DEVICE AND METHOD FOR MULTI-USER EYE-TRACKING

IITM Technology Available for Licensing

Problem Statement

- Generally, eye trackers are devices used for determining various parameters related to eyes of users which include **point of gaze, pupil size, iris size, eye location**, etc.
- The eye trackers are majorly available in three broad forms which include **head-mounted eye trackers, screen-mounted eye trackers and remote eye trackers**. Further, these eye trackers lack the capability of tracking multiple users simultaneously.
- Thus, the desired problem has been addressed by the present invention by **providing human performance monitoring in user interaction with products** for market and scientific research.

Technology Category/ Market

- Sensors
- Imaging

Applications - FMCG, Healthcare, Automotive, Consumer electronics, Govt., Defense & Security.

Market - The Global Eye Tracking Market Size was valued at **USD 638.8 M in 2021** and is expected to grow at a **CAGR of 33.4% from 2022 to 2030**.

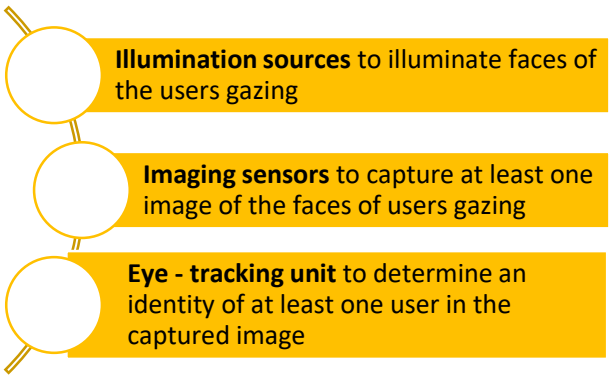
Technology

- The technology provides a device and method for simultaneous **multi-user eye-tracking** in an environment having multiple regions of interest based on **gazing direction of multiple users, in real-time.**

The eye tracker system consists of

- **Multiple cameras with lenses** and **IR bandpass filters**, Illumination sources and associated driver circuits.
- **Optics controller** for the light sources and cameras.
- **Compute unit** to analyze the images from the cameras and to provide inputs to the optics controller.
- **Power source** to supply power to the illuminators.
- The device provides user specific calibrations to have **high accuracy in gaze estimation over multi-screen environments.**

DEVICE



Intellectual Property

- IITM IDF Ref. **2258**
- **IN 421055 - Patent Granted**

Key Features / Value Proposition

- The multi-user eye tracking apparatus is used for the **purpose of capturing the eye gaze and pupil size of one or more users simultaneously**, wherein the eye tracker is operated remotely and can be set up in any environment.
- The system involves identifying a user profile corresponding to the identified user based on the **determined identity and determining gaze parameters** of the identified user.
- Further, it determines gaze directions of the identified user based on the gaze parameters and **determine the area of interest to the identified user** based on the gaze directions by the eye-tracking unit.

TRL (Technology Readiness Level)

TRL - 3, Proof of concept stage

Research Lab

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