

New way to guide a car: With your eyes, not hands

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Scientist David Latotzky of Freie Universitaet Berlin sits in a car turning the steering wheel with his eye movements in Berlin, Friday, April 23, 2010. The scientists developed the software "EyeDriver" to steer their car "Spirit of Berlin" just by the movement of the eyes. (AP Photo/Gero Breloer)

Tired of spinning that steering wheel? Try this: German researchers have developed a new technology that lets drivers steer cars using only their eyes.

Raul Rojas, an [artificial intelligence](#) researcher at Berlin's Free University, said Friday that the technology tracks a driver's eye movement and, in turn, steers the car in whatever direction they're looking.

Rojas and his team presented the technology-packed prototype under a clear blue sky at an airport in the German capital.

The Dodge Caravan crisscrossed the tarmac at the abandoned Tempelhof Airport, its driver using his line of sight to control the car. The car's [steering wheel](#) was turning as if guided by ghostly hands.

The technology called eyeDriver lets the car drive up to 31 mph (50 kph).

"The next step will be to get it to drive 60 miles per

hour," Rojas said.

Ultimately, however, the Mexican-born researcher is aiming for even more: "The biggest challenge is of course to drive in a city with [pedestrians](#) and lots of obstacles."

For now, exercises remain relatively simple. The Dodge chases a pedestrian or another car across the tarmac and shows his agility and even drives backward - the driver only has to look into the rear mirror to guide the car.

However, it remains unclear when - or if - the technology will be commercialized as questions about safety and practicability abound: What about looking at a cute girl next to the road for a few seconds? Not to mention taking phone calls or typing a text while driving.

But the researchers have an answer to distracted [drivers](#): "The Spirit of Berlin" is also an [autonomous car](#) equipped with [GPS navigation](#), scores of cameras, lasers and scanners that enable it to drive by itself.

"The car can do everything. It can drive autonomously or it can be guided by a driver's eyes," Rojas said. The compromise is a mode that has the car driving on its own, basing its decisions on input from scanners and cameras, and only requires the driver to give guidance at crossroads.

"The car stops at intersections and asks the driver for guidance on which road to take," the researchers say. A few seconds of attention with the driver looking in his desired direction get the car flowing again.

To demonstrate the car's autonomy, Rojas at one point jumped in front of the car - which was at that moment driving at perhaps 10 miles per hour - and the Dodge was immediately stopped by the cameras that had detected the obstacle.

"I was lucky this time," Rojas said jokingly.

While Rojas escaped, driver David Latotzky sat calmly on the passenger seat, wearing a bicycle helmet that is key to the functioning of the EyeDriver: One camera mounted on top of it monitors the street, a second one constantly keeps track of the driver's eyes' movements.

"We chose a bicycle helmet because they're the most ergonomic ones," Rojas said. Selling that technology to customers, however, might be a tough call - it the driver look like he or she came straight out of a Star Wars movie.

But if using your eyes for steering seems to tricky anyway, the researchers already have an alternative: Use your iPhone instead. In fall last year they presented a technology that allows to use Apple's smart phone as remote control for the car.

"Autonomous driving systems may considerably change our mobility in the future," Rojas said.

And should the technology-packed vehicle have a major bug, there's still an old fashioned way of stopping it.

Two big external emergency buttons at the rear of the car allow people outside to shut down all systems.

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