

# Status

QUARTERLY  
OF THE  
WESTERN  
AUSTRALIAN  
REGIONAL  
COMPUTING  
CENTRE

SUMMER 1989

## Migrant System On-Line



*Pictured at the recent MAX launch are (from left) Mr Basil Lambert of the Migrant Welfare Workers Association, Federal Minister Mr John Dawkins and UWA Deputy Vice Chancellor Professor Bob Parfitt.*

MAX, a migrant Data Base System, was launched recently by the Federal Minister for Employment, Education and Training Mr John Dawkins.

Nicknamed MAX, but more formally the 'Migrant Agencies Client Statistics System', the program is the core of procedures which enable seventeen WA agencies to collect data on the type of consultative services they are providing to migrants.

This data will form the basis for a study on the national needs of consulting groups.

The objectives are to survey the pattern of case loads; identify bottlenecks in order to improve service; identify migrants' needs so as to improve the planning of facilities and to provide feedback

to funding bodies.

Speaking on behalf of the Migrant Welfare Workers Association, Mr Basil Lambert praised "WARCC's professional approach in developing software for multiple users with varying requirements". He also emphasised that "all material is strictly confidential and no names or addresses of clients are recorded".

Terry Woodings, Manager of the WARCC Programming Services Division commented, "The initial concept was for separate computer systems around the Metropolitan area to be running common software and this remains the long term aim. Initially however, Migrant Agencies suggested that a centralised system be built and maintained by us as the first stage.

This centralised system was modelled on an information system provided by WARCC to the Aboriginal Medical Service".

At the launching ceremony, Professor Bob Parfitt, Deputy Vice Chancellor of UWA, and Carole Herriman, Assistant Director of WARCC, welcomed the Minister. Mrs Herriman emphasised WARCC's provision since 1972 of independent computing services and their impact at a local level.

In reply, Mr Dawkins said "that the system was a prime example of how Australia benefits from closer links and co-operation between higher education institutions and the wider community".

The Department of Immigration is interested in introducing a similar service nationwide. The current system will be used as a model and Professor Jayasuriya of the UWA Department of Social Work has been approached by the Federal Government to act as a consultant for the project.

MAX is a good example of how WARCC can assist clients to streamline their operations with simple information systems.

*Continued on page two, column three.*

### INSIDE STATUS

Director's Desk	2
Obituary	3
'Doctoring The Prisons'	4
Training Courses	5
GIS for Water Authority	5
A New Face for Operations	6
Hypermedia Help	7
WARCC Services	8

# Director's Desk

What happened to the 'Friday 13th Virus'? Despite much press publicity, it never happened. That would no doubt be a great relief to many micro users who had been dreading losing important files or wasting lots of time recovering lost data. It would also have been, I believe, a much greater relief to those responsible for corporate computing, where the ability to get everyone with a micro to take adequate precautions is very limited.

But do we really have cause to be relieved? I think not. The fact is that we all know that the virus could have been real. It may even have inspired some keen hacker type to invent one, which would lie dormant until a predetermined trigger (eg a special date) lets it loose. What an achievement that would be! And we must remember that most hackers are not malicious - they are just trying to 'see what happens if' - like the student who brought down the largest research network in the USA last year.

It is encouraging that legislation is currently being introduced into the WA Parliament to make aspects of 'hacking' illegal. But legislation is not the full answer. It may be small comfort to us that we can prosecute someone for breaking into our computer systems - the publicity alone could be quite damaging, let alone the direct impact. This could manifest itself in such ways as industrial espionage, or revelation of confidential personal information, or the time lost in recovering damaged data, or the loss of confidence likely to be experienced by management in computer systems, or the extra effort required to double check every calculation made by the computer. And the chances of actually apprehending a hacker are not very great.

Therefore it is important to come to grips with the kind of mind that a hacker has - what motivates him (he is usually male!), where does

he derive his satisfaction, what are his tools of trade and modus operandi. Here the very books that are striking the most dread into the hearts of computer managers, those that provide a blow-by-blow description of how to be a successful hacker, can be extremely useful. They give a tremendous insight into why hackers do what they do. Knowing this provides the platform from which we can build our defence. And they also describe in frightening detail the weak points of most computer systems. I urge every computer manager to get one and read it (I can supply references on request).

This whole area of security and backup is one where expert advice and assistance are essential. Some very simple precautions can reap many dividends, provided you know what to do, and have the resolve to do it (the weakest link in any security system is always the individuals who short-circuit such measures).



So ask for professional assistance. WARCC is especially well-placed to help, having pioneered time-sharing and remote-access computing in Australia. We would be happy and able to provide any kind of security review of your computing installation, no matter how large or small.

*Alex Reid, Director*

*Continued from page one.*

## Migrant System On-Line

At the launch Mr Dawkins also commented on the Federal Government's initiative to establish the National Office of Overseas Skills Recognition. He said that without such a body, "Australia is diminished in its access to the skills of its workers and the opportunities of individuals are impaired through lack of formal recognition of their skills".

## MICROSOFT SEMINARS AT UWA AND MURDOCH

December seventh was a busy day for the Microsoft twosome John Treloar, National Education Manager and Catherine Ossipoff, Product Manager for Microsoft Word, who arrived from Sydney to host four seminars in the one day.

This month also saw the announcement of the Microsoft product 'Word for Windows'. This is the first wordprocessing software with a graphical user interface for the PC written by Microsoft. Options are displayed clearly, making for a 'user friendly' package. The seminars were a good opportunity to demonstrate this product to users.

Two seminars were conducted at The University of Western Australia in the morning and two more at Murdoch University in the afternoon. One session addressed PC products such as Word, Excel, Works, Languages and a preview of Word for Windows.

The second session addressed Macintosh products Word, Excel, Works and Powerpoint.

The purpose of the seminars was to impart information to anyone who was interested in Microsoft Academic products and their use on Apple Macintosh or PC micros.

*Continued on next page.*

The Director and Staff of the Centre extend our very best wishes to all our readers and clients for an enjoyable and refreshing Christmas season and a successful and rewarding New Year.

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## MICROSOFT SEMINARS

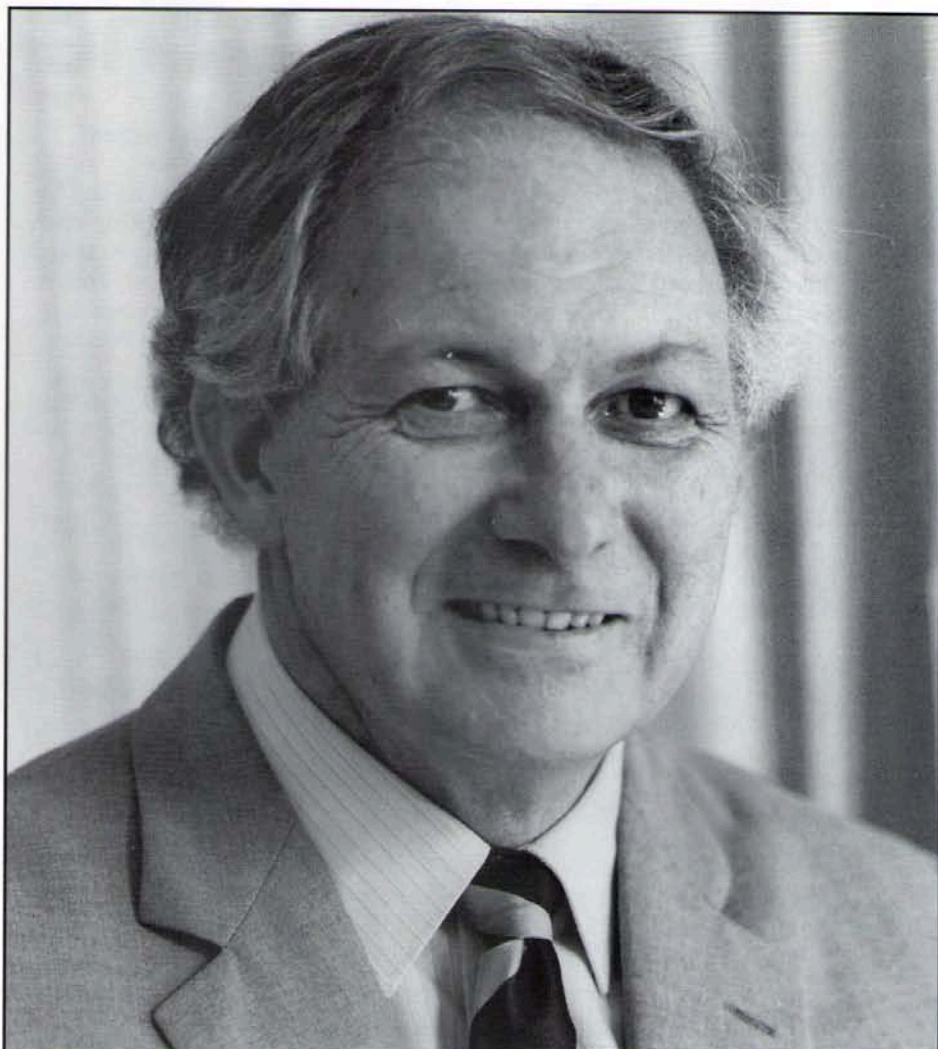
WARCC Microcomputer Support supplied the demonstration equipment, a MAC ICX and a Toshiba T3100SX. Two of WARCC's Microcomputer Support Consultants, Michael Neville and Joe Dall were in attendance to give support and assist with setting up equipment.

"The seminars were a great success, even if a little hectic!", said Joe Dall. "As well as finding out more about Microsoft Word developments, experienced users were given some useful tips on products they were already familiar with."

A major highlight of the seminars was the demonstration of 'Word for Windows' which was announced only three weeks ago. This was an opportunity for people in Perth to see the product and have some hands-on experience of it.

John Treloar is seen as a bit of a hero in the academic world. He introduced 'Academic Editions' and through his efforts Microsoft academic software products can be acquired by educational institutions at very reasonable rates.

Both John Treloar and his colleague Catherine Ossipoff were made very welcome at UWA and Murdoch Universities, as was their new product.



## Obituary - Professor Gordon S. Reid

Most people in Perth will be aware of the recent passing of Professor Gordon Reid, until recently Governor of the State of Western Australia. But few will know that he was a past-Chairman of WARCC's Board of Management. This occurred from mid-1978 to late 1980, when he was a Deputy Vice-Chancellor of the University of WA.

This was a significant period in WARCC's history, as it saw the departure of its founding director, Dennis Moore, and his replacement by the only other Director the Centre has had, Alex Reid (no relation to Professor Reid).

I have very fond memories of those years, because Professor Reid demonstrated as Chairman of WARCC all those qualities of leadership, perception, concern for individuals and wise counsel that endeared him to so many in his later, more public office.

We certainly appreciated his services to WARCC, and he will be sadly missed. We also extend our sincere condolences to Gordon's widow, Ruth, and to their family.

Alex Reid  
23rd November 1989

# 'Doctoring' The Prisons

The Department of Corrective Services began its relationship with WARCC in the 1970's. Staff from both organisations developed the Department of Corrections Transaction Oriented Record System (nicknamed DOCTORS). Programming for DOCTORS was provided under contract by WARCC staff. The system ran on the WARCC Cyber, providing statistics on various types of prisoner records. At this time there were no computer staff employed by the Department and the project was handled by the Planning section.

DOCTORS was easy to manage and served the original purpose, but it soon became obvious that some sort of networking was needed to provide better communication between the prisons and head office.

So in 1986 DOCTORS was converted to the Offender Management System (OMS), a 'state of the art' system developed using a fourth generation language known as ADS (Application Development

System) to run on Convergent Technologies workstations.

The workstations were linked by a Local Area Network within each prison, with a Wide Area Network connecting all the prisons. This is the largest Wide Area Network in the State, stretching from Albany to Wyndham.

The system allows each prison to take care of its own data entry and as Derek Spray, Information Systems Manager at Corrective Services says, "This reduces the errors brought about by double handling, and gives the prison officers control over the accuracy of their own data".

Although the Department of Corrective Services has outgrown its need for WARCC's hardware facilities, it continues to use WARCC contractors. According to Derek Spray "WARCC staff members have been instrumental in developing our new systems. They have brought with them database administration, project leadership, analysis, documentation,

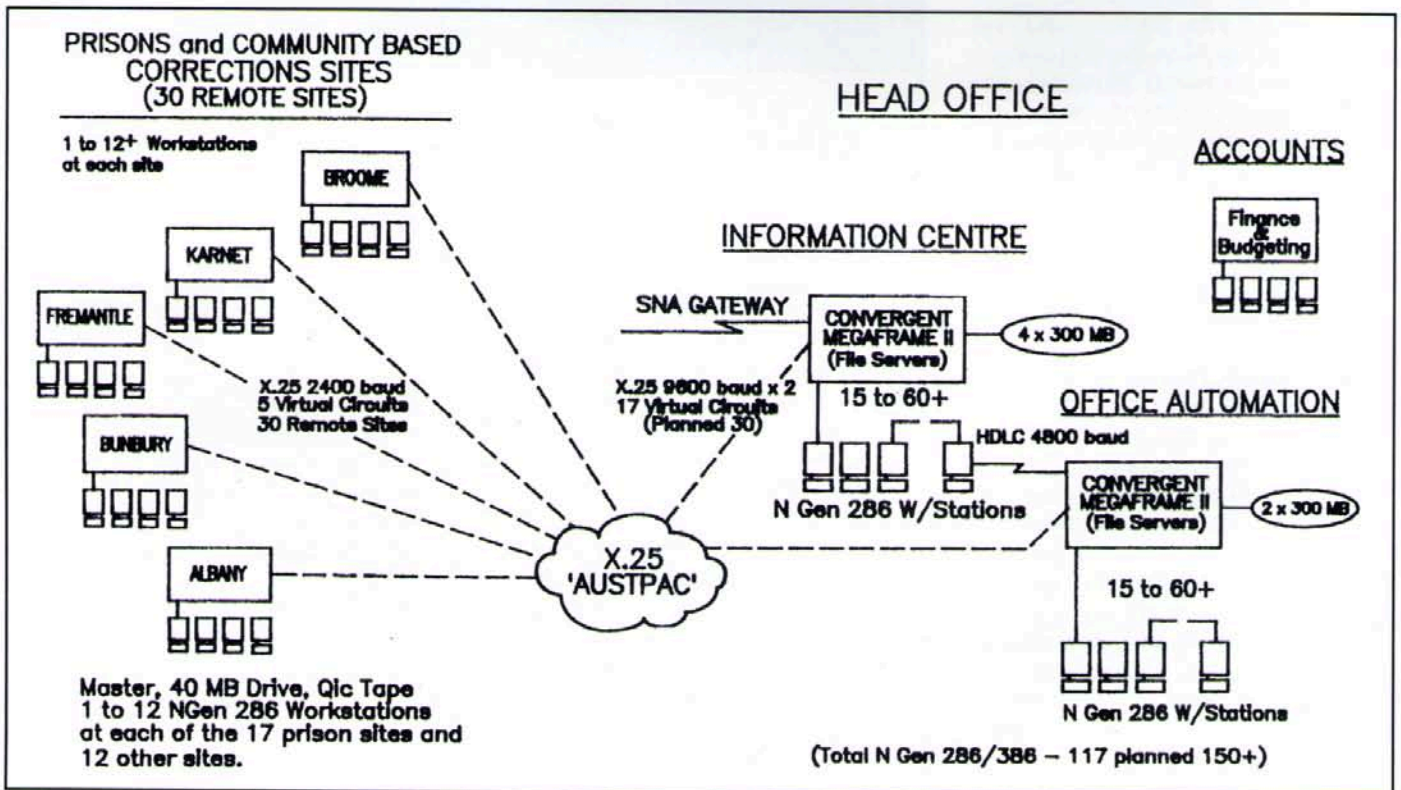
programming and training skills which have all been extremely valuable".

Margaret Barber, Cher Liow and Irene Ng, from WARCC's Consulting Services group are permanently based at the Department, working in various capacities from Project Leader to Programmer.

Margaret Barber has been with Corrective Services for several years and says, "The Department has a positive interest in computing and so the usual problems that plague computer projects are reduced". She went on to say that she has enjoyed the many challenges that have arisen over the years.

Some of these challenges have taken Margaret all over the State, installing equipment and training prison staff. Both she and WARCC look forward to many more new challenges from the Department of Corrective Services in the future.

Below: The Department's System Configuration.



## WARCC Training Courses Travelling Well

The popularity of WARCC's customised computer training courses has led to a good deal of travel for course participants and presenters alike.

Attendees at a recent two day Excel course conducted at UWA for the Department of Agriculture came from as far afield as Merredin and Geraldton. The course was customised to present Excel as a useful tool for data entry, data manipulation and simple data analysis in a scientific environment. Data provided by the Department on lupin yields was used to maximise the course's relevance to the participants.

WARCC's course presenters have also had their fair share of travel in recent times. As well as presenting several courses at WARCC and throughout the Perth Metropolitan area, Course Co-ordinator Jenny Edwards recently had the pleasure of an overnight stay at the Katanning Resort Hotel while conducting a two day SAS course at Boddington for Worsley Alumina. According to Jenny, having a course presented at your own premises has a number of advantages apart from the obvious reduction in time away from work. "The people at the course are generally more familiar with the set-up of their machines and they also have more of an opportunity to work with their own data, which makes the course much more relevant to their needs", she said.

WARCC regularly conducts courses at UWA and at client sites in a range of computing areas including basic computer literacy and computer care, word processing, spreadsheet design, desktop publishing, statistical analysis, software quality assurance and expert systems.

*Continued on page seven, column three.*

# Geographical Information for Water Authority

WARCC Consulting Services member Kim Wearne has been co-ordinating the introduction of Geographical Information System (GIS) technology into the Water Resources Directorate of the Water Authority.

The Directorate's activities which relate to water resources assessment, management and planning have all benefited from the ability of GIS to assemble various sources of spatial data and easily display it in map form.

Managers and planners are required to present these data maps - GIS delivers this capability with little penalty for subsequent revision of data or requirements. Previously many users had commented that the time and effort involved in drafting maps meant that there was little chance in collaborative projects to respond to calls for new versions of proposals or to develop the proposals through a series of meetings. The quality of maps output from the Versatec electrostatic plotter gives the information presented an impressive appearance - it does not look hastily conceived or inaccurately defined.

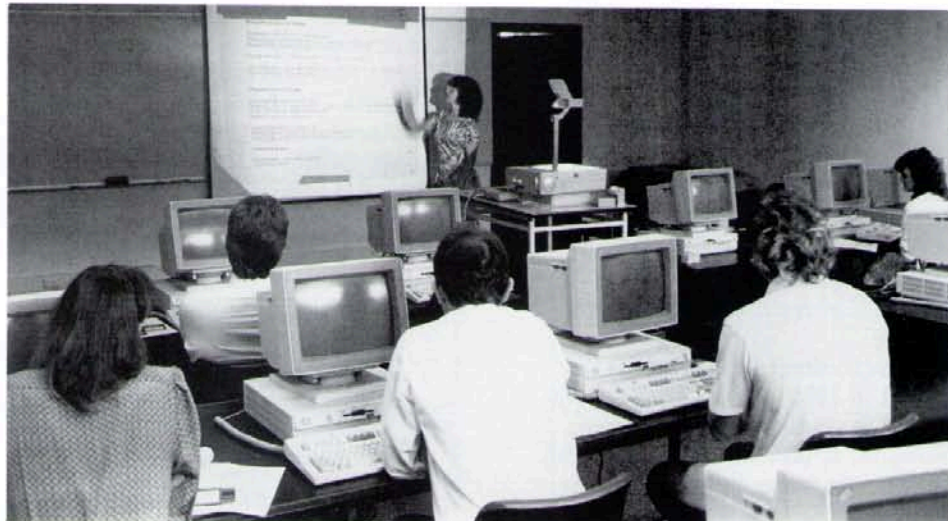
So far the digital mapping capability has been the foremost area of development. As skills improve, and data availability increases, there will be a demand to provide spatial analysis. This will require more sophisticated GIS software than is being used.

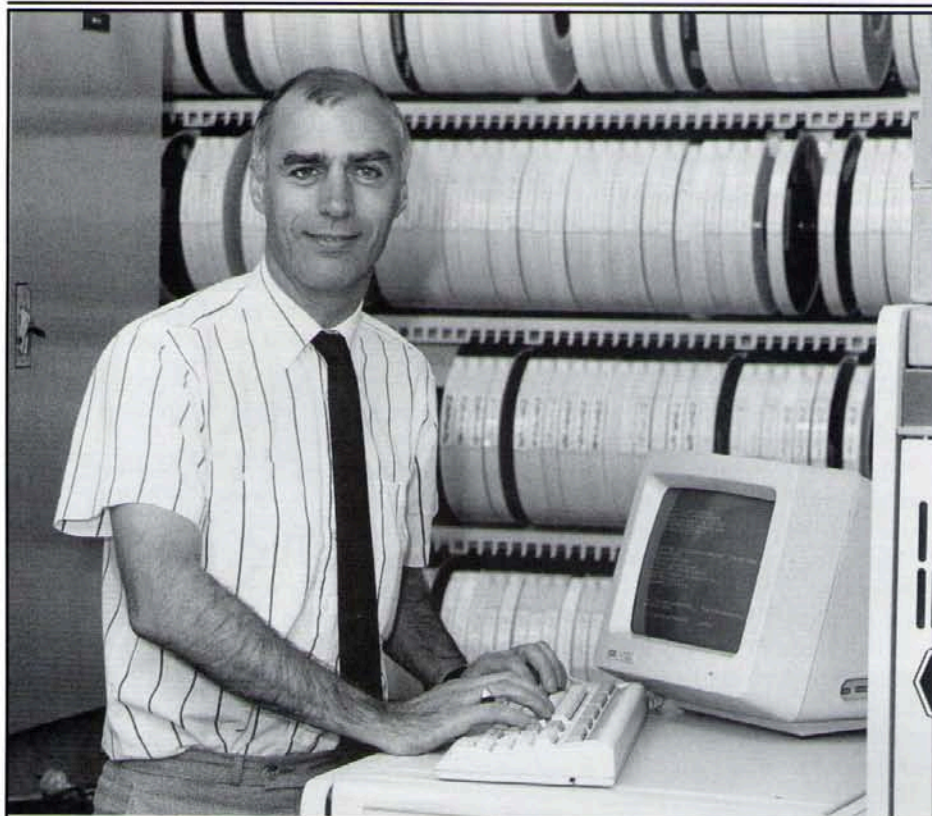
The engineering planners and designers at the Authority are also utilising GIS for pipe layout drawings and their maintenance.

As with all systems, methodologies and standards have had to be defined. A central support section to provide additional programming skills allows the users to get on with what they do best and lowers the cost of participation.

The introduction of GIS has already had many benefits, has been cost-effective and appears to offer utility to an increasing number of users.

*WARCC customised computer training courses are proving increasingly popular.*





## A NEW FACE FOR OPERATIONS

There's a new 'lilt' in WARCC's Operations Group, as Scottish born Dennis Fowles takes over as Manager from Paul Honore, who has left WARCC to work overseas.

Dennis aims to develop the Facilities Management side of WARCC Operations further and is pleased to have taken over management of a "strong team, who are both interested in their work and enthusiastic about new challenges".

Regarding Facilities Management he is confident "that WARCC is capable of absorbing new work quickly, based on the size of its operation and its experience".

Dennis brings with him experience in Disaster Recovery Planning, an area including contingency planning, in which WARCC is rapidly developing expertise.

Dennis' career in operations began in 1974 when he left the National Savings Bank of Glasgow, Scotland to take up a position with a large computer bureau working

with Honeywell and Sperry mainframes.

Dennis emigrated to Wanganui, New Zealand in 1977, taking a three year contract with the New Zealand Police Department.

Six years down the track he moved to Wellington to manage the Computer Operations Department for the Ministry of Defence.

Dennis was attracted to Perth in 1984 and has worked locally for SRIA and Access Technology.

He has also had experience with the Health Departments of NSW and WA, the latter in the area of Disaster Recovery Planning.

Dennis has been heard to say he has never worked so hard in his life - an exaggeration no doubt - but a measure of the rapidity of change at the Computing Centre.

## 'A Fishy Tale'

WARCC has been providing computing services to the Department of Fisheries since the early 1970's.

So when the Marine Research Laboratory at Waterman decided it needed some 'back-up', WARCC was ready to 'jump in'.

Since April this year we have been backing up their IBM 9370, sending an Operator on-site one night a week. We have several Operators who have been trained to do this task - even our Operators are backed up!

This was a good move on Fisheries' part, freeing up their personnel who had 'bigger fish to fry'.

It is planned that in the near future WARCC will throw its net over the Marine Research Laboratories' database back-up too.

Since taking the decision to boost their in-house computing facilities, the Department of Fisheries has been pleased to be able to draw from WARCC's wide range of services and expertise.

There is no truth in the rumour that WARCC is buying a Cray supercomputer for fisheries work!

## Major Installation

WARCC once again proved its ability to co-ordinate the installation of a major computer hardware system, when one of our largest clients requested help establishing a new Amdahl 5990/700.

The 5990/700 features 61 MIPS, 192 megabytes and 64 channels. It is economical on environmental requirements such as water, electricity and air conditioning.

The delivery was completed by Kwikasair, the computer transport specialists, who organised a crane from Brambles crane hire. The computer was hoisted safely through purpose built doors on WARCC's first floor and our Operations staff had the system up and running within 24 hours.

# Hypermedia Help

When Jonathan Quinn, an Honours student in computer science first put forward his research proposal for the study of micro-computer based multimedia presentations, one of his first problems was to acquire the appropriate multimedia equipment - including a Macintosh computer and a Pioneer Video Disc player.

Fortunately for Jonathan, WARCC's Manager for Microcomputer Support Rob van Zanten happened to meet his supervisor Dr Geoff Roy as he was returning from an Apple computer conference in Wollongong. They discussed the exciting prospects of hypermedia as they were flying across the Nullabor. An agreement was soon made and WARCC agreed to lend the necessary equipment to the Computer Science Department for a year.

Said Rob, "Those of us who attended the Wollongong conference could see great potential for integrating vision, sound, text and animation all under the control of the Macintosh, but realised that more work had to be done in understanding the technology. The logical way to proceed was to set up a hypermedia laboratory and Jonathan's honours thesis gave us

that opportunity".

Armed with his Mac and Video Disc, Jonathan set about finding out all he could about hypermedia, which he now describes as "the method of presenting information - text, video, sound - in a non-linear fashion. The users select what information they want to see next by activating associative links".

He then undertook the task of designing his own hypermedia system based on the *Voyager Gallery* video disk which gives video footage and information about the Voyager spacecraft and its exploration of the outer planets. With Jonathan's completed system a user can interactively call up general information about the planets or the construction of Voyager, look at video images of panoramic views of the planets or examine planetary maps.

One of Jonathan's major conclusions is that hypermedia offers enormous scope for future research, with the application of emerging technologies continually pushing forward the frontiers.

WARCC's Microcomputer Support Group hopes to continue this forward push through 1990. They have allocated \$30,000 for the support of research and development

projects over the coming year. As Rob van Zanten says "This assistance is part of our 1990 programme to foster creative and new uses for the Macintosh computer on campus. We will be able to provide both physical and financial assistance to 'seed' projects.

"Opportunities will be available for staff and students who have an idea and want to create reality from it.

"We hope to seed 20 to 30 projects in 1990 and produce results of benefit not only to UWA but to all the Apple Consortium universities in Australia.

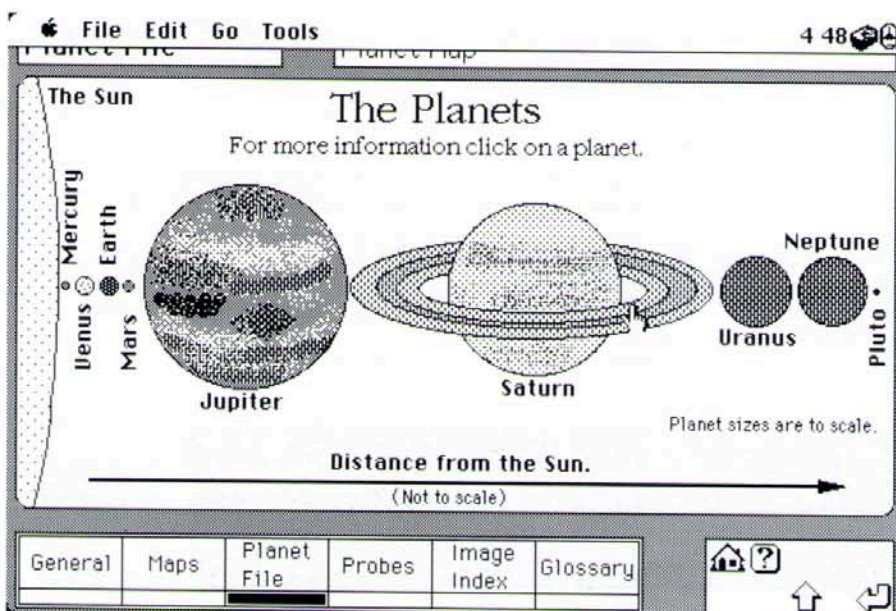
"Projects which can be commercialised will also be considered and Apple Australia have offered assistance for developers with such products."

The *Voyager Gallery* video disk is on display in the Microcomputer Support office at WARCC.

*Continued from page five.*

## Training Courses

A broadsheet containing details of forthcoming courses is produced monthly and distributed to various WARCC customers. If you wish to be included on the mailing list for this broadsheet or would like further information about WARCC's computing courses, please contact WARCC's Course Co-ordinator Jenny Edwards on 380 2654 or the Manager of the Consulting Services Division, John Langsford on 380 2616.



## WARCC SERVICES AND FACILITIES

*Situated on the campus of The University of Western Australia, WARCC provides computing power and a wide range of related services for the University, education, government and the private sector.*

### Help Desk

Assistance and advice on all matters relating to the Centre's services are provided in the first instance through the Help Desk service. The Help Desk office contains manuals and documentation for the Centre's computers and programs for reference. Some of these may be borrowed or purchased.

**Contact:** Help Desk, telephone 380 2606.

### Microcomputer Support

The Microcomputer Support Group provides rental and support services for Apple Macintosh, IBM PC and compatibles. Staff members and students of UWA and Murdoch University can purchase most hardware and software at a large discount.

**Contact:** Microcomputer Support, telephone 380 2621

### Laser Typesetting

A high-resolution (up to 2540 dots per inch) laser typesetting service enables clients to transfer text and graphics from microcomputers and mainframes to the typesetter for producing high-quality printed material.

**Contact:** Microcomputer Support, telephone 380 2621

### Graphics and Plotting

The Centre has a range of hardware and software to enable clients to produce graphics and plotting work. Hardware includes a large flatbed plotter, colour inkjet plotters, digitisers and graphics terminals. Software includes GKS and ARC/INFO.

**Contact:** Librarian, telephone 380 2627

### Program Libraries

Collections of programs for a wide range of purposes are kept in program libraries on all WARCC mainframes. Program librarians can advise clients on the most suitable software packages for their needs.

**Contact:** Help Desk, telephone 380 2606

### Programming and Applications Development

The Applications Group specialises in writing software for clients. Programs of any size or complexity are developed on client mainframes and microcomputers or on the Centre's machines. Programming languages include PASCAL, FORTRAN, C, LISP, PROLOG and MODULA. Recently, WARCC has pioneered the use of AI/Expert Systems techniques in software systems.

**Contact:** Applications Manager, telephone 380 2618

### System Quality Assurance

Assistance is available in consulting and training on software QA and project management.

**Contact:** Applications Manager, telephone 380 2618

### Training Courses

Training courses on various aspects of using the Centre's computers and services are held throughout the year. Courses include introductions to MS-DOS, SAS, and VAX/VMS as well as more advanced courses. Customised training courses can be organised on request.

**Contact:** Services Manager, telephone 380 2616.

### Database Systems Development

Database programming for mainframes and microcomputers as well as consulting and design are undertaken at the Centre. A range of database software is available on the Centre's computers.

**Contact:** Applications Manager, telephone 380 2618.

### Facilities Management

The facilities management service provides operations, technical and systems support for client computers. Contracts are arranged for the Centre to house equipment or to operate client installations.

**Contact:** Operations Manager, telephone 380 2603

### Contract Consultation

Consultation and unbiased professional advice in all areas of computing and information technology are available at the Centre.

**Contact:** Services Manager, telephone 380 2616

### CYBERNET Services

WA CYBERNET Services is a bureau service providing affordable access to specialised computer software for use in fields such as mining, construction and engineering.

**Contact:** CYBERNET Liaison Officer, telephone 380 2597.

### Statistical and Survey Analysis

All stages of analysis are undertaken including questionnaire design, data entry, statistical analysis and data presentation with graphics.

**Contact:** Applications Manager, telephone 380 2618

### Data Preparation

A key-to-disc data preparation service is offered by the Centre.

**Contact:** Supervisor, telephone 380 2601

### Data Communications

Data Communications can provide advice on modems, other communications devices and terminals. Design and manufacture of customised communications hardware is also available.

**Contact:** Data Communications, telephone 380 2626

### Technical Services

The Technical Services Group can provide systems programming and hardware support for a range of micro, mini and mainframe computers and operating systems.

**Contact:** Manager, telephone 380 2612

### Networks

Through the VAXA computer, clients can access host computers on the AUSTPAC and international packet networks. Clients around Australia and overseas can access the Centre's computers via AUSTPAC.

**Contact:** Technical Services, telephone 380 2620

### Electronic Mail

Through the VAXA computer, clients can access campus and international electronic mail services. **Contact:** Postmaster 380 2613

### Research and Development

As part of The University of Western Australia, the Centre is a recognised research organisation. Eligible research projects contracted to the Centre can attract a 150% tax incentive.

**Contact:** Services Manager, telephone 380 2616



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