



Dr Lovell. PHOTO: Brian Condron

Signs of the times

“Intelligent” car numberplate and sign-recognition software for Australian conditions has almost endless potential uses.

Your car’s numberplate will be scanned like a barcode 24-hours-a-day by police, traffic cameras, restaurants and banks, if a UQ computer team has its way.

The team has created two software bundles that read and display traffic signs and numberplates as you drive.

Both systems use a conventional video camera to feed the software which runs under *Windows* on a *Pentium* computer.

“It’s very easy to install a camera and video tape of traffic, but to get any information from it at present, you need to have a person watching it,” UQ Associate Professor Brian Lovell said.

“How do you do it without the person?”

So Dr Lovell, Research Director of UQ’s Intelligent Real-Time Imaging and Sensing Group (IRIS), went to his information technology and engineering students for answers.

They finetuned the best methods for what they called an intelligent traffic system.

The sign-reading software finds objects resembling signs from the camera’s field of view then matches them from a database.

The plate-recognition software

pinpoints the plate, then reads and matches the numbers and letters.

Early plate trials have shown a 99 percent recognition rate, but more trials will be conducted.

The software could be used in toll-road fee collection, parking fee collection, traffic control, law enforcement, security and traffic planning.

It can also be adjusted to read Queensland personalised plates.

Dr Lovell said the system could be installed in all police cars which could then look for wanted vehicles and warn the officer of their presence while he or she was driving.

It could detect illegal u-turns, transit lane cheats, be transformed into a speed camera for enforcement, or linked to a car’s cruise control system to help drivers avoid speeding fines.

Police could plant a portable version for stakeouts or drug raids to monitor car movements.

Banks, service stations, drive-through restaurants, and shops could use the system for all oncoming and outgoing traffic to identify regular customers for special treatment, curbside shoplifting and robberies, or just to

find out more about the demographics of their customers.

Dr Lovell said he was not worried about the software being used as another form of intrusive surveillance.

“A person can legally stand there and record numberplates already, it’s just that this technology makes the task automated and cheap,” he said.

Discussions have been held with Queensland Transport and the Queensland Police about the software and there has been strong interstate and international interest.

Several European imaging companies are interested in the software, to help value-add to their products.

He said UQ’s traffic reading software was better than existing solutions because it was based on the latest computer-vision technologies.

Current European and American systems didn’t account for Australian signs and road conditions.

“One problem if you drive in Europe is the sheer volume of signage,” he said.

“It’s like reading a telephone book as you’re driving along. There are so many different exits and cities.

“When you’re driving at 150kmh, humans just can’t keep up with all the traffic information.”