



DYNAMIC ANALYSIS

TEST MATERIAL. COLLECT EYE DATA. PRESENT TEST MATERIALS. CAPTURE VIDEO. REMOTE VIEWING. RECORD. AUDIO. SCROLLING. MOUSE CLICKS. TRANSLATE DATA INTO EFFECTIVE VISUALIZATIONS + MEANINGFUL STATISTICS. VISUAL BEHAVIORS INDIVIDUALS. PATTERN. QUAD. SCROLLING INFORMATION. DATA SERVER. INTEGRATE WITH SRD SIMPLY AND EFFECTIVELY. DATA COLLECTION. ANALYSIS. REPORTING. SOLUTION DRIVEN.

SOFTWARE
DESIGNED
MAIN
EYETRACKING
RESEARCH. SIMPLY
EFFECTIVE
COLLECT
ANALYSIS
REPORTING
ABLE. NEARLY
USE. SOLUTION
DRIVEN.
SPECIAL FIELD
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COLLECT EYE
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A REVOLUTIONARY SOFTWARE SUITE
DESIGNED TO MANAGE ALL ASPECTS
OF EYETRACKING RESEARCH

eyeworks ™
SOFTWARE FROM EYETRACKING, INC.

Introducing Two Breakthrough Products for EyeWorks™

EyeWorks™ Workload Module

A new era in physiological assessment has arrived. For the first time, it is possible to measure cognitive workload objectively and unobtrusively in real-time. Based on the revolutionary **Index of Cognitive Activity (ICA)**, the EyeWorks™ Workload Module enables measurement of cognitive workload based solely on the activity of the pupil. **ICA**-based technology is available only from EyeTracking, Inc.

Resulting from decades of research, the **ICA** is an objective and reliable tool for measuring cognitive workload in both laboratory and applied settings. Unlike conventional methods of workload detection, this workload measurement is completely unobtrusive and requires no physical contact with the individual being monitored (via remote eyetrackers).

Applications of the Workload Module include:

- Measure objectively the difficulty as it is experienced in a flight simulator
- Compare workload levels on multiple iterations of an interface or website
- Diagnose specific features of a driving task that are associated with high difficulty
- Optimize training materials based on quantifiable difficulty experienced by the trainee
- Evaluate user effort and recognize opportunities to increase or decrease task difficulty
- Identify cognitive workload differentiations among age groups, genders, or other demographics

How The ICA Works

The pupil itself is surrounded by two sets of muscles, a circular set and a radial set. These sets of muscles not only differ in their configuration but also in their reaction to different stimuli. While the circular muscles react to the presence to light, the latter radial muscles react when a person exerts mental effort.



Using small cameras to monitor the pupil constantly, the ICA algorithm extracts the cognitive activity signal from the raw pupil signal, minimizing the noise generated by light and other artifacts.

The result is an objective measure of cognitive activity that can be monitored across the range of complete darkness to direct sunlight.

OEM Developers

Interested in integrating the Workload Module into your own applications?
Please contact EyeTracking, Inc. for more information.

History of the Workload Module

The revolutionary ICA metric was initially developed under DoD support through projects for the Office of Naval Research. It has since been utilized in projects for FAA, NASA, Navy, Air Force, DARPA, TSA, and a range of leading US and International companies in scientific, medical, automotive, and security applications.

Specifications

- > Workload computed in real-time or from pre-recorded eye data
- > Compatible with a variety of eyetracking systems (specific list available on request)
- > Calibration not required prior to use
- > Natively integrated into EyeTracking's Quad Server™ for rapid integration into 3rd party applications (such as adaptive automation and cognitively aware systems, neural nets etc)
- > 100% unobtrusive

EyeWorks™ Multi-Display

EyeWorks™ Multi-Display is an innovative tool for collecting eyetracking data across multiple screens simultaneously. This EyeWorks™ add-on module provides the perfect solution for researchers interested in testing:

- > Flight and driving simulators
- > Command and Control workstations
- > Air-traffic control stations
- > CAD applications
- > Multi-screen gaming
- > Virtually any other multi-display environment

This state-of-the-art module creates digital recordings of all eyetracked displays with the user's point-of-gaze rendered in real-time. The video and eyetracking files are automatically synchronized by EyeWorks™, thereby minimizing the complexity of the integration for the end user. In addition to supporting multi-screen recording of eyetracking sessions, EyeWorks™ Multi- Display is capable of incorporating other relevant video, such as recordings of the test environment and the test subject.



technology with a vision™

EyeWorks™ Multi- Display delivers an unparalleled view of operator behavior, which may include:

- > Attention across multiple screens
- > Facial expression throughout testing
- > Hand interaction with the keyboard or joystick
- > Foot interaction with the pedals
- > Forward-looking view from vehicle, and other environmental views

Technical Specifications

- > Supports maximum resolution of 1920x1200
- > Supports 2 to 5 separate displays, all recording simultaneously (dependent on CPU and system resources)
- > Requires EyeWorks™ Premier
- > Requires Seeing Machines faceLAB™ 5 to eyetrack more than one display*
- > Requires compatible video capture hardware (purchase separately)

What is EyeWorks™?

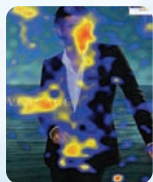
EyeWorks™ is a revolutionary software suite designed to manage all aspects of eyetracking research simply and effectively. From study development to data collection to analysis and reporting, this powerful package provides a flexible and easy-to-use solution for the eyetracking researcher in a variety of commercial and academic fields.

From Questions to Conclusions in three simple steps:

1. EyeWorks Design enables you to construct a testing script quickly and easily. Seamlessly present instructions, questions, images, web pages, videos, external interfaces and more. Just a few clicks and your test material is ready for data collection.

2. EyeWorks Record lets you do it all — collect eye data, present test materials, capture and display realtime video for remote viewing, record key presses, audio, scrolling and mouse clicks, and it even assists in follow-up interviews, incorporating eyetracking session replay.

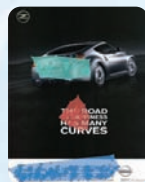
3. EyeWorks Analyze translates your eye data into effective visualizations and meaningful statistics. Explore the visual behavior of individual subjects or aggregate viewing patterns with a wide range of analysis and visualization options such as:



GazeSpots™



GazeTraces™



GazeClusters™



GazeStats™




Bee Swarms

*With other supported eyetrackers only one screen (the 'primary' display) will have eyetracking data, the remaining videos will not contain eye data.

EYEWORX™ CAN TURN YOUR RESEARCH QUESTIONS INTO CLEAR, ACTIONABLE, SCIENTIFICALLY-VALID RESULTS.

See which version is right for you.

 <small>SOFTWARE FROM EYETRACKING, INC.</small>		Lite	Pro	Premier
DESIGN	Guided session scripting with instruction and image presentation	X	X	X
	Guided session scripting with video and website presentation		X	X
	Embedded questionnaire within testing script		X	X
	High definition output support (including projection)		X	X
	Scene camera and external stimulus recording		X	X
RECORD	Recording of eye data and digital point-of-gaze videos	X	X	X
	Collect mouse click and key press data	X	X	X
	Integration with Quad Server™ (sold separately)	X	X	X
	Capture of scrolling information from web pages		X	X
	Data server for integrating with 3rd party applications		X	X
	Scene camera, web cam recording and real-time moderator view		X	X
	Post-testing ActionReview™ interview functionality			X
	Remote video viewing (web streaming of testing sessions)			X
Compatible with Multi-Display (sold separately)			X	
ANALYZE	GazeSpot™, GazeTrace™ and GazeStat™ visualizations	X	X	X
	Regions of interest analysis for basic statistics	X	X	X
	GazeCluster™, Bee Swarm, Dynamic GazeSpot™ and video clip generation		X	X
	Fixation and blink rendering layers		X	X
	Compatible with Workload Module* (sold separately)		X	X
	Subgroup visualizations and statistics		X	X
	Export detailed statistical output to ASCII for further analysis in external programs (e.g. Matlab, SPSS, Excel)		X	X
	Dynamic region analysis for moving images and videos			X

* Workload Module is not available for all eyetracking systems

The flexibility of EyeWorks makes it the ideal tool for...

- > Website and Interface Usability
- > Advertising and Sponsorship Assessment
- > Packaging and POS Evaluation
- > Media and Video Game Research
- > Psychology and Neuroscience
- > Medical and Vision Studies
- > Human Performance and Augmented Cognition
- > Simulation Environments

**THE EYEWORKS™ PACKAGE PROVIDES A FLEXIBLE AND
EASY-TO-USE SOLUTION FOR THE EYETRACKING RESEARCHER
IN A VARIETY OF COMMERCIAL AND ACADEMIC FIELDS.**



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