World technology first for Australian libraries

Multi-media link in Sydney

The Multi-media Library Link (ISDN/DVI) Project, electronically linking the State Library of NSW and the Westmead campus of the University of Western Sydney, Nepean, was officially launched by the Hon John Fahey, NSW Minister for Employment and Industrial Relations at the State Library of NSW on 13 March, with a second ceremony taking place at the University on 22 March.

The Project will initially run for 6 weeks. It is seen as a world first, linking two new technologies; the ISDN (Integrated Services Digital Network) with DVI (Digital Video Interactive), to enable the transmission down the telephone line of virtually any information format, including those incorporating colour, captured by a video camera or downloaded from videodisc, CD-ROM or another computer storage device.

How does it work? Imagine a librarian at the State Library of NSW placing a coloured oil painting, or perhaps a page from an architectural journal with full colour illustrations, under a video camera. The computer operator, using a mouse, then clicks a camera icon appearing on the computer's screen which in turn activates the DVI chips within the computer to convert the analogue video signal to a compressed digital file.

The file, in faithful colour, is next placed by the mouse in the sender's out-tray. The operator clicks the telephone icon and the ISDN connection is made with a similar microcomputer at the Westmead Campus of the University of Western Sydney, Nepean.

The file is then transmitted at 64 000 bits per second to the in-tray of the computer at the University's end. The file may now be viewed by the receiver as an accurate colour facsimile of the original item — the compressed digital file structure having been converted to its original analogue form for viewing. Software development by JTEC is aimed towards 'stapling' (using the screen staple icon) an accompanying voice message to each transmitted image.

The Project will test the sending of nearly all information formats, and heralds a time when libraries will expand their services to supply remote clients with coloured illustrations, voice, video captured stills, group-4 fax, videodisc images, CD-ROM stored data, on an ISDN configured telephone line. It could eventually mean multi-media remote database searching and even a 'coloured ILANET' service.

Transmission of ultrasounds and x-rays, representing transparent light sources, important to medical libraries, will also be trialled during the project. Pages from journals and newspapers, especially those with colour illustrations will be transmitted, and where appropriate, compared with traditional fax technologies; bearing in mind that fax does not even cater for colour.

Of particular interest will be the interfacing of the State Library of NSW videodisc unit which should allow for any one of thousands of early Australian photographs to be electronically delivered to a recipient's computer that is configured with the essential hardware and software elements. Thus the ever-improving multi-media optical disk storage systems can be linked to multi-media transmission for resource sharing purposes, as offered by ISDN configured telephone lines.

Amanda Kelly, State Library NSW Project Coordinator,sending a coloured image to colleagues at the University of Western Sydney, Nepean.

Needless to say, the legal aspects of these technically feasible services are another matter, and future librarians will need to defend the public good, as has been traditionally the case in framing past copyright provisions affecting library delivery of information for the community's use.

In addition to the two libraries, the Project has attracted the generous support of Telecom Australia, the supplier of the ISDN Microlink service which converts a normal telephone line into a multiplexed digital highway offering two 64 Kb channels for text, images, voice, data, or any of the aforementioned in combination. Telecom is recognised as a world leader in ISDN technology, an important factor in allowing Australian libraries to develop the type of information services associated with 21st century library operations.

Futuretech Pty Ltd has supplied at no charge the compression/de-compression DVI circuit cards which convert an analogue signal, including a video camera captured image, to compressed digital form, as required by computers.

JTEC Pty Ltd, an innovative Australian company, has supplied gratis two state-of-the-art 386 workstation microcomputers which incorporate group-4 digital fax, a photocopier, phone, laser printer, filing system and document scanner. JTEC software developers have performed splendid work in linking the DVI circuit cards with their machines and in creating a simple to use (mouse operated) icon send/receive library file system running under Windows 3.0.

In these times of economic recession, the question surely begs... what does it all cost? It must be well understood that the Project is concerned with library developments expected to take place during the course of this decade, rather than within weeks or months. This year, a library could begin operations with a hardware, software, telecommunications installation costing in the vicinity of $40 000.

Costs should fall dramatically as the technology elements are adopted by Australian business, allowing savings in production costs. JTEC for instance is developing an ISDN card which will slot into any 386 IBM or compatible microcomputer. It is also known that DVI capacity will be standard on future IBM computers offering micro-channel architecture (MCA).

The ISDN charges are more than reasonable, and with a DVI file compression of 5:1, considerable savings are made. A colour 10" x 8" photograph from Sydney to Westmead incurs a transmission cost of just 17.6 cents... to Melbourne 25 cents. Telecom's ISDN Microlink attracts an initial installation fee of $360 and an annual charge of $864.

Sponsorship is being sought to ensure that further library-based trials take place; important not just to the library profession but to all sections of Australian society concerned with the transmission of multi-media information formats, nationally and internationally. Groups wishing to witness the trials should first contact the State Library's Project Coordinator, Amanda Kelly, on 230 1538.

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