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IN CONFIDENCE

SCIENCE AND ENGINEERING RESEARCH COUNCIL
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1. INTRODUCTION

A subset of the ACARD Working Group went to NCC to discuss the role of the small user, the small producer and the data processing community generally. Those attending from ACARD were John Coplin, Jo Connell, John Wally and RWW. NCC were led by Tim Wells (D P Methods), Mike Connor (D P Methods), Fred Ford (Software Product Scheme), Tony Ward (Software Engineering Manager) and Robin Gage (Market Research).

2. MIKE CONNOR

Mike Connor gave a review of the tools and methods currently used in the DP community generally. Mike described the large spread of users and developers now active in the DP community from the full-time professional of developing large complex systems which are the life-blood of the corporation through to 'amateurs' who are using spreadsheets on PCs.

Not many organisations were using a well defined lifecycle methodology but were usually using a rag bag of 'structured' techniques with little emphasis at the front end because putting effort into the front end required immediate investment but gave no immediate obvious payback.

Cobol still dominates the sector. Fourth generation application generators etc are coming into use but do not do all things. There is widespread use of programming tools but hardly any tool support for requirements analysis and design which is not well understood and therefore not supported. Prototyping is becoming increasingly fashionable. Prototyping is used to (a) improve the requirements definition and (b) prove feasibility.

Senior managers outside the DP departments still need to be convinced about the need for investment in tools and methods particularly at the front end of the life cycle. The DP community is very pragmatic and really will only move one step at a time so that the investment/improvement cycle is incremental.

Mike concluded by saying that the DP community would not move significantly until measurement techniques enabled them to accurately assess the cost of development in operation so that a proper cost benefit analysis could be used to evaluate new tools and methods and make the case for investment.

3. FRED FORD

3.1 Small User

Fred addressed himself to the questions of the small user and the small producer. A typical small user buys a PC from a dealer eg Currys. The PC will run CP/M, MSDOS or PCDOS. It will have such application software as an accounts package, Lotus (spreadsheet) and Wordstar (word processing). The user will receive no software support from the dealer. He probably will run two or three ledgers on one single user PC. Such a user is unwilling to spend money after he has bought the PC and the applications packages, therefore he will have no consultancy or training.

He will have little other information apart from what he might read in the odd magazine, and will receive no backup (no precautions are usually taken because of the lack of computing background).

PC sales are currently around £1M a year!

3.2 Small Producer

The small producer usually has some kind of specialist knowledge which he uses as the basis of the product. Ninety per cent of the companies in this area are extremely new and employ less than 20 staff. The small producers do not target their products at small users because they need volume sales.

The development of a product is usually a five year project with the cost splitting 40% to research and development and 60% to marketing. The small producers are always too optimistic estimating that they will be making money within three years but it is usually a six year project. Of the firms funded by the software product scheme only 20% make it. Given that SPS has rejected some already the success ratio is less than one in ten.

Some of the technical problems revolve around the portability and the fact that over the six years it takes to really develop the product the hardware on the market changes significantly. Marketing costs are always underestimated. The products are usually written in basic with Cobol second.

4. KEITH HOLDEN

Keith Holden discussed the education and training issues. NCC have been running a six week systems analysis course which has been continuously updated since the 1960s. It is used by colleges and large organisations, other trainers as well as the NCC.

Keith estimated that a new systems analyst received in his first professional year an average of 5.2 days training inside the company and 8.3 days outside the company per year. Thereafter he was lucky if he got seven days per year training. We were all horrified to realise how little training actually goes on in the DP community.

The discussion highlighted that other countries do far more training than the UK. For instance Germany, during the recession, will 'train for stock', ie instead of putting people on the dole they will put them through training so that they could be more useful when the economy picks up.

NCC have recently produced a video to sell software engineering to senior management. NCC estimate that management does no more than a couple of days per year where there is training.

5. TONY WARD

Tony's presentation was based on his role as a member of the executive committee of the STARTS public purchasing initiative. Tony highlighted that in a high tech pipeline which consisted of

1. research
2. technology transfer
3. education training and awareness

that the UK was notoriously bad at technology transfer and training. He stressed that it took the same level of resource into technology transfer and the same level of resource again into education and training as it took to do the original research and development. The UK is notoriously bad at technology transfer and education and training; the UK always under resources these two stages of the pipeline which is why we fail to make money.

6. ROBIN GAGE

Robin estimated that the software and computer service industry in the administration sector of the market was worth around £12,000M per year. He gave the following interesting figures which were a rough estimate.

1M 'workplaces' in UK

$\frac{1}{2}$ M companies

16,000 companies have DP departments with either a mini or a mainframe

12,000 DP departments have development staff

less than 4,000 would claim to be using structured programming

less than 2,000 actually use the requirements methodology.

Of around 1,100 software companies in the UK, around 900 employ less than 10 staff.