

Applied AI News

by David Blanchard

Prairie Virtual Systems Corp. (Chicago, Ill.) has developed a barrier-free design virtual reality system that checks building access. The system, which helps designers meet the requirements of the American with Disabilities Act, assists in the design of interiors that are accessible and safe. It allows users to travel through a virtual world that simulates a proposed interior environment.

United Technologies Corp. (Hartford, Conn.) has developed intelligent maintenance aiding technology to reduce operation and support costs and increase the availability of complex equipment, systems and processes. The company is applying AI and expert systems technology in the development, manufacture and support of products using a patented AI technique called qualitative reasoning, which compares faulty operations to knowledge about how a system normally operates.

Pfizer Inc. (Groton, Conn.), a pharmaceutical company, has developed a neural network-based application for managing its new drug approval process. The software application, called Clinical Research Forms, was designed to serve as an industry model for Computer-Assisted New Drug Applications. The client/server system integrates scanning, optical character recognition and accurate retrieval of multiple data types stored in a user-defined relational database.

The Advanced Technology Group of Coopers & Lybrand (Boston, Mass.), one of the Big Six public accounting and consulting firms, has developed an intelligent process modeling and reengineering tool as part of its productivity and quality improvement programs. SPARKS (System Performance Analysis using Real-time Knowledge-based Simulation) is designed to help companies identify process and workflow inefficiencies and to make operational changes to enhance productivity. With SPARKS, users can reassign task flow and dis-

play the resulting changes.

Harvest Software Inc. (Sunnyvale, Cal.) has integrated a neural network-based character recognition system into its Harvest Operator software system. Harvest Operator automates the entire process of receiving faxed forms. The neural network adds intelligent recognition of handwritten and printed characters on documents to the Harvest software system, which automatically enters data from faxed forms into host-computer transaction applications.

Researchers at **Georgia Tech** (Atlanta, Ga.) and Emory University (Atlanta, Ga.) have developed a knowledge-based system to help cardiologists and radiologists diagnose coronary artery disease. The system, called PERFEX (for Perfusion Expert), interprets three-dimensional heart images that show how well blood is flowing through the heart muscle.

The Systems Research Division of British Telecom (Martlesham Heath, UK) is developing a virtual reality application to interactively visualize complex data and telecommunications networks. In the first phase of the project, BT has built a network consisting of three layers: transport, switched and access. The user is able to view the entire network or to take a more localized view, obtaining information about nodes and links. The next stage of the project will concentrate on using VR to better understand the behavior of networks.

Ontario Hydro (Toronto, Ont., Canada), which provides electricity to the province of Ontario, has developed a real-time intelligent system for the monitoring of its retubing tools and operations. The Retube Control System (RCS) enables the remote control of tools used in the reactor vault. The use of the RCS will help Ontario Hydro lower implementation and operational costs, as well as reduce outage time and radiation levels.

The US Navy's Naval Command

Control Ocean Surveillance Center (San Diego, Cal.) is conducting sea trials of a multi-beam acoustic signal detection and classification system. The Navy is evaluating the neural network-based system's ability to operate in real time, and to detect and classify acoustic signals.

Commonwealth Mortgage Assurance Co. (CMAC) (Philadelphia, Penn.), a provider of private mortgage insurance, has deployed an expert system to emulate human judgment in underwriting mortgage loans for mortgage insurance. CMAC will use the expert system to handle the more routine aspects of mortgage insurance risk evaluation, and will direct its underwriters' attention to those aspects of a loan package that need a higher level of human evaluation.

The **French Army** has designed an intelligent system to manage human resources. The application defines career evolution policies (promotions, recruitment, retirements, etc.), taking into account current and future personnel resources, and constraints such as maximum recruiting volumes or minimum promotion flows between groups of personnel. The system allows better control of various costs such as training and reconversion costs.

David Blanchard is editor of *Intelligent Systems Report*, the monthly newsletter of applied artificial intelligence.

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