

IAPetus



Quarterly Bulletin For the Institution of Analysts & Programmers

Issue 3 September '92

The Conference

Final plans for the first IAP Conference are now being laid. Places are going fast, so if you have not yet booked send your £65 now. As well as a varied array of speakers, the conference fee includes a full lunch (including wine) and a chance to meet Institution staff and other members.

The details of the venue will be sent shortly to all those who

are to attend. Note that there is no convenient car parking, so come by Tube! The nearest station is The Angel. The lunch is a served, sit-down affair – if anyone is vegetarian or has other special dietary requests, please let us know so that you can be catered for.

The keynote speaker is Robert Shifreen.....who older people may recall first came to fame as

the hacker who read Prince Philip's PRESTEL mailbox! The poacher has now turned game-keeper, and will be talking about computer security issues, in particular, how to keep hackers out.

The programme will also cover the technological challenges presented by the increasing need for quality assurance as well as the development of new methods, how to deal with the threats posed not only by hackers but by natural and man-made disasters of all kinds plus a survey of where the industry, and the IAP, stand at the present and where they hope to go in the future.

Branches

In the last issue of IAPetus, a group of computer enthusiasts who meet fortnightly in Crewe, Cheshire were mentioned. This group includes amongst its number three members of the IAP, and would welcome anyone who would like to come along for a beer and a chat. Send a SAE to the Editor for full details of when and where they are to be found.

Inspired by this mention, Andrew Baird FIAP has asked if there are any like-minded people in the West Yorkshire area. His day-time 'phone number is (0977) 616629.... why don't some of you over there get together?

And what about the rest of you? Computing can be a lonely business, so come on out of the woodwork! The Directory you all received recently includes geographical groupings.... contact an IAP member living near you and find out what other interests you share! Anyone organising meetings, from formal lectures to "a time and a place" for beer and chatter, should let IAPetus know, and we will tell the world.

If we are going to have any kind of IAP branch structure, it is up to YOU. The Institution, and IAPetus, will offer every support how about a volunteer in each region to set the ball rolling?

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So...IAPetus 3 already. You will see that the Conference is taking its final shape – if you have not yet booked your place a) why not? and b) get on with it! A number of people have worked very hard to put it all together, and they deserve your support. Let's make the first IAP Conference a success. See you there!

Branches – the group in Crewe is going strong.... visitors are advised that we usually end up going for a curry! Those of you who live too far away to join us – why not start your own group?

As you can see, the "theme" of this Editorial seems to be "Do something".... so I shall continue by asking for contributions. While I am delighted by anything, suggestions for offerings include the dreaded BS5750, interesting software projects that you have been involved in and any gripes that you would like to air.

To look forward to.... the barrister Alastair Kelman, busy attempting to prove that bank ATMs are capable of making mistakes, has promised to write about computers and the law, while the next issue will include a report on the Conference for those who don't manage to get there. And the next issue may feature an article by you – if you write one.... thrill yourself and impress your friends/boss/girl(or boy)/friend by getting your name in print!

Megan Robertson

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Letters

Dear IAPetus,

In the second issue, Mark Preston suggests setting up an advice panel on BS5750. I fully support the suggestion. Many of our members must be affected by the BS and its application to software, there is no doubt that software development is one of the most difficult areas for anyone involved with Quality Assurance to come to terms with.

Software is, after all, a product, and customers are entitled to expect the same commitment to quality in software as in any other product. BS5750 Part 13 gives much needed guidance on the application of BS5750 Part 1, but an advisory panel of experienced Software Quality professionals would greatly benefit the membership – interpretation of the BS, if nothing else, is enough of a problem!

Yours sincerely,

P.L. Whiley MIAP AMIQA, Quality Manager
(Software) GEC Alsthom TDPL

The Editor replies: Good. So that's two people interested.... how about someone else? Or even a volunteer for membership of the panel?

Late Entries

Naturally, the arrival of the Directory of Members reminded a few people that they wanted to appear in the Register of Consultants. The next one will be printed next summer....but here are a few additions received after the 1992 one went to press. If you are still unrepresented, make sure that your details go to the Director General.... he passes them on to IAPetus.

Andrew Baird FIAP of AJP Business Solutions says: "Using a structured method we specialise in analysing and designing both Computer and Manual systems to give a more efficient and cost effective process. We also offer assistance in gaining Government Grants for all types of businesses." AJP Business Solutions, 65 Millgate, Ackworth, Pontefract, West Yorkshire WE7 7PQ. Tel/Fax 0977 616629.

Delwyn Morgan says: "Systems Engineer specialising in PC-based systems, Local and Wide-Area Networking, UNIX, IBM mainframe and corporate systems integration. Novell Certified NetWare Engineer. Several years' experience in developing multiuser applications in both PC and mainframe environments."

He can be reached at Lucas Engineering and Systems Limited, Grange Road, Cwmbran, Gwent NP44 7LE. Tel (0633) 834321, Fax (0633) 834051.... and holds the distinction of being the first IAPer to contact me via email!

Dear IAPetus,

Following notification of the recent price increases I was troubled over rising costs of membership. My concerns centred around the relative ease with which the higher grades were being awarded and the lack of an obvious "promotion" path to higher grades.

Reading your article on the new grades of membership [in issue 1 Ed] it seems my first concern has been handled adeptly. It is inevitable that higher public recognition can only be achieved by making membership more difficult; this is unfortunate for those more junior but there is little point in attaining a grade of membership which is not then valued by employers.

The introduction of a true associate grade (as done by virtually all other bodies) is excellent in that it provides a membership grade for the less experienced with the possibility of full membership in the future. It also follows that the average aptitude of members within a grade will also increase, this will eventually be recognised by employers to the advantage of all members.

My second point of a "promotion path" still demands some thought. Even within the BCS and IEE there is a feeling that once a certain grade has been obtained then the individual is stuck there for the rest of his life. I have heard people say that it is better to wait to apply for a higher grade than to join earlier. The IAP, as a relatively "youthful" organisation, can attempt to avoid these problems, "how?" is a difficult question.

From Associate to Member, I would suggest, is best tackled in the way many other bodies do: on acceptance as an associate the board states the required experience/qualifications required for full membership leaving the onus on the individual to notify once this has been achieved.

Promotion to Fellow is more complex, particularly if the grade is to be made more difficult to attain. With a larger membership the system of sponsorship by other Fellows works but this would be difficult to manage with the present membership numbers. Alternatively, perhaps a selection panel might be a possibility? Perhaps one requirement for Companions within the Institution might be to sit on Member to Fellow upgrading panels?

On the subject of Companions, their selection must be the hardest of all. I note from the magazine that Companions will now be elected by invitation only. This is a good start and implies that this is a

rare honour to only the authorities in their field. How you decide the award of this honour is not easy. If you elect to honour only those prominent in the press then most of our Companions will have ceased programming long ago and will be "corporate" men. I am not convinced that these are the people we seek.

The more successful way would be to promote those showing excellence within their field, but who is to assess them? For example, my claim to "promotion" would be if I became acknowledged as a leading authority in Army systems (not yet achieved, I hasten to add). This seems a sound philosophy but who is going to notice the fact in the first place? As far as I know there are no serving soldiers who are already Companions nor any of our civilians with whom we work. I suspect that my own field will be representative of many others.

Overall I believe that the Institution is moving

forward in a logical and correct manner. The role of the analyst or programmer is progressing from the "bearded hack in the back room" to an engineer in his own right: it is correct that his professionalism should be matched by true recognition.

My own opinion is

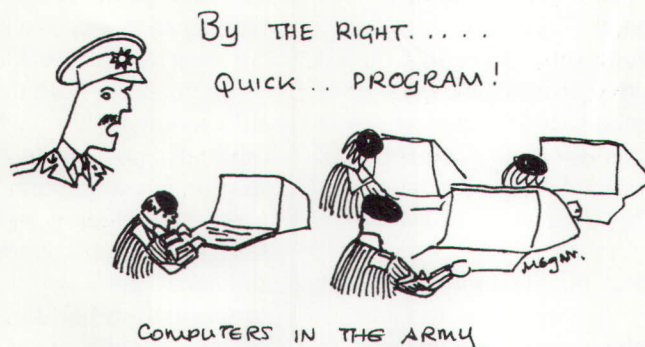
that the software industry has been plagued for too long by "computer experts" who, with no structure or discipline within their work have produced illegible, undocumented and unsupportable code. This has been to the detriment of everyone from the industry itself, its customers, and the practitioners themselves.

There are now vast numbers of staff concentrating on techniques and quality within their work who are trying hard to lose this unfortunate reputation. An Institution supporting these principles will allow companies to more easily select those staff who will return the highest standards of work.

Major G.C.K. Taylor FIAP BSc.

The Editor replies: I hope Major Taylor feels that the Institution has got it right in the new regulations published in this issue. Comments received from him, and other members, were taken into account by the Council in reaching the decisions that have been made.

As for the Army having few IAP members..... a possible solution is to mention what is available in Regimental/Corps Journals – the Institute of Mechanical Engineers is regularly featured in the Royal Electrical and Mechanical Engineer's journal *The Craftsman*, for example.



Revised Grad

In January 1993 the Institution's new grading structure comes into force. The wording of the revised rules is printed elsewhere in this issue. Here the Director General explains why changes were needed, the reasoning behind the changes themselves, and how they will affect existing members of the Institution.

The Council is conscious that frequent changes to the rules for admission to the Institution are undesirable. However, during the past two years considerable expansion has taken place, both in the membership itself and in the activities of the Institution. This has highlighted the desirability of some changes, both to the grading structure itself and to election procedures.

Two overriding considerations were in Council members' minds: the need to promote the prestige of the Institution and its members, and the desirability of bringing our grades more into line with those of similar bodies, so that the significance of a member's grading can be more readily understood by the public at large.

Where the rules talk about qualifications, they now refer to "computer-related" qualifications. In future an applicant whose only achievement is an University of Alpha Centuri BA degree in advanced beer-drinking will no longer qualify for admission to the IAP except possibly as a Student. Degrees and other qualifications in subjects other than Computer Science that nevertheless contain a large element of computer work, such as physics, mathematics and engineering, will continue to be considered on their merits.

Qualifications are important for younger people, and for those of any age starting out in the profession. For more established applicants it is their track record that should count most to a professional organisation. Thus the criteria for admission to the higher grades are to be shifted away from formal qualifications and towards those more subtle qualities which define the competent professional.

It is comparatively easy to grade people by examination, which is probably why so many "professional" organisations are obsessed with exams. The IAP intends to travel a harder road, with the progressive introduction of procedures for measuring the quality of applicant's professional competence.

Future applicants can expect to undergo much more rigorous assessment procedures for admission to the higher grades. Only by this route will we be able to demonstrate to the public that members of the Institution of Analysts and Programmers are truly a professional elite.

Non-corporate members

It is generally agreed that the Institution now has too many grades, and that in consequence the overall structure is weakened. Thus the change with the most immediate consequences, effective as with all these revisions, from January 1st 1993, will be to merge the three existing non-corporate grades (Associate Member, Graduate and Licentiate) into one. The new non-corporate grade will be known as Associate Member.

It will be possible to enter the new Associate Member grade on the basis of examinations alone, as with entry to the present Graduate, or on the basis of experience alone, as with the present Licentiate. Thus the new Associate Member grade embraces the requirements of both the old Graduate grade and the old Licentiate grade. In consequence all existing Graduates and Licentiates can be transferred to the new grade without difficulty.

The new grade is significantly higher than the old Associate Member grade, but in fact upon examining individual files it was found that due to the passing of time virtually all existing Associate Members will meet the requirements of the new grade by January 1993.

From 1st January all existing non-corporate members will be redesignated as Associate Members, and the grades of Graduate and Licentiate will cease to exist. Correspondence from the Institution to all non-corporate members will carry the designatory letters AMIAP and subscriptions will be charged at a unified rate. There will be no objection to members continuing to call themselves Graduate or Licentiates, or to use letter headings which carry these designations if they wish to do so.

Members

The minimum age for election to Member has been fixed at 24 years, a slight tidying of the old rules. During the past years the Council has received strong representations to relax age limits for some extremely talented applicants; nevertheless it has been decided that age limits should stay.

Corporate membership implies not only technical knowledge and competence, but a mature professionalism. Rightly or wrongly the public at large is unlikely to be convinced that this can be attained at a very young age.

A minimum of four years' "qualifying experience" is needed for election to Member. While the period is unchanged, in future the quality of experience at

ing Structure

was adequate for election to Associate Member will not necessarily be considered adequate for election to Member. Thus the possibility of progressing up the grades by mere "timeserving" will be somewhat curtailed.

Fellows

The Institution operates in a specialised field, so it seems unlikely that membership of some quite different professional body will be relevant to a person's application to join the IAP. Therefore these references have been deleted from the rules, as have references to academic qualifications for Fellows. The Council does not believe that the competence of a programmer with over ten years' experience in industry, including five years in a senior position of substantial responsibility, should have much to do with the quality of his degree.

Companions

Existing Companions of the Institution, numbering amongst them some individuals of supreme talent and professional skill, are unaffected by these changes. But outside the Institution the status of a Companion is not generally understood; in other organisations it is often used to designate an honorary or unqualified member. Thus the Council has decided not to elect any more Companions, except by specific invitation in exceptional circumstances. For most people the grade of Fellow will become effectively the Institution's top grade.

Students

The proposed amalgamation of the three existing non-corporate grades will leave a big hole at the bottom of the Institution. Thus a new grade of Student is being created to provide a means by which people (of any age) who are just starting out in the profession may associate with the Institution. Students will receive the Institution's regular mailings and most other benefits, but they will not be entitled to use designatory letters or to use the Institution's Coat of Arms on their letter headings. Students will not be listed in the Directory of Members.

The existing Registered Student scheme will be phased out.

Michael C. Ryan
Director General IAP

Grades

There are four grades of membership, each with its designatory letters as follows: Companion (CmpnIAP), Fellow (FIAP), Member (MIAP) and Associate Member (AMIAP). The additional category of Student carries no designatory letters.

Election to COMPANION is by invitation from the Council of the Institution. This most senior grade is reserved for corporate members of at least ten years' standing, and for those who have made an outstanding contribution to their profession.

For election to FELLOW an applicant shall be at least 30 years of age and have at least ten years' experience of systems analysis or programming. This shall include at least five years' experience in a senior position of substantial responsibility, judged by the Council to be of a quality to merit election to the grade.

For election to MEMBER an applicant shall be at least 24 years of age and have formal qualifications and/or qualifying experience of systems analysis or programming judged by the Council to be of a quality to merit election to the grade:

EITHER A recognised computer-related degree, HNC or BTEC, or the Diploma of an Accredited College or other approved qualification, and four years of qualifying experience.

OR A computer-related ONC or approved equivalent and five years of qualifying experience.

OR Six years of qualifying experience.

For election to ASSOCIATE MEMBER an applicant shall be at least 20 years of age and have formal qualifications and/or qualifying experience of systems analysis or programming judged by the Council to be of a quality to merit election to the grade:

EITHER A recognised computer-related degree, HNC or BTEC, or the Diploma of an Accredited College or other approved qualification.

OR A computer-related ONC or approved equivalent and two years of qualifying experience.

OR Four years of qualifying experience.

For admission as a STUDENT an applicant shall satisfy the Council that he is following a recognised course of training for the profession and intends to apply for full membership of the Institution as soon as he is qualified to do so.

Applications are considered by the Council of the Institution on an individual basis. These rules are published for the information of applicants and outline the principles upon which elections will be made. They are not binding on the Council.

Insurance for the Smaller 1

by Tim Lockett

A smaller business, like any larger, multinational company, needs to take into account and cover itself against many insurable risks, such as:

Employer's Liability
Public Liability
Office Contents
Consequential Loss
Motor Insurance

This article briefly details the legal requirements to insure certain risks, and the common pitfalls, particularly for those people working from home – a growing trend in the computer industry.

Employer's Liability

The law, via the Employer's Liability (Compulsory Insurance) Act 1969, lays down strict requirements. An employer must insure for bodily

injury or disease sustained by his employees, and arising out of and in the course of their employment in Great Britain. The insurance policy must be one approved under the Act. The policy itself must not contain any conditions which mean "that no liability shall arise or liability shall cease".

The effect of this legal condition is that an injured employee (given that he is carrying out duties for which he is employed) will always be compensated by the insurers. However, this does not mean that the insurer can't claim against an employer who has ignored particular policy conditions, for instance the claims reporting procedures as laid down by the insurer; in such a case the employer may have to reimburse the insurer the monies paid to compensate the injured employee.

It is common for Employer's Liability policies to have no monetary liability limit, although the Act requires a limit of £2 million. The cost of this type of insurance for the smaller, office-based, business is usually less than £100 per annum.

Public Liability

This type of insurance covers the business' liabilities to third parties – that is, people other than employees who come into contact with the business. The policy will protect the insured in respect of his legal liabilities to third parties for any loss or damage to property which the insured business causes, or for any bodily injury or disease suffered as a result of the insured's business activities.

The key element of the policy cover is that it covers only legal liabilities (e.g. negligence, contractual liability and statute – Acts of Parliament – liability) and not any moral responsibility. The price of this type of insurance varies considerably, and is very dependent on the precise nature of the business activity undertaken and the amount of cover required.

Office Contents

This type of insurance can be a problem for a business based in the home. A normal household contents policy will usually not cover items used by a business. For instance, a computer used solely for playing games will be covered by the household policy; a computer used to write programs for a client will not.

All home-based businesses should take out a "home-office" policy to supplement the household

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Business

Disaster Recovery

insurance. These policies are usually relatively cheap, particularly since most home-based businesses don't need high value sums insured. Most insurers will require extra security measures to be taken, but they also offer premium discounts to those who fit burglar alarms etc. [I have a Doberman Pinscher instead! – Ed.] A "home office" policy will usually contain sections relating to Employer's and Public Liability – you can purchase one policy to cover all the risks.

Consequential Loss

This type of cover is usually provided as part of the business premises/contents policy. It is designed to provide enough money for a business to continue trading after, say, a fire which has destroyed the premises.

It also provides cover to pay for the reinstatement of accounting records, computerised databases etc., which may have been lost in the fire. It is, however, usually a condition that up-to-date back-ups of computer data be kept in a safe place outside the premises.

For a smaller business this type of cover can be invaluable. It is unlikely that the business could finance new premises, new computers etc., in order to carry on trading. A six-month wait for the premises to be rebuilt and re-equipped could well mean that the business would not survive.

Motor Insurance

As all car drivers are aware, motor insurance is compulsory in the UK. However, there are several classes of cover available. The non-business driver will be covered for social, domestic and pleasure purposes only. The business driver needs to ensure that his policy has been extended to include cover for not only his business journeys, but also those of any employee or business partner who may drive the vehicle.

This article has been written for IAPetus as a follow-up to the previous article by the same author on Professional Indemnity Insurance [in the first issue – Ed]. The author, Tim Lockett (of Enterprise Consultancy Services Limited), can be contacted on 081 758 1549 and 081 560 7571 should any IAP members want any business insurance advice and assistance. The author is an Associate member of the Chartered Insurance Institute.

"Success can be assured only by devising a defence against failure of the contingency plan." Taken from my collection of military maxims, this quotation is just as applicable to business planning as well. As I write this, the newspapers are full of the attempts being made by Commercial Union, the Baltic Exchange and others to "not make a drama out of a crisis" and ensure that they continue trading in the aftermath of one of the largest IRA bombs to explode in London.

Disaster recovery is something that everyone should think about BEFORE the disaster takes place. There are a multitude of disasters that can affect a business (or for that matter a home computer system), however there are also ways to minimise their effects.

Disaster recovery strategies fall into two main groups, those designed to protect your business against disaster financially and those designed to get you operating again as quickly as possible. Both should be considered. Naturally, your planning, unless you are solely a computer business, will go beyond the provision of a recovery strategy for your IT systems, but consideration of such wider matters is beyond IAPetus' scope.

Just bear in mind one factory which was burned to the ground. The next morning, the computer manager arrived looking smug. He had taken a backup the night before and taken it home with him. "We are ready to carry on" he said, ignoring that with no factory, no machines and no components, a production schedule and order book were of little use!

So, what disasters can happen? The three main types are the physical destruction of your premises, breakdown of part or all of the hardware and theft. It's fairly immaterial how the premises get damaged – fire, bombs, earthquakes &c – provided that you have a full copy of everything that was on your computer system and the means (probably via insurance) of replacing your hardware swiftly. The response to breakdown or theft is much the same, if you have a backup and access to equivalent hardware, you can recover from the immediate effects of the disaster.

Backup systems probably merit a whole article of their own, basically you need to have a complete copy of both programs and data which you can load back onto your replacement hardware with the end result the same as if nothing had changed. Naturally, this requires a fair degree of organisation – while the programs may be fairly static (unless you happen to be a software house!) and so may be restored by using your original master copies (you had put them in the fireproof

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safe, hadn't you?!) or by asking the supplier for new copies, your data changes every time you use the system.....you may be lucky enough to have good paper records, but they tend not to survive too well in fires.

Although you can copy the whole lot onto floppy disks, this is very tedious and slow. The main sensible options around are streamer tapes and digital tapes. Most use some form of data compression so you can store a lot of material on your tape.

Whilst a "full dump" of everything on the system can still be fairly slow, most systems are capable of tagging all files that have been changed since the last backup was done, and then make copies of the changes alone. That's often quite swift, do it in a quiet five minutes at dinnertime every day (or even more frequently), and used in combination with the last full backup and all the "changes" tapes done since you will be able to rebuild. One last thing.....make sure that you have a copy of the actual tape backup system other than on the backup tape!

This is all very well for those of us who use commonly-available systems. For example, the computer system (used for my husband's business, IAPetus editing and recreation for both of us) consists of a PC network of dedicated server (386) and two workstations (one 386 and one 486), with a laser printer. All these items can be readily replaced, along with the cabling, network cards &c. Provided we have an up-to-date backup (we use streamer tapes), if the premises burned down we could get our show on the road fairly quickly.

However, companies who use specialist systems, particularly those who are mini or main-frame based, cannot restart so speedily. Even if off-site backups and funds to purchase replacement equipment are available it takes time to put the whole thing together.

It is then worth considering more sophisticated disaster recovery tactics such as owning or renting a duplicate facility. Organisations exist which can provide – for a fee! – availability of alternate computing sites. Depending on how much you pay them, they can offer you anything from the use of computing power on their premises to the "warm start" option of a mirror system to your own, complete with up-to-the-minute copies of your programs and data. Naturally, you have to choose how far you want to go depending on the balance between the importance of the computing function to your business and the cost of providing a speedy replacement. For some applications, next week is all right; for others the business may not survive if computing facilities are not available within 24 hours.

There are more insidious forms of disaster, and your recovery plan must cater for these as well.

What are you going to do if just part of your hardware fails? Do you have a maintenance contract? Will the maintenance company guarantee to fix or replace the faulty item within a given time? Then there is the thorny question of viruses. If your system becomes infected with one.... and you should have preventative measures in place so that they cannot gain access.... you should know either how to eradicate them and restore a clean copy of your system, or know someone capable of doing it for you.

You also should be able to cope with sabotage. A disgruntled employee could make a horrible mess. If you think anyone might, and you intend to get rid of him, pay in lieu of notice may save you a lot of trouble. Even if he is (as far as you know) off the premises, change the passwords... he may get in, either physically or with a modem. Change passwords frequently anyway, in case you have a visit from hackers who may cause damage even if they do not intend to.

There is another side to "disaster" that warrants consideration – what damage will the event do to your creditability. A computer security consultant loses a lot of face if HE gets a visit from a hacker! A software house which catches a virus and distributes it before it's detected is not going to be popular. And if someone has copied critical data – not just your top-secret recipe for that new plastic, even your customer list can be vital! – what damage will its availability to a competitor do? (Even if it is still on your system.) You need to have a damage-limitation strategy as well as a disaster recovery one.

Finally – don't wait for the disaster. All disaster recovery plans should be thoroughly tested frequently and unexpectedly. Disasters do not give advance notice. You may take regular back-ups – but how do you know that they will reload and work as intended?

It may never happen.....but be ready for when it does! "He who waits for the sword to fall upon his neck will surely lose his head."

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