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Automatic Speed Braker Controller

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Abstract: *This project presents the development of an automatic speed brake controller utilizing the Arduino Uno microcontroller. The primary objective is to enhance vehicle safety by automating the braking process based on real-time speed data. The system comprises several key components: speed sensors, the Arduino Uno, and a braking actuator.*

Speed sensors are strategically positioned to continuously monitor the vehicle's velocity, transmitting this data to the Arduino Uno. The microcontroller processes the incoming speed data and compares it against predefined speed thresholds. When the vehicle's speed exceeds these thresholds, the Arduino Uno activates the braking actuator to decelerate the vehicle safely and effectively.

The automatic speed brake controller is designed to address common safety issues such as delayed human reaction times and errors in manual braking. By providing a rapid and automated response to speed changes, the system aims to reduce the risk of collisions and enhance overall road safety. Additionally, this project demonstrates the integration of sensor technology with microcontroller-based control systems, showcasing the potential for advanced automation in vehicular safety features

Keywords: vehicle safely