



St. Thomas College of Engineering & Technology
Vellilode, Sivapuram P.O., Mattanur, Kannur District, Kerala
Approved by AICTE New Delhi, Govt. of Kerala and Affiliated to APJ Abdul Kalam Technological University

GROUP 6

ERGONOMIC VIRTUAL KEYBOARD

ABSTRACT

In this project, we propose the development of an innovative virtual keyboard leveraging computer vision and advanced machine learning techniques. Unlike traditional physical or on-screen keyboards that rely on single-hand gestures and limited finger interaction, our virtual keyboard uses a camera or sensors to capture both hands and all fingers' movements, translating them into text input seamlessly. By detecting both hands and tracking the fingertips trajectories and patterns, the system predicts intended keystrokes with high precision, users interact with this virtual keyboard by mimicking typing motions.

This approach allows for a smooth and intuitive typing experience, akin to touch typing on physical keyboards. The virtual keyboard can be utilized across various device sizes, from small smartwatch to large desktop screens, and operates effectively in diverse environments, including zero-gravity conditions in space. Our project aims to revolutionize the way users interact with digital devices by offering a versatile, space-efficient, and ergonomic typing solution.

1. ABHISHEK UK *Abhishek*

2. ALBIN BINU *Albin*

3. AYISHA ZOOMI *Ayisha*

4. NASLA SAFIYA K *Nasla*

SH
14/02/2024
Dr. SHINU MATHEW JOHN



St. Thomas College of Engineering & Technology
Vellilode, Sivapuram P.O., Mattanur, Kannur District, Kerala
Approved by AICTE New Delhi, Govt. of Kerala and Affiliated to APJ Abdul Kalam Technological University

Expected Inputs:

Users interact with this virtual keyboard by mimicking typing motions.

Expected Outputs:

By detecting both hands and tracking the fingertips trajectories and patterns, the system predicts intended keystrokes with high precision.