

ADVANCE ACCIDENT AVOIDING SYSTEM FOR PUBLIC TRANSPORT

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ABSTRACT

When we think about the serious accident, it could change your life- and not for the better. As of now most of the research and implementation on with mechanical behavior of the car, its safety and passengers. But before any new car model can ever go on sale to the public, it must first undergo a battery of testing to make sure it'll be safe, reliable and reasonably in tune with the demands of the motoring public. The government demands some of this testing to ensure they meet specific standards for performance, fuel economy, comfort and other measures. Today's systems are not sufficient to avoid accidents so there is need of new technologies in public transport. Proposed system gives some of the new technologies that are really helpful to reduce accidents. This System not only deals with component monitoring, does even more than that like weather condition, heart beat monitoring ,person verification, steering activity monitoring, vehicle condition monitoring, Notification. Heart beat Sensor & RFID Technology ,engine heat sensor, fog sensor, temperature sensor steering movement detection are the vital and of great importance from the perspective of passenger safety and traffic safety.

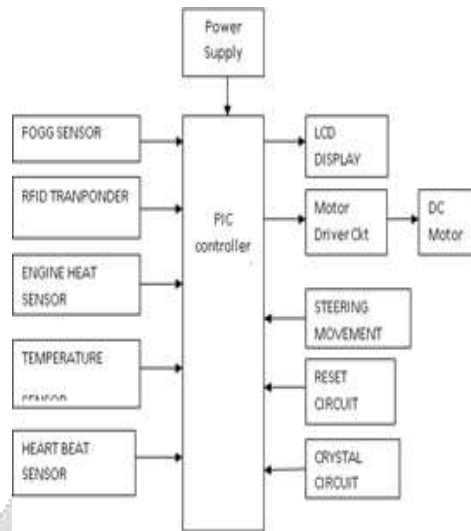
Keyword: - Avoid, Sensor, Transport, Life Saving, etc....

1. INTRODUCTION

When you think of work-related safety hazards, you probably think about what goes on inside the workplace. But one of the greatest threats to your safety is not in the workplace, but rather on the road. Someone is injured every 18 seconds. Over 2 million of those injuries turn out to be disabling. In this we implement different innovative ideas like we are using person verification using RF Id module. Heart beat measurement to analyses weather the driver is mentally stable or not. We are implementing head lamp movement according to steering wheel. We also measure the temperature of engine and tier to reduce the harm from this part of vehicle. In operation our system fog sensor detect light is sufficient or not safe driving, it gives signal to the controller which act depending upon the signal from the fog detector.

Heart beat sensor measure the person stability sometimes driver get heart attack during driving it gives signal to the controller which stop the bus and save lives and protect property.

BLOCK DIAGRAM



2.1 MICROCONTROLLER:

A microcontroller is a small computer on a single integrated circuit consisting internally of a relatively simple CPU, clock, timers, I/O ports, and memory. Microcontrollers are used in automatically controlled products and devices. Microcontrollers are designed for small or dedicated applications. By reducing the size and cost compared to a design that uses a separate microprocessor, memory, and input/output devices, microcontrollers make it economical to digitally control even more devices and processes.

2.2 HEART RATE SENSOR

A heart rate sensor consists of a simple device that can receive a signal in the form of a pulse rate and calculate the heart beat signal in beats per minute. A normal human heartbeat is about 70 beats per minute for adult males and 75 beats for adult females. Many conditions affect heart rate. A normal heartbeat condition is called Brady cardia and an abnormal heartbeat condition is called tachycardia. Heart rate sensor method is also used to measure the pulse rate. A system is set up to measure normal and abnormal pulse rates. If the detected pulse level is found to be abnormal, an amplified signal is fed to the controller. After receiving the signal, the controller checks the strength. An abnormal pulse rate usually means a high pulse rate.

2.3 CRYSTAL CIRCUIT

This circuit gives the required clock pulses to the microcontroller to give it then sense of the reference time.

2.4 RESET CIRCUIT:

This circuit gives the microcontroller the starting pulse required to start the operation from the start. Unless the pulse is given, the microcontroller doesn't start functioning.

2.5 LCD:

Liquid Crystal Display which is commonly known as LCD is an Alphanumeric Display it means that it can display Alphabets, Numbers as well as special symbols thus LCD is a user friendly Display device which can be used for displaying various messages unlike seven segment display which can display only numbers and some of the alphabets.

2.6 RFID TRANSPONDER:

Radio Frequency Identification (RFID) Card transponder provide a low-cost solution to read passive RFID transponder tags up to 2 inches away. The RFID Card transponder can be used in a wide variety of hobbyist and commercial applications, including access control, automatic identification, robotics navigation, inventory tracking, payment systems, and car immobilization. The RFID card transponder read the RFID tag in range and outputs unique identification code of the tag at baud rate of 9600. The data from RFID transponder can be interfaced to be read by microcontroller or PC.

2.7 MOTOR DRIVER CIRCUIT:

It is used to drive DC Motor.

2.8 FOGG/LIGHT SENSOR:

Fog sensor is used to sense light. This can be LDR. The sensor will be placed on the front panel vehicle.

2.9 TEMPERATURE SENSOR (LM 35):

The LM35 series are precision integrated-circuit temperature sensors, whose output voltage is linearly proportional to the Celsius (Centigrade) temperature. The LM35 thus has an advantage over linear temperature sensors calibrated in degree Kelvin, as the user is not required to subtract a large constant voltage from its output to obtain convenient Centigrade scaling.

2.10 STEERING MOVEMENT:

In visibility region of the car driver is better at daytime, is constrained at night time due to limited illuminated region. Optimization of light distribution from the headlights according to driving circumstances. Depending on vehicle speed and steering ratio, the system points the headlights in the direction the driver intends to travel.

3. CONCLUSION

Due to the drivers mentally instability, limit exceed of vehicle parameters like engine temperature, environmental factor such as fog, accidents happens in public transport yearly in increasing rates. This paper describes different techniques which reduce the rate of accidents. Proposing this paper we making intelligent public transport vehicles which will save lives and protect property.

4. REFERENCES

- [1]. M.H. Mohamad , Mohd AminBin Hasanuddin,Mohd Hafizzie Bin Ramli “Vehicle Accident Prevention System Embedded with Alcohol Detector”,
- [2]. “Alcohol Detection and Accident Prevention of Vehicle ” ,IJIERE, Volume 2,Issue 3,2015.
- [3]. “Embedded Controller For vehicle Obstacle Detection and Cabin Alert System” .pdf
- [4].“Driver Behavior Monitoring through Sensors and Tracking the Accident using Wireless Technology”,IJCA (0975 – 8887), Volume 102,page no.2,Sept
- [5].Prof.P.H.Kulkarni ,Ms.Ravina Wafgaonkar,Ms.Shruti ,Mr.GauravAbhirao“Alcohol Detection and Automatic Drunken drive Avoidance System”.
- [6]. Prof. Satish Hamde, Dipali Shinde, Laxman Waghmare, “Model reference learning approach with PPI for higher order system”, international journal of computer science and electronics engineering , volume 2, issue 1,pp1-5,2014

