AUTOMATIC THROTTLE LOCK AND SPEED GOVERNING SYSTEM

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VISION

Be a center of excellence and higher learning in Electrical Engineering and allied areas.

MISSION

- To impart quality education in Electrical Engineering and bring-up professionally competent engineers .
- To mould ethically sound and socially responsible Electrical Engineers with leadership qualities.
- To inculcate research attitude among students and encourage them to pursue higher studies.

COURSE OUTCOME

- Interpret the basic aspects of selection and documentation of design projects
- Explain new product specification and outline a project schedule for cost effective implementation
- Build the identified project through design ,material requirement testing , module assembly and final implementation.

INTRODUCTION

- Riders often face the difficulty of muscle cramp, shoulder pain… etc during long rides.
- National highways are always accident prone areas, for which one of the main reason is over speeding.
- In every thirty seconds a person is being injured on the road.
- As a remedial solution and in order to reduce the number of accidents, the speed governing system is also added.

CONTENTS

LITERATURE REVIEW

S.No	Title	Journal	Year	Remarks
1	Intelligent adaptive Cruise control system design and implementation	IEEE	2015	Advanced driver assistance systems have a critical role in the development of the active safety systems for vehicles
2	The analysis of speed governor's performance and design of fuel corrector of single cylinder diesel engine for mobile using	IEEE	2011	Advanced correction in the speed control by design modification of cylinder

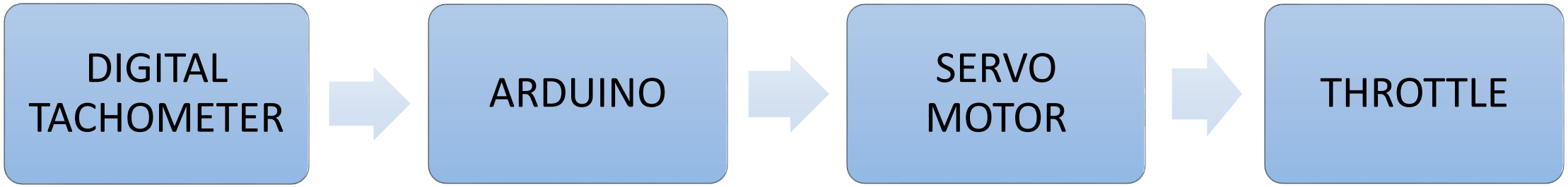
MOTIVATION

- As we all are motor enthusiasts and long ride lovers , we started thinking about the problems , they may face during the long rides.
- As being socially responsible engineers, with the increase in number of road accidents day by day, due to overspeeding.
- As a solution to the above mentioned problems, we have come up with AUTOMATIC THROTTLE LOCK AND SPEED GOVERNING SYSTEM.

OBJECTIVE

- To design an AUTOMATIC THROTTLE LOCK GOVERNING SYSTEM in a motorcycle, which controls the speed of the vehicle and also alarms the riders when the speed overshoots a prescribed point.
- The motorcycle should automatically sense the speed and lock the throttle.
- And also when the brakes/clutch are applied the accelerator should be automatically cut off.

BLOCK DIAGRAM



THROTTLE POSITION CONTROL

- A TPS is a sensor used to monitor the air intake of an engine.
- The accelerator pedal sensors are used in electronic throttle control systems.
- Modern day sensors are non contact type.

METHODOLOGY

- Consider the motorcycle is being driven at a constant speed, to ensure the speed is being maintained without external effort, the sensor detects the optimum speed.
- A servo motor is being used to lock the throttle, so that the vehicle will continue with the same speed.
- Sensors are attached to the brake pad and clutch lever as a precaution. When an obstacle approaches, the rider engages the brake or clutch, the throttle gets cut off.

METHODOLOGY(contd…)

- Since, the digital tachometer monitor's the speed continuously, when the rider exceeds the given speed limit, the sensor alarms the rider and hence the over speeding can be prevented.
- Accident rates are also reduced by reducing the speed.

CONCLUSION

- The AUTOMATIC THROTTLE LOCK GOVERNING SYSTEM is one of the useful tool for riders who always wish for relaxed hand during long distance voyages.
- The speed governors can be implemented easily in a motor cycle using this model in a cost effective manner.
- The response time of this system is very less comparable to the present day technology.

HARDWARE DESIGN

S.No	Equipment	Quantity	Approx. Cost
1.	Digital tachometer	1	400
2.	Arduino UNO	1	500
3.	Servo motor	300	200
4.	Sensors, connecting wires		400

REFERENCE

- https://ieeexplore.ieee.org
- http://www.atlasthrottlelock.com
- https://www.electronicircuits.com
- https://www.amazon.com
- https://www.flipkart.com

FEEDBACK

THANK YOU