VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"JNANA SANAGAMA", Belagavi-590018, Karnataka, India

A Project Report

On

"Gesture and Voice controlled Virtual Mouse"

Submitted in partial fulfilment of the requirements for the award of degree
Bachelor of Engineering in Computer Science and Engineering,
Visvesvaraya Technological University, Belgaum

Submitted by

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CERTIFICATE

This is to Certify that the Project entitled **"Gesture and Voice Controlled Virtual Mouse"** carried out by MOHAMMED IZHAAR UL HAQ, MOHAMMED JABIR, MOHAMMED THAREEM & MUSAVVEER REHMAN M K bearing USN (1VJ19CS033, 1VJ19CS034, 1VJ19CS035, 1VJ19CS037) in partial fulfilment of the requirements for the ***degree of Bachelor of Engineering in Computer Science and Engineering*** *of Visvesvaraya Technological University, Belgaum* during academic year 2020-2021. It is certified that all corrections and suggestions indicated for Internal Assessment have incorporated in the report deposited in thedepartmental library. The Project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for Bachelor of Engineering degree.

.....	.....	.....
Internal Guide	**Head of Department**	**Principal**
Dr. Naveen G **Professor** **VVIT, Bangalore**	**Prof. Mangala M.Patil** **Assistant Professor** **VVIT, Bangalore**	**Dr. S. Rajendra** **Principal,** **VVIT, Bangalore**

Name of the Examiner:	**Signature**
1.	**.....**
2.	**.....**

DECLARATION

We , MOHAMMED IZHAAR UL HAQ [1VJ19CS033], MOHAMMED JABIR [1VJ19CS034], MOHAMMED THAREEM [1VJ19CS035] & MUSAVVEER REHMAN M K [1VJ19CS037] students of VIII semester Bachelor of Engineering in Computer Science and Engineering, Vijaya Vittala Institute of Technology, Bengaluru, hereby declare that the Project entitled **"Gesture and Voice Controlled Virtual Mouse"** has been carried out under the supervision of **Dr. Naveen G** Professor, Department of Computer Science and Engineering of Vijaya Vittala Institute of Technology, Bengaluru, in the partial fulfillment of the requirements for the award of the degree of ***Bachelor of Engineering in Computer Science and Engineering*** by VisvesvarayaTechnological University, Belagavi during the academic year 2022-2023. The project is solelydone by me and I declare that the project report is not plagiarized.

Date :

Place : Bengaluru

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ABSTRACT

By controlling cursor movement with a real-time camera and microphone, this projectadvances the Human Computer Interaction (HCI) paradigm in the field of computer science.
The hand movement and speech is the most effortless and primitive way of communication. It's a replacement for the present ways, which entail manually moving a physical computer mouse or pressing buttons. Instead, the system controls and performs numerous mouse activities using a camera for computer vision technology and a microphone for speech recognition and processing. It can perform all functions that a physical mouse can.

The Virtual Mouse continuously gathers real-time visuals and voice commands,which are then filtered and converted in a number of steps. When the procedure is completed, the programme uses image processing and natural language processing to extract the valid command needed to complete the task.
Specially abled people with hand problems can use this virtual mouse to control the computer's mouse functionalities.