

IAPetus



Quarterly Bulletin For the Institution of Analysts & Programmers

Issue 15 September 1995

Conference 1995

This year we have decided to be bold and hold the Conference away from its traditional home in London, but we hope that even more of you will be able to join us.

As usual we look forward to an entertaining and informative day, made all the more enjoyable by good food and good company. The

Chamberlain Centre is a short taxi ride from the main Birmingham stations, and there is ample onsite parking for those travelling by car.

The Conference is to be followed, as last year, by the Institution's AGM, and the next morning there will be a regular meeting of the Council. So some members may

find it convenient to stay at the Centre overnight.

For their benefit we have arranged a special rate of £35.00 for an ensuite room, including full English breakfast and VAT. Those stopping overnight, and indeed anyone else, will be welcome to join Institution staff and Council members for an informal dinner on the Friday night.

The cost of this year's Conference is the same as last year, i.e., £60.00 per head, including lunch with wine, and morning and afternoon tea.

Space is limited, so those of you who have not already responded to our earlier mailshot should make your reservations now.

Please send your cheques for £60.00 per person direct to the Institution.

We will provide invoices for those who need them, made out to individuals or to their companies as advised.

Arrangements for overnight accommodation should be made directly with the Chamberlain Centre, Tel: 0121 606 9000.

Friday 20th October 1995

*Chamberlain Hotel and Conference Centre
Alcester Street, Birmingham B12 0PJ, England*

Provisional Programme

Morning session

09.15	Registration and Coffee	
09.55	Mike Ryan FIAP, Director General	Welcome
10.00	Bob Hutchinson FIAP	Soft Systems Methodology in Action
10.30	Simon Lewis MIAP	Why computers get their sums wrong: how to avoid mathematical errors
11.00	Coffee	
11.15	David Moore FIAP	Security Policies
11.45	Julie-Anne Robertson, Chief Executive, Institute of Employment Consultants	Getting the best from an Employment Agency
12.15	Lunch	

Afternoon session

13.45	Members' Forum	
14.45	John Weller FIAP	Specifying Works and Costs a system that works
15.15	Tea	
15.30	Mike Cookman Neil Graham	Risks: how to provide for them Accounts: what you need to know
16.00	Mike Ryan FIAP	Director General's closing remarks
16.15	Close of Conference	
17.30	Institution of Analysts and Programmers Limited Annual General Meeting	

It's blank page time again... *IAPetus* is all ready for the printers, then the thought 'Editorial' crosses my mind. Does anyone read them anyway? Or just dive straight in to the articles?

One Canadian gentleman has taken me to task... last time, whilst talking about the new Coat of Arms, I referred to Her Majesty Queen Elizabeth II as the British Queen. Adrian Wade pointed out that Her Majesty is Head of the Commonwealth and Queen in Canada as well!

Have you all enjoyed the first decent summer for ages? Or did you retreat into corners moaning about being too hot, like my husband?

Coat of Arms use by members

With this edition of *IAPetus* every member should have received a large black and white copy of the Institution's new Coat of Arms.

This is suitable for reproduction by scanning or photography, to facilitate use of the design by members on letterheadings and other business documents, subject to a few simple rules.

By the time you read this the information should be available on disc at £5.00 each including postage, packing, administration etc. Call the Institution office for details.

Now to the exciting part. The Council's subcommittee has decided on an initial range of goods bearing the new design, to be offered for sale exclusively to members. We are currently considering alternative prices and specifications, but perhaps it is not too early to give a broad indication of what is likely to be on offer.



They always say that the British talk about the weather... I find that they tend to moan about it. Whatever it does, it's wrong. Too hot, too wet, wrong kind of snow...

In the next issue, we will be calling for new candidates for the Council of the Institution. The terms of office of the five people appointed as our first Council members will expire next year, and so for the first time we shall have a fully-elected Council. Do you think you could play a part?

In the meantime, see you at the Conference!

Megan C. Robertson

Ties The plan is to have a blue tie, but offer two alternative designs:

- a hardwearing "everyday" tie in polyester, with the Coat of Arms and possibly some stripes in colour (might even suit people like the DG whose ties have featured, amongst others, Elvis Presley and Mickey Mouse);
- an "interview" tie in silk, probably plain, the Coat of Arms displayed with utmost discretion.

Cuminks/lapel pins These will use the hexagonal "badge" associated with the main design, using coloured enamel on gold or silver coloured metal backings.

Coffee mugs The largest obtainable white mugs, with the Coat of Arms and the Institution's name in large blue letters.

Sweatshirts There is some scepticism as to whether the sweatshirt large enough to fit certain IAP personalities actually exists. But normal people should have a choice of black, white or blue sweatshirts of two designs. One would feature a very large Coat of Arms right across the front; the other just a dignified version on the left chest. We are undecided what to do with the back. (No obscene suggestions please.)

We appreciate that some members are desperate to restock their wardrobes. Watch this space for early news of availability and prices.

Professional Indemnity

The IAP scheme is now operational. More than ten percent of the membership responded to our recent survey on PI, confirming the need for this type of insurance amongst our members.

Thank you very much to all those who took the trouble to fill in the cards, and to write or telephone the office with comments and suggestions. As a direct result of this market feedback we are adding a number of extensions and improvements to the scheme.

The Institution has negotiated a master policy with one of Britain's largest insurance companies, which will provide professional indemnity insurance cover specially tailored to the needs of IAP members, at rates which are considerably below those on offer to anyone else.

We believe this scheme secures members' business liabilities in a single top quality package that provides unbeatable value for money. The basic policy covers:

- Breach of professional duty
- Breach of copyright or infringement of patent or design rights
- Unauthorised use of systems or programmes of others
- Loss of documents (including discs); both your own and your client's.
- Fraud or dishonesty of any partner/director or employee
- Libel and slander or defamation
- Loss of income of any partner/director as a consequence of a requirement to attend court in connection with any claim made under the cover
- Defence costs both legal and technical incurred with Underwriters agreement in response to any allegation which might fail to be met under the cover

In response to members' wishes, optional extra cover has been made available for:

- Public liability
- Employer's liability
- Office or home-office cover

Proposal forms are available from the Institution office. Members wishing to obtain an indication of cost may speak directly to the Underwriters' representative: Mike Burdon Insurance Management Tel: 01392 57942.

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Correspondence about *IAPetus*, contributions etc. should be sent to the Editor at 12 Bude Close, Crewe, Cheshire CW1 3XG (Tel: 01270 500565, email: mrobertson@cix.compulink.co.uk).

Correspondence about the Institution should be sent to Charles House, 36 Culmington Road, London W13 9NH (Tel: 0181 567 2118, Fax: 0181 567 4379).

The Director General writes

Every time I sit down to write this column, I think of the things I have managed to get done since last time, and then, inevitably, of the giant overhanging stack of problems still in my intray; all the vital jobs that somehow got shelved or where no visible progress has been made despite my best efforts.

One of the most resistant problems is how to achieve more publicity for the Institution. The IAP may be small, but its members include some of Britain's top authorities in computing matters. Why then do not the press and TV beat a path to our door? Why don't people know who we are?

We are trying to attack this problem from a number of oblique directions. One method is boost the perceived value of IAP membership.

The new PI insurance scheme is a good example of this. One member who has joined already was paying his previous insurers £1,000 p.a. Our chaps fixed him up for £500 and that's 25% less than they would have had to charge an outsider. So one member at least is saving his annual IAP subscription several times over! That kind of news soon gets around.

Another scheme in the pipeline will open a dialogue with the agents who find employment for many of our members. Recognition by an independent professional body will bring the agencies considerable prestige, and a direct link to some of Britain's most talented computing professionals.

The Institution should be better placed to assist members with employment problems. We should also begin to see "MIAP an advantage" in job advertisements, something that would do us all a bit of good.

But I have not entirely neglected the full frontal approach. I have been wining and dining editors (or more truthfully, IAP finances being what they are, beering and sandwiching them).

If you are stuck with the job of trying to fill a magazine week after week, not surprisingly, perhaps, you are pretty enthusiastic when a chap buys you beer and offers to get some of Britain's brainiest IT experts writing articles for free. "Yes Please! How soon can you let us have it?" is a typical reaction.

Of course things are not quite so simple. What we would like to do, as a first step, is to identify an informal panel of potential writers and "soundbiters". If Mrs. Avril Dishwater of Little Storting says Windows 95 is a load of *****, Bill Gates is not going to cancel his holiday. But if an informed expert, speaking with

the authority of the IAP, is of the same opinion, then that just might be worth reporting.

There are opportunities for written responses to news items and letters appearing in the press, and for one off articles on matters of general interest.

But if the Institution is suddenly asked to comment on controversial matters that appear in the news, we must be able to locate a member with the necessary knowledge who can respond immediately. For this we need a register of suitable people. If you think you might be able to help, I should be pleased to receive a personal call to discuss the matter.

Michael C. Ryan
Director General

The Institution of Analysts and Programmers (Limited by Guarantee) **Income and Expenditure Account for the year ended 31 May 1995**

	1995	1994
<i>Income</i>		
Subscriptions	£112,984	£116,607
Other income	<u>3,914</u>	<u>2,284</u>
Total income	£116,898	£118,891
<i>Expenses</i>		
Services to members & promotional activities	£46,192	£50,250
Salaries & staff	£33,397	£34,921
Costs		
Office overhead	<u>£22,528</u>	<u>£28,697</u>
Expenses		
Total expenses	<u>£102,117</u>	<u>£113,868</u>
Surplus of income over expenditure	£14,781	£5,023

Accountants' report to the members of the Institution of Analysts and Programmers (Limited by Guarantee).

We have prepared accounts for the Institution of Analysts and Programmers (Limited by Guarantee) for the year ended 31 May 1995 from the books and records maintained by the Institution. The summary Income and Expenditure Account shown above having been compiled from the full accounts.*

Charles Stuart
Chartered Accountants and Registered Auditors
14 August 1995.

*Full accounts are available on request.

The Education sub-committee submits its proposals for the revision of membership requirements and invites written comments from members. Comments should be addressed to the Institution office.

For reasons of space, this article summarises the concepts proposed, copies of the full Proposal may be obtained from the office. The standards introduce a more progressive approach to the grading of membership, and define more clearly the standards required. Because of the rapidly changing environment, a large amount of flexibility is retained within clear guidelines.

Institutions and colleges will not be 'approved', but courses will be assessed on a subject by subject basis. List A qualifications will have more than 50% of subject time spent on directly related topics; list B qualifications must achieve more than 25% of course time spent on core and additional subjects.

Education Standards Proposals

The Institution encourages Continuing Professional Development (CPD) for all members, and wishes that this activity be recorded in a Professional Development Record (PDR).

The standard required for a member is equivalent to a degree, plus workplace experience actively performing analysis, programming, or other computer related techniques. The standard may be achieved without formal academic training or qualifications, however the effort needed will be equivalent to that for a degree. It is unlikely that the minimum standard in each subject or module would be achieved in less than 100 hours of supervised study.

Only in exceptional circumstances will more than 40% self-assessed work be accepted. There must be PRIOR AGREEMENT with the Institution before a greater amount of self assessed work is commenced. The Institution wishes to ensure that a large amount of quantitative work does not dilute the qualitative achievement required for a professional qualification. The certification or assessment may be by an employer or employer's representative, this will be open to verification or independent assessment by the Institution. The Institution may use a Professional Interview to assist in this assessment.

A PROFESSIONAL INTERVIEW will be required for members or applicants unable to obtain a workplace supervisor's signature. Professional supervision of all activity is encouraged and certification by non-computing professionals may be acceptable by prior arrangement.

Points or credits may be collected and/or recorded from self-assessed sources for the CPD of members who wish to maintain or enhance their professional competence, and for these purposes a credit may be issued on 100% self-assessed material, such a credit may not be acceptable for membership or upgrade.

Points and Credits

A PROFESSIONAL DEVELOPMENT CREDIT (PDC) may be awarded by the Institution when more than 100 points have been gained in any module or subject group. The idea is that the individual can – using the criteria given below – assess the number of points that he has attained for himself; the PDC is the Institution's acknowledgement that the points have been gained validly and are acceptable for development and membership/upgrading purposes.

The "point" is the basic unit in the accreditation nomenclature. 100 points are the minimum requirement for a module, and this may be converted to a credit, if the Professional Development Record is kept.

Details of suggested contents for both core (compulsory) and optional modules are given in the full Proposal. The core subjects are systems analysis, programming and business skills; and the additional skills which may be offered include those dealing with operating systems, architectural/hardware, application systems, languages and other professional skills.

Points allocation

- 1 per hour of lecturer contact CPD leading to an examination or assessed course.
- 1 per hour of assessed distance learning.
- 1 per hour of workplace supervised training, certified by the employer or supervisor, and verifiable by the Institution. This would not normally be expected to exceed 30% of the normal workplace attendance time.

0.5 to 1 per hour for any interactive CPD, not question and answer session – e.g. workshop or interactive seminar.

0.5 for attendance only CPD – e.g. seminars, professional meetings, IAP Conference etc.

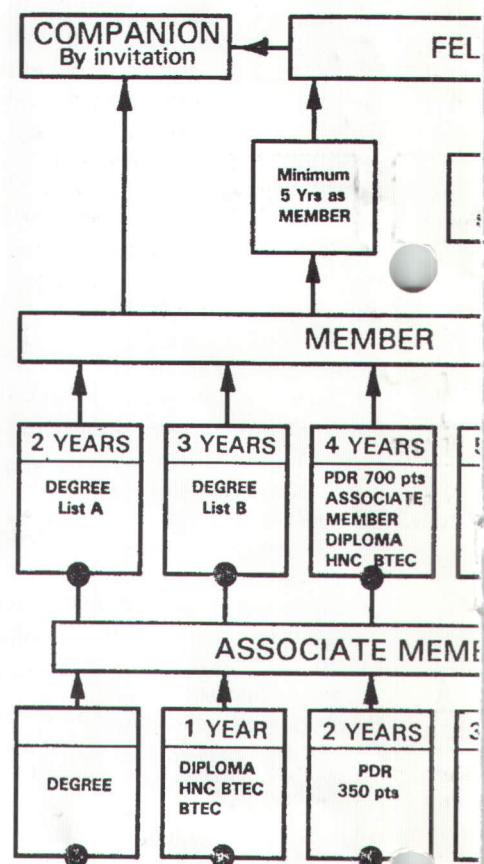
0.5 per hour of private study.

0.5 per hour of formal course study, when an examination was sat but not passed.

5 for writing and presenting a 1 hour lecture that is not part of normal occupational requirements. The major subject must be the application of computing techniques, and the membership of the Institution must be clearly shown on any publicity.

5 for a refereed paper or article, on computing subjects, published in an accredited Journal, membership of the Institution must be clearly shown. Magazine articles and paid contributions or books will be separately assessed.

100 points achieved in any subject group, within three consecutive years will allow the PDR to be made into a credit, which will be recorded on the Institution's Professional Development database.



'YEARS' IS POST QUALIFICATION EXPERIENCE REQUIRED

● SHOWS DIRECT ENTRY POINT

Entries in the PDR may be made for courses leading to an examination which was passed, only half value will be given for an examination which was sat but not passed, attendance records for the course and examination will be required. Certification by a representative of the examining body will be needed.

These allocations are subject to change. The allocation in force when the application is made are applicable unless a PDR is maintained, and the Institution has prior knowledge of the applicant's intent. The allocations in force at the commencement of the PDR will then be used. Points may not be counted in more than one subject group.

Qualification by PDR

ASSOCIATE MEMBER: 350 points, of which at least 200 must be in core subjects. 100 points must be obtained in either analysis or programming, plus 100 points in one of the Additional subjects. Two years' workplace practice in analysis and programming are also required.

MEMBER: 700 points. 300 points must be offered in the core subjects.

100 points or a Professional Development Credit must be offered in two of the three core subjects, and at least 50 points in the third. In addition, at least four years' professional experience using at least one core skill and showing evidence of at least three skills in total.

For upgrade from associate member, 350 points if accomplished within four years of associate membership.

Membership corresponds to a degree level qualification and should entail not less than 700 hours direct effort, plus at least this amount of

supporting effort, in addition to workplace experience. The maintenance of up to date qualifications will entail an achievement of at least 25 points per year in CPD activities.

The points or credit allocation shown above will be used in the assessment of qualification or achievement for membership applications, regardless of whether a Professional Development Record is kept. These examples refer to applications based solely on the candidate's PDR, refer to the chart for applications including formal qualifications as part of the candidate's profile.

Although the anticipated effort in hours is noted, it should be stressed that it is the achievement that is important, not the number of hours spent in its acquisition. The illustration of hours is an attempt to demonstrate the effort expected to achieve the required standard.

Workplace Experience

This is in two parts:-

1. Pre qualification, used for training to gain skills and qualifications.
2. Post qualification experience, only this counts towards a membership upgrade.

Each year of working experience amounts to 1500 hours total, of which between one and two thirds could be considered active learning, i.e. 500-1000 hours p.a., and, if not being formally supervised, gives a points value of 250-500 points per year, or of supervised 500-1000 points.

These values are "notional", but may assist in quantifying the worth of practical workplace training experience. The Institution recommends that where possible, applicants strive to obtain professional supervision of their workplace activity.

Continuing Professional Development (CPD)

The planned acquisition of knowledge, experience and skills, and the development of personal qualities for the execution of professional and technical duties throughout the working life of an Analyst and Programmer.

Both technical and non-technical achievements are important. The purpose of CPD is to enable and encourage the achievement of high professional skills, it is not obligatory.

Continuing Professional Development will:-

- a. maintain current awareness, and improve competence as new structures emerge.
- b. assist in the development and attainment of higher educational and professional standards.

The PROFESSIONAL DEVELOPMENT RECORD (PDR) is a voluntary, formal record of achievements in professional development. It will show the inclusive dates of studies, attendance at seminars, refereed papers, and other items of professional development. It is anticipated that members will record their activities.

It will be easier to upgrade membership, particularly for student and associate members, if such a document is produced. In this Institution all members have to continually update their techniques and abilities.

The PDR is a record of that activity and demonstrates to all concerned the member's continuing professionalism. There will be provision for the activity to be countersigned by the supervisor (if any) of these activities, and a brief comment entered.

The points, or PDC value of the record will be assessed and entered by the Institution at suitable intervals, say between one and two years, and may contribute towards a membership upgrade or a certification. Such assessment and certification may be charged for, costs to be determined.

A PDR will help to ensure and demonstrate:-

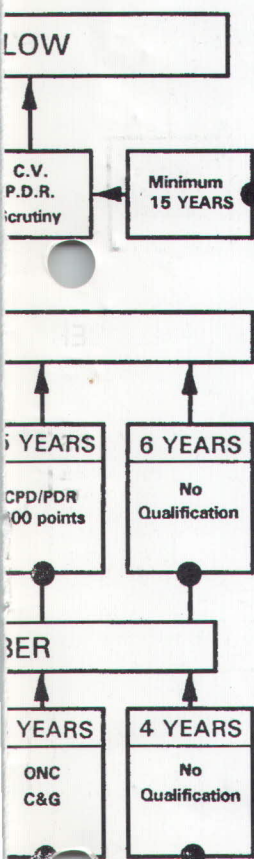
- a. The maintenance and enhancement of professional competence.
- b. The possession of up to date technical, industrial, business and professional skills.

Age

Where a particular age is mentioned in the Institution's requirements, this is done because it is extremely unlikely that a candidate will have achieved the specified standard before reaching that age. It is not an age bar, but an indication of the minimum expected age for the required professional achievement.

H.W. Ead
Chairman,

Education Sub-Committee



Another Beginner Speaks...

All of us at one time or another have faced a computer with dread wondering as to how we would overcome the marvel of technology that we faced? I started out in computers in a way slightly different to the rest of you. Whilst at Albany jail on the Isle of Wight in 1990 I started to get interested in Artificial Intelligence. It was whilst reading books by the likes of Isaac Asimov and his famous three laws of Robotics that got me hooked

I wrote first of all to the Turin Institute in Scotland who supplied me with a wealth of information by way of published papers. This then enabled me to write to two technical book publishers for help in any AI books that they may have had lying about the office. I was fortunate enough that both companies sent me 3 books each.

No big deal, but at that time I was locked up in an 8ft by 8ft cell for 23 hours a day which gave me a better opportunity than most to study the books without the distractions of life in general that everyone has to put up with. After 11 months of this I was transferred to Long Lartin jail outside Evesham. The jail sits in the middle of nowhere and approaching it at night was like seeing a set straight out of *Close Encounters of the Third Kind*!

I was able to start full time education at Long Lartin on Computers, at that time they had roughly 14 Zenith 286 machines. I tried first a bit in software programming but found I worked best at Hardware. The computer teacher at that time, Mike, was an expert on PC assembly and for the next two years we worked together with him teaching me all he knew on keeping the machines up and running. The education department then slowly progressed onto 386 and 486 PCs.

By this time I was itching to have my own PC but earning just £5.10 per week it would of took me the best part of my 10 year sentence to have enough to purchase a PC! I then started to write to various manufacturers for assistance asking if they had an ex demonstration or evaluation machine that I could use even on a loan basis. To the rescue came Nippon Steel Computers who donated to me a Librex Notebook PC, since then I have never looked back!

The Governor at Long Lartin being a pioneering sort of bloke

allowed me to have my Laptop in my cell, a general first for the prison system. Having the laptop in my cell enabled me to work evenings and weekends and progress at a rate that I did not feel restricted with. Whilst doing this I was also writing to various component & peripheral manufacturers for ex demonstration equipment they may have had and the response was fantastic, so much so that I was able to build my very first PC in a midi tower case. At last! A sense of achievement.

Some of those companies that helped me even kept in touch. For the past 2 years now Digital Equipment have been of great help and support. They donated a 386 PC to the education dept. at Long Lartin plus have assisted with technical help.

Just before I left Long Lartin for transfer to North Sea Camp jail I was teaching prisoners PC construction, repair and maintenance. The one major difficulty that I found was that there was no PC repair course that a person could take to get an actual qualification, except for the ITEC course which was only available in certain areas. Most training in this field was and still is generally in house with manufacturers.

Another person that I owe a lot of thanks to is Professor Stafford Beer, the International Cyberneticist. I had originally got his details from *Who's Who* to ask for information on any company that makes Robotics modules that can be controlled via a standard PC. To date I have still not found one but Professor Beer has been invaluable in supplying me with books he has published and various other information and has become a close friend.

Nowadays I find that I am not one much for theoretical work, I get more out of practical experience. Give me a toolkit and a PC to strip down and I am more than happy. The hardest problem now is trying to keep up with technology that is jumping in leaps and bounds. I have to date still to see a Pentium and if the Intel reports in the press can be believed we will soon have the 686 upon us!

A challenge that I find of late is trying to get technical information out of manufacturers. Ever had an obscure hard drive and needing to connect it up as a slave or master and not know the jumper settings? It is easy to find yourself phoning round different departments all day

long if your Diskbase Database turns up a blank. One book that I found I am never without is *Upgrading and Repairing PCs* by Muller, if anyone is interested in hardware then get it, it can be invaluable.

Ironically I find that I am software troubleshooting more so now. Over the past couple of years I've been fortunate in getting hands on experience with most up to date software which is an advantage. One thing that I always remind myself is that anything is possible, it is just putting your mind to it, never give up just keep on battling, if the Bits don't get you then the Bytes will!

Tony Benfield

AGM

Notice is hereby given that the Annual General Meeting of the Institution of Analysts and Programmers will be held at 5:30 pm on Friday 20 October 1995 in the Chamberlain Hotel and Conference Centre, Alcester Street, Birmingham, B12 0PJ.

It would be appreciated if those members planning to attend would inform the office so that we have some idea of the numbers to be expected.

Only corporate members (Members, Fellows and Companions of the Institution) are entitled to vote at the meeting.

Agenda

1. Approval of the Accounts of the Institution for the year ending 31st May 1995.
2. Approval of the appointment of the Auditors for the current year, and authorisation for the Council to determine their fee.
3. Any other business.

Unless other instructions are received in writing at the Institution's Office prior to 14th October, 1995, 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 must be sent in writing to the Director General to be received no later than 14th October, 1995.

Defending the Spec.

I would like to submit a humble plea in defence of the Spec, a sadly endangered creature whose passing would make us all poorer. In the bad old days, you had an Analyst who talked to the User and wrote the Spec, and a Programmer who read the Spec and wrote the program.

Nowadays the Programmer is allowed to talk to the User and write the program, and you cut out the wasteful back of a fag packet. I suspect that this change was really brought about by the demise of the cigarette as an essential aid to programming.

The Programmer is now called an Analyst/Programmer, and the Analyst is now called a Manager and spends all his or her time writing reports for the people who justify their existence by reading reports.

In my early days as a Programmer, the Analyst told me exactly what to write. I was told to write loops that never ended, code that was never executed, and to 'goto the processing described in paragraph 6.2.1.9.' Of course, I never did anything so silly. Most of the time I worked out instead what the User wanted, and did that.

The basic problem with the Specs I was given to work with is that they were not, as I understand it, Specs at all. They were pseudocode, written by somebody who had never been trained to write code and who had never sat up at night debugging programs that had been poorly designed. They never had to suffer the mistakes in their work, so of course they never learned. Enter the Analyst/Programmer, exit the Analyst, and good riddance.

But hold on. In two years' time, when someone wants the program

changed, what happens? You go back to the code to try to find out what the program does. And in the code you find, because the Standards say the code must be 'documented', and the programmer did a good job, lots of lines like this:

```
fred=fred+1  ** Add one to fred
```

Great! You really know that fred wants to be incremented at this point. But you haven't the faintest idea why. Possibly the programmer didn't know why. 'The Spec said increment it, so I incremented it.'

One of the best specs I ever had (and there were many) initialised something like 'pgno' to one in three places (one of which could never be reached), and incremented it in about a dozen other places. It was printed at random on various lines of the report. Eventually I worked out the User wanted each page numbered.

If I had done what the Spec said, who would have been at fault? I was only carrying out orders (heard that one before, somewhere...) The Analyst might have been mistaken, but they did check it out with the User, and the User had signed in blood. So of course it is the User's fault for not saying what they wanted.

This is, of course, complete rubbish! The system was at fault for asking the impossible of the people involved. The User can't be expected to wade through dozens (if not hundreds) of pages of technical gobbledygook, let alone understand it.

The Analyst can't be expected to write pseudocode the User will understand, and the Programmer can't be expected to correct errors when they don't have any idea what the system is supposed to achieve.

What is a Spec? It is a specification or statement of the User's requirements. It should state clearly and unambiguously WHAT the program is to achieve. The criteria for success, if you like. The User will be happy if the system does this, and takes this long to do it. It should contain no technical details because the User is simply not interested in them.

The job of the Analyst is simply to understand and document the User's needs or the part of them

"The only way anyone can be expected to maintain your system is if they understand the reasoning behind your design decisions."

being addressed and describe clearly not what they ask for, but what will make their life better for a reasonable cost.

Once the Programmer knows what the User wants, there is usually not much problem in working out the best way of achieving it. Only the Programmer has the specific knowledge of the hardware, the operating system and the language to design for robustness and efficiency.

Only the Analyst has sufficient knowledge of the business to ensure that the system makes sense in the real world. The two roles are quite distinct, even when they are carried out by the same person. And when they are carried out by the same person, it is even more important that between them comes the Spec for the User to understand and the Programmer to satisfy.

There is one more role for the humble Spec. As well as saying WHAT the system is to achieve, it should go some way to saying WHY it is to be achieved in this way. Not in terms of the program's innards – neither the Analyst nor the User is interested in those but in terms of the business decisions made while producing the Spec.

The Spec should document some of the rationale behind the decisions. Yes, the system could do that as well, but it would be very expensive and only of potential benefit in about 5% of cases. This functionality was left out due to lack of time or money, but could be added later. That functionality was left out because it doesn't belong in this area and would seriously compromise the reliability and maintainability of the entire system if it was added.

There is an element of CYA about this, of course. But how many

"As well as saying WHAT the system is to achieve, it should go some way to saying WHY it is to be achieved in this way"

Direct Debit Debacle

Direct debits are not all they are cracked-up to be. We found that out very quickly. About 10% of new mandates fail to deliver the trouble-free payments promised by the banks' self-congratulatory publicity.

Very often this is due to the banks themselves screwing the system up. What might seem a simple procedure to the whiz kids at Head Office can cause panic and chaos at the Little Storting branch. However, the system can work well, providing useful savings for members and the Institution alike.

Since 1992 direct debits have been administered for the IAP by a financial services company, Active Business Services (ACT). Unfortunately ACT have been losing money, and decided to pull the plug at the end of August this year.

We have managed to find some new agents, NLA, to carry on where ACT left off. But we cannot continue using the original mandates, because they all carry ACT's Originator Number, and no one else can draw the money. This means that over the coming months most of you will receive personal letters from the Director General, asking you to sign new mandates.

We hope very much that members will co-operate by completing and returning the new mandates as soon as they receive them, so as to minimise the inevitable cost and disruption suffered by the Institution due to this unwanted change.

New Fellows

We are particularly pleased to welcome the following new members who have been admitted to the Institution as Fellows since *IAPetus* was last published.

Ian D. Hill A specialist in networking and data compression who has lectured on these subjects throughout the world over the past five years. Starting in 1980 as a BT engineer, he became interested in networks, moving to independent systems houses Alphasoft and later Mission Technologies to develop his ideas. He is now Network Consultant to Misys Research Limited.

Bryan S. Kelly MBA Ten years with Honeywell from 1980, first as Systems Engineer, then Project Manager, assisting customers to solve a vast range of hardware and software problems. In 1990 he moved to the West Midlands Fire Service, where he is now the User Support Manager.

John C. Prudhoe BSc (Hons) A short period programming test equipment at Singer Link Miles was followed by two years at BNFL Sellafield on the design, programming and testing of instrumentation. This led to an extended period of programming for GEC Avionics, including some very urgent projects for the Gulf War. He is currently the Database Administrator for Etam plc.

Robert D. Riddell BA A lifetime Civil Servant who was originally trained in Scottish legal

conveyancing, but transferred to IT work in the early 1980s. He has been responsible for all PC applications at the Registrars of Scotland since 1984, and is now their Strategy Team Development Manager.

Marinos A. Stylianou BSc MSc A period of teaching and research at the University of New Brunswick was followed by commercial programming work most notably the development of a system for issuing VISA cards that is now used by many banks in Europe and the Middle East. After a short return to academia, in 1989 he took up his present post as Computer Manager for an international construction company based in Saudi Arabia.

Sergey Tochilin BSc MSc PhD Joined the Institute of Crystallography, Russian Academy of Sciences on graduation, and has dedicated his life to studying the science of materials. Since 1991 he has been a Research Fellow at the University of Oxford.

John R Wallis BEng(Hons) CEng A specialist in manufacturing control and information systems, with a broad spectrum of industrial experience. A Systems Manager with Meascon since 1982, he moved to LYHN in 1987 and has since been responsible for major projects for a wide range of clients, including Mars, BP Chemicals, BNFL, United Distillers, Rockware and Royal Ordnance.

Defending the Spec — Continued from Page 7

times does a Programmer look at someone else's work and think 'What beautiful code!'

How many times does an Analyst look at a system and think, 'I haven't spent as long as the original Analyst did on this project, I'm sure there is a good reason for it all.' No they think 'What a dreadful mess! I'm glad I'm not responsible for producing it, and I wish I didn't have to clear it up.'

To put it another way, you look at a system and fail to understand why it was built like this. Do you blame your lack of comprehension

(a) on a poor grasp of the business issues involved, or (b) on the incompetence of the Analyst who has now left?

The only way anyone can be expected to maintain your system is if they understand the reasoning behind your design decisions. Circumstances change, and perhaps the original justification no longer holds water. You cannot tell if the reason is left undocumented.

And, far more frequently, the factors which influenced the original design continue to be important as the system is enhanced and mod-

ified, and changes which ignore those factors will introduce problems to plague successive generations of Programmers who are always told to do a quick fix.

Of course systems grow old, but they can, with care, grow old gracefully. Document your systems: produce a Spec which says WHAT is to be achieved and WHY. You owe it to posterity, even if you don't care about your reputation after you have gone.

Paul Hazelden