

Android Based Intelligent Mobile Home Automation Security System

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Abstract—The security of one's belongings once someone leaves his/her home is continually a priority with increasing variety of incidents of larceny, theft etc. several machine-controlled systems has been developed that informs the owner in an exceedingly remote location concerning any intrusion or commit to intrude within the house. 8051 has been extensively utilized in past comes. However, we have a tendency to area unit appearance into the event of AN golem application that interprets the message a mobile device receives on attainable intrusion and after a reply (Short Message Service) SMS that triggers an alarm/buzzer within the remote house creating others conscious of the attainable intrusion. Dominant home appliances remotely with mobile applications have started changing into quite common attributable to the exponential rise in use of mobile devices. Mobile handsets nowadays area unit primarily hand-held computers with integrated mobile radio communication capabilities. With increasing usage of GSM, network services area unit expanded on the far side spoken language to include several alternative custom applications, machine automation and machine to machine communication. This application will be incorporated with mobile phones is bound to profit each those who continually have a doubt of their belongings being secure within the house in their absence. Most of the mobile devices that area unit factory-made today within the market area unit golem OS based mostly. Taking this into interest the appliance will be developed in golem and created user friendly, thereby creating the applications extremely strong across totally different mobile devices and type of users.

Keywords—component; formatting; style; styling; insert (key words)

1. INTRODUCTION

Now daily we have planned terribly easy, low price effective, low power consumption system and a intelligent novel methodology for implementing the house security mistreatment GSM. Mobile devices are integrated into our existence. Mobile devices have been integrated into our existence. Consequently, home automation and security have become more and more distinguished features on mobile devices. Home automation and security have become more and more distinguished options on mobile devices. we are able to develop a security system that interfaces with Associate in Nursing golem mobile system device. The mobile device and security system communicate via Bluetooth, wi-fi, NFC as a result of a short-range-only communications system was desired by golem mobile. The mobile applications are often loaded onto any compatible device, and once it loaded, interface with the protection system. Commands to lock, unlock, or check the standing of the door to that the protection system is put in are often sent quickly from the mobile device via a straightforward, simple to use user interface. The protection system then acts on these commands, taking the acceptable action and causation a confirmation back to the mobile device. The protection system can even tell the user if the door is open. The door conjointly incorporates a conventional lock and key interface just in case the user loses the mobile device.

A. Motivation

Home automation trade has drawn goodish attention of the researchers for quite a decade [1].The main plan is to mechanically management and monitor electrical and electronic home appliances. consistent with the marketing

research firm ABI regarding four million home automation systems were oversubscribed globally in 2013 [2]. an equivalent firm additionally calculable that regarding ninety million homes would use home automation systems by the top of 2017. Many industrial and analysis versions of home automation system are introduced and designed [2-6]. Among these solely home security systems became the most stream of development activities [1] good home systems have captured many technologies to date and merchandise are offered within the market. Despite over a decade long of disparate activities within the trade corporation's didn't build home automation as a preferred technology. The explanations behind this failure are comprehensively studied [1, 3]. a number of these vital reasons embrace price, troublesome to use, merchant dependency, less practicality, and security [1]Moreover, professional hand was needed to put in, configure, and maintain these systems. Hence, the installation and maintenance prices of the system were high and solely wealthy individuals with huge homes may afford it. so as to beat a number of these limitations like wireless home automation system (WHAS),Bluetooth based mostly Remote watching and management System and we have a tendency to square measure developing a system that goodish attention within the recent years. .

B. Objective

The main objective is to research a value effective resolution which will offer dominant of home appliances remotely and can additionally alter home security against intrusion within the absence of home owner.

The motivation is to facilitate that home security has been a significant issue wherever crime is increasing and everyone needs to require correct measures to stop

intrusion. As there are numerous systems that already enforce, however, still there are some drawbacks that are as follows:

- 1] All developed systems are of high value. They're not providing ready by one and all.
- 2] It is terribly tough to handle.
- 3] Maintenance is the main issue.
- 4] If the interrupt occurred, put in system send SMS to user however user is unable to reply the SMS in such condition a 3rd person needed for replying SMS.

By learning higher than disadvantage we are going to propose an intelligent system that has the main objective to beat the downside like

- 1] Developing a value effective system.
- 2] Developing a terribly easy and low maintenance system.
- 3] If the interrupt occurred, put in system sends SMS to user however user is unable to reply the SMS in such condition Associate in nursing intelligent software package (Android) can reply SMS. This is often the main innovative factor. The GSM electronic equipment ought to send a message to the robot application put in within the mobile device. If the user can't respond within the outlined fundamental measure, the appliance can mechanically and with success send a default message to the remote device, afterwards trigger the buzzer.

The proposed system we are able to implement as a result of Android OS is currently the lead on mobile market. Most of the mobile devices that are factory-made these days within the market are primarily based on Android OS. It is terribly open source. The home appliances system with an inexpensive value was thought to be designed that ought to be mobile providing remote access to the appliances and permitting home security additionally there was a desire to alter home so user will benefit of the technological advancement. Thus this is often a proposed system that enables user to be management home appliances ubiquitously and additionally offer security on detection of intrusion via SMS exploitation GSM technology.

2. LITERATURE REVIEW

A lot of several Home automation systems are out there within the market completely different approach has been planned at different times. However, Home automation system remains current scientific research field. Google is making an attempt to affix home management arena with Golem application. The approaches relevant to the subject are listed below.

During this topic bestowed by A. Alheraish, Member, IEEE, a style and implementation of device system by means of GSM cellular communication network is delineated. This style integrates the device to be controlled, the microcontroller, and GSM Module so it will be used for a large variety of applications. The planned M2M style during

this uses a computer because the terminal user rather than microcontroller. In such a style, GSM dialup and communication protocol is embedded within the computer. The M2M microcontroller interacts with the M2M engine, embedded with the SIM card. The data which will be sent to the network needs to be taken to a microcontroller to create the interface between the machine and M2M engine. They'd used completely different modules like check and skim message module, which check any received message from the M2M module victimization AT commands, a decipher module that decodes the text message and excludes all alternative details like date, time and sender's name.

NakropJinaporn [10] has developed a security system against quality larceny by victimization frequency identification technology. The system consists of 5 main parts: (a) RFID reader and tag, (b) GUI, (c) info system, (d) CCTV and (e) wireless transmitter and receiver. The RFID reader is put in at the doorway of the field and also the tags are hooked up on/in student ID cards and their properties. The program of the developed system has the capabilities of investigation the identification method, management and dominant operate of the hardware.

In this topic bestowed by M. Van Der Werff, X Gui, W.L. Xu, Massey University, New Zealand [3], they'd planned a system consisting of java-enabled mobile, a cellular electronic equipment, and a controller board incorporating microcontroller. The mobile is a foreign management through that a user will act with the house automation system.

Thus, this proposed system can discuss the event of home automation security system that integrates with Android OS mobile device victimization GPS as a wireless affiliation protocol. Android OS is presently the lead on mobile market share whereas Symbian OS was already interrupted. This proposed system will be incorporated with mobile phones is certain to profit each folks that forever have a doubt of their belongings being secure within the house in their absence.

3. PROPOSED WORK

The diagram of the projected methodology is shown in Fig. 1. A switch is hooked up to the door which detects any intrusion tried by intruders and interrupts the 8051 microcontroller. The 8051 interrupts the GSM electronic equipment and therefore the electronic equipment sends pre-configured warnings to the portable within the remote location [9]. The robot application pre-loaded within the portable interprets straightaway any incoming message within the message box and triggers a pop-up menu within the mobile screen informing the owner concerning attainable try of intrusion within the remote house. If the user acknowledges the pop-up, straightaway a message is challenge to the remote electronic equipment. The electronic equipment sends associate interrupt to the microcontroller and therefore the microcontroller interrupts the buzzer.

Fig. 2. Displays the flow sheet illustration of the projected methodology. The flow sheet provides a

transparent plan right from the time the switch detects any interrupt within the door to the tip of taking part in the buzzer [8]. The robot application ceaselessly checks for any incoming SMS within the inbox of the phone. If there's a replacement incoming SMS, it verifies the amount from that the SMS has been received.

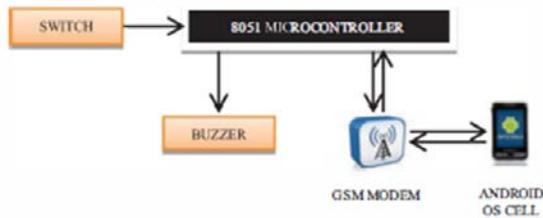


Fig.3.1.Basic diagram of System

If the SMS is from the emergency range, a pop-up screen is instantly flashed within the home screen of the mobile to drive users' immediate attention. If the user acknowledges the pop-up in outlined period, a reply SMS is distributed back to the remote electronic equipment. If the user fails to acknowledge to the pop-up within the outlined period, a default time or mounted period is hoped- for. Once now amount expires, a reply SMS is distributed mechanically back to the remote electronic equipment. this is often done as a result of although the user fails to acknowledge as a result of bound reasons, the buzzer within the remote place ought to be triggered alarming a couple of attainable intrusion.

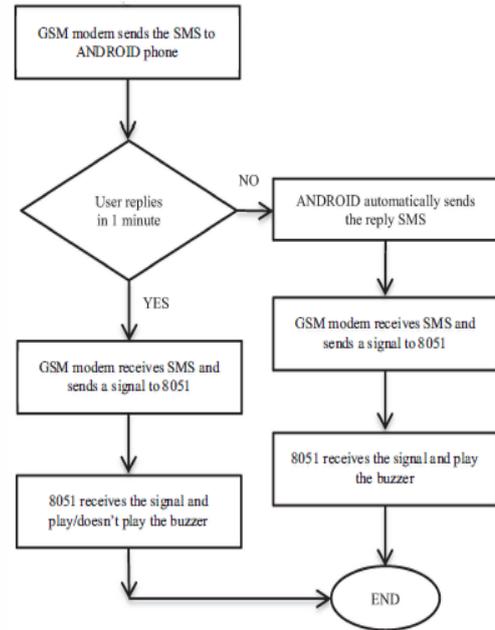


Fig3.2.Proposed flowchart of System

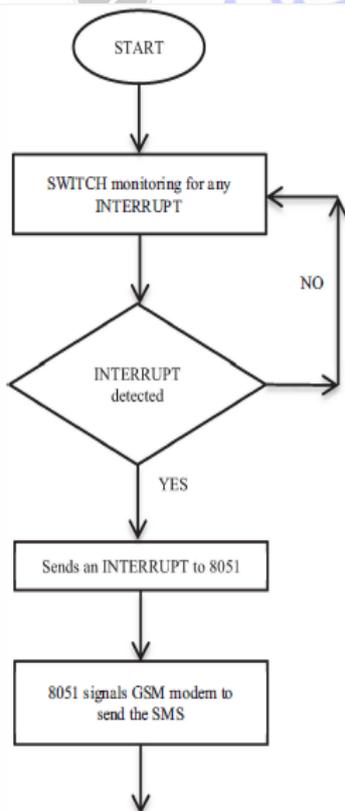
4. CONCLUSION

This method deployed APK (ANDROID Application Package File) file to humanoid enabled mobile devices and it ought to provide some truthful result as per demand of user. On interrupt intrusion, the GSM electronic equipment ought to sends a message to the humanoid application put in within the mobile device. If the user can fails to response within the outlined period of time, the appliance can mechanically and with success sends a default message to the remote device, afterwards trigger the buzzer.

The appliance mentioned here is bound to useful each those who invariably have a doubt of their belongings being secure within the house in their absence. Most of the mobile devices that square measure factory-made these days within the market square measure humanoid OS based mostly. Taking this into interest we have a tendency to square measure about to developing application in humanoid and created user friendly, thereby creating the appliance extremely strong across completely different mobile devices and type of users.

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