www.ierjournal.org

International Engineering Research Journal (IERJ), Volume 3 Issue 4 Page 6429-6431, 2020 ISSN 2395-1621

ISSN 2395-1621



Human Safety Device Using IOT

Suhas Kothavle, Varsha Kamble, Kajal Shewale, Aparna Shinde

> kothavle.suhas218@gmail.com, varsha0144@gmail.com, kajalshewale.2011@gmail.com, aparna22shinde@gmail.com

Department of Computer Engineering Anantrao Pawar College of Engineering & Research, Pune, Savitribai Phule Pune University, Pune, India

ABSTRACT

Human Safety is an emerging paradigm for understanding global vulnerabilities whose proponents challenge the traditional notion of national security by arguing that the proper referent for security should be at the human rather than national level. Understanding of security involves a number of research fields, including development studies, international relations, strategic studies, and human rights.

The system to be implemented with the help of technologies like Machine learning and IoT will be activated with the recognition of a humans voice and notify the nearest police station along with the victim's details and location. And main purpose is an alarm system that will also be activated on the nearby streets with a connection provided with the clip using IoT techniques. The system implementation will help provide maximum safety to the people along with reducing the ongoing risks.

Keywords: Women Safety, IOT, Raspberry Pi, Notification, Google Speech

I. INTRODUCTION

The device equally provides safety measures to men as well as women. The device is easily attachable to the garment and bags the device being in the form of an attachable clip. Unlike other devices proposed device does not contain any button but it takes voice as an input, as soon as the victim says "help". Once the voice input is received the device gets activated and sends alert to nearby police stations with the victim's GPS location and entire details i.e phone number, photo, name, age, etc. which will be stored during the registration. The most important factor of proposed system is that as soon as the victim calls for help it sends signals to the nearby buzzers that will be implanted on the streets or the street lights and the low light areas. Also, light buzzers will also be provided for this purpose, along with noise the light will also be reflected which can be a sign of alert for danger for the nearby people who could arrive for help.

So, basically our device gets activated by giving the input voice or by saying help in a particular sequence. Unlike other devices it does not consist of button to get started, hence voice recognition is a very important point in our project

II. LITERATURE SURVEY

ARTICLE INFO

Received: 23th September 2020

Accepted: 25th September 2020

Received in revised form :

23th September 2020

Published online :

25th September 2020

Article History

[1] A Novel Approach to Provide Protection for Women by using Smart Security Device

This paper describes about safe and secured electronic system for women which comprises of an Arduino controller and sensors such as temperature LM35, flex sensor, MEMS accelerometer, pulse rate sensor, sound sensor. A buzzer, LCD, GSM and GPS are used in this project. When the women is in threat, the device senses the body parameters like heartbeat rate, change in temperature, the movement of victim by flex sensor, MEMS accelerometer and the voice of the victim is sensed by sound sensor. 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 victim's location is sent to the registered contact number.

[2] 3S: A Radio Identification based Continuous Spectrum Sensing Protocol for Safety of Women in Cognitive Radio Networks

The main objective of this paper is to design and implement a reliable system to protect women from being harassed by providing last mile connectivity even in situations where the mobile phones are out of cellular coverage. In this paper we have developed a prototype for women safety by using radio identification based cognitive radio, GSM/CDMA mobile www.ierjournal.org

communication and global positioning system (GPS). The system will identify the location through GPS when a women activates her mobile phone either by a click or press of a button for few seconds before she outrages any incident and sends a message comprising the location URL to the registered contacts and also a recorded call message on the first registered contact to help the women in dangerous situations. The unique feature of this system is that it continuously sends message for every two minutes till the application is stopped. Continuous location tracking information via SMS helps to find the location of the victim quickly and rescue them safely. Extensive simulation work is done using NS2 simulator to validate the performance of the system.

[3] M-WPS: Mobile based Women Protection System

Today, the safety of women is one of the important concerns in the whole world. Most of the crimes against women can be avoided, if they are given protection with timely help and support. This paper describes an object oriented design for the development of the mobile based women protection system

[4] Internet of Things using Node-Red and Alexa

The Internet of Things (IoT) means learning and interacting with millions of things including services, sensors, actuators, and many other objects on the Internet. This project enhances on how far IoT can connect devices on different platforms. This will effortlessly help humans in various fields like Home automation, networking, data monitoring and others. The evolution of human-machine user interface has drastically changed over the years. The path of advancement has been through keyboard, mouse, touch and now it is Voice. This new user interface can be achieved by Alexa Voice Service. Currently, we have very few devices that can be controlled using Alexa. Some of the examples are Philips Hue, WeMo, and Wink. But these are limited to certain hardware. The initial installation and maintenance is expensive. The proposed system connects and controls most of the IoT devices connected to it using Voice. As the number of devices on the cloud increase, there is need for updating firmware more frequently.

[5] Survey On Womens Safety Mobile App Development

Presently mobile application advancement assumes a significant part with working frameworks like Windows, Android, and IOS etc. This portable application is fundamentally utilized for women's wellbeing. It can be utilized to discover and help women's in crisis circumstance. It demonstrates the correct area where the individual is found and send the point of interest through Short Message Service (SMS) to her relatives, guardian and friends. In this paper, review has been done on portable application and furthermore talked about different disadvantages.

III.PROPOSED SYSTEM

The proposed system is to introduce the concept of a women's safety device for application in India. The main purpose of this device is to act as an emergency device for women who are in potential danger of being attacked. The woman possessing this device will press the panic button if in danger. An SMS containing the latitude and longitude coordinates will be sent to pre fed mobile numbers



Figure-1. Architecture Diagram

IV. METHODOLOGIES

[1] Raspberry Pi: - The Raspberry Pi is a series of small single-board computers developed in the United Kingdom by the Raspberry Pi Foundation to promote teaching of basic computer science in schools and in developing countries. The original model became far more popular than anticipated, selling outside its target market for uses such as robotics. It does not include peripherals (such as keyboards and mice) or cases. However, some accessories have been included in several official and NodeMCU.



Figure-2: - Raspberry Pi-3

[2] HMM Device: - The hidden Markov model can be represented as the simplest dynamic Bayesian network. The mathematics behind the HMM were developed by L. E. Baum and coworkers. HMM is closely related to earlier work on the optimal nonlinear filtering problem by Ruslan L. Stratonovich, who was the first to describe the forwardbackward procedure.

[3] Google Speech: - Speech-to-Text enables easy integration of Google speech recognition technologies into developer applications. Send audio and receive a text transcription from the Speech-to-Text API service.

[4] IoT: - The Internet of Things (IoT) describes the network of physical objects—"things"—that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the internet. These devices range from ordinary household objects to sophisticated industrial

www.ierjournal.org

tools. With more than 7 billion connected IoT devices today, experts are expecting this number to grow to 10 billion by 2020 and 22 billion by 2025.

V. FUTURE WORK

[1] Primary School Children Safety: - As the school children safety are major concerns for parents as well as school management due to the recent incidents of child crimes like children missing, abuse etc. This module monitors the child safety when they are travelling in school buses. Once they reached the school the device gets deactivated by school authority and message send the parents that, "the child reaches the school safely". At return journey again the device is activated by school authority and when they reached the home, the acknowledge message is send to the school when parents deactivate the device. The device is capable of audio recording when activated that can be listening by the parents or authorize person.

[2] Vehicle Safety System Module: - The Safety of four wheeler car is also a major concern in the society due to the increase in the crime rate of stolen car. The intrusion detection module can be modified according to the requirement of vehicle safety system module.

[3] Mobile and other valuables Safety System Module: -The missing rate of mobiles is high while travelling from bus, train or crowed public area. The area zone module functionality further enhances to provide safety. A small device needed to keep either in same pocket or within the range of few centimeters. As you kept the mobile and forget to pick up or someone stolen it then due to small range the siren of mobile as well as device gets ON for user attention. Also the same device can attach to our luggage, hence in case of forgetting to pick back or try to stolen by someone can be easily noticed by the module and make the attention of user through the siren alarm. Hence, the advance technology makes the system more robust and reliable. As the new modules provide the functionality which enhance the safety and security. Thus it helps to fulfill the purpose of the project.

VI. ACKNOWLEDGEMENT

I wish to express my profound thanks to all who helped us directly or indirectly in making this paper. Finally I wish to thank to all our friends and well-wishers who supported us in completing this paper successfully. I am especially grateful to our guide for her time to time, very much needed, and valuable guidance. Without the full support and cheerful encouragement of my guide, the paper would not have been completed on time.

VII. CONCLUSION

The above report was on my module "Speech Recognition", which comes under the project topic "A Human Safety Device, An Attaching Clip Using IOT". This report tells about the Speech Recognition or Voice Recognition technic that we need to use in our project for converting speech to text. The report shows what technic we are using to do the speech recognition. For this purpose we are using HMM Model, and we have seen that it is very compactible solution for the same. In this report we have studied how HMM works and the algorithm for it, its property, how to encode it and how to decode it. Hence, here I conclude with my module "Speech Recognition".

REFERENCE

[1] A Novel Approach to Provide Protection for Women by using Smart Security Device.

[2] 3S: A Radio Identification based Continuous Spectrum Sensing Protocol for Safety of Women in Cognitive Radio Networks

[3] M-WPS: Mobile based Women Protection System

[4] Internet of Things using Node-Red and Alexa

[5] Survey On Womens Safety Mobile App Development

[6] Prof.A.Maharajan "A survey on women's security system using GSM and GPS"- International Journal of Innovative Research in Computer and Communication Engineering Vol 5,Issue 2,Feb-2017.

[7] Anupriya. Deshpande, Madiha Mehvish "Effect Of Premenstrual Syndrome On Cardiovascular arameters And Body Weight In First Year Medical Students" Journal of Evolution of Research in Human Physiology/ Vol. 2/ Issue 1/ Jan-June, 2016.

[8] Prof-Dr.K.Valamarthi "Android based Women tracking system using GPS,GSM" International Journal for Research in Applied Science & Engineering Technology (IJRASET) Vol 4, Issue 4, April-2016.

[9] Gowri Predeba.B, Shyamala.N, 3Tamilselvi.E Ramalakshmi.SSelsi aulvina.C "Women Security System Using GSMAnd GPS" International Journal of Advanced Proceedings of the Second International Conference onInventive Systems and Control (ICISC 2018) IEEE Xplore Compliant - Part Number:CFP18J06-ART, ISBN:978-1-5386-0807-4; DVD Part Number:CFP18J06DVD, ISBN:978-1-5386-0806-7 978-1

[10] https://www.urmc.rochester.com. Vital signs(Body temperature,Pulse rate,respiration rate,blood pressure).

[11] Kasim M. Al-Aubidy, Ahmad M. Derbas. & Abdullah W. Al-Mutairi Real-Time Patient Health Monitoring and Alarming Using Wireless-SensorNetwork. 13TH international conference on Systems, Signals and Devices,2016.

[12] www.sensorwiki.org/doku.php/sensors ccelerometer.

[13] An Android Application for Women Safety Based on Voice Recognition", ISSN 2320088X International Journal of Computer Science and Mobile Computing (IJCSMC).