HUMAN COMPUTER INTERFACE BASED ON REAL TIME EYE TRACKING

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A Project Report
submitted in partial fulfillment of the requirements
for the award of the Degree of Bachelor of
Engineering in Bio-medical Engineering
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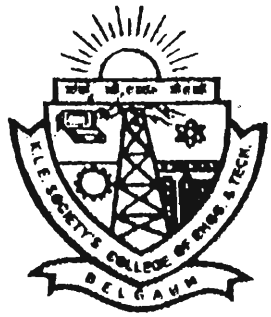

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ABSTRACT

Human-computer interface is basically the way humans interact with the computer. Interfaces can be of many types, in this project we intend to interface with the computer by tracking the user's eye movement. Combining the process of tracking the eye movement and interfacing using software to establish a interface and make the usage of computers possible for the physically challenged is the main objective of this project.

Eye-based human-computer interaction (HCI) dates back to the early 1990s. Interfacing between a computer and human using the eyes traditionally meant extracting information from the gaze—that is, what a person was looking at. In an early work, Robert Jacob investigated gaze as an input modality for desktop computing. He discussed some of the human factors and technical aspects of performing common tasks such as pointing, moving screen objects, and menu selection. Since then, eye-based HCI has matured considerably. Today, eye tracking is used successfully as a measurement technique not only in the laboratory but also in commercial applications, such as marketing research and automotive usability studies.