**Title: Vehicle Safety System Using IOT Sensors**

**Abstract:**

This paper proposes a novel approach to enhance vehicle safety through the integration of Internet of Things (IoT) sensors. Driving while drunk is hazardous and drivers with high Blood Alcohol Content (BAC) are at expanded danger of auto crashes, roadway wounds and vehicular passings. Anticipation measures assessed incorporate permit suspension or disavowal, appropriating or seizing vehicle plates, implementing open holder bans, expanding fine punishments, imprison, ordering instruction for youth and bringing down legitimate BAC's. Despite the fact that these much obstacles made by experts to drunken drive, it is as yet proceeding with like serial scenes. In that capacity there is no viable instrument to reduce this. Here, these processes have intended to plan a Drunk driving detection, which is integrated with the directing wheel. This framework is meant for making vehicle driving more secure than previously and shield the mishaps from happening due to the liquor utilization of the driver. The individual when he is at vehicle, this is necessary to infer the driver's condition continuously and here this work proposed the detection of alcohol utilizing alcohol sensor associated with Arduino. Alcohol sensor is installed on the steering of the car, with the end goal that when the level of liquor crosses a reasonable farthest point, where the start of vehicle will kill and the motor will stop. The Arduino always uses the alcohol sensor information to check drunk driving and works a bolt on the vehicle motor to stop the engine. Vehicle safety is a critical concern in modern transportation systems, with the increasing need for advanced technologies to enhance driver awareness and mitigate risks on the road. This paper proposes a novel approach to vehicle safety leveraging IoT (Internet of Things) sensors. The system integrates various sensors, such as accelerometers, gyroscopes, GPS modules, and cameras, installed within the vehicle to continuously monitor its surroundings and the driver's behavior. Data from these sensors are processed in real-time using edge computing techniques to detect potential hazards, including collisions, lane departures, and drowsy driving.

The IoT-based vehicle safety system utilizes machine learning algorithms to analyze sensor data and identify patterns indicative of unsafe driving conditions. In the event of a detected hazard, the system triggers alerts to notify the driver and relevant authorities, enabling timely intervention to prevent accidents. Furthermore, the system incorporates cloud connectivity for remote monitoring and data storage, allowing for comprehensive analysis of driving behavior and incident management.

Key features of the proposed system include:

1. Real-time monitoring of vehicle dynamics and environmental factors.

2. Detection of potential safety hazards, including collisions, lane deviations, and driver fatigue.

3. Integration of machine learning algorithms for advanced analytics and hazard prediction.

4. Provision of timely alerts and notifications to drivers and authorities.

5. Cloud-based data storage and analysis for long-term trend analysis and performance evaluation.

The implementation of the IoT-based vehicle safety system holds the potential to significantly enhance road safety, reduce accidents, and save lives. By leveraging the power of IoT sensors and advanced analytics, this system provides a proactive approach to mitigating risks and promoting safer driving practices in today's increasingly interconnected transportation networks. The system aims to mitigate road accidents and improve driver awareness by collecting real-time data on various environmental and vehicular parameters. Key components include accelerometer, gyroscope, GPS, and proximity sensors installed within the vehicle. Data collected by these sensors are transmitted wirelessly to a central processing unit, which analyzes the information and provides feedback to the driver via a user interface. Additionally, the system can autonomously trigger safety measures such as emergency braking or lane departure warnings when potentially hazardous situations are detected. Experimental results demonstrate the effectiveness and reliability of the proposed IoT-based vehicle safety system in enhancing road safety and preventing accidents.