A SMART APPROACH FOR PERSON TRACKING AND ALERTING SYSTEMUNDER VULNERABLE CONDITIONS

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ABSTRACT
Nowadays general public safety is very important factor as there is lot of increase in number of crimes, attacks against public and thefts all over the world. In such situations we need to take care of the public regarding their safety measures. Here we use high clock speed ARM 7 LPC 2148 microcontroller, RF communication and GSM communication for fast and better response of the system. We are going to use a smart and innovative approach for tracking a person under vulnerable conditions by tracking the person's location and alerting the required members to rescue the person by sending SMS to the needy. In additional to that we use LED on and off and buzzer sound to generate alert at the person under threat and also, weuse rescuing access modules attached to each street light pole which alerts by LED on and off, buzzer sound and displays message such that a person is in danger on a LCD.

1. INTRODUCTION

Public safety is an important parameter for the development of any country. Everyone wants to have a peaceful life without any problems. But in the practical world, every person needs to face lot of problems. Some of those problems are crimes, attacks, thefts on all the people around the world. So it is a crucial and most important parameter which has to be given priority. Women are mostly attacked and threatened and the crimes against them have been increasing day by day. Children kidnapping is also one of the major issues which we need to focus on. Public cannot go out with good ornaments or money or valuable things because of the fear of being attacked by someone.

Even though government has taken many measures to control the attacks against public, the problem still exists. Women have been coming out for various activities such as education, employment in various fields etc. for the past 25 years. They are one of the reasons for the development of our country. But increase in crime on them can create negative environment and they don't come out which will be a major problem for us. Children kidnapping is also one of the major problems. It creates insecure feeling among parents and children. Children cannot defend from the attackers easily. Even though there are lot of surveillance and security, still this problem exists. Also, thefts are increasing day by day. In this process not only, women and children but men are also attacked. Costly gadgets, money and ornaments are robbed by the attackers. In this process common public get attacked or hurt or sometimes lose their life. The development of the country is affected a lot because of this. An Any investors, students, tourists etc. don't come to our country if this problem increases day by day. A country which is peaceful and most secured can attract various business firms, organizations from abroad which can increase the employment opportunities and hence our country can be developed. Economic growth is also affected by this problem.

2. RELATED WORK

According to Dr. Velayudhan [1] the project presents a wearable safety device for women using the Arduino. The purpose of this device is to safeguard women in the event they might face any danger. The device uses wireless sensor network to communicate and to send alerts to them. The GPS and GSM are used to share the used to share the user's location directly to the relevant authorities and

saved contacts. The switch in the device work for sending manual alerts in case of emergency and as panic switch to get the shock, then the Buzzer will also activate along laser diode.

According to A. AI Mazloum [2] A areal-time simple algorithm of differential GPS is adopted tested experimentally using an existing GSM network utilizing SMS service that takes short time with low cost. A system of DGPS is designed and implemented. The implemented system includes basically reference station (RS) and mobile station (MS). The RS consists of a personal computer (PC_A) with a GPS receiver and a modem of GSM. The differential data (DD) between the GPS reading and the original

According to Ji-Hun [3] this study proposes an adaptive graph algorithm for collision-free motion planning of articulated robots in dynamic environments. For this purpose, deformations of the configuration space were analyzed according to the changes of the workspace using various simulations. Subsequently, we adopted the principles of gas motion dynamics in our adaptation algorithm to address the issue of the deformation of the configuration space. The proposed algorithm has an adaptation mechanism based on expansive repulsion and sensory repulsion, and it can be performed to provide the entire adaptation using distributed processing. The simulation results confirmed that the proposed method allows the adaptation of the roadmap graph to changes of the configuration space.

According toF.Sudhindra[4] serious diseases are usually confined to their homes, due to their health conditions. They are put into a helpless situation when they need to go out for even small tasks. This paper deals with the design and development of GSM enabled embedded system for simulated Blood pressure and Body Temperature Monitoring. The system uses GSM for communicating the abnormalities in the simulated biomedical parameters. The abnormal deviation in the values of any of these parameters from their set point vales will be immediately sensed and local help is sought from the nearby people. If no such help is available, this system sends SMS directly to home, doctor caretaker's   mobile   phone.   It   is   a bidirectional   communication system in which the caretaker/Doctor, at any time, can send SMS to know the present parameter status of the person or patient.

According to SeokJuLeen [5] efficient vehicle tracking system is designed and implemented for tracking the movement of any equipped vehicle from any location at any time. The proposed system made good use of a popular technology that combines   a Smartphone application with a microcontroller. This will be easy to make and inexpensive compared to others. The designed in-vehicle device works using Global Positioning System (GPS) and Global system for mobile communication / General Packet Radio Service (GSM/GPRS) technology that is one of the most common ways for vehicle tracking. The device is embedded inside a vehicle whose position is to be determined and tracked in real-time. A microcontroller is used to control the GPS and GSM/GPRS modules. The vehicle tracking system uses the GPS module to get geographic coordinates at regular time intervals. The GSM/GPRS module is used to transmit and update the vehicle location to a database. A Smartphone application is also developed for continuously monitoring the vehicle location. The Google Maps API is used to display the vehicle on the map in the Smartphone application. Thus, users will be able to continuously monitor a moving vehicle on demand using the Smartphone application and determine the estimated distance and time for the vehicle to arrive at a given destination. In order to show the feasibility and effectiveness of the system, this paper presents experimental results of the vehicle tracking system and some experiences on practical implementations.

According to Abhijeet Tekawade [6] An efficient vehicle tracking system is designed and implemented for tracking the movement of any equipped vehicle from any location at any time. The proposed system made good use of a popular technology that combines a Smartphone application with a microcontroller. This will be easy to make and inexpensive compared to others. The designed in-vehicle device works using Global Positioning System (GPS) and Global system for mobile communication / General Packet Radio Service (GSM/GPRS) technology that is one of the most

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3. OBJECTIVE

The objective of this project is to decrease the attacks and thefts on common public by providing a system which alerts the nearby rescuing centers, our friends or relatives by sharing the person under attack's location through SMS. In addition to that, the hardware system makes LED on and off and generates a sound signal to alert nearby public. Also, we shall introduce a rescue access module at each street light pole which alerts the local public which are passing by that area by making LED on and off, providing an alarm sound and displaying the location of person who is under danger on a LCD. As the advent of technology, we can reduce this problem in the modern world. We use embedded systems, to solve this problem to a major extent. Here we use various modern electronics and communication equipment interfaced with the microcontroller to get the desired output.
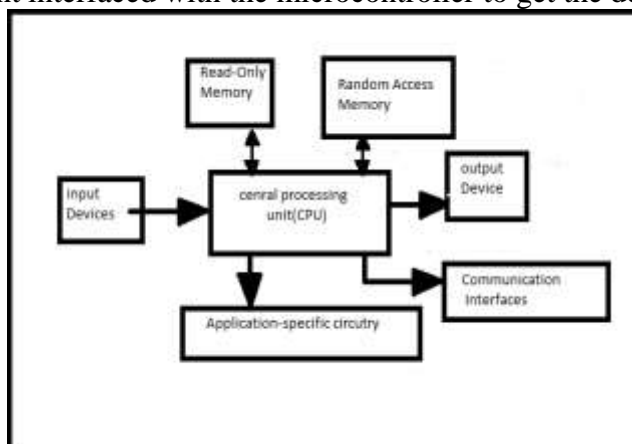

Fig 1.1 Block Diagram of Hardware of Embedded System

4. RESULTS

Fig 1.1 Hardware system of module which is carried by the user blockdiagram

Fig 1.2 Hardware system of rescue accessmodule

Fig 1.3 SMS alert

5. Conclusion

Using, "A smart approach for person tracking and alerting system under vulnerable conditions", it can increase the safety of the public and decrease the crimes, attacks and thefts against them. It is very less cost, and implementation is also easy. Saving one person is life is always appreciable. A country which has more safety and less crime rate is always peaceful and development of the country always increases.

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