Mobile Gaming
An engineer puts an arcade cabinet on wheels

IN THE LATE 1980s, millions of arcade-addicted kids sat in the faux racing seats of Sega’s OutRun videogame, grabbed the rubber-covered wheel of the imitation Ferrari Testarossa, pressed down on the pedals, and imagined they were roaring down the street. Twenty-five years later, one of those kids, Garret Hertz, has realized that fantasy, modding an 1,000-pound arcade cabinet into a steerable ride on pavement.

Hertz, an engineer, designer and artist, came up with the idea when he spotted an OutRun cabinet at an arcade in 2008. A few months later, he found one for sale online and bought it. He also bought an old golf cart on Craigslist, which had a wheelbase that matched the footprint of the game cabinet.

At the time, Hertz was teaching video-game development at the University of California at Irvine, and a few of his students offered to help with his project. The team stripped the 1959 Turf Rider cart down to its drivetrain and mounted the cabinet on top. But the weight was too much for the cart’s three-wheeled chassis, causing the vehicle to tip easily on turns. At that point, the project got sponsored by the Center for Computer Games and Virtual Worlds, a game-research initiative at Irvine, which bought him a 2007 four-wheeled golf cart to replace the Turf Rider. The group then spent the summer of 2010 cutting, welding, and wiring to combine the cabinet with the cart. Hertz had to build a custom steering column to link the game’s wheel with the cart’s steering system.

Yet all that work was simple compared with what came next. Instead of swapping the game’s screen for a windshield, the crew mounted two webcams on the cart, wired them to a laptop inside the cart, and wrote software that converts the camera’s view of sidewalks and roads into a video of an 8-bit OutRun-style freeway.

The video appears on a flat-screen monitor in front of the driver. Hertz has tested the cart on walkways and quiet roads, but operating it is hardly a mellow experience, despite the 13mph top speed. “You’re trusting your fate to a piece of software,” he says. “The thing is terrifying to drive.”

SAFETY
The first version of the software detected only roads, not people. Once Hertz started showing off the cart at art shows and other gatherings, he started worrying about colliding with bystanders. Recently, he altered the software to superimpose the arcade-style video over a live feed of the real-world view. The game car handles well and turns safely, but just in case it ever rolls, he built custom mounts for each of the batteries to secure them to the frame.