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Title: Working IOT Gadgets For visually handicap Working Women

1. Abstract:

In this paper shares , we present smart safety gadgets a which are wearable systems to help visually impaired persons (VIPs) protect by themselves in case of any unfortunate circumstances public places, that be dark and prone to attacks and can seek assistance. The main parts of the system are a microcontroller board, varied many sensors, cellular communication and GPS modules, and a solar panel. There are 2 gadegets we will discuss and shed some light on there making. The system employs a couple of electronic devices like smart watch ,smart jug. On a lucky day passer by user is alerted by a sound emitted through a by vibrations on the wrist leaves the attacker taken aback and shocked. Which is helpful when the user has hearing loss or is in a noisy environment. In addition, the system alerts people in the nearby to help the victim in need. If he has a super smart stick(S³) the person can use it for assistance walking , hitting undefined person the or which he uses for requires assistance, and the alert, along with the system

In addition the blind man stick it will had a led to illuminate the path though person can be partly blind addition, blue tooth device or satellite can be the registered phones can be used to send a signal like a SOS signal to all retrieve the system location whenever required and activate real-time tracking of the VIP. We tested the system prototype and verified its functionality and effectiveness. The proposed system has more features than other similar systems. We expect it to be a useful tool to improve the quality of life of VIPs. Keywords: assistive technology; visually impaired person aid; smart system; wearable

2. Keywords

Arduino, smart stick, Sensor, Ultrasonic, Speaker, Accelerometer, Inertial navigation, Integration, Switch, Obstacle detection

3. Introduction

Using IOT has become a new normal form among the devices and markets broadly 4 categories

1. Manufacturing business
2. Heath Care
3. Security

4. Retail

Ample work has been done we can have Security for disabled women more narrowed blind women. There are number of sad news for women ‘age no bar’, said in the lighter scene they are more prone to attacks , this gives researcher and IOT team to make some gadgets for blind women security .

4 literature survey

A Phenomenon in which everything has communicated to each other at anytime, anyplace with anyone is called “Internet of Things (IoT)” as shown in figure 1. It allows human and objects are communicate to each other through network, for example if we talk about our house environment then IoT is provided smart lighting, automatically locking & unlocking window, smarter TV, smarter dustbin every things which are using in daily life are smarter just one click away from us that is we can control everything in house from a single place without much effort. All things are done by sensors, devices and machine learning techniques. Our hardware and software engineers have developed a lot of IoT devices which make smarter with safety to our society in any country. Illustrated in fig 1a,1b with the help of diagrams some designer imagination.



Figure: 1a. Connected devices by internet exchanging data in our house hold

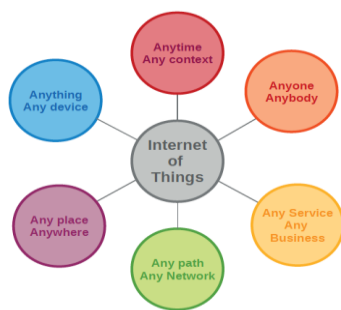


Figure 1b. varied are devices connected to IoT.

In this section illustrates the background study of related work related to our proposed system. Many noble contributors have placed a noteworthy sign in IoT and super smart stick on

the visually blind person. The contributors of the paper [5] proposed the .development of a super smart stick that which is capable of detecting and avert obstacles and provided navigation. This proposed system was able to detect obstacles within few meters of radius few cameras fitted and electronic devices. Making use of GMS technology. An audio and video for guidance of obstacles in the path of the blind person. in paper [6, 7], the authors worked on a project to develop an Electrical Travelling Aid (ETA) named BliDar. This presented work was enriched with various types of sensors, including Ultrasonic sensor. Vibrator sensor, a GPS module that helps to find a blind person location and an ESP8266 Wi-Fi module which ensures IoT based application. The authors used two Arduino chips in the circuit . In short, the authors drew a very low power and cost-effective IoT based project to ensure full support for the blind person. In paper [8], the authors focused on the development of a smart assistant, especially for blind people using voice command. This low-cost system was to build to ascertain safety as well as ensuring real-time virtual assistant. In this project, a speech recognizer received voice command from a blind person, and python interpreted software converted them into corresponding instructions. These instructions ensured users to send or receive an email, access daily online news, weather forecasting, etc. The authors of the paper [9] had proposed an IoT based smart security system for a blind person. The proposed scheme utilized a raspberry and camera module responsible for detecting a human face from a live video streaming. The exposed face was compared with the images stored in the database. The proposed model was able to alert the authorized person of the blind person about the identification through the mechanism of IoT using an android application. In a study of papers [5–9], the authors had only proposed the basics architectural design of IoT based blind assistant but no home automation terminology has discussed and presented. The authors of the paper [10] proposed a solution to develop home automation strategies and also assure security in a smart home. In this project, the authors search a path, about left or right obstacle to support the audio visualization system which would enable to track person from start or from current position to final position. Fig 2, fig3 show the circuit diagram

Added to the system home automation was enriched by telephone dialing and internet connection. A software application installed in PC and gadgets the person carries to alert the family and care taker in the n work condition a SOS call to police /911

acted as a Home assistant, which ensured real-time monitoring in the smart home on daily activities. The collected data are stored in the pc for future investigation. Moreover, this paper reflected on low power consumption and made this research more nature-friendly. This is another advantage of the paper e- aim of paper [11] was to develop a smart assistant who was capable of interacting with household appliances wirelessly. This low cost and IoT based system were very user-friendly. The core part of this project was Raspberry pi. Raspberry pi collected

data from the users along with sensors and interprets those collected required instructions to operate a fan, TV, washing machine, and several types of home appliances. The authors also provided additional features called “three Finger detection,” which would enable person alert or family users to pause or play musical songs. The authors of the paper [12] worked on the embodiment of an intelligent system. The aim was to develop a project which could be controlled through voice command as well as a remote controller. The authors tried to combine several types of features, including sensor control, facial recognition, and speech pattern recognition, which assured improved intelligent systems. The authors used Raspberry pi as the microcontroller to operate respective home appliances as well as to build the required intelligent system. The authors of the paper [13] presented a comparative study of six open-source schemes for interactive home automation. The authors claimed that visually disabled persons had faced few major problems while accessing those applications. Thus, the authors proposed a significant adjustment to overcome these issues for helping visually impaired persons. The paper [14] provides a survey on 42 visually impaired persons’ habits and expectations about home automation terminology. Attached a flow diagrams of the proposed circuit in Fig 2a

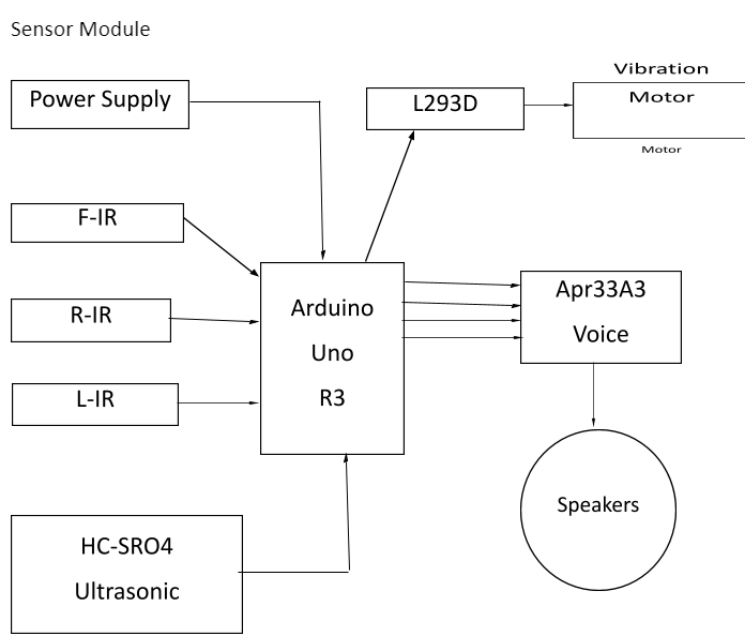


Fig 2 a : flow diagram of a sensor mobile

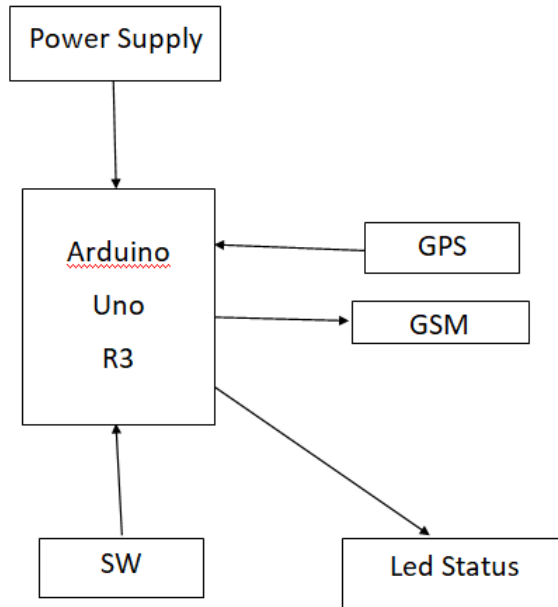
Tracking Module

Fig 2 b ; flow diagram of a Tracking Module

he authors also discussed the flexibility and usability of home automation in a blind person's daily routines. The authors also traced some instructions for designers and programmers about these facts. In paper [15], the authors presented a report on the evaluation of counting the fear and acceptance of home automation technology. They have performed their evolution on eight healthy people about four matrices: voice command, communication with the outside world, interruption in user's activity and electric agenda. The authors of papers [10–15] had focused on the development of home automation using smart assistant for a blind person and regular users with the evolution of the user's expectation. But the authors did not propose the development of a blind stick with virtual assistant using the mechanism of IoT. The proposed method implements the structural design of IoT based blind stick and home automation through the voice command.

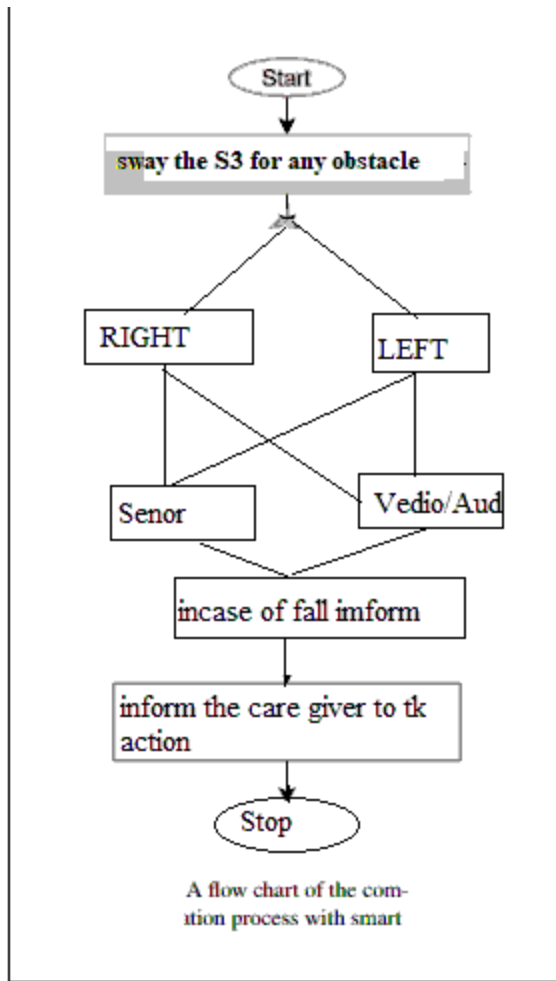


Fig 2 : a flow chart for communication and navigation

5. Proposed work

In this paper we are discussing about gadgets most of the time with the person under consideration few of the items with them are the blind stick or any jewelry item eg necklace or ring .keeping the seniors when item not with the person ,close to 99.99 these things are with the person. So making them smart can be a good option. This paper consider that only a S³ a Super Smart Stick , a P² Progressive Pendant .

5.1

In this part of per we introduce our idea about super smart stick.

With the traffic light red green, yellow as buzzer on the stick, the electronics in the stick. A red button at the middle of the stick signifies alarm to say in trouble need immediate help, placed in

mid of the stick; hold the stick mid way in an alarming position not less used .message to all specifically a care giver the immediate attention is wanted.

The outline of the device it consist of 2 ardino one for tracking and Sensory device, it consist of 3 Infrared sensors, voice recorder, speakers and miscellaneous circuitry

5.2

Wearing a pendant in the neck lace, the pendant if pulled with force the transducer impact in the pedant will alert trigger an alerts, or the temperature sensor in hands touch and pull in the circuit pendant.

6.2

FUTURE SCOPE

The gadgets in this research will make the visual disabled women group more secure and independent and confident cutting the fear of travel alone

7. CONCLUSION:

There are people doing research from all sections of people in this our research we tackle one problem of security of visual disability of women. This paper we propose S³ and powerful pendant P². This is our effort, to ease the security of such women.

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- Fig. 10 Block diagram of future work
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