

EYE AND GAZE TRACKING: STATE OF THE ART

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Abstract

Today, most people interact with the computer throughout the day including their work and free time. The most interaction is done using traditional input devices such as keyboard and mouse using both hands. Human's gaze can be used as one of the means to interact with computers and can replace the traditional input devices making the HCI faster, safer, maintenance free and stress free physically. The main reason for eye-gaze based user interfaces being attractive are that the direction of the eye-gaze can express the interests of the user and it is quicker than any other mode of human communication. However, a number of barriers are in the way of the integration of eye tracking into everyday applications, including the intrusiveness, robustness, availability, and price of eye-tracking systems. We have meticulously reviewed and presented the state of the art of eye and gaze tracking in terms of evolution, methodology, available tracking systems, latest applications and current challenges for gaze tracking methods, as a means of eye gaze communication in HCI. We are sure that once eye tracking achieves these improvements in technology and cost, it can be considered as a next standard for HCI. The future seems rich for eye tracking as a means of HCI.

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