

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

“Jnana Sangama”, Belgaum-560014, Karnataka



A PROJECT REPORT ON

“VISION BASED GAME DEVELOPMENT USING HUMAN COMPUTER INTERACTION”

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in

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ABSTRACT

This project aims to present an application that is capable of replacing the traditional mouse with the human face as a new way to interact with the computer. Facial features (nose tip and eyes) are detected and tracked in real-time to use their actions as mouse events.

The coordinates and movement of the nose tip in the live video feed are translated to become the coordinates and movement of the mouse pointer on the user's screen. The left/right eye blinks fire left/right mouse click events. The only external device that the user needs is a webcam that feeds the program with the video stream. One way to achieve that is to capture the desired feature with a webcam and monitor its action in order to translate it to some events that communicate with the computer.

The nose tip was selected as the pointing device as it is more comfortable to use it as the feature that moves the mouse pointer and defines its coordinates. Eyes were used to simulate mouse clicks, so the user can fire their events as he blinks. An Algorithm is used that detects and tracks the desired facial features precisely, and fast enough to be applied in real-time.