

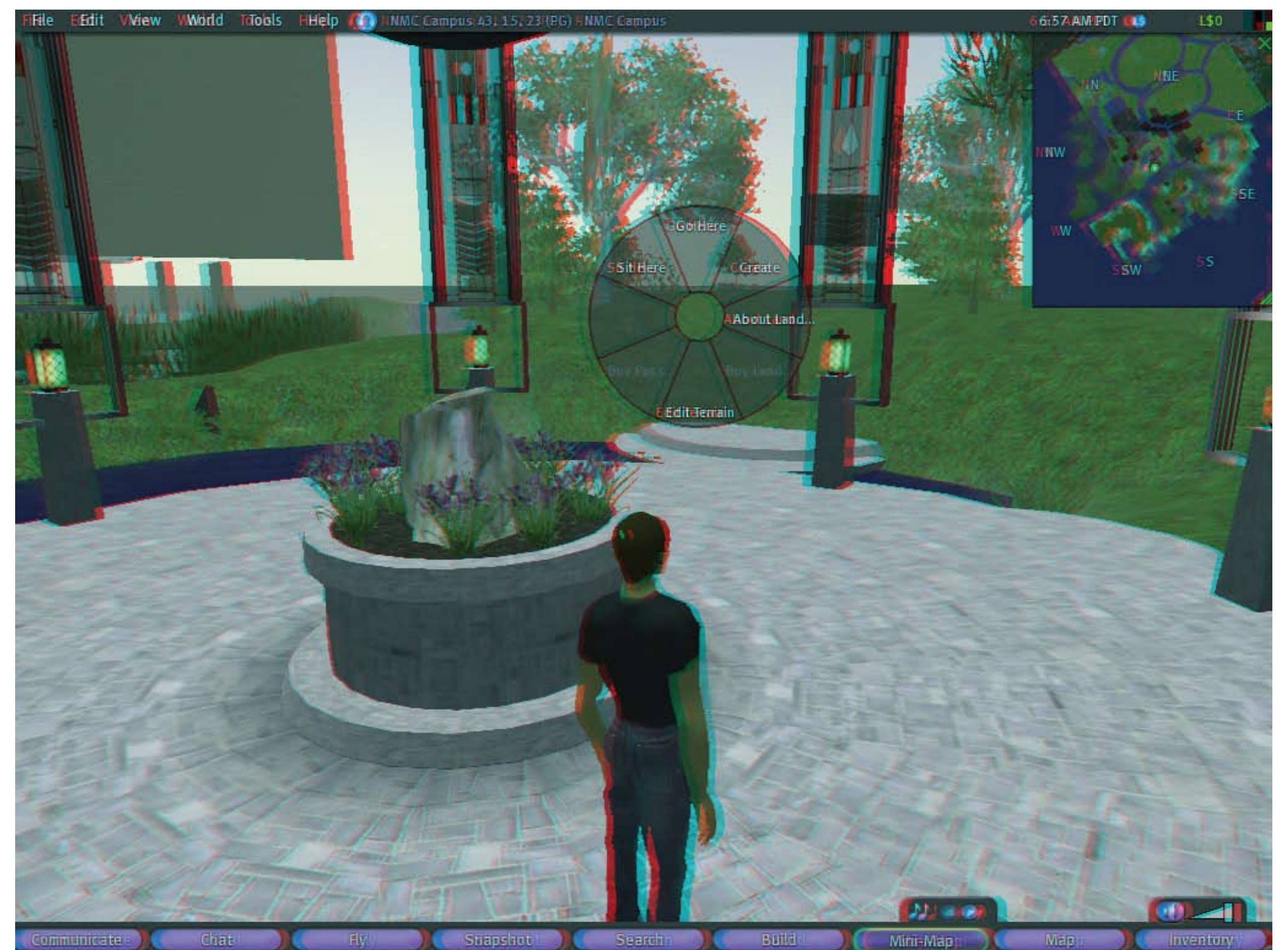
Second Life Stereo Viewer



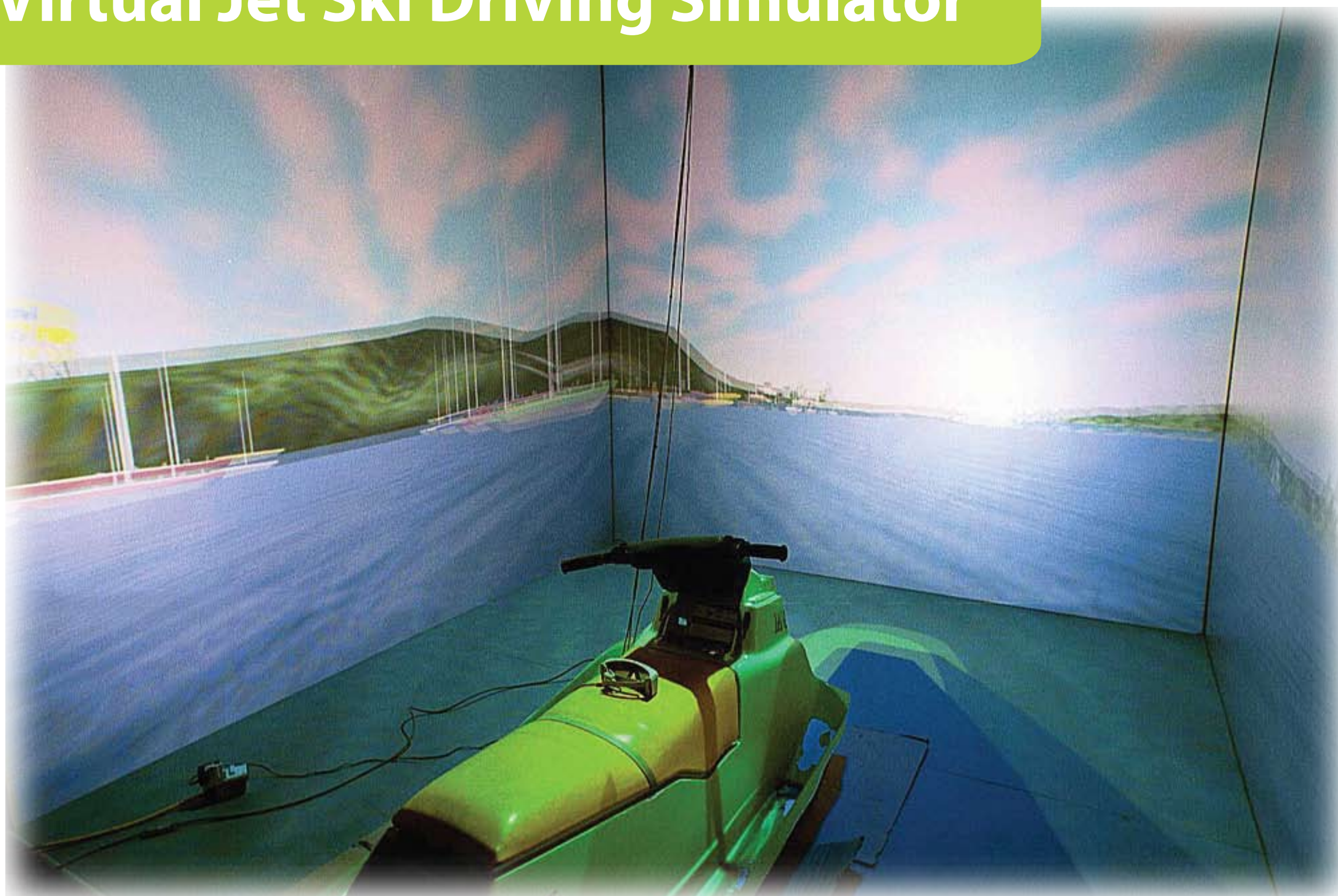
Linden Lab's "Second Life" belongs to the growing number of Massively Multiplayer Online Games. It is an Internet-based social space built by its users (residents) as a 3d virtual world. Users can acquire land, raise buildings, model and animate 3d objects, buy and sell virtual goods, or participate in scheduled events. Visitors to Second Life are represented as avatars (3d virtual characters), can see each other, and can communicate and socialize. The UM is interested in the use of Second Life for educational activities.

When Linden Lab released the source code for its viewer (a program that need to be downloaded to interact with Second Life), the 3D Lab added support for stereoscopic viewing. Wearing low-cost stereo glasses, users can now experience the 3d world of Second Life in full stereo. Objects pop out of the screen and terrains stretch into infinity, a truly unique enhancement for exploring 3d worlds.

Linden Lab will soon provide the stereo function as a standard feature of its viewer. Using anaglyph technology or polarized light, Second Life can be experienced in stereo on laptops or desktops as well as on advanced projection systems similar to IMAX theatres.



Virtual Jet Ski Driving Simulator



Developed for the U.S. Coast Guard in cooperation with the Research Triangle Institute, this simulator allows a user to drive a Jet Ski through a lake environment that is presented in an immersive Virtual Reality CAVE system. Handlebar and throttle operation are registered by sensors and fed into a physics-based simulation program that controls all aspects of the Jet Ski's dynamic behavior, thereby, creating a realistic experience of Jet Ski driving.

The simulator is used to study human risk factors related to Jet Ski driving. In recreational boating, Jet Skis are involved in accidents in disproportional numbers. Accident scenarios can be simulated and the reaction of operators in specific situations (including the handling of off-throttle steering loss) can be studied.

The simulator provides a cost-effective analysis tool for regulators and equipment designers as well as a training device for Jet Ski operators, enforcers, and educators.



Virtual Disaster Simulator



This simulator uses the 3D Lab's fully immersive Virtual Reality CAVE system and creates in a convincing way the chaotic scene after a bomb explosion including victims presented as animated virtual characters. A special scripting function allows for a flexible configuration of the disaster scenario; number, type and placement of victims, as well as the victims' movements can be defined interactively.

The simulator is used for the training of first responders (paramedics, fire fighter, police officers) arriving at the scene of a disaster and being confronted with victims in need of urgent help. Trainees learn and practice the decisions and skills required in handling disaster situations.

The Virtual Disaster Simulator was developed in cooperation with UM Medical School and is funded by the Center for Disease Control and Prevention (CDC).

