SMART TRACKING OF MOBILE PHONE USAGE WITH THE HELP OF JAMMER UNIT

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ABSTRACT

In everyday life the usage of mobile phones and cars is getting increased. Usage trends have increased a lot now days to the increase of problems. Though government has introduced many schemes to stop the receiving of calls during driving by charging fine etc., but people became so careless about their lives and also others by committing these types of silly accidents. Even the public are facing problems because of calls in restricted and important areas like business meetings , official gatherings etc., To overcome this problems we are introducing a new concept known as JAMMMER UNIT.

In this UNIT we will be having a Transmitter and Encoder, Receiver Section and Ignition Unit the Decoder Section. Alerts about the call are being stopped by the jammer unit during the car driving which helps in reducing the accidents and interruption during busy important meetings. As soon as the phone call is received by the base station of the mobile phone, the Ignition Unit is actually switched ON and the signal is transmitted by the RF Transmitter. RF Receiver unit receives the Transmitted signal .The Encoder and Decoder are used to encode and decode the received signals. Thus the Unit of Mobile Section gets alerted and the Jammer initiates its functions by stopping the call alerts by locking the speaker or mic and the keypad of the mobile phone.

Keywords: Antennas, DC Motor,Decoder,Radio Frequency Module,Relay Unit

I. INTRODUCTION

A Wireless jammer is an instrument used to prevent cellular phones from receiving signals from base stations. Cellular phones when they are being used are effectively disabled by the Jammer. These kind of devices can be used in practically in any location, but are actually found primarily in places where silence is expected because a phone call would be disruptive. Cell phones were actually found for the purpose of connection but now they have turned into an irritating tool. The widespread usage of tool is becoming irritating and dangerous shoulder to shoulder. During examinations mobile phones are wrongly used by students; they are utilized in the infirmaries which may be very irritating and dangerous for the ill people and especially for people with pace maker located in their heart. And now-a-days even terrorists use mobile phones in explosion purposes which are very harmful. Therefore such dangerous accidents can be prevented by the use of mobile phone Jammers are used. Imagine a situation where you are trying to dial 911 but cannot get through because someone has a cell phone jammer with him. Else there is a robbery in your building and you want to stop it by informing the police but there is a cell phone jammer with the theif. Now in such a critical and dangerous situation nothing can be done?. Jammer devices and equipments can be much more useful when utilized with some thoughts than just a method of enjoyment. Therefore to prevent such harmful hazards FPGA has proposed an efficient type of

mobile phone jammer. Using FPGA we will be actually the disabling keypad, MIC, speaker, and more over there is no need of license because we are using a 400MHz frequency which has an public license. One major device that have popped- up on the market are cell phone jammers since many people use cellular phones. The perfect device for people is a cell phone jammer who is tired of hearing endless cell phone conversations or constantly being interrupted by incessant cell phone ring tones. With reference to other radio jamming, the same frequencies of cellular phones along that cellular phones operate on by sending out radio waves a cell phone jammers block cell phone from use. So hence enough interference is caused with the communication between cell phones and towers to make the phones unusable.. Using only analogue or older digital mobile phone principles older jammers sometimes were limited to working. All the GSM Networks widely used can be blocked using newer models such as the double and triple band jammers and they are also very effective against newer phones which hop to different frequencies and systems when interfered with. Across the globe the frequencies and network technology that are used for mobile phones vary only In specific regions such as Europe, North America or Pakistan. The jammer's effect can vary widely based on factors such as outdoor and indoor settings, proximity to towers, presence of landscape of the place and buildings that exist, even humidity as well as temperature is taken into account these play a vital role.

II. EXISTING SYSTEM

The person didn't even get the notification of a call or message when he is in the jammer coverage area. This concerned person cannot be contacted for some urgent information also. At that time nearly the handset will be in Switched Off or not reachable state. There will not be any notification that the user mobile has been jammed. Electric devices are part of our daily life and some of them are become necessary for us or our need like computer, microwave oven, fridge, etc. In past few years a new device had made its place in this list and we will not be wrong if we say that now it is part of our life, that electronic device is nothing but Mobile or Cellular Phone. The making of mobile phone have increased exponentially, and now maybe or almost half of the population of the world use Mobile phone in their daily routine and no one will oppose us if we say that Mobile have many benefits. Look at the rate of making of mobile in 2004.The results of the 2004 'Invention Index' show that Americans hate some electronic devices more than ingrown hairs. But everything have two expects one is good and other is bad and we as an engineer have to rectify these bad expects. Mobile phone use has increased so much that almost every person have one in his pocket and also using it in restricted areas, where an mobile phone or handset usage is not permitted. For example in mosque, hospital, army area etc. To stop the use of mobile in these areas we made this device naming Mobile service denial to prevent the use of Mobile in these areas.

III. PROPOSED SYSTEM

Call notifications will be forwarded to the user. And hence after receiving the notification the mobile user can go out of the cover area and respond to important calls or texts with their mobile as it is. No need of licensing, easy to implement. Our hardware can be modified whenever we want as we are using a FPGA.While driving a driver cannot use his mobile. But this person can get notification about the messages and calls. Then to the concerned person will nither be know about the call or be able to attend the call not be able to attend the call. The driver who is driving can stop the vehicle and attend his call and use his mobile as it is. The road mishaps

that occur because of mobile usage during driving can be avoided through this jamming concept. As we are using a FPGA, our hardware can be modified however and whenever we want.

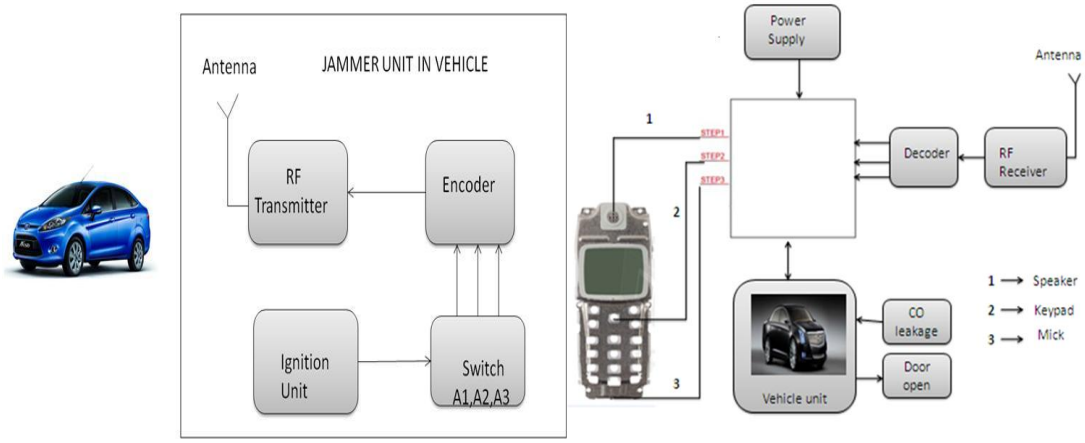

Fig.1 Transmitter and Receiver section

IV. WORKING OF PROPOSED SYSTEM

When people drive using hand held mobile phones it can actually cause either physical or mental distraction which is very hazardous to both the person and surrounding. Researchers have found that accidents widely occur when the person who is driving the vehicle use a mobile phone hence there are chances of accidents to take place. All calls i.e. incoming calls will be out of coverage area not reachable when jammers are used to avoid calls. Hence to satisfy all these complications a new type and efficient type of mobile jammer is introduced using Microcontroller. An RF signal is passed to the mobile unit when the ignition unit in the jammer circuit goes ON through using Encoders, Decoders and RF transmitter and Receivers. Immediately when the mobile unit receives, the signal from the jammer unit it automatically locks the Speaker, Microphone and the keypad of the smart phone.

V. MATERIALS AND METHODS

5.1 RF Module (Radio Frequency)

Radio Frequency, any frequency within the electromagnetic spectrum associated with propagation of the radio wave. When an RF current is given to an antenna of the system, an electromagnetic field is created that then is able to propagate through space. Based on RF field propagation many wireless technologiesoperate . Radio Frequency: The 10 kHz to 300 GHz frequency range that can be used for wireless communication. Generally it is used to refer to the radio signal generated by the transmitter of the system, or to energy that is present from other sources that may be picked up by a wireless receiver.

Figure .2 Receiver Modules and Transmitter Module

5.2 Antennas- Wire Whip

The WC418 is made of 26-gauge carbon steel music wire that can be soldered to the PC board. This antenna comes with a plastic coated tip for safety and is 6.8 inches long, allowing .1 inch for insertion in a terminal or PC board

Figure 3 - Antenna

5.3 Encoder (HT-12e)

The Encoder, which we are using in this project, is of HT12E series, which is a Holtek, made Encoder. The 212 encoders are of a series of CMOS VLSIs for remote control system applications. They are also being capable of encoding information, which consists of 12_ N data bits and N address bits. Each data/ address input can be set to one of the two logic gates. The header bits together with programmed data /addresses are transmitted via an RF (radio frequency) or an (infrared) IR transmission medium upon receipt of an trigger signal.

5.4 Decoder (HT-12d)

The Decoder, which we are using in our project, is HT12D series, which is a Decoder made Holtek. The 2 12 decoders are made of a series of CMOS V LSIs for remote control system applications. They are paired with Holtek_s 212 series of the encoders (refer to the encoder and decoder cross reference table.).Forthe purpose of proper operation, a pair of decoder/encoder with the same number of addresses bits and data bits format should be chosen at first.From a programmed 212 series of encoders the decoders receive serial addresses and data that are transmitted by a carrier using an RF or an IR transmission medium. They actually compare the serial data of the input given thrice continuously with the local addresses. If there is no error or any unmatched codes are found, henceforth the input data bit codes are being decoded at first and then transferred data to the output pins available. The VT pin goes high thereby to indicate a valid transmission. The 212 series of decoders are moreover capable of decoding information and plus it also consists of 12_N bits of data and N bits of address . Of this type of series, the HT12D decoder is being arranged to provide 4 data bits and 8 address bits.

5.5 DC Motor

In addition to the axle the steel can forms the body of the motor, two battery leads and nylon end cap.The axle will spin if the if the battery leads of the motor are hooked up to a flashlight battery. And when the leads are reversed, it will spin in the opposite direction. These are two other views of the original same motor. The nylon end cap which is part of the steel can are held in place by two tabs . By just making the tabs bend ,the tabs back, the end cap can be made free and remove it.The motors brushes are Inside the end cap .As the motor spins these brushes transfer power from the battery to the commutator . The **figure 9** sows all the parts of the DC motor.

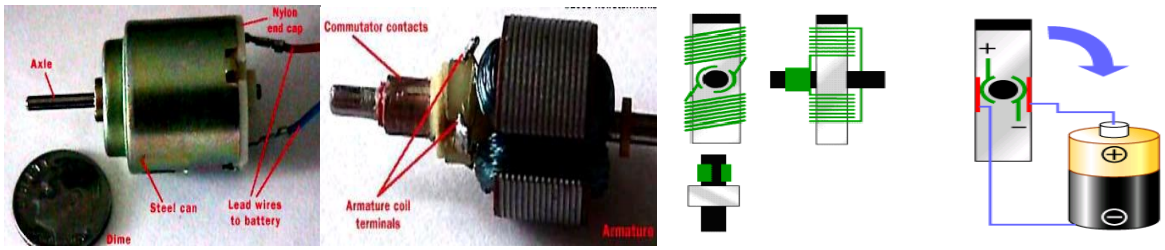

Figure 5- Parts of a DC motor

The axle holds the commutator and the armature. The armature is a set of electromagnets,whereas in this scenario they are three. The armature in this particular motor is made of a set of thin metal plates stacked together, with a thin film of copper wire coiled around each of the three poles of the armature. Onto a terminal the two ends of each wire (one wire for each pole) are being soldered, and then to one plate of the commutator each of the three terminals is wired. The inside structure of the motor is shown in **figure 9** .The final piece is the field magnet of any DC electric motor . The field magnet in this motor is made up of the can itself plus two curved permanent magnets also. Either end of each magnet will rests against a slot cut into the can, and then the retaining clip present will press against the other two ends of the both the magnets.

5.6 Relay With ULN2003A

A relay is an electrical hardware device consisting of an input and output gate.When the input gate is electrically excited the output gate consists in one or more electrical contacts that switch in between . A relay is an type of electrical switch that will opens and closes under the control and conditions of another electrical circuit. In the original form, the switch is operated by an electromagnet to close or open one many sets of contacts.

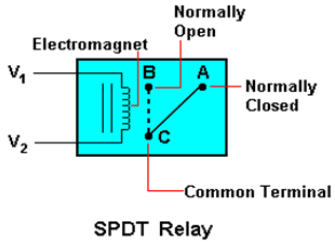

Figure 6-- Relay

5.7 Power Supply

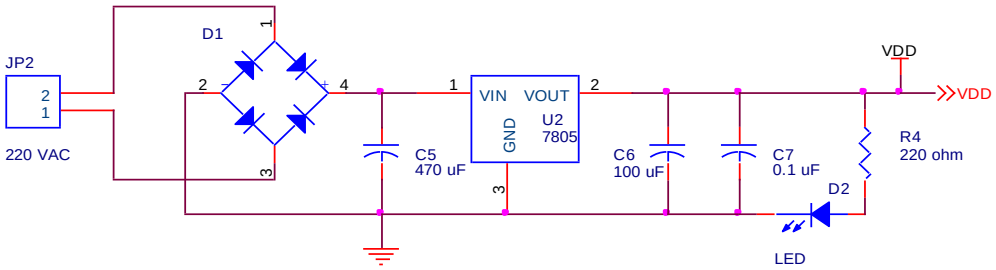

Figure 7- Power Supply Circuit

The power supply circuit is built using rectifiers, filters, and then voltage regulators as shown in the **figure**. To start with an AC voltage, by rectifying the AC voltage a steady DC voltage is obtained, then to an DC level it is filtered and finally, it is regulated to obtain the particular fixed DC voltage. The IC voltage regulator Unit provides the necessary regulation , which takes in the actual DC voltage and provides a somewhat similar or lower DC voltage, which remains constant or the same even when the input DC voltage varies, or the output Load connected to the DC voltage changes.

VI. RESULTS AND DISCUSSIONS

When our jamming device was tested, the result was a complete full success. The device was successfully able to jam all the nearby networks. The effective jamming range is approximately around 20 meters. This is actually more than what it was designed for. The reason lies behind our calculations. It can be clearly noticed that when

the signal is "ON" the jammer is "OFF", while the signal disappears when the jammer is "ON". For this only we have simulated using model SIM software properly.

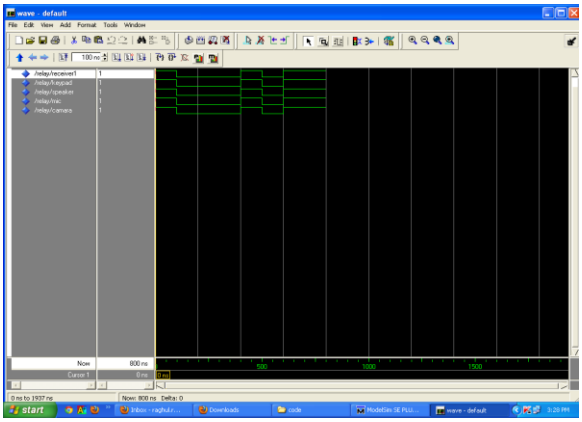

Figure: 8 Output Result

VII. CONCLUSION

High security to mankind is provided when Cell phone jammer effectively jams the operation of cell phone. This is very useful in the future and for further explanations also. Cell phone jammer can be effectively used in maintaining the data privacy and security plus it can be used in all areas efficiently. This concept of cell phone Jammer can be used widely. An mobile phone Jammer is an important tool which is used to prevent mobile phones from neither receiving signals from a base station nor transmitting signals to base stations. A jamming generator in the Jammer circuit will have all the technical parameter which will be equal to a cell phone where as the output power should be comparatively high or more than the signal available in that particular area. When there is any urgent call the user will receive the notification and we can go out from the coverage area and use our cellular phones as it is. Particularly in any location this device can be used. But are found primarily in places where a phone call would be particularly interrupting or disruptive because silence is dully expected.

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