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Does your new office or house design comply?

CRC Construction Innovation
BUILDING OUR FUTURE

DesignCheck will tell you

4 May 2005

Australia's building codes exist to protect the community. But the codes are many and complex and non-compliance can be expensive.

For one high-residential building the wrong answer cost $5 million in design and construction changes.

For house builders getting the details right can mean many visits to the local council to negotiate approval.

Dr Lan Ding has the solution – an automated design checking system – DesignCheck – that quickly assesses if a building design meets the requirements of Australia's new building disabled access code.

The system was developed by Lan, and a team of Sydney and Melbourne researchers from the Cooperative Research Centre for Construction Innovation. It's the first step towards a comprehensive program that would cover all of Australia's diverse building codes.

design check
Automated Code Checking

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"We've been waiting for thirty years for someone to do this. Lan has both turned the codes into a readable format and then automated the checking process. It's a stunning achievement that could dramatically streamline the building design process," says Moshe Gilvitz, Director of Victoria's Building Commission.

"The DesignCheck software tool assesses building designs against complex building codes. Through early identification of potential problems, the software overcomes inefficiencies in code compliance checking by reducing both time and cost," said Dr Keith Hampson, of the Construction Innovation CRC.

"DesignCheck checks sketch designs, detailed designs and specifications," Lan says. "For example, when designers load a sketch design file into DesignCheck, it allows a path of travel to be checked against accessibility by the disabled."

"When a detailed design is loaded, door type, door width, handrail height etc. can be checked. If designers would like to check more details such as fittings in a disabled toilet, they can be checked through specifications."

"Recently a shopping centre found that it didn't comply with the requirement that the travel distance to a choice of the points to exit should be equal or less than 20 meters. Finding solutions was expensive," Lan says.

According to David Marchant, IT Manager for international architects Woods Bagot, "The tool will benefit designers as it enables us to analyse a virtual model. We can check our code requirements at different stages of the design right up to when we hand it over to the client. They then have the same opportunity during ongoing use and maintenance of the building in being able to check how various changes to the design interact with the codes."

Building designers are not the only professionals likely to benefit from DesignCheck. It will also be useful to building certifiers, consultants, building code authorities and specification writers, and could smooth the way for everyone involved in complex building projects – from office blocks to home extensions.

Partners collaborating in the development of DesignCheck are: CSIRO, The University of Sydney, Building Commission (Victoria), Woods Bagot and Australian Building Codes Board.

For further information contact Dr Lan Ding on (02) 9490 5457 / 0413 268 584 or email lan.ding@csiro.au and visit www.freshinnovators.org for images.

Fresh Innovators is supported by: the Department of Industry, Tourism and Resources through the National Innovation Awareness Strategy; British Council Australia; and New Scientist magazine.