GATE DELAYS - AT AIRPORTS - ARE MINIMISED FOR UNITED BY TEXAS INSTRUMENTS' EXPLORER

Apart from the odd story from Japan, there are still very few reports of artificial intelligence in action, but one such has been reported by United Airlines Inc and Texas Instruments Inc in a most unlikely setting - an airport Gate Assignment display system. And United reports that the system has already reduced travel delays at Chicago's much-too-busy O'Hare Airport and at Denver's bustling Stapleton Airport hub in the foothills of the Rocky Mountains. The new system, which has been operating for some months now, was developed by a combined team of UAL operations and management personnel and Texas Instruments knowledge engineers. According to the airline, the system is designed to increase the effectiveness of United's gate controllers in assigning aircraft to the series of available gates, thereby reducing those irritating flight delays that are related to ground operations. At the heart of the Gate Assignment system is an artificial intelligence program that captures the combined experience and knowledge of a half-dozen United operations experts. The knowledge-based system of course runs on Texas Instruments' Explorer workstations. At O'Hare, explains United, its gate controller and back-up gate controller must assign more than 400 flights daily to one of 50 gates. It can becomes a high-stakes game of musical chairs when weather problems and other flight delays demand frequent changes in operational plans. And unique gate restrictions for McDonnell Douglas DC-8 (gosh, is United still using DC-8s?) and DC-10 and Boeing 747 aircraft add further complexity to the gate assignment process. Previously, the process was handled by experienced staff who relied on memory and a wall-sized scheduling board full of magnetic aircraft symbols, to chart arrivals and departures. Janet Wejman, United's product manager for the gate assignment system, notes that it was installed in three operational phases, beginning with a stand-alone system that did not tie in to United's nationwide Unimatic flight information data system. The gate controllers soon found they were more effective with the new system than they could have been with the old manual system, and a phased approach also enabled them to become more familiar with the system as it was enhanced. The second phase added a complete view of all gates at the airport and incorporated many other refinements suggested by the gate controllers themselves. In July 1987, the interface that connects the Explorer-based system to the comprehensive Unimatic system, was implemented at both O'Hare and Stapleton. Now, Unimatic feeds flight information data directly into GADS, and gate controllers, in turn, can update this flight information as the gate assignment plan is changed. The automated phase also provides minute-by-minute aerial views of all our gates, showing the location of our aircraft and status information on each flight, declares a happy Ms Wejman.