

Panel considers simulation in the desktop age

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The wide availability of relatively powerful computers on people's desktops will force computer simulationists to rethink how they deal with simulation users, members of a panel concluded at the Society for Computer Simulation's annual conference in San Diego January 23-25.

In 1978, the available microcomputers — Apple IIs with 48K RAM running Basic — kept serious applications such as simulation in the province of researchers and companies using mainframes like VAX 11/780s. Managers would ask for a simulation and would several weeks later be given, oracle-like, a mound of green-and-white perforated paper to divine.

Now, the same manager probably has an IBM PC-XT with 512K RAM and 10M-byte hard disk, and is running complex spreadsheets (which the panelists agreed are simply financial simulation models). Indeed, today's microcomputers are comparable in power to yesterday's shared mainframes, argued Claude Barnett of Walla Walla College in Washington state. Microcomputer CPUs are slower than VAX CPUs, but a micro gives the user faster turnaround because its resources aren't shared, he said.

"Big, fast computers aren't going away — they seem to be used for bigger problems," offered Glen Johnson of CACI in La Jolla, California. As the power of desktop computers increases, so does their use for increasingly complex tasks. "The word 'microcomputer' is obsolete — it's just a desktop computer," asserted George Marr of Sorrento Valley Associates in San Diego, to the agreement of his fellow panelists and the audience.

The shift in power to the user means many of the traditional, moderately sized jobs can be done by a company in-

house. The simulationist becomes a consultant rather than a vendor. Simulationists will have to adapt to this growing I'll-do-it-myself attitude by letting users create and implement the models, said Ray Swartz of Berkeley Decision/Systems in Santa Cruz, California.

Users would not program the models, but would control them through an interactive interface. "Let users make their own models within the framework that we provide," he suggested. "Make a packaged simulation available to PC markets," Johnson echoed.

The tools a simulationist needs — lots of text processing, basic calculations, and a database manager — are supported by desktop computers, Johnson pointed out. But software for non-programmers who want to run simulations on their micros isn't. The challenge for simulationists, he said, is to write generic simulation models with adjustable parameters that are controlled by a simple, friendly user interface.

The problem of the simulation's user interface dominated the exchanges between the panelists and the audience. "People don't know what to do when A> appears on the screen. That's not part of our cultural experience," exclaimed moderator Lance Leventhal of Emulative Systems when asked if the stress on desktop computer interface software was "just a transition from holding your hand on a mainframe to holding your hand on a micro."

Most agreed that graphical menus, input-checking menus, and natural language interfaces were needed before users could run simulation models that they didn't program. However, when one member of the audience said that user-friendly interfaces don't exist for the small simulation programs available for desktop computers, another argued

that "most people who do simulations are not ignorant."

Still, as another participant pointed out, the success of spreadsheet software proves that the user can be ignorant about programming and still effectively use a computer if he knows the subject he is simulating. It also proves how

quickly the user can supplant the model programmer for what become routine simulations, he said.

However, making simulation software available to the engineering and scientific communities is more difficult than acknowledging its absence or designing

good user interfaces. "Where are you going to get an entrepreneur to invest \$10 million, where are you going to sell it?" Marr asked. The question to be addressed is "Who are you designing for? The simulationist? The business user? Who?" challenged a member of the audience. No one had an answer.