In-Car Multimedia Platform
Nokia’s HERE is a location cloud that attempts to deliver maps and location information across multiple screens and operating systems. The HERE Auto in-car multimedia platform allows cars to compute real-time information on demand. In addition to synchronization with external devices such as smartphones, key features of HERE Auto and its companion app (available for Android and Windows smartphones) include turn-by-turn navigation, real-time traffic, online itinerary planning, traffic rerouting, and fuel price updates as well as destination information such as street-level images, parking availability, and indoor maps. The HERE Auto system also works offline to assist users in areas with weak or absent mobile network coverage. Nokia’s HERE offers voice-guided navigation in 95 countries in more than 50 languages and live traffic information for 34 countries.

HERE Auto has been adopted by automobile manufacturer Mercedes-Benz, a division of Daimler, and automotive system integrators, Continental Corporation and Magneti Marelli. Visit http://blog.here.com to learn more about HERE and HERE Auto.

Mind Controlled VR Environment
Developer Chris Zaharia has released a prototype that allows users to navigate virtual environments and manipulate virtual objects with their minds. The prototype software uses an Oculus Rift VR headset and Razer Hydra motion sensing controllers. The project is a work in progress and requires the combination of the Oculus Rift and Razer Hydra hardware as well as an Emotiv EPOC, a high-resolution, multichannel, wireless neuroheadset. The Emotiv EPOC device translates specific thought patterns into actions to enable users to interact with the prototype with their thoughts.

Zaharia has built basic demonstrations that show how the system could be used in education, the medical field, and a first-person shooter videogame. With Zaharia’s homemade setup, users can perform basic actions such as a
navigating a virtual space, grabbing objects, and squeezing a trigger with their thoughts.

The software and a video of the prototype are available to download from Zaharia’s website: http://chriszaharia.com/virtual-reality-education/.

**3D Smart Sensor**

LMI Technologies, a developer of 3D scanning, measurement, and data visualization technologies, has released the Gocator snapshot sensor product line. The Gocator 3100, the latest addition to the Gocator all-in-one 3D smart sensors, provides automated noncontact, in-line inspection using blue LED projection and stereo scanning technology. The Gocator 3100 series is an industrial scanning solution that delivers 3D point cloud acquisition, measurement, and control decision capabilities in one package.

The inspection system is designed to take measurements of multiple features, scanning objects from multiple angles, determining real thickness, or increasing the field of view to cover a wide surface using more than one sensor. Gocator acquires high-resolution, full-field scans to inspect multiple features of parts with full 3D visualization. The sensor was designed for manufacturing processes such as robotic or stationary inspection stations. The built-in volumetric and 3D feature measurement tools can automatically detect features such as fasteners, holes, slots, studs, and gaps at different angles and orientations commonly found in assembly production lines such as for the automotive industry.

Gocator operates using a built-in Web-based user interface and can interface with existing control systems, including PLCs using Ethernet, digital, analog, and/or serial output. To learn more about the Gocator 3100 series of 3D smart snapshot sensors, visit www.lmi3d.com.

**3D Facial Motion Capture System**

Vicon, a developer of motion capture products and services for the life science, entertainment, and engineering industries, has released the Cara modular 3D facial motion capture system. Cara offers four synchronised high speed cameras with wireless connectivity and a dot tracking solution that can be integrated into Vicon’s motion capture products or used as a stand-alone system.

This Cara software contains frame-by-frame calibration, tracking, editing, and export functions. Users can take up to four high definition images and pass them through Vicon’s CaraPost software to automatically produce 3D points to recreate the actor’s performance on a computer generated model. The output of CaraPost consists of 3D points representing markers on the face. It is also possible to export to other external software packages via a variety of formats.

A complete Cara system ships with four 720p HD cameras with up to 60 fps and a 3-mm F2.0 infrared filtered lens. The Cara logger is worn on an actor’s back and has a recording capacity of 64 Gbytes with a two-hour battery. The Cara cameras weigh 31 g, the loggers are 430 g and 140 × 90 × 40 mm, and the HeadRig weighs 1.2 kg with the four Cara cameras and BOB attached. The system was designed to be light enough to be worn by actors throughout an entire shoot. Visit www.vicon.com/System/Cara for full details, pricing, and system specifications.

**Selected CS articles and columns are also available for free at http://ComputingNow.computer.org.**