Realtime technologies

ARTICLE #2

RESEARCH SIMULATION FOR IMPROVING ROAD SAFETY

FOUR WAYS DRIVING SIMULATORS HAVE INFORMED THE RESEARCH INDUSTRY ARTICLE SERIES

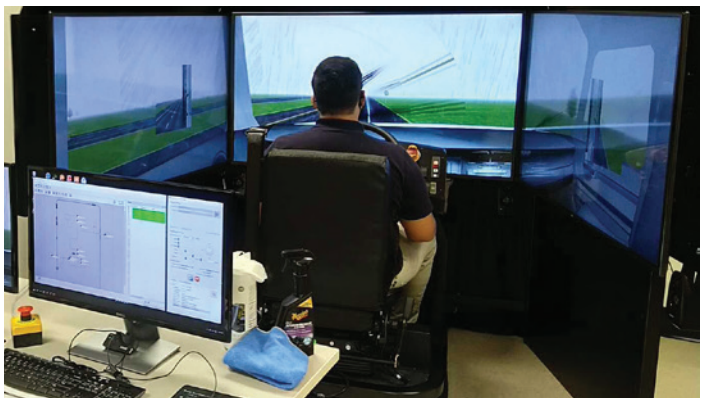
RESEARCH SIMULATION FOR IMPROVING ROAD SAFETY

VEHICLES ARE JUST ONE ELEMENT OF ROAD SAFETY

According to the World Health Organization (WHO), road traffic accidents are the main killers of children and young people aged 5 to 29. If this trend continues, road traffic injuries will rank fifth among the top ten causes of death in the world by 2030.

But improving road safety goes far beyond how vehicles interact with each other and the roadway. For example, WHO estimates that roughly 68,000 Chinese pedestrians are killed each year. That is more than a quarter of all Chinese road fatalities. (For comparison, although the United States and China have nearly the same number of cars on the road in a given year—around 280 million—the US has fewer than 1/10th as many pedestrian fatalities each year.)

WHO calls this "distracted walking"—analogous to "distracted driving" and a potent reminder that any given roadway is a complex environment where motor vehicles, cyclists, people, animals, civil engineering, architecture, and weather all interact to create a unique set of constantly changing conditions.



SIMCREATOR DX INCLEMENT WEATHER DRIVING SIMULATION

POTENTIALLY DISTRACTED PEDESTRIANS

USING RTI SYSTEMS TO BETTER UNDERSTAND DRIVER BEHAVIORS

Until recently, doing research on driver behavior was a slow process. Research teams needed to be proficient in C++, JavaScript, or other programming languages. Even with that expertise, months were lost to tedious development and debugging.

The latest simulators from Realtime Technologies (RTI) have removed this obstacle. These simulation platforms bring together high quality immersive simulation hardware (full cabs, force feedback steering, motion platforms, etc.) with a powerful, graphical scenario authoring and development tool (SimCreator DX) and integrated data collection (SimObserver). In just minutes, research teams with no programming specialists can begin constructing rich, immersive, complex driving scenarios that include ambient pedestrians and traffic, bicycle and construction zone interaction, distracted pedestrians, animals, audio cues, changing weather or visibility conditions, and more.

1229 Oak Valley Drive • Ann Arbor, MI 48108 • (248) 548-4876

Realtime technologies

COMPLEX DRIVING ENVIRONMENTS IN SIMCREATOR DX INCLUDES TRAFFIC, BICYCLE, AND CONSTRUCTION ZONE INTERACTIONS

RESEARCH BIKE SIMULATOR

Premier research institutions and automakers world-wide already rely on RTI simulation platforms for their roadway safety research. For example, both Oregon State University and the University of Texas have installed RTI motor vehicle and bicycle simulators. These are networked systems that allow researchers to explore how cyclists and motorists share the road. At Ohio State University and the University of Alabama at Birmingham, teams of psychologists, occupational therapists, and doctors have used their RTI simulator system to uncover the special driving challenges faced by individuals who have suffered a concussion or other brain injury.

FEATURES

- Research more than motor vehicles: integrate real and simulated bicycle, pedestrians, and more
- Coordinate experiment design, development, and data collection in a single system
- Deploy the same simulation platform as the University of Massachusetts, University of Texas, and Ohio State University (in cooperation with Honda Motor Company)

CUTTING EDGE SIMULATORS FOR DRIVING RESEARCH

RESEARCH SIMULATION SIMPLIFIED

Realtime technologies

Phone: (248) 548-4876
Email: sales@simcreator.com
Website: SIMCREATOR.COM