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Wakeup Stroke Prediction and Child Safety System

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Abstract: ***The main purpose of doing this project is to save lots of childrens from threads. Generally we are seeing that the amount of crimes is increasing day by day on children. Our project will mainly specialize in child safety. Now we'll implement a toddler safety monitoring with the assistance of android phones to assist guardian to see whether children safe or not. Now the system will automatically alert the parent/guardian by sending SMS, then they're going to take immediate action for the kid during an emergency.***
Wake up stroke is mentioned as stroke onset during already dark sleep where a toddler awakens with stroke symptoms that weren't present before falling asleep.
Index Terms: PIC Microcontroller, sensors, GSM modem, GPS, LCD

I. INTRODUCTION

Basically within the times there's a drastic increase within the number of kidnapping cases and also children cannot complain about abuses which they face in their lifestyle to their parents.
They can't even realize what actually happens to them at their age. it's also difficult for folks to spot their children are being abused. to stop children before being attacked, an autonomous real time child safety monitoring system is important for each child out there. during this system, the collected values from every sensor like temperature sensor, pressure sensor and therefore the location value from GPS are accustomed detect the status of the kid and alerts the respective guardians using GSM accordingly.

II. LITERATURE SURVEY

In the proposed system, this MCSM implements the software hand function can keep children in guardian's view by using Bluetooth near field communication, and the safety zone function can make guardians know children's locationtimely by using GPS sensors, acceleration sensors, and mobile GIS (Geographic Information System).
The main functions of this system are to trace the positions of children, and sent them to their parents and the room. Besides, they also can measure and identify children crying, and sentto parents and schools to timely treatment.
In the proposed system, we will propose a model for child safety through smartphones that provides the choiceto track the situation of their children as well as just in case of emergency children is able to send a quick message and current location via Short Message services.
This proposed application developed on android platform for this application the basic techniques required mentioned below: (a)Geo-Fencing (b)GPS (Global Positioning System) (c) SMS (Short Messaging Service). In the proposed system, This work describes a secure and secure electronic system for ladies which comprises an Arduino controller and sensors like temperature LM35,flex sensor, pulserate sensor.
A buzzer, LCD, GSM and GPS are utilized in this project. The device is especially built to save a toddler from harassment. We are placing the touch sensor within the bad touching places of the girl child. If any touches on the touch sensor is detected, the device senses the body parameters like heartbeat rate, change in temperature, and the movement of the victim by flexsensor.
When the sensor crosses the threshold limit the device gets activated and traces the location of the victim using the GPS module. By using the GSM module, the sufferer location is shipped to the registered contact number.
A hidden camera is additionally fixed along side the kid dress, when the device gets activated, the camera starts working and it transmits the live scenario to the registered contacts, in order that they will be ready to see what"s happening there.

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III. PROPOSED WORK

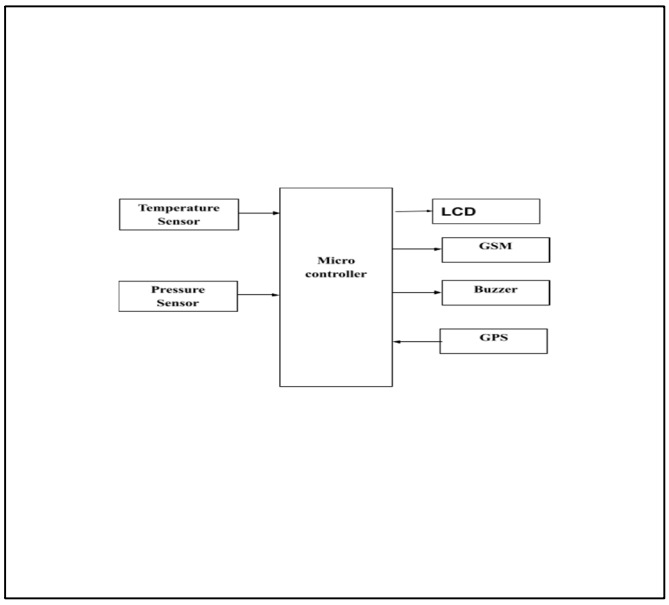

Figure 1: Block Diagram

In proposed system child safety monitoring system is capable of acting as a smart device.The Working devices,SMS based solutions to identify the child position in real time using a temperature sensor. This work for physical analysis of body happiness, pressure etc. The basic operation of the proposed child tracking system is that when a violation of child safety is detected, a pressure sensor in the child module will produce a signal. This signal will be sent from these sensors and GPS to the microcontroller then through the transmitter to parent module.Once the signal is active the controller will send latitude and longitude values through GPS and send the location using the GSM module to the parent. Advantages are,application of this device is good for security reasons.It will be useful for military people during night time.It is a good source of saving energy.

IV. HARDWARE USED

A. Pic Micro-Controller

The PIC16FXX series has more advanced and developed features in comparison to its preceding series. We have used PIC 16F877A Micro Controller.

FEATURES

1) High performance RISC CPU.
2) ONLY 35 simple word instructions.
3) All single cycle instructions apart from program branches which are two cycles.
4) Up to 368×8bit of RAM (data memory), 256×8 of EEPROM (data memory), 8k×14 of non-volatile storage
5) Eight level deep hardware stack.

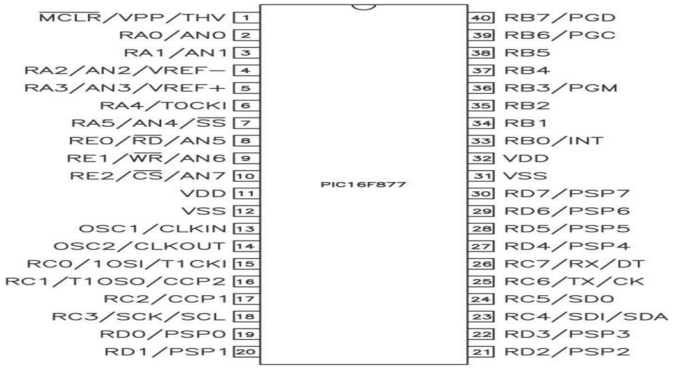

Figure 2: PIC Micro- controller 16F877A

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B. LCD Display-16X2

We are using 16x2 LCD (liquid crystal display) display; it will display the status of the system. It has 16 columns and 2 rows. It displays 16 letters in one row.

LCD (Liquid Crystal Display) screen is an electronic display module and finds a wide range of applications. A 16x2 LCD display is a very basic module and is very commonly used in various devices and circuits. These modules are preferred over seven segments and other multi segment LEDs. The reasons being: LCDs are economical; easily programmable; have no limitation of displaying special & even custom characters (unlike in seven segments), animations and so on.

Figure 3: LCD display-16x2

C. GSM Modem

GSM circuit receives the data as message and contribute it to the microcontroller, then microcontroller sends the suitable message to mobile phone using the GSM module. The GSM system was designed as a second generation (2G) cellular phone technology. One of the basic aims was to provide a system that would enable greater capacity to be achieved than the previous first-generation analogue systems. GSM achieved this by using a digital TDMA (time division multiple access approach).

Figure 4: GSM modem

D. Temperature Sensor

We use LM35 is a temperature sensor that outputs an analog signal which is proportional to the instantaneous temperature. The output voltage can easily be interpreted to get a temperature reading in Celsius. LM35 can measure from -55 degrees centigrade to 150-degree centigrade. The accuracy level is very high if operated at optimal temperature and humidity levels. The conversion of the output voltage to centigrade is also easy and straightforward.

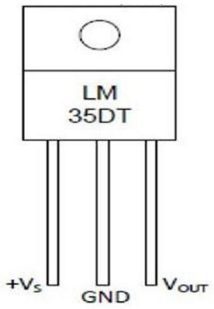

Figure 5: Temperature Sensor

E. Pressure Sensor

BMP180 is one of the sensors of BMP XXX series. They are all designed to measure Barometric Pressure or Atmospheric pressure. BMP180 is a high precision sensor designed for consumer applications. Barometric Pressure is nothing but weight of air applied on everything. The air has weight and wherever there is air its pressure is felt. BMP180 sensor senses that pressure and provides that information in digital output. Also the temperature affects the pressure and so we need temperature compensated pressure reading. To compensate, the BM180 also has a good temperature sensor.

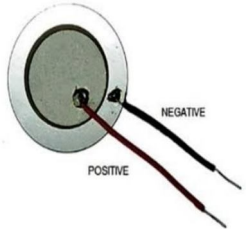

Figure 6: Pressure Sensor

F. Result Output

Figure 7: Showing Temperature and Pressure values on LCD

In the above figure, it shows the sensor LM35 and pressure sensor which is connected to the microcontroller.Whenever the temperature and pressure sensor is crossing the threshold voltage level a message is sent to mobile through GSM and it displays on LCD.

V. FUTURE SCOPE

The future scope of the work is to implement the IoT device which ensures the entire solution for child safety problems.For implementing the IOT devices which ensures the entire solution for baby safety problems. a replacement idea to implement an automatic system for baby monitoring to get rid of the anxiety of the oldsters . This project prefer Smart IOT Devices for child safety and tracking helps the guardian/parents to locate and monitor the baby. If any abnormal values are read by the sensors then an SMS is shipped to the custodian mobile. within the future it are often developed as security devices using GPS. GPS is checking the situation on each every movement. Which focuses on children safety, tracking of faculty bus and exact location of faculty bwith the assistance of longitude and altitude positioning of GPS and sending information through SMS.

VI. CONCLUSION

The conclusion of this project to monitor children and also helpful to parents to take care of their children by getting a message through GPS and GSM. This research represents the child safety using pic microcontroller, temperature sensor, pressure sensor are used to monitor health conditions and location of children through GPS and will send a message alert to parent module.

A. Software Used

MPLAB X IDE

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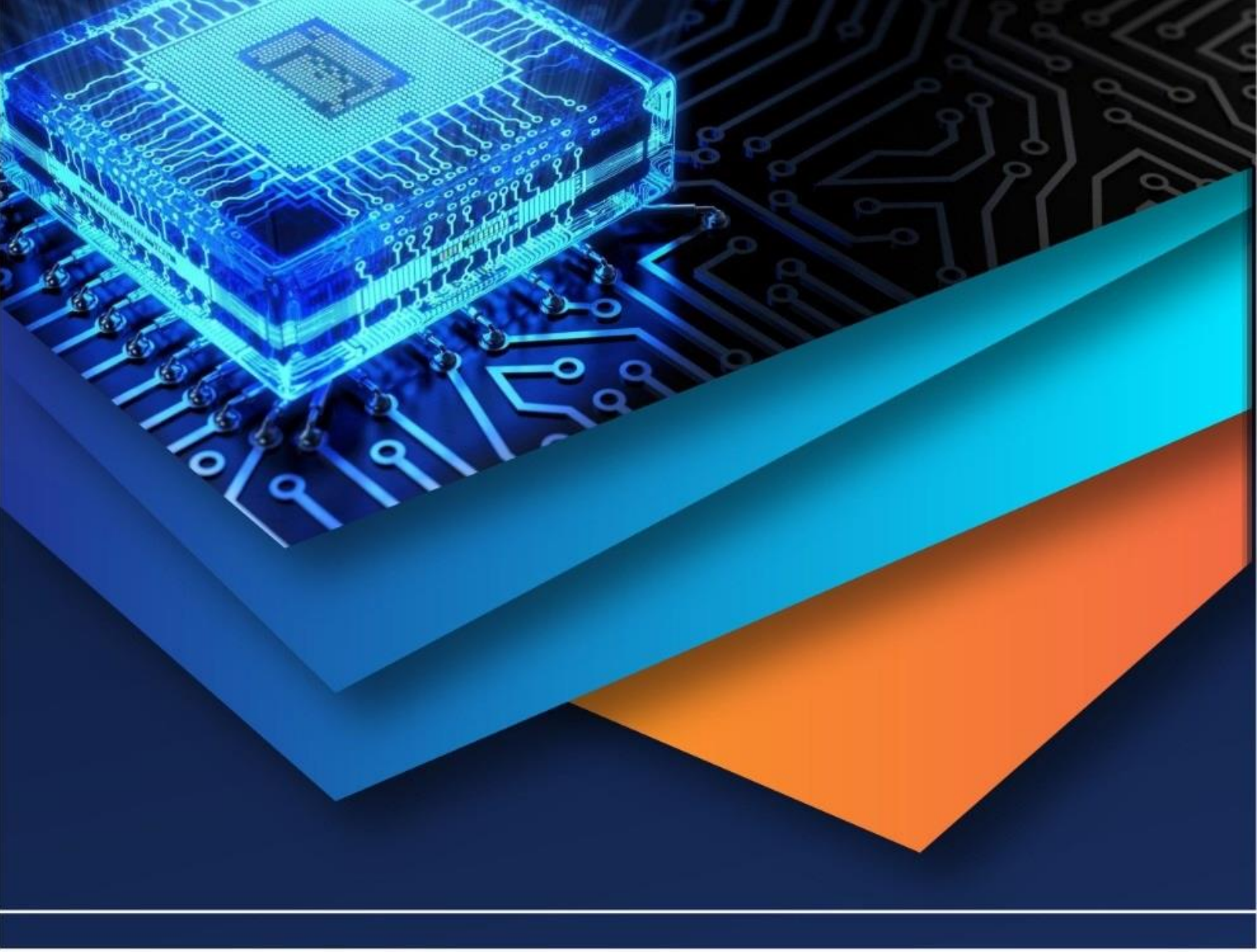

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