VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM

Shri Dharmasthala Manjunatheswara College of Engineering & Technology Dharwad-580 002, Karnataka, India

(Autonomous Institution under Visvesvaraya Technological University, Belgaum-590018)

Project On

GESTURE BASED HUMAN-MACHINE INTERFACE USING ACCELEROMETERS

(Sponsored by KSCST, Bangalore)

Under the Guidance of

Prof. S S NAVALGUND

Submitted By

BANESH SHENVI	**2SD07EC016**
GAUTAM S NAYAK	**2SD07EC027**
KARTHIK V C	**2SD07EC032**

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

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SYNOPSIS

Gesture Based Human Machine Interface using Accelerometers is a wireless USB gesture input system that enables a person to use a computer by performing intuitive hand and finger motions in the air. While wearing a glove controller on the right hand, the user can move the cursor by forming a pointing gesture and click by curling the index finger or thumb. Other right hand gestures enable scrolling and provide access to various keyboard shortcuts. Wearing a glove device on the left hand allows the user to type different keys through a combination of tilting the hand and touching different portions of the palm and fingers with the thumb. The left and right controllers are attached to each other but communicate to the computer wirelessly through a base station.

Our gesture input system can be conveniently used by anyone who wishes not to be tied down to a desk when using a computer, making it perfect for giving presentations or web surfing from the couch. The intuitive hand motion controls also allow it to serve as an alternative video game controller. Additionally, since our input system does not exert pressure on the median nerve at the wrist while in use, it may prevent the development of carpal tunnel syndrome and other repetitive stress injuries.