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A Review Paper on Smart System for Personal Security

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ABSTRACT: Recently personal security has become a sensitive issue. Small kids, ladies, as well as aged people need to have their secure against kidnapping, rape, chain snatching respectively. There are different areas & scopes of security. Recent social incidents gave us motivation to develop personal security system. Kids, aged people & ladies mostly not able to fight to criminal for self security. Sometime government security may not give on time support.. Most of the time, citizens are very much reluctant to help any victim of such incidents. Hence smart personal Security system gives us reliable solution to overcome such problem. For developing smart system two factors has been considered i.e. prevention of incident & cure of incident. Best Efforts are taken to have defense for user by this smart system, as well as alarming communication. Pulse rate sensor, pressure switches, & manual switches contribution has been considered. For alarming, defensive situation.

Keywords : Pulse rate sensor, VCS: voice code sensor application, WSN: Wireless Sensor network. LBS: Location based service, MS: manual switch, PM :preventive mechanism

INTRODUCTION

Correspondence of disturbing circumstance and counteraction of episode has accomplished by GPS, GSM innovation, and protective framework individually. This is the point of our framework. subsequently the structure is isolated into two sections.

1) Message of the offense all through remote

2) Prevention of the wrongdoing.

Fluid shower siphon framework, stunning framework with robotization and alert has been utilized for protection. Heartbeat rate sensor, pressure switches, and manual switches commitment has been considered for disturbing, protective circumstance, just as communication. The instant message will be send to the additional information based individuals at goal for moment help to the client. client will have opportunity to include decision individuals' information base number. Relative, specialist

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and police will have prompt sign to help client in misfortune circumstance. Dread circumstance of client will be considered by various bio sensors. Biosensors are fit for estimating huge physiological Parameters like pulse, circulatory strain, body and skin Temperature, oxygen immersion, breath rate, electrocardiogram[2].Special coat or wearable piece of clothing that can consistently check electrocardiogram (ECG) waves and pulse [7]. Android Development apparatus (ADT) is a module use to upgrade and lift the presentation of Eclipse IDE [1].It gives quicker and simpler method for creation and troubleshooting of Android application[1].

ARCHITEC TURE

Following block diagram shows the architecture of smart system.

Figure : System architecture

SYSTEM DESIGN

The utilization of GSM and GP S advances enables the System to follow protests and gives the most modern data about progressing trips [14]. A GPS recipient must be bolted on to the sign of at any rate three satellites to figure a 2D position (scope and longitude) and track development [9]. An interfacing of GPS Receiver (GTPA003 MODEL, according to figure -) has appeared in figure

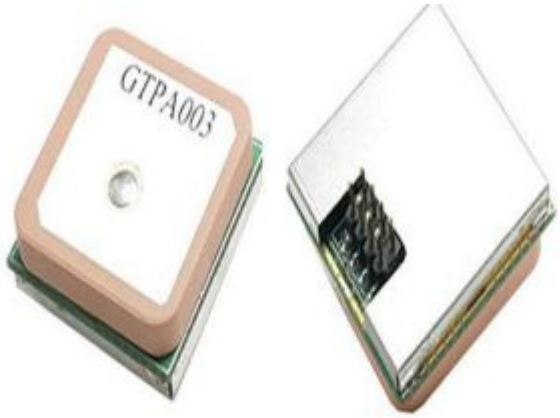

Figure : GPS receiver(GTPA003)

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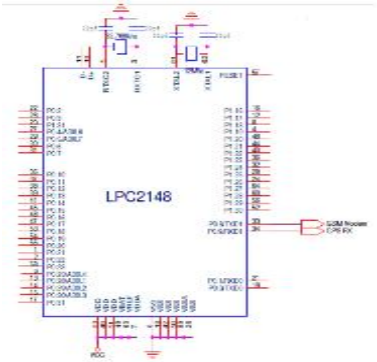
GSM COMMUNICATION

A GSM modem is a wireless modem that works with a GSM wireless network [10].It operates at either the 900MHz or 1800MHz frequency band [10]. It supports voice calls and data transfer speeds of up to 9.6kbits/s [10]. It is very compact in size and effortless to use as bung in component. The Modem is coming with 5VTTL crossing point which allows you to join straight to 5V microcontroller/Arduino. The baud speed is configurable from 9600-115200 through AT command. The GSM/GPRS TTL Modem is having inner TCP/IP stack to allow you to join with internet via GPRS. It is appropriate for SMS as well as data transmit submission in M2M interface. You could do with only two cable (Tx,Rx) excluding Power deliver to interface with microcontroller/Arduino. The build in switch Power deliver allow you to join wide range free power supply. Using this modem, you can send SMS, statistics and read SMS through trouble-free AT rule. SIM300can be integrated with a wide range of applications [11]. SIM300 is a Tri-band GSM/GPRS engine that works on frequencies EGSM 900 MHz, DCS 1800 MHz and PCS1900 MHz [11].An interfacing of GSM has shown in figure.



EMERGENCY SWITCHES

Crisis physical information has been utilized to keep away from the offense.A key has been unmistakable for essential transportation of occurrence to themicro controller and the fringe. In any case, some event urgentsituation key activity through physically will have malfunction,in that episode the sufferer individual may not ready to activatethose physical keys. All things considered beat sensor, voice code sensor,bottom pack switch is responsible to decrease disappointment of manualkeys. Physical keys will be responsible for caution bellor horn correspondence, GSM, GPS

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based declaration andfor defensive activity. An interfacing of switch has appeared in figure

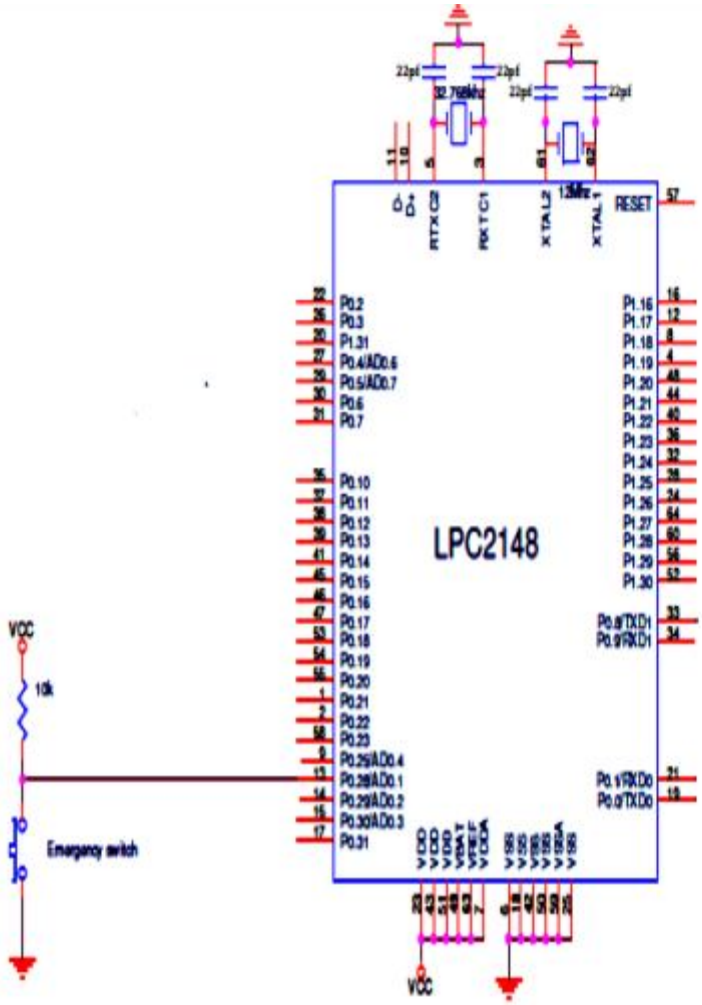

Figure : emergency switches

RF TRANSMITTER AND RECEIVER

This is an ASK Hybrid transmitter receiver module at 433 MHz The transmitter Module employs a crystal-stabilized .oscillator, Ensuring accurate frequency control for best range performance. There is no Requirement of external RF components except Antenna. An interfacing of RF transmitter & receiver has shown in figure16 & 17. RF Transmitter Features: •Frequency Range: 433.92 MHz •Supply Voltage: 3~12V •Output Power : 4~16dBm •Circuit Shape: Saw • RF Receiver Features: •Receiver Frequency: 433.92 MHz •Typical sensitivity: -105dBm

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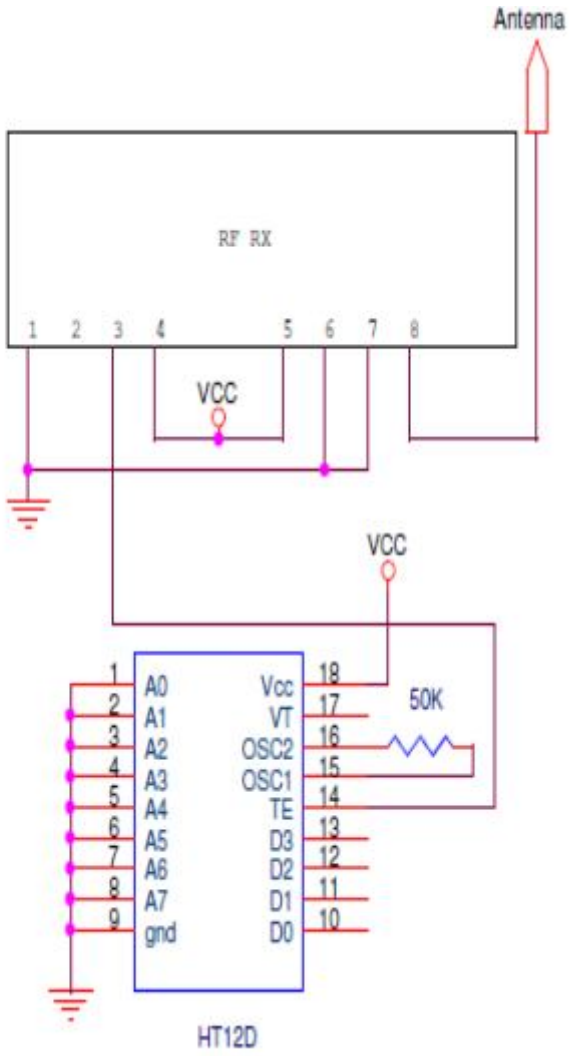

Figure17: interfacing of RF receiver

RESULTS

Prevention of Incident 1) The sensor consists of a super bright red LED and light detector. The LED needs to be super bright as the light must pass through finger and detected at other end. Now, when the heart pumps a pulse of blood through the blood vessels, the finger becomes slightly more opaque and so less light reached the detector. With each heart pulse the detector signal varies. This variation is converted to electrical pulse. This signal is amplified and triggered through an amplifier which outputs +5Vlogic level signal. The output signal is also indicated on top by a LED which Blinks on each heart beat.

2) Shock circuit will turn on when user hit punches to defend against Criminal. It is pressure switch based circuit. as per switch action Internal circuits have created pulses to internal MOSFETS.MOSFET activates the internal transformer & creates heavy shock at the output side. While designing these circuits two cares have been considered. a) User should not be victim shock. b) Criminal should have scalable shock. 3) Liquid spray pumps get on when required & emits hazardous liquid. Reliability & exactness of this circuit is depending on Following parameter. a) Type of

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hazardous liquid. b) Location of spray pipe c) Speed of liquid d) Spraying angle e) Pulse rate sensors signal f) Manual keys

CONCLUSION

Strong gadget with keen framework has been utilized to cover self assault .There are most elevated opportunities to decreased wrongdoing by this framework. Seize, butcher and so forth wrongdoings can be diminished with this framework. Perilous Liquid Spray and stun preventive instruments are utilized for expectation Of occasion , alert insight with the assistance of this security framework; these techniques will be steady to turn away the antagonistic vibe. Message through GPS and GSM innovation is the extra part to have help to the person. For quick activity against the crook, In prospect adequate procedure video data can be utilized .dread or outrage of client must be considered by utilizing Camera application in future which will produce the message to the control room and an alert will initiate. The framework can play out the constant observing of wanted territory and identify the brutality with a decent precision [3].Facial articulation is one of the most dominant, common, and Immediate methods for people to convey their Emotions and expectations [6]. in future matlab application can be consider for video data. The different facial practices and movements can be parameterized dependent on muscle activities [6].Multistate facial segment have been create to spot and track changes in facial perusing [6]. The individuals who are in inaccessible zone for their safeguard against outrageous, climatic issues like tremor, flood inconveniences, profound stormy spell, profound haze spell and so forth shelter framework is the Supportive apparatus.

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