Bates and wife Jo, and Council member John Weller.

It was a glorious day, which was lucky because the tour of Bletchley involves a lot of standing about outside.

There is a lot to interest younger people and even children – miniature railways, naval battles re-enacted with radio controlled model boats on the lake.

But Bletchley is a place that undoubtedly has a special significance, and a strange nostalgic quality, for older people with service backgrounds or who (yes, there are still some!) remember the war.

The Colossus machine, which is what we had all gone to see, had a strangely modern aura, definitely a step forward from the cruder wartime equipment on display all around.

After their morning guided tour of the grounds, and a quick snack in the 'Crypto Café', most people ventured into the many huts with their individual displays.

All agreed you could happily spend a week at Bletchley without seeing everything. No doubt a return visit will be needed.

GOING FOR A JOB?

Belonging to the IAP improves your chances of landing that new job.

Let us have details of any job application which you are making, and – without making any reference to you – we will brief your potential employer on the IAP and the importance of IAP membership as an endorsement of members' qualifications and standing in the profession.

Call Mike Ryan or Nicole Edwards on 0181 567 2118 or fax 0181 567 4379

The Director General writes

This is the last edition of IAPetus. Following a management buyout of Bearpark Limited, publishers of the magazine Visual Systems Journal, the Institution has concluded an agreement with the new owners for IAP news to appear in VSJ, which will be sent free to all our members, as well as to the 10,000 existing readers of VSJ.

IAPetus was, of course, totally our own publication, and there are regrets at its loss. But though it had improved enormously over its 8-year life, there was a limit beyond which we could not progress without commercial publishing resources that are at present beyond the means of the IAP.

Two options presented themselves, the first being 'contract publishing': the IAP would pay a publishing company to produce its magazine. This idea works fine for big companies but professional publishing staff do not come cheap. Unless you can benefit from substantial economies of scale it is necessary to subsidise the cost of production with advertising. But 3,000 IAP members

are not enough to generate interest from advertisers on the scale needed to sustain a stand-alone commercial publication. This approach did not solve our problem.

The second option was to find an existing magazine and persuade them to add the IAP's news to their existing editorial material. This is what, after a protracted and frustrating search, we have managed to arrange. We have in effect formed a partnership with Bearpark, to add the IAP news into their existing magazine, and share the cost of production, on the basis that existing readers of VSJ and IAP members have broadly similar interests. VSJ is pitched at software developers, already encompassing the majority of IAP members, but the new management is keen to further broaden the appeal of VSJ, and build it into a market leader.

Starting on September 1st we anticipate that all IAP members will start receiving VSJ through their letterboxes on a regular monthly basis. It will contain all the IAP news as before, plus a lot

of other interesting material that we could not possibly hope to generate from our own resources. The link with Bearpark offers a number of further opportunities for the Institution, more of which later.

I realise a few of you may feel you have been adversely affected by this change. I can only say that we realised some compromise was inevitable if we were to move forward. In time perhaps the IAP will be sufficiently strong to support its own commercial publications, but we are not there yet.

The person most affected is undoubtedly our formidable Editor Megan Robertson. Until 1991, IAP news came on occasional photocopied pages that I wrote myself. Megan, with support from husband Alex, made IAPetus possible. When I asked for someone to help launch a proper newsletter, I had lots of interest from members keen to try out their new desktop publishing software. The only person who offered to actually write something was Megan.

Mike Ryan

4GreatJob.com – Continued from Page 1

mend this experience to every IAP Member.

The moral of this story is that if an actress from South London can launch a dot.com company from her bedroom for £400 then anyone can... and I mean anyone. If you feel inspired by this experience or fancy a great job then why not visit www.4GreatJob.com for yourself? There is a noticeboard facility on site and it would be interesting to have your views.

Any IAP Member who is interested in free advertising for their job vacancies or details of advertising rates should contact either shirleyborrett@cix.co.uk or myself at Rut.Samuel@ukgateway.net. May I take this opportunity to wish you the very best of luck with whatever your particular dream is.

Top Tips

• Use what you've got i.e. your

natural talents. Work to your strengths.

- Put in the ground work i.e. draw up a comprehensive business plan, do background research, talk to other people (two heads are better than one) and test the market.
- Network – make friends, keep in touch and don't lose people's contact details. Write notes besides the address to remind you of that person's capabilities. You may have forgotten these in a couple of year's time.
- Don't be afraid to ask for what you want. Most people are so relieved that you are not asking for money that they are prepared to help you with what you need. Think about what you would have to spend the money on if you had it and ask for those things instead. The worst that can happen is that they can say "No".
- Be prepared to offer something in

return for favours e.g. a share in the company. This may not be worth anything to you now but could be worth many thousands to them later. Without their efforts you would not have a business at all.

- Motivate everyone in your team. This way, the momentum of the project will buoy you up during those doubting moments we all get from time to time.
- Don't be frightened by the big picture. Break the job down to daily tasks, write them down and tick them off the list when you have done them. Make sure that you write the next day's list the night before.
- Don't give up! It may take years to achieve your dream and the concept may change but the buzz you get when it finally happens is fantastic.



Institution of Analysts & Programmers

IAP2000 Annual Symposium

TRINITY HOUSE
Tower Hill, London EC3N 4DH

Friday 20 October 2000

Booking Office Tel 020 8567 2118 Fax 020 8567 4379
or email your credit card details to admin@iap.org.uk

Standard Price	£100 + VAT (£117.50)
BCS Members	£70 + VAT (£82.25)
IAP Members	£50 + VAT (£58.75)

Trinity House is a splendid example of Georgian architecture that belongs to the Trinity House Corporation who run our lighthouses. It is situated across the road from the Tower of London and houses a collection of maritime memorabilia now including Britannia's bell.

The President of the Institution, Mr Jim Bates, will be "at home" for drinks at a nearby hostelry after the formal programme concludes. Places are limited, and will be assigned to those who register first.

09:00 (for 09:30) REGISTRATION

09.30 Welcoming Address
Mr Michael C Ryan CEng
Director General
Institution of Analysts & Programmers

09.45 Chairman's Introduction
Mr Brian W Oakley CBE
Chairman European Pathfinder Project, Past President BCS
European Institute of Quantum Computing

SESSION 1: COMPUTER BRAIN**10.00 Brain Inspired Computing: a new Artificial Intelligence?**

Prof Igor Aleksander FEng, Gabor Professor of Electrical Engineering
Pro Rector, and Head of Intelligent & Interactive Systems
Imperial College of Science, Technology and Medicine

10.50 The Uniqueness of the Biological Brain

Prof Susan A Greenfield CBE, Director of the Royal Institution
Professor of Pharmacology, Senior Research Fellow at Lincoln College
University of Oxford

11:40 (until 13:10) BUFFET LUNCHEON and EXHIBITION

SESSION 2: TWENTY-FIRST CENTURY COMPUTING**13.10 The Future of Computing: Moore's Law and Beyond**

Professor Anthony J G Hey FIEE FBCS
Dean of Engineering and Professor of Computation
Dept of Electronics and Computer Science, University of Southampton

14.00 Quantum Teleportation: a New Frontier for Computer Science

Dr Colin P Williams, Principal Scientist – Ultracomputing
Manager of the Quantum Computing Technologies Group
NASA Jet Propulsion Laboratory, California Institute of Technology

14.50 The DNA-wave Biocomputer: New Biology, Novel Technology?

Dr Sci Peter P Gariaev, Senior Academician – Molecular Biophysics
Head of Biophoton (Gariaev-Tertishny) Research Group
Institute of Control Sciences, Russian Academy of Sciences

15:40 (until 16:20) CREAM TEA

SESSION 3: SOCIAL COMPUTING**16.10 Designing the Human-Computer Interface for Every Body**

Professor Alan F Newell FRSE
Head of Applied Computing
University of Dundee, Scotland

17.00 Data Rich - Information Poor

Dr Mahes Visvalingam, Reader in Digital Cartography
Department of Computer Science
University of Hull

18:00 END

The Symposium offers an unparalleled opportunity to hear from a most distinguished international panel of leading-edge researchers.

You will be treated to a grand tour, touching on some of the most intriguing questions in 21st Century Informatics:

1. If the conscious mind depends upon the architecture of the brain, could we engineer a machine that has both imagination and emotions, and would such a machine be conscious?
2. Soon after 2010, when the CMOS endpoint repeals Moore's Law, could nanotechnology and coherent quantum devices satisfy our relentless demand for more computational power?
3. Will teleportation (nonlocality) be harnessed to devise new types of quantum logic gate, and might quantum devices be fabricated out of the very stuff of life itself – DNA?
4. Should we redesign the human-computer interface to accommodate the environmentally and biologically impaired eg soldiers, astronauts, the elderly, and disabled people?
5. Are we bobbing around in a flood of data from which we abstract too little useful information, and worse still, are crude data reduction methods misinforming public policy?

Elsewhere in *IAPetus* you will find the programme and booking information for IAP2000. Here is a brief outline of the ground that individual speakers hope to cover:

IAP2000 Symposium

IGOR ALEKSANDER

The year 2000 marks the 50th year since the publication of Claude Shannon's paper on computer chess. While Deep Blue has now beaten Kasparov, and some pretty smart computer programs grace our screens, Artificial Intelligence, by and large, has failed to achieve one of its own ambitions: to explain how the human brain manages to generate a conscious mind. The fact that a programmer causes machines to be smart when the brain does it for itself has made life scientists and philosophers alike sceptical of the AI approach.

I shall show that things are changing so that the next 50 years of AI will be about understanding and modelling the intricate architecture of the brain and discovering how a conscious mind depends on the 'engineering' of the awesome machine we call the brain. I shall also suggest reasons as to why this will lead to a new and more competent style of computational products.

SUSAN GREENFIELD

"You're not thinking, you're just being logical". This admonition by Neils Bohr to one of his students might apply to the big difference between biological brains and computers. Moreover, virtually all brain processes are chemically mediated, bringing an additional qualitative dimension to the digital processing that usually characterises neuron electrical activity. We know that emotions can be influenced differentially by these different chemicals, hence not only must the chemicals themselves be important but, the actual subjective 'feel' of emotions is vital too. Very little emphasis is placed by computational models on emotions: instead, learning and memory are at

a premium. Yet artificial systems already outstrip us in learning and memory skills, hence they cannot be the quintessence of consciousness.

Even if a computer were conscious, it is unlikely to elucidate how the brain generates consciousness. After all, if the critical factor was already known, then one wouldn't need to experiment any further, and if the feature was not known, then the artificial brain would be inviolate since it would have the same ethical claims, as a pain sensing system, as its biological counterpart.

ANTHONY HEY

The talk will begin with a brief survey of both the technology and application drivers for the development of computing in the next decade. Moore's Law will continue to hold for the next ten years, give or take a few, and we will see the development of a pervasive computing environment with billions of intelligent devices connected to a high speed network delivering millions of services. The emergence of data and information GRIDs for global 'e-science' will help direct the evolution of the Internet. What happens when and if Moore's Law ceases to hold? Nanotechnology and coherent quantum devices based on ion traps, superconducting Josephson junctions or quantum dots may provide an answer.

COLIN WILLIAMS

While teleportation has been the preferred means of moving action heroes around the Universe for the better part of four decades, until recently, most people regarded teleportation as little more than science fiction. However, in this talk I describe how teleportation of quantum information can really be done! I explain the theoretical principles upon which quantum teleportation depends, and describe how it can even be implemented experimentally. I discuss the issues that arise when teleporting larger objects such as molecules, and viruses. I then describe how the ability to teleport quantum information around the universe can be harnessed to devise new types of quantum logic gates that can be

Continued on Page 8

PROFESSIONAL INDEMNITY INSURANCE

"It is a truly comprehensive policy and we believe, due to the bulk purchasing power of the Institution in this specialised field, provides unbeatable value for money"

General Accident offers a truly comprehensive policy at special advantageous rates for IAP members.

Details of basic cover from the Institution office, or contact the specialist broker who is administering the scheme for the IAP:

**Mike Burdon, Cabot Blackmore,
North Quay, Temple Back, Bristol BS1 6FL
Tel 0117 925 5819**

The Institution's 2000 Register of Consultants will be published in the autumn.

If you are sometimes available for consulting work we recommend you to have an entry in the Register: It costs nothing and the Register is sent to everyone we hear about who needs a consultant.

Those who had entries in last year's Register or have written to us since with new/amended entries need to do nothing because your entry will appear automatically in the 2000 edition, subject only to the most minimal editing. If you are drafting an entry for the first time, a glance through last year's Register and the guidelines below may be useful:

Three key words

This year we do plan to make a modest improvement to facilitate some rudimentary searching. Each entrant is invited to suggest three key words to be listed in an index, under each of which his entry will be annotated.

You can pick your own words, or let our editor pick them for you. (We hope this idea will work better than listing consultants geographically, for example, which does not seem to make much sense in these days of globalisation).

Register of Consultants: Entries for 2000

Name and qualifications

We will print your first name, surname, degrees and professional qualifications as shown in the IAP's main database unless otherwise instructed.

Address

We will repeat what we have unless otherwise instructed. You may prefer to use the name and address of your business. We will print telephone, fax, email and website details, but cannot over stress the advantage of giving a number where the phone will be answered during working hours by a real person. We know of many occasions when members have lost business because they only had answering machines.

Work experience

Up to 70 words. Bear in mind that many potential employers know nothing about IT – that is

why they need an expert. This section should be drafted with them in mind. Minimise IT jargon and say in simple language where you've worked and what you've done.

IT capability

Up to ten words. This is where you tell your fellow professionals what you know. Jargon is permitted. Remember the Register will be freely distributed to members of the public. You may get some junk mail or unwanted calls. This is the price of fame.

The deadline for entries to be sure of going into the 2000 edition of the Register is 30th September. Because of planned changes to our publication schedules, we are not certain when the Register will be distributed to members. If it is possible for us to include later entries we will do so.

A.G.M.

Notice is hereby given that the Annual General Meeting of the Institution of Analysts and Programmers will be held at 5.30 p.m. on Saturday, 14th October 2000 in the Shakespeare Room at the Anchor Inn, Bankside, London SE1.

It would be appreciated if those members planning to attend would inform the office.

Only Members and Fellows of the Institution are entitled to vote at a General Meeting, but other members are welcome to attend and to speak.

Agenda

1. Minutes of the 1999 AGM

2. Matters arising
3. President's overview of the year's activities
4. Approval of the Accounts of the Institution for the year ended 31st May 2000
5. Any other business

Unless other instructions are received in writing at the Institution's offices prior to 30th September 2000 it will be assumed that, if you are not present, your proxy will rest with the Chairman of the Meeting.

Notice of any other business to be considered should be sent to the Director General so as to be received no later than 30th October 2000.

Dinner at the Commons

The backlog of bookings for the refurbished dining rooms at the Commons made it difficult to fix a date for the IAP's visit.

In the end we decided to settle for July 19th, the only date available for our speaker, Patricia Hewitt, before parliament rises for the summer recess.

Unfortunately the only room available on that date was a rather small one, rapidly filled by those who made their provisional bookings when the event was first announced. A lot of people had to be disappointed this time, but hopefully there will be another dinner early next year and with more time to plan we will be able to get a bigger room.

connected together to perform arbitrary quantum computations. Thus quantum teleportation is truly a new, and rather surprising, frontier for computer science.

PETER GARIAEV

(in association with George G Tertishny and Uwe Kaempf)

The idea is offered to consider the chromosome continuum of higher biosystems as a solitonic/holographic biocomputer. That means computation in the DNA is based not only on biochemical principles but also on the principles of holography and laser-radio wave emission. As we were able to show by means of a new laser system working with orthogonally polarized photons, the DNA uses the principle of quantum non-locality (teleportation) of the genetic/metabolic information. This effect can be explained on the basis of the actively developing physical/mathematical theory of photons' localisation.

As a result of this, the chromosome continuum works not only at a material level, but also in the form of quasi-holographic wave structures. These structures are supposed to specify calibrating physical fields, which are pre-images of the developing tissues, organs and the biosystem as a whole. In this framework, DNA-wave biocomputing comes out as a simplified model of a wave-sign like "quantum-conscious" functioning of the genome of multicellular biosystems.

This model is the basis for developing a preliminary wave methodology of genetic/metabolic programming of plants' biosystems. As experimental evidences in favour of the outlined model we present our data for *Arabidopsis thaliana* seeds' revitalisation, modification of potatoes' morphogenesis and of a combined eye transplantation (the latter was made by the ophthalmologist Ernst R. Muldashev on the basis of our theory).

ALAN NEWELL

Communications and Information Technology currently offers very little support to older and disabled people in their daily life. There are, however, increasing legal obligations for C & IT systems

to be accessible to people with disabilities, and, unless the rapidly increasing numbers of older people benefit from advances in C & IT, it may not be economically possible to maintain an appropriate quality of life for them or their carers. In addition, the concept of Ordinary and Extra-Ordinary HCI draws parallels between extra-ordinary (disabled) people operating in ordinary environments, and able-bodied (ordinary) people operating in extra-ordinary (high work load, environmentally unfriendly) situations.

A soldier on a battle-field or an astronaut, or even the user of a mobile telephone, can be seriously handicapped by the environment in which they have to operate. These users may have as little useful functionality as a severely disabled person, and similar techniques can enhance the reliability of human-computer interaction in all these situations.

Raising the profile of research and development of C & IT interfaces for people with disabilities will not only increase market share, but also produce better interface

solutions for everyone.

MAHES VISVALINGAM

The allocation of ear-marked public funds amongst administrative areas is driven by indicators of local conditions, derived from large detailed volumes of government-collected data. This talk will discuss the problems involved in the computation of social indicators, focusing on primitive measures, such as the widely used but potentially misleading ratio indicators.

Despite some 40 years of research on social indicators in data-rich nations, boasting the latest advances in technology, the state-of-the-art of information abstraction remains poor. Yet, public funding is becoming increasingly reliant on a medley of performance indicators. Members of the public could collaborate over the Internet in the evaluation, even if not the design, of indicators. This is an opportune time since the imminent 2001 population census is likely to instigate the computation of fresh social indicators for use over this decade.

FREE LEGAL ADVICE

Up to half an hour's free telephone advice per problem on legal aspects of IAP members' work in Information Technology, from solicitors in a top international law firm.

Does not include writing letters, or considering documents sent through the post.

Special rates quoted for IAP members on any kind of legal work.

**Call Mark Snelgrove
on 0115 950 0055, at Browne Jacobson.**

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