

Accident Avoidance Using Broadcast Algorithm

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Abstract

The aim of this paper is to develop a system to keep the vehicle secure and protect it from the unwanted calls while driving. The main aim of this project is to avoid phone call while driving by indicating buzzer and not give access to attend the call while in driving. whenever any call is detected in running vehicle, the inbuilt software designed in this project restrict the user to attend the call before he stops the vehicle. Microcontroller is used in this project for vehicle prototype which includes motors and sensors.

Keyword: Jammer; Microcontroller;

1. INTRODUCTION

Now -a -day's lot of accidents occurs due to mobile phones. As technology increased, death rate also increases in so many sectors. One among them is mobile phone .Lots of project & research done on jammer circuit which suppresses the mobile signal, results lots of problem. So many important calls are ignored. So in order to avoid accident due to mobile phone and also to know the important call, we planned to design software system which will not jam the mobile signal but it jam the call attending option from the mobile phone. This paper allows the user to attend the call once the driver stops the vehicle. The inbuilt software will cut the call in phone and by using LCD and voice recorder we can recognize the incoming call notification. Once the driver stops the vehicle he can make a call and attend a call.

2. LITERATURE REVIEW

In mobile phones terminology, a jammer is a device that blocks transmissions by creating interference. The jammer emits the signals in the same frequency range that cell phones use, and within the range of a jammer. A cell phone user may lose their signal. In satellite terminology it is a mobile ultrahigh-frequency (UHF) high-power noise source that can be used to jam satellite antennas or receivers .The jammer is majorly used to cut the call but we developed a software and it helps to allow the incoming call and it sustains only for 2 to 3 sec and automatically call will be blocked. With the aim of preventing accidents due to mobile phone usage while driving, ¹proposed a highly efficient automatics electronic system for early detection of incoming or outgoing call, an antenna located on the top of driver seat used for detection when the driver uses mobile phone and a low range mobile jammer prevents drivers mobile phone from receiving signals from base stations. This paper presents a low-priced, non-invasive, small-size system and a jammer which helps to sense the driver's use of mobile phone not the phone used by the fellow passenger in the vehicle. It also helps in preventing the road accident due to distraction to a large extent. Though Engineers, researchers or scientist innovate various new technologies, methods or system to prevent road accident, but still road accident continues. To overcome this type of situation all people must educate, realize and give more attention along with newly innovated technology to decrease the rate of road accident. ² Designed Mobile Jammer unit which is capable of blocking the cell phone working not the signal receiving from base Station, which make effective use of the situation where jammers

actually used. By using the FPGA and RF technology to implement low cost jammers is implemented. Mobile jammer is functioning utterly while not moving the signals from the network. In order that the user will able to get the notifications relating to Calls and messages (SMS, MMS). The notifications regarding the calls are given to the user. FPGAs offer a number of paradigms to speed up calculations in a hardware software design co-environment. They are relatively commercial as compare to ASICs and due to flexible in nature, hardware resources are utilized in efficient way.

3. PROPOSED SYSTEM

In this proposed system, unique algorithm was designed using android IDE to avoid only the phone call while driving. The hardware section of vehicle prototype would be implemented by using microcontrollers, motors & sensors. Gear motor is used as vehicle wheel & sensor to read the read the wheel rotation. Both the wheel & sensors are connected to the microcontroller .Phone calls are brought to notice but are left unanswered. If the driver feels it too important to answer, then the vehicle must be stopped. In other words even if rotations per minute are made to zero unless and until the vehicle fully shut down no calls can be answered. This system not only helps in avoiding the phone calls but also helps in tracking the calls later without missing out any emergency calls. The best feature of this system is that it completely avoids the use of jammer still having the capability of avoiding the calls.

4. BLOCK DIAGRAM

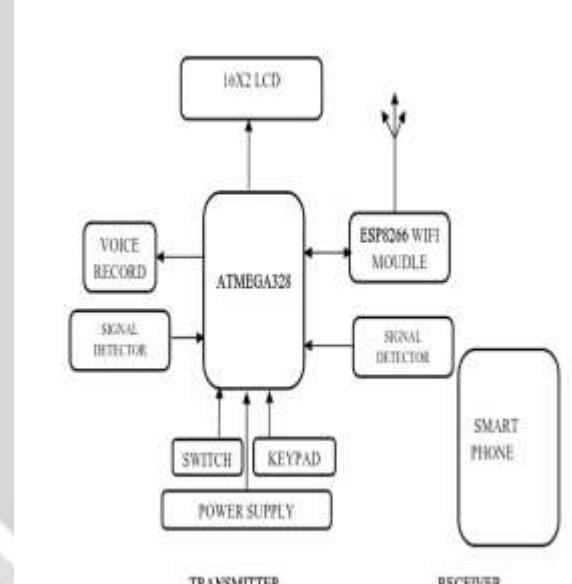


Figure 1: Block diagram of the Proposed System

4. METHODS AND MATERIALS ATMEGA MICROCONTROLLER

Arduino be used for construct different types of electronic circuits without difficulty using of both a physical programmable circuit board generally microcontroller and piece of code running on computer with USB link between the computer and Arduino.



Figure 2: Microcontroller

LCD

LCD is a horizontal panel display technology normally used in TVs and computer monitors. A 16*2 LCD can display 16 Characters per line and here are 2 such lines.



Figure 3: LCD

POWER SUPPLY

A power supply is a hardware component that supply power to an electrical device. It receives power since an electrical outlet and converts the current from AC (alternating current) to DC (direct current), which is the computer, requires.

DETECTOR SIGNAL

This circuit can be used to detect the RF signals and electromagnetic noise signals.

VOICE RECORDER

It is a device which is used to record short remainders here voice recorder is used to notify the incoming calls to the smart phone.

SWITCH

A device used for make and breaking the link in an electric circuit.

POWER SUPPLY UNIT

A **power supply unit** (or **PSU**) converts alternating current to low-voltage regulated direct current for the internal components of a computer. Modern personal computers universally use switched-mode power supplies. Some power supplies include a manual switch for selecting input voltage, whereas others automatically adapt to the mains voltage. Most modern desktop personal computer power supplies include form factor and voltage tolerances. Whereas an ATX power supply is coupled to the mains supply, it always provides a 5 volt standby (5VSB) voltage so that the stand-in functions on the computer and convinced peripherals are powered. ATX power supplies be turned on and off by a signal from the motherboard. They also present a signal to the motherboard to specify when the DC voltages are in spec, so that the computer is capable to safely power up and boot. The most modern ATX PSU standard is version 2.31 as of mid-2008.

5. CONCLUSION

In general, mobile phones statistics, the national safety council reports that mobile phone usage while driving leads to 1.6 million crashes every year, most of the crashes was because of two wheelers and car. The notification about the call is given to the user and if there is any urgent call it can be answered by completely

stopping the vehicle. Easy to implement by using microcontroller, the hardware can be modified easily and also provides safety for drivers. The proposed system not only ensures the road safety but also provides an alternative solution to jammer based accident avoidance system. The necessity of phone usage is not compromised with this proposed model. The best part of this model is the compact nature which helps in easy mounting of the system into the automobiles without interrupting in any of its functions.

6. FUTURE ENCHANCEMENTS

Basically use of jammers prevents even the necessary calls during travelling. In order to overcome this issue, an application was developed which will allow the notification through a voice message. The future work can be extended in such a way that a voice message back to the caller can be sent with the help of the application developed for android devices. More importantly smart phone manufacturers have also been urged to create a 'drive safe' mode - similar to the 'flight mode' option, which will block calls, texts and emails and avoid drivers being distracted. The 'Safe Texting' app for Android phones prevents the sending and receiving of text messages whereas a car is in motion—but it also prevents passengers from by means of their phones. By RFID, the same technology can be implemented in electronic toll collection systems such as 'E-Z Pass', the device repeatedly detects signals coming from the driver's phone while the vehicle is in motion and uses a jammer to prevent transmission.

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