Eye Tracking and Motion Capturing Combined

Motion-capturing systems from Qualisys now support eye trackers from Ergoneers

Geretsried – March 15, 2016. Ergoneers, vendor of a complete software and hardware platform for behavioral research, will be working more closely with Qualisys, the manufacturer of motion-capturing systems, with immediate effect. This will now allow the powerful Dikablis eye tracker from Ergoneers to be combined with the motion-capturing systems from Qualisys. Eye-tracking data are now integrated directly into the Qualisys Track Manager (QTM) motion-capturing software. The combined analysis of eye and body movements is used in sport, in research and in the medical field and enables a closer analysis of the sequences of human movement thanks to the greater number of measuring factors.

Motion capturing is a method of tracking in which complex sequences of human movement are registered using markers fitted to the body and translated into an extremely accurate, computer-generated 3D wire-frame model. These data enable conclusions to be drawn about sequences of human movements. For example, work processes in industry can be analyzed and designed to be more efficient, or orthopedic conditions can be better diagnosed in the medical field. The TU Munich, for example, uses combined motion-capturing and eye-tracking solutions from Qualisys and Ergoneers in the field of human-robot interaction.

How It Works: Dikablis Eye Tracking and Motion Capturing

Ergoneers registers eye positions using its D-Lab eye-tracking software and passes these to the Qualisys Track Manager (QTM) via the standard software interface (relay function in D-Lab). The data are then represented as vectors in a 3D view (see purple arrow in picture 1) that move in real time in the depth of space depending on the position of the eyes.

The Dikablis eye-tracking system from Ergoneers enables eyes to be tracked in real time. Thanks to its lean and ergonomic design, the Dikablis eye tracker can be easily worn over normal glasses, shutter glasses and any type of polarized glasses, allowing absolute freedom of movement for highly dynamic applications.
Both Oqus and the brand new camera platform Miqus can be used.

(Picture 1: Visualization of eye-tracking and motion-capturing data in Qualisys Track Manager)

(Picture 2: left: Qqus motion capture camera; right: Mius motion capture camera)

(Picture 3: QTM integrated eye trackers supports 3D Video overlay in the 2D view. Here with Dikablis eye tracking glasses)
QTM integrated eye trackers let’s you collect and visualize eye tracker data in Qualisys Track Manager (QTM). The eye tracker data is visualized as a gaze vector with a toggleable vector trace. If used together with video from an Oqus camera, 3D overlay is also possible.

“The integration of our powerful eye-tracking solutions into the motion-capturing systems from Qualisys takes the analysis of human behavior to a whole new level. Motion-capturing methods usually only translate the movement of human joints and some facial data. Including eye-tracking data, however, adds a further important component of analysis. After all, the human eye is the most important sensory organ,” explains Günter Fuhrmann, Chief Operating Officer at Ergoneers.

„Naturally, eye tracker data can be plotted just like any other data type in QTM. Besides visualisation, gaze vector data can be exported to tsv, MATLAB or be gathered by external via the real-time streaming protocol." says Mats Kanarbik, Market Director Europe, Brazil, Middle East at Qualisys.

The Motion Capturing function for the Ergoneers Eye Tracker Dikables Professional as well as for the Ergoneers recording and analysis software D-Lab is available immediately. Ergoneers presented the new Motion Capturing feature to its partners during the Global Sales Partner Conference (GSPC) in Hamburg from 7 to 8 March last week. The GSPC is the annual conference of Ergoneers and its international sales partners.

Please visit the Ergoneers Newsroom for additional press releases, background information and picture material: http://www.ergoneers.com/en/newsroom/press/

About Qualisys AB
Qualisys is a leading global provider of products and services based on optical motion capture. The core technology of Qualisys products has been developed in Sweden since 1989 with the experienced Qualisys staff creating a unique platform for optical motion capture, built to both medical and industrial standards. Our vision is to be the world’s preferred partner in creating performance-enhancing motion capture solutions, through technical excellence.

Our optical motion capture solution is used daily all over the world. It enables the capture of motion that would be difficult to measure in other ways, particularly within the biomechanics and industrial segments. Our offer comprises both hardware and software. www.qualisys.com

More information and news about Qualisys can be found at:
www.qualisys.com/
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About the Ergoneers GmbH

Ergoneers GmbH was founded in 2005 as a spin-off from the faculty of Ergonomics at the Technical University of Munich. Today the company has a worldwide presence through three offices in Manching (Germany), Geretsried (Germany) and Portland (USA) and through global sales partners; serving the Transportation / Automotive, Market Research & Usability, Science and Sports / Biomechanics application areas. In addition to development, manufacturing and distribution of measurement & analysis systems for behavioral research and optimization of human-machine-interaction, Ergoneers also offers comprehensive expertise in each phase of your study. Our product portfolio primarily comprises of the 360-degree solution - D-Lab; an extensive software platform for capturing and analyzing human behavior. With its different software modules you can synchronously measure and analyze eye-tracking, data stream, video, audio, physiology and CAN-Bus data. With the Dikablis Eye-Tracking system, Ergoneers provides the best hardware for professional Eye-Tracking studies in real or virtual environments.

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