SMART SURVEILLANCE SYSTEM FOR RESCUING PEOPLE USING IoT

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Abstract— The crash when a motorcyclist face during a high speed accident without wearing a helmet is extremely deadly. Wearing a helmet can lower shock from the impact and can save a life. There are a number of countries enforcing a regulation that needs the motorcycle rider to wear a helmet when riding on their motorcycle and so the motorcycle engine will start. Arduino Uno may be a microcontroller to regulate the whole component within.

Keywords – Arduino Uno, RFID Tag, Alcohol Sensor, Arduino IDE, Motor Drive.

I. INTRODUCTION

A motorcycle helmet may be a sort of protective head gear employed by the motorcyclist. The main purpose is for safety, which is to guard the rider's head from the impact during an accident. It safeguards the rider's head because the helmet provides ventilation. Speed and not wearing a helmet are the major reasons of fatalities and injuries .The objective of this project is to create a security system and speed alert for a better safety of motorcyclists. The security helmet created is embedded with sensors act as detectors for rider head and therefore the life belt itself. The engine of the motorcycle can start as long as the rider has buckle up its helmet life belt. When the motorcycle speed exceeds 100km/h the indicator placed flares to alert the rider about the regulation.

II. TECHNICAL BACKGROUND

Almost all basic household electronic circuits need an unregulated AC to be converted to constant DC, so as to work the device. That is, all the active and passive electronic devices will have a particular DC operating point (Q-point or Quiescent point) achieved by the source of DC power. Thus a standard requirement for all this phases is the DC power supply. But while operating devices, batteries could be costly and sophisticated. The simplest method used is with the sort of an unregulated power supply with a combination of a transformer, rectifier and a filter. The diagram is shown below Figure 2: Power Supply Unit
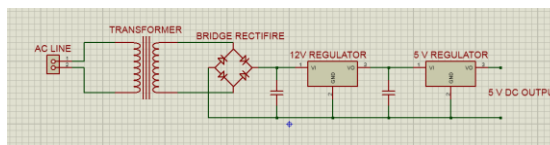

A step down transformer is employed to scale back the voltage level to the devices. In India, a 1 phase supply is out there at 230 volts. The output of the transformer may be a pulsating sinusoidal AC voltage which is converted to pulsating DC with the assistance of a rectifier. This output is accustomed to a filter circuit which diminishes the AC ripples and leaves the DC components.
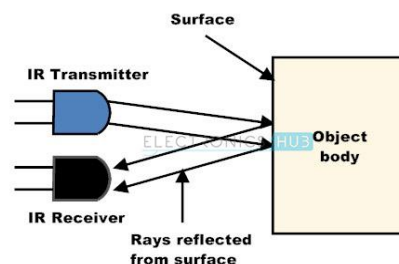
III. THE PROPOSED MECHANISM

IR Sensor fixed inside the helmet act as a tactile sensor to detect whether the rider is wearing their helmet. With the assistance of RFID reader motor speed automatically goes slow in school zone and hospital zone. The Analog gas sensor- MQ3 is available for alcohol detection, often utilized as a breath analyzer. It's used for detecting driver has drunk or not while driving. Vehicle doesn't start when driver was drunk. Here motor act as vehicle and that we use L293D motor.
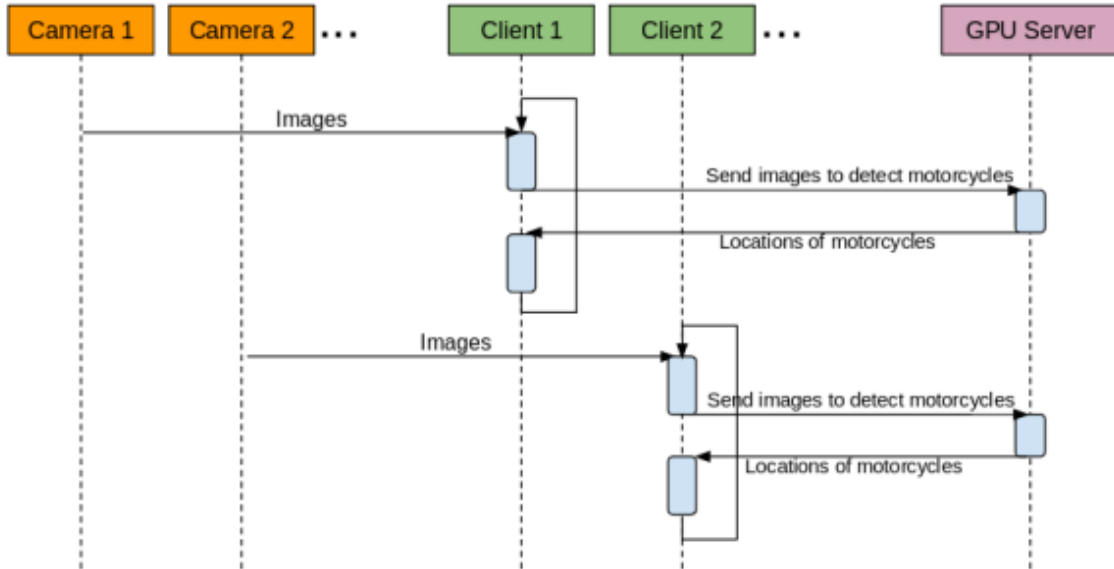
IV. PERFORMANCE EVALUATION

The baseline system has lower latency because the system does not waste time on network communication. The baseline uses one GPU machine, but the number of applications that can be run on it depends on the GPU memory of the machine. The client-server method has higher latency because the system has communication overhead between server and client. One GPU machine is needed to run the server, and another machine (no need for a GPU) runs the client. The clients' main constraint is CPU capacity. If we want to scale with minimal resources, this method is best.
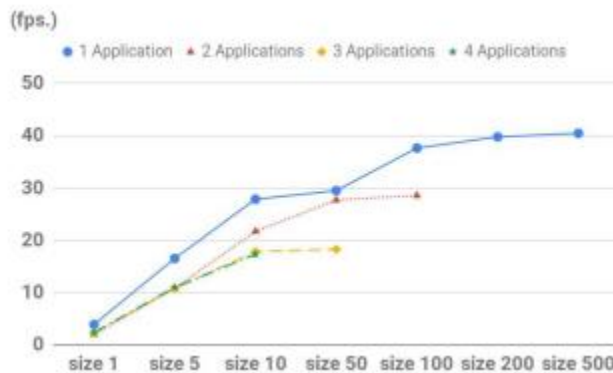
V. CONCLUSION

We have provided a very effective solution to develop an intelligent system for vehicles for alcohol detection and helmet detection whose core is Arduino. As the sensor has fine sensitivity range around 2 meters, it can suit to any vehicle and may easily be hidden from the suspects. The whole system also has an advantage of a small volume and more reliability. As the growing public perception is that vehicle safety is more important, advances in public safety is gaining acceptance than in the past. Future scope of this system is to control the accidents causes due to alcohol consumption thus improving the safety of human being.

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