e-Business Automation

Professor Yan Zhang from the School of Computing and Mathematics, in collaboration with Smartlink Solutions Pty Ltd., is developing mathematical and computational solutions for sophisticated e-business automated systems. This research is supported by an Australian Research Council Linkage Project Grant.

'Internet-based business has rapidly expanded over the years and to facilitate this growth electronic (e)-business automation and integration technologies have become more complex and demanding', says Professor Zhang. 'We are already familiar with simple e-market mechanisms such as the fixed sale process or the basic auction model of eBay, but to do anything more complex requires high level mathematical and computational language that has not been adequately developed yet. Sophisticated electronic business transactions that are highly or totally automated need to use models that accurately negotiate and verify the sales process according to the underlying conditions and rules of trade. This inter-disciplinary project takes a novel approach for e-business automation by developing a new formal mathematical language for defining complex market environments and a new practical technology for e-market system development.'

An e-business market framework will be constructed using new mathematical and computational language and together with complex market negotiation algorithms, a fully-automated "Online Home Loan Offer Comparison" system will be developed and tested. This system finds home-loan packages suitable for a particular customer's needs and compares offers from financial institutions, finally sending the most appropriate offers to customers.

This frontier technology has numerous potential benefits to advance complex, secure and highly efficient automated e-market systems for a wide variety of Australian businesses and institutions. This would position Australia very well in the global marketplace, which is quickly becoming dominated by e-business.

Project Title: Developing Sophisticated e-Business Automation
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