

Programmed interiors

The trend to CADD, a software program for architectural and interior design using computer-generated graphics, is rapidly increasing in Canada. Some 15 per cent of the design firms in the country currently use the technology and it is expected that within ten years, most interior designers in the country will adopt the system.

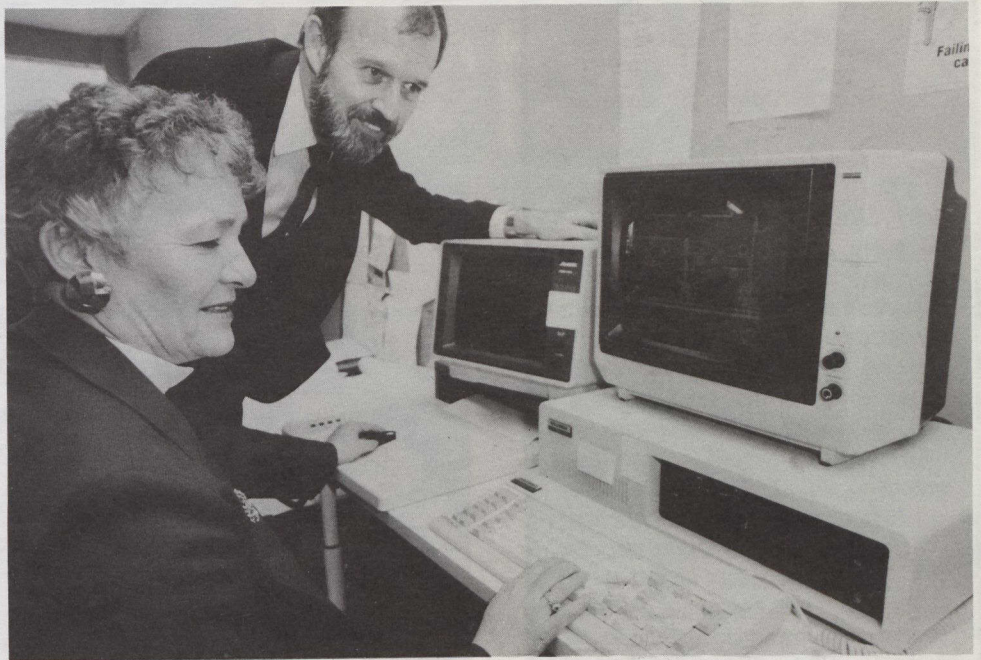
Carroll Thatcher, president of Ottawa-based Carroll Thatcher Design Inc., said that the \$25 000 system "takes away the drudgery involved in designing and leaves more time to do conceptual design".

Guy Thatcher, Carroll's husband and a computer consultant, said "it's the first major change in tools in 400 years for people who draw construction drawings". He suggested that the automobile industry and the space program, which require absolute accuracy, provided the technology for the system.

Build-up of transparencies

The CADD program consists of a series of transparencies representing a two-dimensional top view of a building with four bare walls. The interior is built in layers, one layer at a time. Everything from the windows, ducts, electrical system, right up to where the desks and chairs will be positioned is drawn on separate transparencies using different colours.

For the complete picture, all the transparencies can be placed on top of each other and up to 250 levels of detail can be



Carroll and Guy Thatcher design offices using the CADD computer program.

brought together at one time. For a partial picture, any combination of layers can be called up on the computer screen.

A blueprint or series of blueprints can be printed out with all the details or any combination of details on any size paper. The blueprints are completely accurate and no drafting is required.

Eliminating the drafting provides several benefits, the major one being the saving of time. When drafting is used, any changes result in laborious redrafting of every detail of a building. If, for example, a client wants

a doorway moved, the blueprints for the interior walls, electrical system, and the heating and cooling ducts all have to be redrafted. On the computer, if one change is made, changes to successive layers of detail are automatically performed without any drafting or redrafting.

The capability to redraw a design without redrafting can also save money. During construction time, for example, as changes to plans can be made quickly, less time is required for construction crews and machinery leading to lower construction costs.

Sasktel expands international markets

The Saskatchewan telephone crown corporation, Sasktel, is expanding rapidly into the international marketplace, where it is selling its expertise in the commercial use of communication fibre-optics technology.

In the past year, 45 international delegations have come to see Sasktel, which has one of the most advanced operational networks available. The delegations included businessmen and scientists from China, the Middle East, Australia and Europe. The greatest interest has come from the United States, Peru, Colombia and Venezuela. In addition telephone companies in Bermuda and Barbados have enlisted the advice of Sasktel to establish fibre-optic networks.

Jim Osborne, assistant vice-president of public affairs for Sasktel, said that in order to accommodate the large number of interested visitors, a special office was set up and it has become the corporation's international marketing wing.

Sasktel's experience comes from developing a 3 260-kilometre fibre-optic network linking 12 cities and 40 towns in the province.

In the 1970s, Sasktel began burying rural telephone wires. By 1980, the corporation had developed quick-burying techniques for fibre cables and in that year, the first 60 kilometres of cable were laid between Regina and the town of Yorkton. The success of that first venture prompted the subsequent laying of cable on the heavily used portions of the provincial grid.

Multi-use system

Mr. Osborne said the fibre system was designed to be a high capacity transmission medium for cable television to remote areas, and also to increase the capacity of the province's telephone and data network.

The single-mode fibre optic cable used in the network is manufactured by Northern Telecom Limited of Mississauga, Ontario.

It carries 135 megabits (million bits of information) a second. This compares with 45 megabits of the previous multimode technology, and the super-high-speed 565 megabit rate of a technology under development by Sasktel in Regina.

Fibre optics offer better value than microwave or satellite communications, as the latter two can develop problems such as interference during bad weather. Also, it is virtually impossible to tap into a fibre-optic system, while gaining illegal access to microwave frequencies or ordinary telephone lines is relatively easy.

Fibre-optic cable is made from glass, plastic and steel which are almost impervious to outside elements. Ordinary telephone wiring has an estimated life of only 30 years.

The cables, as thick as a man's thumb, are expected to be able to handle the province's voice, image and data needs for the next decade. One pair of 135-megabit lines can carry about 2 000 simultaneous telephone conversations.