MEDIA MONITORS

Australian
15/07/2008
Page: 28
IT Today
Region: National
Circulation: 133000
Type: National
Size: 350.09 sq.cms
MTWTF

Cost effective: Richi Nayak says the building components life predictions system is the first based on data mining **Picture: Lyndon Mechielsen**

Data mining software helps building safety

Jennifer Foreshew
Software

SOFTWARE that predicts the service life of building components as well as the most cost-effective material has been developed for the Queensland Department of Public Works.

Created at the Co-operative Research Centre for Construction Innovation, based at Queensland University of Technology, in collaboration with CSIRO Materials Science and Engineering, the software monitors the metal health of buildings across the state, including 1200 schools.

The system accesses a number of databases of component lifetimes, derived in different ways, making it more robust. It reduces the need to physically inspect a building to find out if metal is corroded.

The Queensland Department of Public Works, which collaborates with the CRC, is investigating ways of using the tool for building design and maintenance. Further research will assess the expected maintenance cost savings.

QUT IT faculty senior lecturer Richi Nayak said the building components life predictions system was the first based on data mining. "The department wanted a system that could take various information about the service life of building components and automatically predict the service life of any new components or new building part in the future, based on historical information," said Dr Nayak, a data mining researcher.

"For example, if they are planning a new building in a particular location and they want to know what metal would last the longest, they can feed the basic information into the system and it would predict the estimated service life."

The service life predictions would enable the department to plan its maintenance schedule. The system also helps to make cost-effective material selections for new buildings and replacement parts. "It would take the information of the current building and predict how many more years these components would last," Dr Nayak said.

The system involves 10 components such as downpipes, ridge capping, roof fasteners, roof sheeting, sub-flooring, window frames and steel supports.

The materials it covers include galvanised steel, Zincalume and Colorbond.

Dr Nayak said timely maintenance rather than reactive repairs would cut maintenance bills on buildings while improving safety.

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