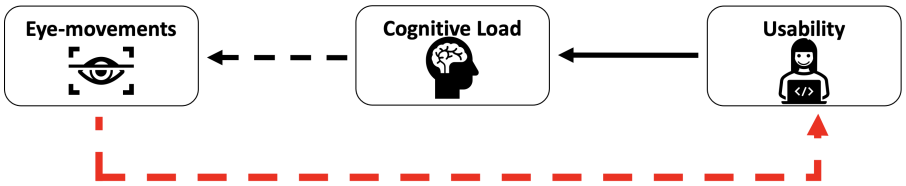
Eye-tracking - the Future of Usability Evaluation?

The movements of the eyes can tell a lot about our subconscious processing. With eye-tracking, interaction-designers have a powerful tool with which to unlock the secrets of the human mind and its cognitive processes. These processes are fundamental to the function of any human-computer interface and vital for overall usability. The results from this study show that eye-tracking can be used to distinguish between interfaces of varying design quality. Eye-tracking therefore has the potential to revolutionise the field of interface-design.

A usable product should guide the user during interaction and be designed in a way that hinders the user from committing mistakes. With the ongoing digitisation of all aspects of society, the importance of good interface-design can not be overstated. However, measuring usability is a complicated, time-consuming and often expensive process focused around subjective experiences. Since subjective experiences rarely tells the whole truth, this field is in need of a renaissance. Eye-tracking has the potential to lead this renaissance. By tracking the movements of the eyes, this technology supplies valuable information about how a interface is perceived and interpreted. This allows for instantaneous and objective analysis of the interaction that can offer easy to perform usability evaluation.



In this study, eye-tracking was used during 30 participants' interaction with three interface-prototypes of varying usability. Here, two of the prototypes violated established design principles whilst the remaining one acted as a point of reference. Using metrics derived from the eye-tracking data one of the flawed interface-prototypes was distinguished from the reference. This finding is especially interesting since an subjective assessment of the participants' experience showed no perceived difference in interface-quality between the flawed interface and the reference. This reinforces the capability of eye-tracking in capturing subconscious processes.

This study has only scratched the surface of the potential of eye-tracking. The findings encourage further, more comprehensive, research within this field. The method used also show that eye-tracking can be implemented and adjusted to fit any environment seamlessly. This offers a huge opportunity for a wide variety of real-life applications. If the eyes are truly the mirrors of the soul,

eye-tracking could lead a renaissance in interface-design with the potential to revolutionise the entire field of usability evaluation.