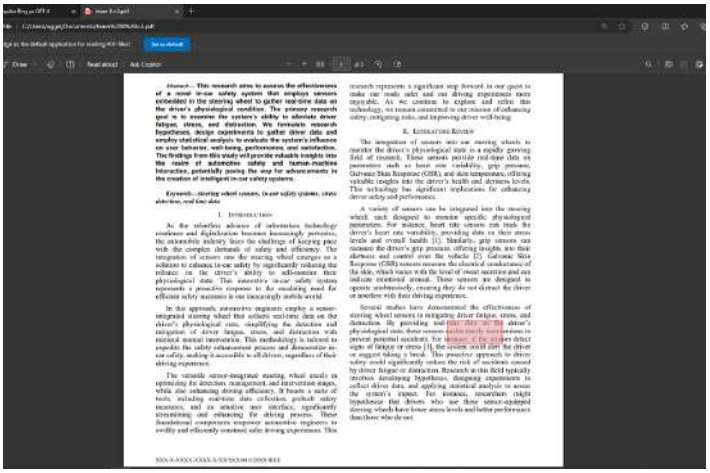
About Us

The Software Quality and Human-Computer Interaction Laboratory is a laboratory of the Computer Engineering and Informatics Department of the University of Patras. The focus of the laboratory is research on software quality and on human-computer interaction. The laboratory is actively participating in EU funded research projects.

Eye Tracking in VR

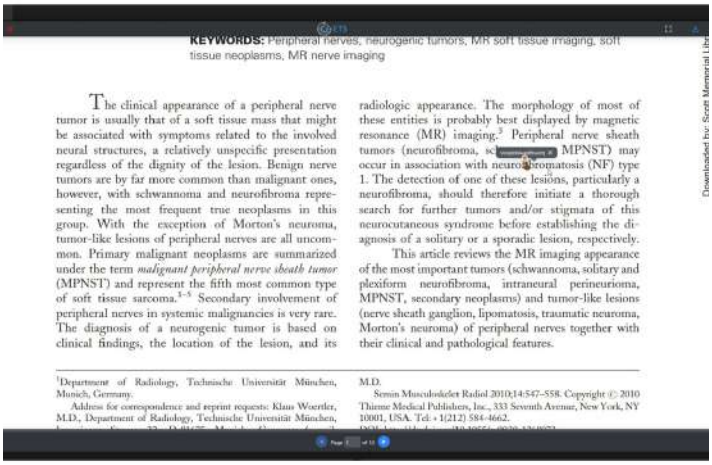
We create immersive VR environments that leverage eye-tracking technology to analyze user behavior and enhance interaction. Our systems adapt in real-time based on where users look, making experiences more responsive and engaging. Whether for research, training, or interactive simulations, our VR worlds provide deeper insights and a more personalized experience.

Usability Evaluation



We conduct usability evaluations using eye-tracking technology to understand how participants interact with interfaces. By analyzing their behavior, we identify features they find most useful and uncover areas for improvement. Our insights help refine designs to create more intuitive and user-friendly experiences.

AI



We can harness the power of AI and apply it to live feedback we receive from eye-tracking data. By using advanced neural networks, we can quantify and simulate the human experience and create applications that forecast human behaviour and adjust themselves to better align with the users' needs. Some examples of our work include the prediction of the users' gaze, the distinguishing of voluntary and involuntary blinks as well as the forecasting of the comprehension of a user when reading a passage.

Publications

Below you can find our relevant publications on eye tracking.

- Michalis Xenos, Andreas Mallas, Dimosthenis Minas, “Using Eye-Tracking for Adaptive Human-Machine Interfaces for Pilots: A Literature Review and Sample Cases”, Journal of Physics: Conference Series, Volume 2716, 13th EASN International Conference on: Innovation in Aviation & Space for opening New Horizons 05/09/2023 – 08/09/2023 Salerno, Italy. https://doi.org/10.1088/1742-6596/2716/1/012072
- Stavroula Dritsa, Andreas Mallas, and Michalis Xenos. 2024. “Screen Reading Regions in Social Media Comments: An Eye-Tracking Analysis of Visual Attention on Smartphones”, In Proceedings of the 27th Pan-Hellenic Conference on Progress in Computing and Informatics (PCI ’23). Association for Computing Machinery, New York, NY, USA, 95–101. https://doi.org/10.1145/3635059.3635074

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