Seismic Program Functions Shown By Geodigit In Canada

MINNEAPOLIS – Major seismic programming functions including digital stacking, filtering, and deconvolution are gaining more and more attention. Significant progress is reported in the digital seismic data processing field, and computers in this application are operational in the United States, Canada, and various European countries.

Considerable interest in seismic processing was evinced by major Canadian petroleum and geophysical companies, who sent more than 200 representatives to a Geodigit open house at Calgary, Alberta. Geodigit is a new digital seismic data processing center operated by Compagnie General de Geophysique (CGG), one of the world's largest geophysical contractors.

All major seismic programming functions are said to be performed by Geodigit's Advance 6040 computer, developed by Electro-Mechanical Research, Inc. (EMR).

Game For Young Monarchs

YORKTOWN HEIGHTS, N.Y. – Grade school children are able to learn how to run a store, a company, or a country – by means of advanced computerized games. The players can actually take turns ruling a city state that flourished in 3500 BC in the Mesopotamian state of Sumer. Or, if they prefer, they can use the computer terminal setup to try managing a toy store, running a company that makes surfboards, or serving as advisors to a struggling young African nation.

Games in computer assisted instruction may be an effective means of teaching economic principles. By indicating various alternatives (with hunt and peck typing), a child can make decisions that dramatically effect the development of a country's people and economy, or that lead to wealth or bankruptcy in the world of business.

Marvelous Complexities

Computer games incorporate educational principles already in use, according to Dr Richard Wing, director of curriculum research for the Board of Cooperative Educational Services (Boces) in northern Westchester County. "They get children to act out situations instead of just reading or being told about them, and they allow a child to proceed at his own pace and receive instruction on an individual basis." This presents complexities that a computer is marvelously equipped to handle, he says. In the game in which youngsters reign over an ancient city state, the worst thing that could happen is to have the population disappear because of famine or disasters. "In almost all cases, however," Wing says, "our young rulers have left their kingdoms after a 36 year reign in pretty good shape." Each child rules over Lagash, an ancient Sumerian city state, for three 12 year periods. As he solves comparatively simple problems, he is presented with increasingly severe crises, such as rats invading the royal storehouse and grabbing up quantities of grain. He is helped in resolving these crises by the use of inventions – for example, clay jars (to foil the rats), crop rotation, fertilization, plows, and an alphabet – which actually originated in Lagash.

Sixth grader Joanne Chomich tries her hand at running a kingdom. The IBM communications terminal at which she is seated is linked to a computer stored with facts about Lagash, an ancient Mesopotamian city-state. By typing out responses to questions, suggestions, and alternatives printed by the computer on the terminal, Joanne can actually function as Lagash's ruler.

Making Profits

When the computer game involves managing a toy store or a surfboard manufacturing firm, the object, of course, is to make a big profit. The youngster who successfully advises the young African nation, gets that country off to a sound economic start.

It's not so easy to run a kingdom – particularly when you're only in the sixth grade and the rats eat your grain and the country you rule existed more than 5,000 years ago. But these problems, and many others almost as unusual, are being encountered by youngsters in northern Westchester County who use a typewriter-like communication terminal linked to an IBM computer. The terminal is linked by telephone to a 1401 and prints out questions, answers, background information, and instructions.

Boces, a New York State educational agency doing research in computer assisted instruction, has ordered IBM's most advanced computer, the system 360, and will use it for games as well as for administrative work and the teaching of data processing.

COMPUTERWORLD

applications

A Driverless Car In Your Future

NEW YORK – Driverless cars on computer controlled "guideways" could solve big city traffic problems. An automated transportation system could reduce accidents, congestion, and smog by letting automobiles be operated by machines instead of people.

Such a metropolitan system would replace human control with mechanical or electronic control, or both. Cars would run bumper to bumper down narrow lanes. Parking problems would be over because empty and idle autos would be automatically removed to outlying garages. Commuters could ride to work in their cars even if they did not know how to drive, and urbanites would not need operators' licenses. That is the vision of the future put forward by Dr Siegfried M. Breuning of Massachusetts Institute of Technology. He presented his views in a paper at the annual convention of the Institute of Electrical and Electronics Engineers.

Whisked Away

"Moreover," Breuning said, "these advantages probably could be obtained at lower costs than present transportation systems offer." The MIT studies, he said, envision what are called "dual-mode" vehicles. They would be able to be driven as automobiles on conventional streets. Or they could be driven onto a guideway and whisked away automatically to further destinations. Guideway scheduling and dispatching would be directed by central computers.

"The guideway could be located above or below ground," Breuning said. "It would be an addition to present transportation arteries and would relieve congestion as well as provide for expansion in capacity."

Political Problems

If the potential of automation is to be made reality, the time has come for the building of an experimental system that engineers and scientists can use to develop and test ideas and hardware, he said. Such an experiment should be flexible so that many promising alternatives can be introduced and tried out. Therefore, the system should be shielded from an avalanche of demands for application before research is complete or even sufficiently along. Also, long range planning should accompany research on an experimental system so that when installation does occur, problems of a social, economic, or political nature can be met.

Breuning is director of the highway transportation program of MIT's Project Transport, an interdisciplinary research effort directed toward systems engineering studies of transportation. Project Transport began in 1964 with a systems engineering study of research requirements for a high speed ground transportation network of the future to serve the Boston-Washington population corridor. Preliminary studies also were started on new concepts for metropolitan transportation. Support was provided by the U.S. Commerce Department and later the Transportation Department.

"All the Symptoms"

Research on methods of improving highway safety was started in 1966 as part of a highway transportation program supported by General Motors. "It became clear very quickly that highway safety is only a symptom of inefficiencies in the total process," Breuning said. "Congestion, parking, air pollution, time in transit, and cost are all symptoms of the same inefficiency."