Eye Tracking Technology

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ABSTRACT

Measurement of eye movement is an activity done with the help of eye tracking technology. In this activity, the movement of pupils is a respond towards the stimuli. It gives information as per the gaze point of the individual person. The biometric tools are used for analysing .[10].ET is beinginvolved with most of the fields which includes HCI, Designs, Medicals, Psychology and Buisness Marketing.[6].This paper gives the explaination andimportance of ET in the life of advancement and its history.It starts in the late 19th Century.ET is done by filming of the eye according to its behaviour.This Research Paper includes different types of fields in an explaination manner.It includes the process of how ET helps in Research based on previous evaluations.Eye is generally act as a tool of brain system.ET devices respond to the movement of stimuli.[11].

KEYWORDS: Eye,Trackers, Sensing, Recognition, Movement, Evaluation.

INTRODUCTION

Eye Tracking is a process of recognition and identification of specific person .Every user is having a unique eye features which are monitored by the use of highly advanced cameras.It is mainly second hand in the security

purpose in different fields.By analysing all the features of the eye which are retina and cornea and resolution.It is even responsive to a single movement in the eye.The first eye tracking device was proposed by Edmund Huey in 1908.

REVIEW OF LITERATURE

Movement of pupils in the eye is monitored by different eye trackers.The most widely used eye tracker is Pupil Center Corneal Reflection(PCCR)[1].Eye Tracker use sensing by analysing the movement in coordinate of the eye.

The reflection also effective towards the sunlight [2]. The study related toeye Tracking technology and it's device is started in 1879.

Eye Tracking use in translation studies. Only 80% of the total sensors are delivered to the brain which were created by the sensors after observations.The speed of delivering the sensors through sight is 10 millionbit/sec and it can be very person to person [3].Eye Information is interpreted while the nerve of the eye is in active state.

Cognitive Activity Index(CAI) metrics is most commonly used for evaluationof the data or information of the eye.Eye Tracking process is commonly categories in the following.

A. Head-Stabilized Eye Tracking

B. Remote Eye Tracking

C. Mobile Eye Tracking

D. Integrated or Embedded Systems.

EYE TRACKING METRICS

Eye Tracking Metrics is a valuable set. During the decision of metrics value the first step is to measure the related interest.This test is applicable for individual users only which helps in measuring or accessing cognitive values.Widely used in Human Computer Interaction (HCI).[4]Eye Tracker analysis factor are Fixation and Gaze.The basis for the calculation of the dataare

Dispersion Based Velocity Based Area of Interest[6].

EYE TRACKING IN HCI

In the perspective of HCI, every individual 's eye movements are measured by Researchers.The researchers mainly get information by visuals.The first time eye tracking eye tracking device used for HCI application by Hart ridge and Thompson in 1948.[5]In 1999, the eye based tracking method used for HCI by Kyualg Nam Kim andS.R.Ramakrishnan

EYE TRACKING EDUCATION

In educational research it helps in exploring through diverse fields like publications.Lie Detection and measures of neuropsychology can also be done with the involvement of eye tracking technology during measurement.[7]According to PRISMA method there are three databases in a systematic search.The exponential growth in 12 fields of optometry. The frequency of the captured image is 60Hz to 2000Hz.[8]

FUTURE SCOPE
OPPORTUNITIES

There is simply a routine of task released for the task which helps in creative thinking.Eye Tracking provide cognitive states during execution of tasks It helps in improvement of understanding and decision making of humans.ET investigates the procedure of manufacture and logistics applied. To conduct a systematic literature review,we offer a conceptual framework.[9]

CONCLUSION

Eye Tracking Technology is very important and beneficial for the advancement of the people thinking towards new technologies. Eye Tracking provides insight for different fields which leads to better exploration of them. Eye Tracking technology can also be able to shaped in numerous ways as per the requirement for its best performance.

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