

iView X

iView X - RED-III

High quality, versatile, and easy to use remote eye tracking system

The Challenge

The use of eye tracking in multiple subjects and by several researchers requires a high quality, dependable eye tracking system that can be adapted to different needs and become operational with short setup times. Efficient eye tracking research is also enhanced by data analysis and statistical display options that make further programming superfluous and by the ability to seamlessly integrate a range of stimulus programs.

The Solution - iView X

iView X is an advanced video-based eye tracking system that combines flexibility in experiment design with easy set-up and operation, reliable data recording, and efficient analysis to simplify and advance eye tracking research. iView X combines all components needed for efficient high-quality eye movement and scene video recordings into a single high-performance PC workstation. Real time image processing, calibration, auxiliary device control, data and video recording are all integrated in one easy-to-use application.

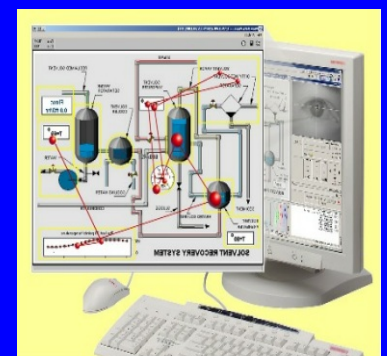
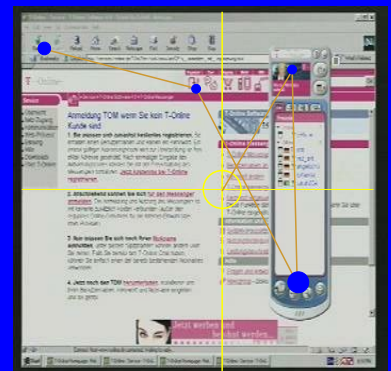
The Application

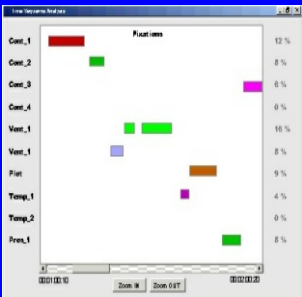
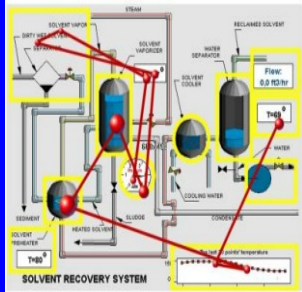
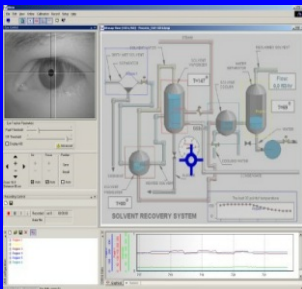
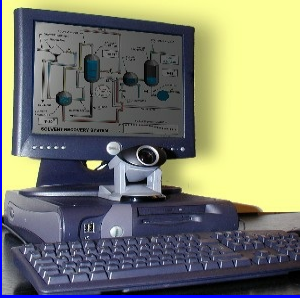
The modular system design of iView X, enables easy adaptation to changing applications. The iView X system is provided as a working solution from the day of installation. It is delivered fully integrated, pre-configured, and tested. The adaptation to typical lab settings can be prepared at the factory, so that recording can start immediately upon receipt of the system.

The Results

The system collects eye movement data such as horizontal and vertical gaze position as well as relative pupil size, and performs automatic fixation analysis on the basis of user-adjustable parameters. Areas in the stimulus images can be defined as objects, and online feedback about objects watched is available for the effective control of subject compliance with the experiment at hand. Data analysis (e.g., gaze path, object fixation sequence, area of interest analysis) can be printed in high quality, exported, or recorded by the integrated MPEG encoder.

- Fully Windows 2000 integrated system
- Improved eye tracking through optimized image processing
- Enhanced integrated video capabilities
- New miniature remote pan-tilt eye camera





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High quality eye tracking

- Immediate feedback on calibration quality
- Robust dark pupil eye tracking
- High tolerance for glasses and contact lenses
- Effective head movement compensation

Versatile

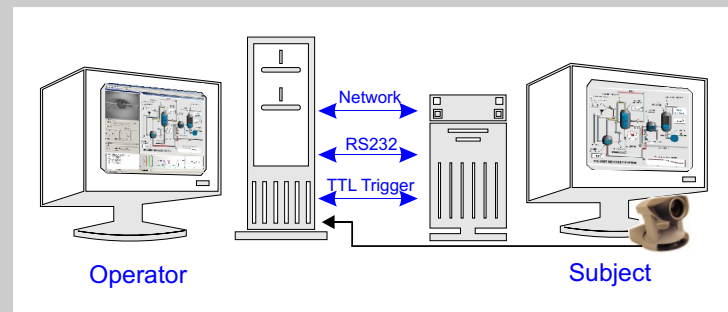
- Modular system design enabling easy adaptation
- Customizable and intuitive graphical user interface
- Integrated MPEG encoder with up to DVD resolution
- Advanced numerical and graphical analysis options

Easy to use

- Fully integrated, pre-configured, and tested
- Super fast, accurate, and automatic calibration
- Auto focus and automatic threshold settings

iView X System Setup

The experiment display computer provides a process control interface and is networked with the iView X operating computer. The RED-III camera is placed below the monitor and captures the subject's eye image.



Specifications - Technical Details RED-III

Sampling Rate	50/60 Hz (optional 100Hz)
Tracking Resolution, Pupil/CR	0.1 deg. (typ.)
Gaze Position Accuracy	0.5 - 1 deg. (typ.)
Operating Distance Subject-Camera	0.4 - 0.8 m
Head Tracking Area	40x40 cm at 80 cm distance

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