

WOMEN SAFETY NIGHT PATROLLING IOT ROBOT

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Abstract Dynamic—the suggested framework "IoT Based Child and Woman Safety" can be accustomed towards finding absent or lost youngsters and furthermore following the kid developments external after the home. The framework container likewise remains utilized to find ladies who are in harm's way. We must consolidated GPS through one of the essential service of an advanced cell which is GSM all the more explicitly SMS in a single framework. Our suggested perfect covers different sensors which amount various boundaries all the time. If there must raise an incidence of disaster a communication determination be referred to carers or possibly police, through whichever hugging the indicator for a backup response or articulating the catchphrase? The total framework is executed utilizing "Raspberry Pi 3 Model B". Python writing computer programs are utilized border together the sensors and other equipment. This implement is wearable (like a wrist watch), consequently it is everything but problematic to transport.

KeyWords: *Womensafety, child safety, IoT, Raspberry Pi, Voice Recognition, GPS, GSM, MySql database*

1. INTRODUCTION

Through the ascent of "Internet of Things (IoT)", independent gadgets through web availability must develop a significant piece of our exists. In web of belonging substances are outfitted through "microcontroller/microchip" besides sensor implements and different programming applications. They likewise have correspondence conventions which empower them to converse with different

articles. Web of things conveys on request on-going administrations and aides in sparing time, assets and even labour. In current situation there is an exceptional increment in the quantity of kid grabbing cases. Since wrongdoing in contradiction of the kids in the "age of 14 years to 17 years" is increasingly mainstream, so guardians are constantly stressed over their youngsters' wellbeing. This paper suggests a speech empowered making framework aware of help to follow youngster's area continuously. Moreover at the current situation ladies are contending through men in each ground of lifetime. Wrongdoings in contradiction of ladies are progressively regular at contemporary time. It is imperative to guarantee the security of ladies. Thus our framework gives a necessary wellbeing to ladies so they can accomplish late night work.

2.

PROPOSED SYSTEM METHODOLOGY

We give a dependable safety framework to the wellbeing of kids and ladies. If there should arise an occurrence of crisis and help the client can request help whichever by squeezing the "Panic button" or through articulating a particular catchphrase that determination be perceived by "Raspberry Pi" and determination imply the guardians or potentially police for help. The engineering of the suggested framework is looked in the Figure 1. "It comprises of the Raspberry Pi 3, GSM SIM 300, GPRS,

Temperature sensor, Heart beat sensor”.Hardwaremodules used in this structure areas monitors:

A. “RaspberryPi”

“Raspberry Pi 3 Model B” is sole board PC. Its CPU speed varieties somewhere in the range of “700MHZ and 1.2 GHZ”. It likewise consumes on panel memory somewhere in the range of “256MB and 1GB RAM”. This is utilized at transmitter or client end. It remains the core of the framework. Operating coordination introduced on it is Debian.

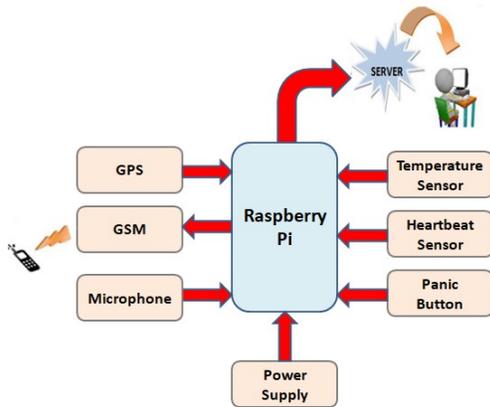


Fig1:Blockdiagram

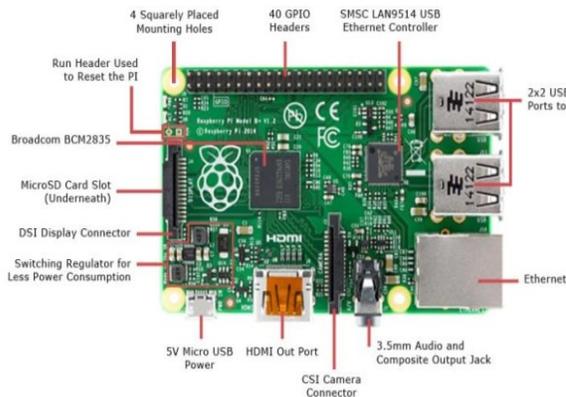


Fig 2: Raspberry Pi 3 Model B

B. GPS

“GPS (Globalpositioningsystem) is utilized to get the situation of the contraption regarding scope and longitude”. “GPS

collector utilized in our venture is SKG13C from SKYLAB, it works at 1575.42MHz recurrence and 3.3V or 12V DC gracefully”. “It is interfaced through USB port to Raspberry Pi, has low force utilization ordinarily 45mA at 3.3V and NMEA-0183 consistent convention this module works at temperature scope of - 40oC to 85oC. Scope and longitude esteems are removed from NMEA sentence”. Fig 2 shows the example yield

```

pi@raspberrypi:~ $ python gps7.py
Latitude= 15.8658
Longitude= 74.5339
Latitude= 15.8658
Longitude= 74.5339
Latitude= 15.8658
Longitude= 74.5339
    
```

Fig 3: GPS receiver’s Output

C. GSM

“GSM SIM300 modem can be utilized to send SMS, get SMS and make the calls”. “The fundamental GSM tasks are finished with the assistance of AT orders it has standard RS232 interface just as sequential UART interface alongside SIM holder and outside receiving wires”. “Works at 3.4V to 4.5V DC flexibly and ordinary working temperature is - 20o C to +55o C”.

SubsequentaretheATinstructionsusedinour structure:

AT:“Itisusedtotesttheconditionofthemodem
themodemrespondswithanOKifeverything
isfineoranERRORincaseoferror”.

AT+CMGF=1:“Commandtosetthecommu
nicationtoTextMode”.

AT+CMGS=[MobileNumber]:
“CommandtosendSMSfromtheGSMMode
mtoaparticularnumber asmentioned
incommand”.

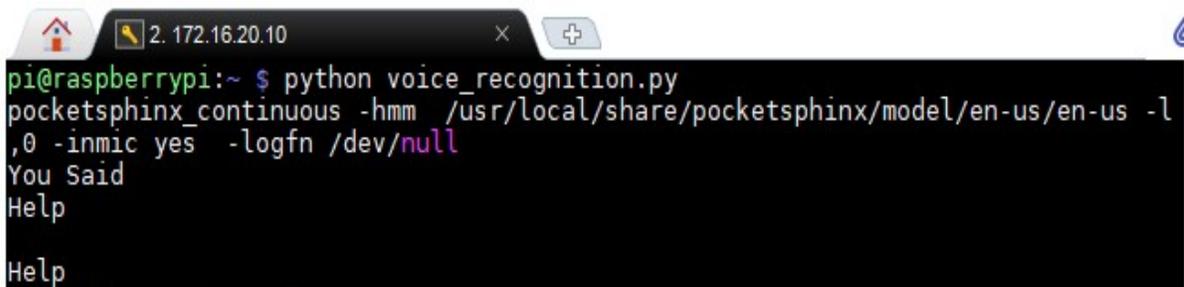
D.DHT11digital temperaturesensor

DHT11 advanced temperature and moistness comprises an aligned

computerized signal yield of the temperature and mugginess. "DHT11 is utilized for temperature estimation in the range: 0 – 60oC with exactness of ± 2 oC working at 3.3V – 5.5V DC supply".

Step1: "Wetestedthemicusingarecordatthe commandlinetocreatea5second(-d5)filenamedtest".wav usingknowledge, "\$arecord-Dplughw:0,0-d5-fcd./test.wav" "Andplaythisaudiofileusing", "\$aplaytest.wav"

Step2: "Installtherequired toolsanddependencies". "\$sudoapt-get installsbisonlibasound2-dev"



```
pi@raspberrypi:~ $ python voice_recognition.py
pocketsphinx_continuous -hmm /usr/local/share/pocketsphinx/model/en-us/en-us -l
,0 -inmic yes -logfn /dev/null
You Said
Help
Help
```

Fig 4: Voice recognition using Pocketsphinx

The software part used in our project is as follows:

3. DESIGN FLOW

"At the point when the Raspberry Pi is controlled on it initially instates the GSM SIM300 with AT orders when the GSM is introduced the controller checks for GPS and it at that point in states all sensors".

"Heartbeat rate shifts from one individual to other however by and large we take 60-80Bpm as the ordinary heartbeat rate".

"Heartbeat under 50Bpm or more 100Bpm is considered as unusual condition the typical internal heat level of a human differs between 35oC to 40oC". "On the off chance that the internal heat level is under 35oC, at that point it's considered as hypothermia and on the off chance that it's more prominent than 40oC, at that point

Step3: "TousePocketSphinx,youneedtoinstallbothPocketSphinx andthesupport librarySphinxbase".

Step4: "Wenowcreatealanguagemodel forinitialtestingwecreatedatextfilewiththe"Help"phraseWritten,savedit anduploadedittotheonlinetool".

Step5: "Now run the following command to start recognizing speech". "\$pocketsphinx_continuous -hmm /usr/local/share/pocket sphinx/model/en-us/en-us -lm 2193.lm -dict 2193.dic -adcdevsysdefault -inmic yes"

it's considered as hyperthermia".

A. Python

"Programming language utilized in this framework is Python". Python is a deciphered elevated level programming language for broadly useful programming. "Made by Guido van Rossum and first discharged in 1991, Python has a plan theory that underscores code meaningfulness, remarkably utilizing critical whitespace".

B. WebServer

"Apache server with MySql database is utilized in this task the client's boundaries obtained by Raspberry Pi are put away on a server constantly every 5 min and the equivalent are transferred to the site page which is made utilizing PHP which makes

it all around available”. “Also, security is given by giving the login id and secret key just approved individual can login to the page and access client's boundaries from anywhere”.

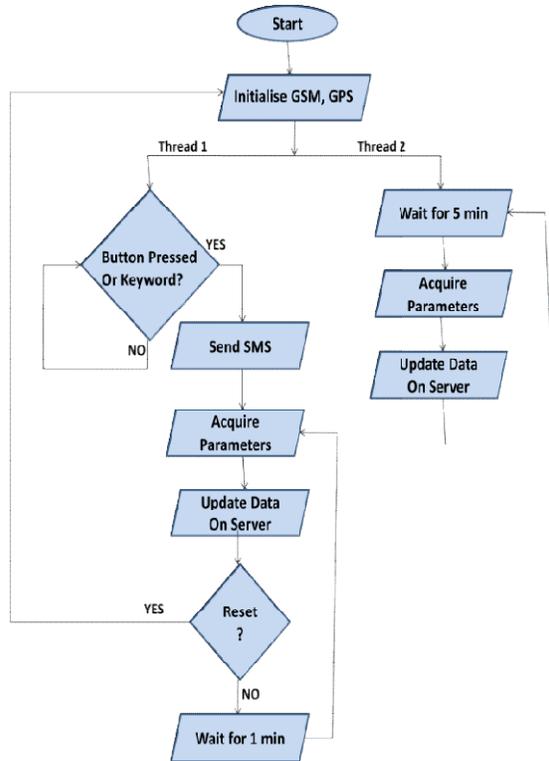


Fig. 5: Design Flow

In the wake of perceiving the discourse on the off chance that catchphrase matches, at

that point message is sent to overseer of youngster/lady or potentially police demonstrating crisis help.

V.RESULTS

Utilizing clay programming we can get to “Raspberry Pi over PC or PC”. “To do to so we have set static IP of Raspberry Pi”. For our situation we mustusual it as “172.16.20.10”. “All the interface equipment working is checked utilizing clay programming, which shows the yields of the sensors before transferring to the site page”. “Temperature sensor shows the internal heat level as 24oC, and heartbeat sensor shows the heartbeat rate as 62”.

A. WebPage

“The website page is made and it very well may be gotten to from any remote spot utilizing portable, PC or a work area”. “We are utilizing the PHP and HTML language to build up a site page MySQL database is utilized to store boundaries powerfully on Apache server”.

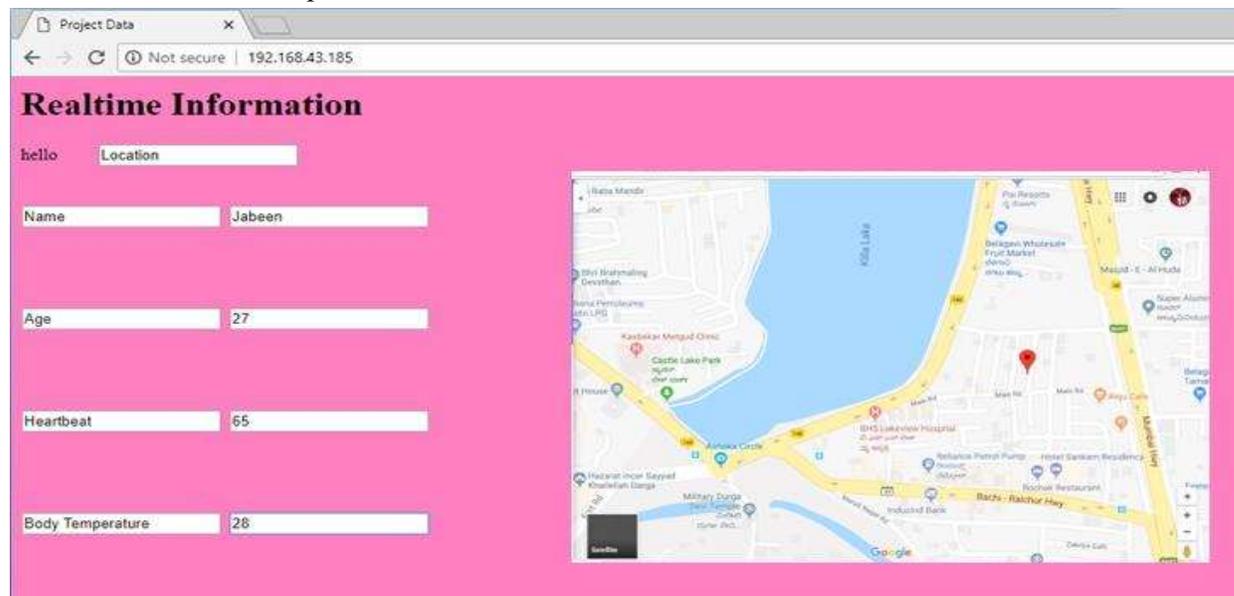
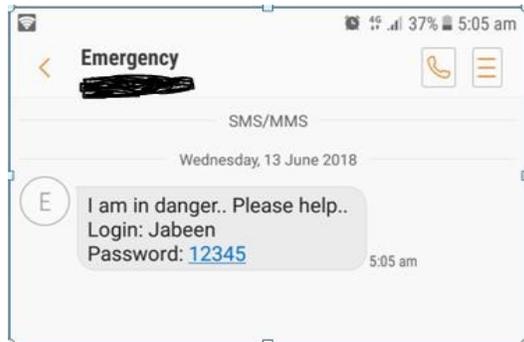


Fig 6: PHP web page showing realtime information about the user**B. GSMOutput**

At the point when emergency signal is squeezed or catchphrase is coordinated, a communication will be show from “GSM modem” to enlisted number(s).

**Fig7: Messagessent byGSM****VI.CONCLUSION**

The “IOT”constructed"Kid and Woman Safety System" is effectively intended to quantify and screen youngster/lady boundaries, for example, temperature, beat rate, area by the utilization of low force, light weight sensors. The deliberate boundaries are effectively recorded utilizing “Raspberry Pi and put away in MySql database” and the equivalent is transferred to the website page utilizing PHP. In the event of crisis client need to squeeze emergency signal or make some noise the catchphrase, at that point a message is sent to concerned guardians/guardians as well as police utilizing GSM.

REFERENCES

- [1] Vamil B. Sangoi, “Smart security solutions,” *International Journal of Current Engineering and Technology*, Vol.4, No.5, Oct-2014.
- [2] Simon L. Cotton and William G. Scanlon, “Millimeter -wave Soldier –to soldiercommunications for covert battlefield operation,” *IEEE communication Magazine*, October 2009.
- [3] “AlexandrousPlantelopoulous and Nikolaos”.G.Bourbakis,“A Survey on Wearable sensor based system for health monitoring and prognosis,*IEEE Transaction on system,Man and Cybernetics*, Vol.40, No.1, January 2010”.

- [4] B.Chougula, “Smart girls security system, “*InternationalJournal of Application or Innovation in Engineering & Management*, Volume 3, Issue 4, April 2014”.
- [5] QiangJi,ZhiweiZhu,andPeilinLan“Real-Time Nonintrusive MonitoringandPredictionofDriverFatigue” *IEEETRANSACTIONSONVEHICULARTECHNOLOGY*,VOL.53,NO. JULY2004.
- [6] “Singh HimaniParmar,MehulJajal,YadavPriyankaDrowsyDriverWarningSystemUsingImageProcessingBrijbhanElectronics& Communication,GEC,Bharuch, Gujarat ISSN:2321-9939”.
- [7] LingHuanQiangNi, “IoT-DrivenAutomatedObjectDetectionAlgorithmforUrbanSurveillanceSystems in SmartCities”*JIoT*.2017.2705560, *IEEEInternetof Things Journal*.
- [8] BoLi,BinTian,YeLi,andDingWen,“Component-Based License Plate Detection UsingConditionalRandomField Model” *IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS*,VOL.14,N O.4,DECEMBER 2013.
- [9] “ÁlvaroGonzález,LuisM.Bergasa,andJ.Javier YebesTextDetectionandRecognitiononTraffic PanelsFromStreet-LevelImageryUsingVisualAppearance”*IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS*, VOL.15,NO.1,FEBRUARY2014”.
- [10] “ZhangW,SuL,HuJ.2010.Leakagereduction of improvedCALcircuitswithpower-gating schemes”. *WorldAcadSciEngTechnol*.62(1):484–9.

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