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REAL TIME BUS ARRIVAL SYSTEM WITH ADVANCED FEATURES

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ABSTRACT

The paradigm will be implemented of real-time bus arrival system with advanced features. The real –timebus activity like position of the bus and expected arrival time to reach that particular location will be displayed and some advanced features will be wraped up along with that such as detection of drowsiness, alcohol consumption, detection of vehicles and air condition in tyre .The relative speed and distance of all the vehicles around a particular vehicle will be measured.

KEYWORDS Bus Arrival information system,arduino,Gsm and Gpsmodule,Ultrasonic ,Eye Blink,Alcohol, temperature sensors.

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INTRODUCTION

In India transport system is always troubling passengers.passengers are always missing their important work due to being late arrival of buses.when person sits in bus he does not know where the bus is right now and how much time it is going to take to reach that particular location.even they do not know whether driver is driving vehicle in conscious mode or not. Passengers do not feel themselves safe due to several incidents happening daily in India.

The scope of this paper is to provide each and every facility to passengers which facilitates their journey and makes their life safe.they can easily know the location of bus by sitting in bus and how much time it may take to reach that location. As well as it provides facility to passengers waiting for bus at station by showing location and expected arrival time.some advance features is making passengers life safe like using ultrasonic sensor which avoids the bus of being collision with other vehicle during heavily rain ,fog time or due to natural issues.advance features like drowsiness detection of driver using eye blink sensor.gas sensor checks the intoxication taken by driver temperature sensor gives information about air condition of tyre.these advancement provides happy and safe life to passengers travelling in bus.

Field of Invention

The Present invention is to Provide the advancement in the GPS based real time bus arrival system using multiple sensor. which will Provide safety to Passengers from carelessnes of driver and saves the passengers life from being crashes of vehicle as well as invention facilitate passengers journey by giving them arrival time of particular destination. overall objective of this project to make the bus advanced with efficient features. In past invention it was just informing the location and schedule inside the bus and at every bus station.

Proposed System

The system proposed in this paper uses the GPS and GSM based module along with LCD to display the arrival time and location inside the bus and at every bus station as well as additional modules are used to provide safety to passengers. which is such as EYE blink sensor checks the drowsiness of driver,alcohol sensor checks the intoxication of driver and ultrasonic sensor will be fixed all over the bus to avoid crashes of vehicle due to negligence of driver or natural issues like heavy rain,fog. this feature work according to distance of nearby vehicles and led starts glowing. temperature sensor is used in bus tyres to know the air condition in tyre and it will give information to driver.

ARCHITECTURE AND IMPLEMENTATION

The necessary modules of real time bus arrival system with advanced feature is bus module,station module,interfaced multiple sensor,driver IC.

BUS MODULE. This module is fixed in bus which contains GPS and GSM.GPS is used to find the location of the vehicle and GSM is used to send the information of that particular place to receiver end.some advanced facilities like ultrasonic sensor which detects the vehicles around our vehicle and avoids from collision. it detects the vehicle around our vehicle the led facility facilitates driver to understand that how much distance that particular vehicle is present.as well as in the case of vehicle availability in short distance driver IC used to stop the bus.gas sensor detects the intoxication in driver if alcohol has been taken by driver vehicle will be stopped with the help of driver IC.eye blink sensor checks the drivers drowsiness.if drowsiness happens it stops the vehicle and buzzer start making sound to alert the passengers.temperature sensor is also available in tyre to check the temperature of tyre.if it goes more than 50 degree centigrade it alert the driver through buzzer and display it on LCD.

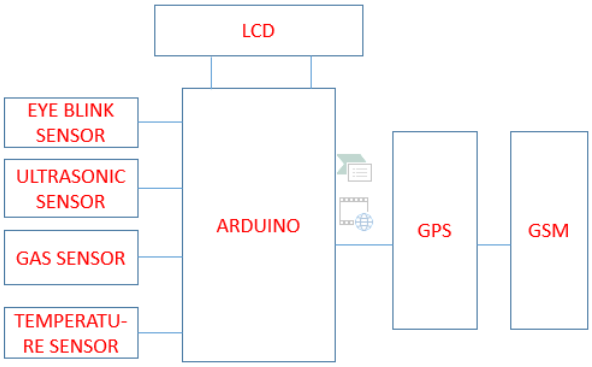

Fig.3.1 Bus module

STATION MODULE

This is kept at every station to provide real time information to passengers which gives the location of the bus and expected arrival time on that particular location.GSM is used to receive the information sent by transmitter module.LCD is used to display the information on station.

Fig.3.2 Station module

RESULT AND DISCUSSION

Thus bus is running on route will have these features module fixed in bus. GSM sends the location with the help of GPS to receiver end which also contain GSM to receive the location and display it using LCD as well as passengers sitting inside the bus gets information about the location of bus through installed LCD in bus.if there is 3 places like P,Q,R.bus started journey from P then driver has to press button present in transmitter module which sends the location to other two places Q and R.as well as when the driver reaches to Q he has to press button which sends the location to R place. advance feature added in this such as Alcohol sensor checks the intoxication consumption by driver and if it finds alcohol consumption it will alert the passenger through buzzer as well as stop the vehicle through motor.eye blink sensor will check the drowsiness of driver if driver eyes blink for more than 15 seconds buzzer will alert the driver and reduces the bus speed. Temperature sensor will check the temperature condition of tyre and informs the driver through LCD. Ultrasonic sensor fixed all over the bus to detect the nearby vehicles and informs the driver through glowing LED according to distance of vehicles.

CONCLUSION

The survey of proposed system and to implement this in our state or country needs feasibility study. For deployment of Real time bus arrival system with advance feature needs full analysis technical,financial, institutional,organisationalissues.and for making this system successful it needs training and changes.this research provides multiple facility to passengers which they require in travelling time.

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