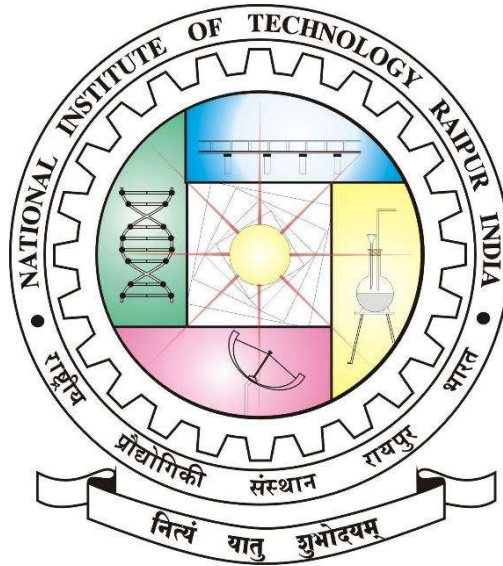


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M.Tech 2024-26 (First Semester)

Department of Information Technology

Object Oriented Software Engineering Lab

LAB PROJECT REPORT on

**“HAND GESTURE ACTIVITIES FOR
DIGITAL INTERACTION USING
COMPUTER VISION”**

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Abstract

The **Hand Gesture Activity For Digital Interaction Using Computer Vision** project aims to revolutionize human-computer interaction by enabling touchless control of computers through hand gestures. The system leverages advancements in computer vision and machine learning to recognize and interpret hand gestures in real-time. By utilizing Mediapipe's hand-tracking technology, OpenCV for image processing, and PyAutoGUI for executing commands, the project translates gestures into actions such as mouse control, document navigation, and zooming.

The system processes gestures using a webcam, detects hand landmarks, and identifies specific gestures. These gestures are then mapped to predefined actions using modular classes like `MouseControl`, `DocumentControl`, and `ZoomControl`. For example, swiping a finger controls slide navigation, while specific finger positions trigger mouse clicks or zoom actions.

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