

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
Belgaum - 590 014



Project Report
On

**“DESIGN & DEVELOPMENT OF AN AUTOMATED
STABILISING MECHANISM FOR TWO WHEELERS OF
PHYSICALLY HANDICAPPED & LEARNERS”**

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Submitted by

ASHWINI ALVA	(4AL09ME013)
PRADEEP M J	(4AL09ME037)
TEJASVI M N	(4AL09ME054)
MANOJ SACHIN PEREIRA	(4AL09ME058)

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Under the Guidance of

Mr. HARISH K.

Asst. Professor, Dept. of Mechanical Engg.



DEPARTMENT OF MECHANICAL ENGINEERING
ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY
Shobhavana Campus, Mijar, Moodbidri – 574 225.

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ABSTRACT

One among the main problems riding two wheelers is that it has to be balanced on either sides at low speeds due to the change in position of its centre of gravity, the balancing is brought about by the rider by applying an external force using his/her feet. Also amateur riders are unable to balance the two wheeler due to lack of experience.

The automated stabilising system is specifically designed to overcome the above mentioned problem. It stabilises the vehicle at low speeds and eliminates the rider to balance the vehicle manually, thus preventing the possibility of an accident due to imbalance.

The main purpose of the system is to assist the physically handicapped riders at low speeds. It is also designed as an ideal replacement for the conventional modifications made for the two wheelers of handicapped.

The stabilising system consists of guide wheels on both sides of the two wheeler which are retractable; the wheels are operated by a linear actuator. When the vehicle is in its initial standstill position the guide wheels extend and stabilise the two wheeler, when the two wheeler accelerates and gains a speed of above 30 kmph the speed sensor senses the speed and the control unit operates the actuator thus retracting the guide wheels, as the vehicle stabilises at these speeds and therefore no guide wheels are required, when the vehicle decelerates to below 30kmph the guiding wheels are again extended which stabilises the two wheeler.

This system will greatly benefit both the new two wheeler learners and the physically handicapped riders, as the system is considerably light weight and compact than the conventional modifications made to handicapped two wheelers this system will increase the fuel efficiency and vehicle driveability by a great extent.