

## Features

### Hardware Features:

- A Pontiac G6 convertible with the engine removed.
- Sound and vibration transducers.
- Six 7-foot tall, 7-foot 2-inch wide projection screens, each permitting the projection of a 50 degree display for a total of 300 degrees wrap-around view.
- Six image generation PC's (1024 X 768 resolution).
- Three video monitors.
- Four miniature cameras for real time visual monitoring, which enable researchers to film the driver from the front (head, shoulders, feet shot), the back (to film hand and control movement), and feet.
- Measures many variables, representing all driver inputs and all vehicle states, and audio and video recordings of the driver can also be made.
- Standard controls, as well as audio and vibration transducers and force feedback designed to provide a realistic driving experience.

### Software Features:

- The software suite is broken down into five modes: Terrain, Vehicle, Scenario, Simulation, and Analysis. These allow us to customize road networks, the attributes of the vehicle, create the code that runs events in the simulation, run the simulation, and analyze the data from the simulator.
- Visual channels run at 60 Hz. The minimal lag between a driver action and the response of the system reduces the likelihood that the drivers will experience simulator sickness.
- Realistic modeling of many different road, weather, and lighting conditions and permits precise control of traffic events such as the behavior of other drivers and vehicles in the simulated environment.
- Permits programming of complex and closely timed interactions between actions and simulator events, necessary when studying the attentional switching between events.
- Easy scripting language and network interface allows the simulator to interface with third party devices such as smartphones, laptops, and tablets with minimal programming.

## Principle Advantages of Simulator Research

Simulators permit close control of traffic events ordinarily not possible in actual driving situations. Simulators enable drivers to be tested safely under the challenging driving conditions most likely to produce crashes in real-life.

### Advantages of the University of Guelph Simulator

It is a higher fidelity system (better graphics, vehicle dynamics, and modelled traffic environments). Oktal's SCANeR software suite allows for completely customized road environments. Better measurement precision (vehicle movements, driver responses) and programming flexibility. It is versatile, and has been used successfully with other equipment such as eye track monitors, iPods, and smartphones. The simulator has a high quality wide-angle visual display, necessary for the research in question.

## Features

Published on Department of Psychology (<https://www.uoguelph.ca/psychology>)

---

**Source URL:** <https://www.uoguelph.ca/psychology/dr-lana-tricks-website-drive-lab/features>