WOMEN'S SECURITY MEASURES THROUGH SENSORS, GPS AND GSM USING IOT TECHNOLOGY

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ABSTRACT

Now days of all the major problems one of the important problems is Security of woman and Girls. India has shown the utter discarding position in rapes, sexual assault and Harassment. Recently India is ranked as one of dangerous country in the world. They have done ranking by doing the survey of 548 women in country by focusing six major issues like: Health care, Gender Discrimination, Cultural tradition, sexual violence, non- sexual violence and Human Trafficking. Government shows the report was 83% between 2007 and 2016so on average four cases are getting reported every hour. But the expert committee said they have done the committee with less qualified people. "848 Indian Ladies Are Bothered, Assaulted, Killed for every 24 hours!!" That's a past gigantic amount! We brought up a proposal which changes the manner in which everyone contemplates women security. Day by day media impart a more prominent measure of ladies achievements other than incitement. Individuals not able to react appropriately essential conditions. Here in this regard we proposed a device that is co-ordination by various devices, h/w devices includes a wearable "Sharp band" which continually talks by the help of Cell telephone those methodologies the web. This framework is adjusted and stacked with the help of all required information by which it consolidates Human moments as well as behavior to different conditions such as shock, fear, as well as strain. This delivers the banner that is transmitted to PDA. This item or application connected to GPS and Informing organizations which are pre-altered so that at whatever point it gets emergency mail, it transfers HELP message to nearby the zone bearings to nearby Police control rooms, well-wishers as well as to all inclusive community in short proximity that have application on their device. This movement alerts with help immediately from the Police and what's more opens in the nearby compass who can accomplish the loss with unprecedented precision. This paper bases on a security structure that is plot just to successfully give security to women the objective is that they shouldn't feel exposed at the time of standing up to such social troubles.

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INTRODUCTION

The situation of women in INDIA has encountered various changes over the span of the most recent years. In current India, women were facing lot of social challenges and are general losses of misusing, bad behaviors and by an overall overview coordinated by Thomson. India is "4th most hazardous country" and most exceedingly terrible country for women among developing countries. This endeavor based on secured system i.e.; formed solely in ad equating furnish security and prosperity to women with the objective that they never feel helpless while going up against such public troubles.

In Delhi "Nirbhaya" case which set off the in overall nation. Nowadays in an extensive segment of the countries, unadulterated women are furiously bothered by a bit of the all-inclusive community. Women are going up against such an issue frequently. The well-ordered augmentation in such condition women fears going out at mid-night. So essentially women are restricted to such condition in a few the countries women don't feel safe around night time. Incitement isn't only the issue. In numerous countries, adolescents are undermined and get seized.

To be sure, even at the normal times also when they are in home at the situations like bathing, misuse, brutality etc, various ladies are working in the night shift duties. The proposed contraption is more like a security structure if there ought to be an event of an emergency.

LITERATURE SURVEY

The term "Internet of Things" (IOT) was first came into force in 1999 by English advancement pioneer Kevin Ashton. He wrote the term to speak the force of interfacing RFID [13] widely used in cooperate society of internet. Today IOT has transformed automatic portraying in which Web system and handling capacity connect with a combination of articles, devices, sensors, and common things. While the articulation "Internet of Things" is by and large new, joining PCs and frameworks to screen and control devices has been around for a significant long time.

Ten critical examples and headways influencing IT in accompanying the spread by Gartner [4]. Web was wandering to huge business positions along buyer things, for instance and TVs. The issue is most endeavors as well as advancement merchants that are to be showcase the potential results in a broadened Web and are not operationally arranged. It perceives of 4 fundamental utilize mechanisms that rising:

- Managing.
- Monitorize.
- Operation.
- Extension.

That can be associated with human, things, information, and places or it is also termed as Internet of Everything. IOT is a thought by which many of latest devices are related as well as enabled, for example, streetlights composed along things such as picture affirmation helpfulness, developed reality, close field correspondence[1], are facilitated to help based on particular position and new organizations. They pass on various financial openings as well as multifaceted idea of IOT. To oblige the various assortment of IoT, there is different composition of correspondence propels, that ought to balanced remembering the true objective to address the necessities of

IoT applications, for instance, imperativeness capability, security along reliability.

The cooperation of passageway as well as information transfer opens huge possible results for IOT devices. Authoritatively the greater part of Web affiliations are with things. In 2010 there are in excess of 14 billion things Online, with 45+ billion sporadic affiliations. With available of advancements IOT can be accumulated by 3 orders:

1. Technologies that engage-things to get coherent information
2. Technologies that engage-things to process important information, and
3. Technologies to improve insurance.

Here third arrangement isn't a limit however rather, the acknowledged need, by which the passageway of the IOT would be to a great degree reduced. The IOT progression surmises that nature, urban regions, structures, vehicles, articles of clothing, flexible contraptions, and diverse things have expanded information related as well as to add the capacity to distinguish, grant, framework as well as convey latest information. In like manner, the framework advancements need to adjust to the new troubles, for instance, high data rates, thick swarms of customers, low inaction, low essentialness, negligible exertion and countless, the 5G circumstances that comes back the change and fill as bearing in Universal Diary of Designing Exploration and General Science [2]. In addition, plans of activity will never again incorporate just a single association; in any case, will rather include significantly ground-breaking frameworks of associations and absolutely new regard chains. Different perils are identified with new setting. New, coordinated plans of action will in like manner be essential the unrefined data that is delivered may contain information that is imperative to untouchables and associations may, in this way, we make a request of sharing the details.

Various sorts of sharp devices are available on the planet. A couple of contraptions for singular prosperity and some are for vehicle following. This errand is planned to be used by watchmen and anticipated that would discover missing or lost youths. It abuses the manner in which that an impressive parcel of the present children have mobiles that are[3] useful for such type of conditions. In our work, GPS is joined by fundamental organizations of mobile device which is GSM, simply more especially SMS, in one device.

Title 1:- Shrewd Young ladies SECURITY Framework.

Authors:- Basavaraj Chougula, Archana Naik.

Year Of Distribution:- 2014.

In present scenario women facing a lot of problems in and out of the society from past many years. Many changes are brought up by law. But cant able to overcome all the issues fulfledgely. security became a very less in and out the society at time of bathing etc., The times of India survey states that the person who are close to the victims are only planning by there daily activities.

Title 2:- Ladies Worker Security Framework is utilizing GSM Based Vehicle Following.

Authors:- Dhanashri Kamble, Swapnil Makode and Rasika Kahane.

Year Of Publication:- 2015

This paper presents GPS and GSM based vehicle following along women agent security monitoring that gives the blend in GPS monitoring as well as specific programming to track the region of the vehicle and also give alerts and messages an emergency get trigger. The information for vehicle position given by the device can be seen on Google maps. The IT associations were the security issue which needs a structure that capably processes the issue of women security working in night shifts.

Title 3:- A Versatile Based Ladies Wellbeing Application

Authors: - Dr. Sridhar Mandapati, Sravya Pamidi, Sriharitha Ambati.

Year of Publication: - 2015

Various horrible events have been happening in the woman's case. Issues may start from any heading, for instance, women walking around and about after the work, embarking to the market or various diverse purposes behind which they go alone. People at home don't know about their entry safely. Another factor is woman fail horrendously without knowing the reason as they go on voyages and current excursions coordinated by the affiliations. It happens in view of ambushes on a woman anyway not suicides. In 2013 there happened a scene which is a Gathering strike in New Delhi because of a 23-year-old woman on the vehicle at 9:30 PM. Another scene that has happened at Mumbai because of a woman who is deserting her neighborhood put after Christmas events have been snatched and killed. Remembering the true objective to vanquish such issues looked by women then Wellbeing (women security applications) flexible based application isn't only vital to use yet, moreover, accept a basic part with android programming.

In the present situation, we can't able to recognize what's going to happen the very next movement. The women have to be alert state at every point when they are inside home or out from home and unknown places. To overcome such issues like individual safety, we are moving towards IOT Innovation with a wearable device which recognizes Individual person location and can send Messages and we particularly get the emergency messages with the region of longitude and extension to the police, relatives, near to people around the loss individual and people who are using this application.
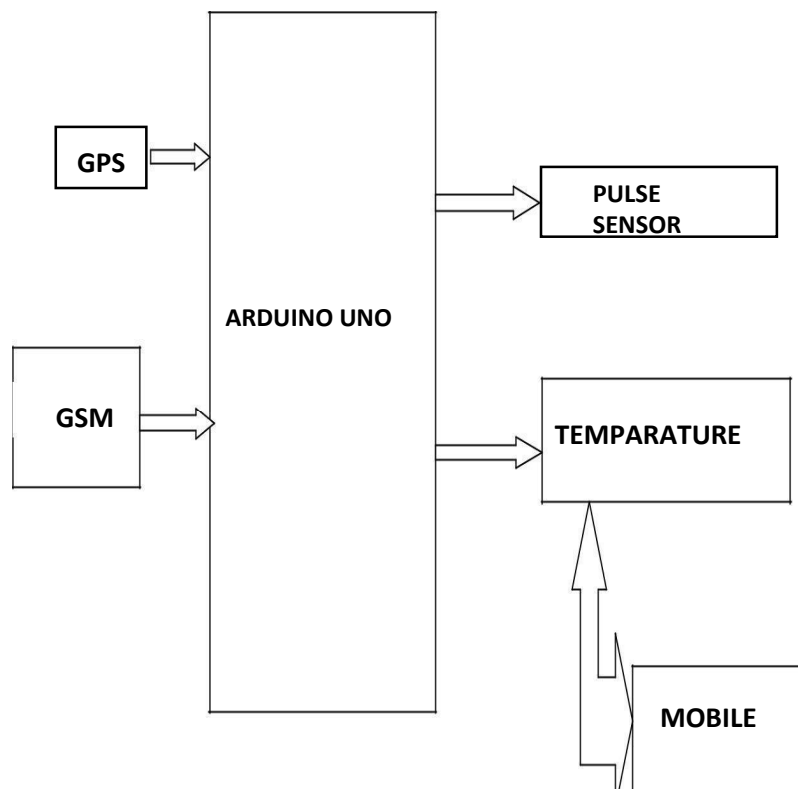
ARCHITECTURAL DIAGRAM

Figure 1.Architectural diagram of project

PROPOSED WORK

We have proposed a mechanism which is the coordination of different devices; gear includes a wearable "Astute band" that relentlessly talks with a Cell telephone those methodologies the web. The functions is modified as well as stacked along all necessary information which fuses Human lead along reactions to contrasting conditions such as shock, fear, as well as strain. This makes a banner that transfers to mobile phone. The item approaches GPS and Informing organizations that are pre-modified so that at whatever point it gets emergency it forwards "HELP" message request to nearby the region headings to the nearest Police control rooms, relatives and overall public who are close range who installed the application in their smart phones. By performing this movement enables help promptly from the Police and furthermore opens in the nearby range who can accomplish the setback with unprecedented exactness. This paper fixates on a security structure that is laid out essentially to successfully give privacy to ladies and the objective is should not sense uncomfortable at the time of going out in odd times.

EXPERIMENTAL RESULTS

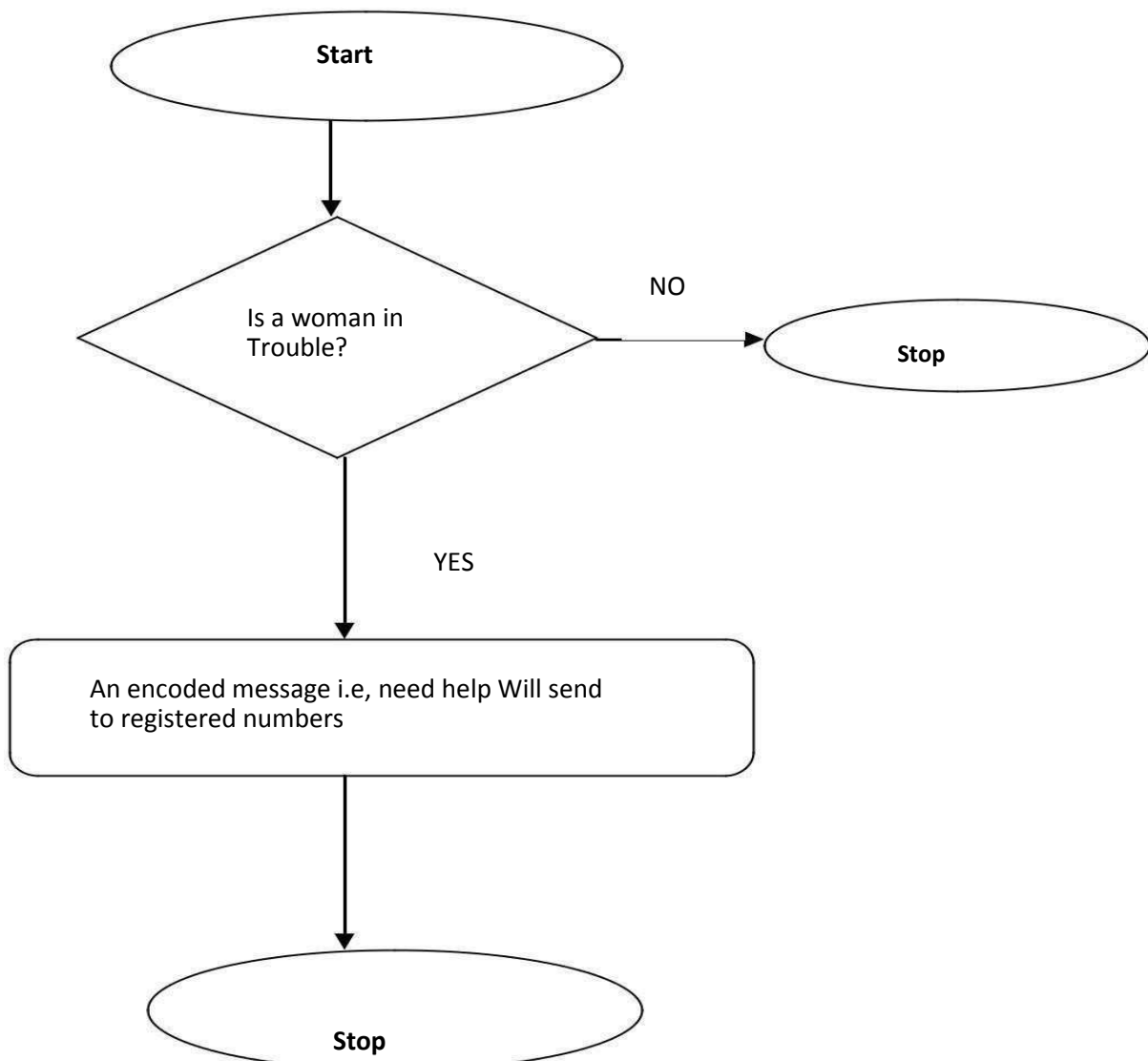**Execution Flowchart:** The Execution flowchart of the program looks as follows:

Figure 2.Flowchart of the Workflow

The above figure addresses the logic used in our paper. The device can be impelled by basically registering the beat rate and temperature of the person. This device gets established and sends minute zone with a message to the police and concerned relatives. The figure exhibits how the device looks like and when the emergency is required, the device sends the message with minute zone message to the police anyway we used any 3 discretionary phone numbers as this is just a demo. The territory is discovered using a GPS module. The GSM Modem (sim 900) can recognize any GSM compose overseer SIM card and act basically like a PDA.

We propose to have a microcontroller device using IOT, which relentlessly talks with a Cell telephone those methodologies the web. The function is altered as well as stacked by all required information consolidates temperature, heartbeat and besides setback development. This makes a banner which is transmitted to the mobile phone. The item approaches GPS and Informing organizations which are pre-changed so that at whatever point it gets urgency signal, it can transfer help request nearby zone headings to the friends as well as the police control rooms. From this device, we can make the provoke proceed onward the condition. The proposed estimation is to help women by the headways that are embedded into it. Survey for Ladies is remarkably expected for women security. Exactly when the supply is given the contraption will turn on.GPS and GSM related with ATMEGA furthermore start working and it demonstrates the present position of the device. By then with the help of GPS, the zone of the loss is perceived and is appeared on the LCD.

Base on the fundamental examination and the need of security utilizing the modules are picked the unrivaled Atmel 8-bit microcontroller unites 32KB ISP streak memory, 1KB EEPROM, 2KB SRAM, 23 generally valuable Input/output lines, 32 extensively helpful registers, 3 versatile counters with take a gander at modes, inside along external encroaches upon, serial programming USART, a byte-orchestrated 2-wire serial interface, SPI serial port, 6-channel 10-bit A/D converter, programming protect canine clock by inward oscillator, along 5 programming power saving features. The contraption works between 1.8-5.5 volts.

The customer is mandatory to enroll the emergency contact numbers by system that were secured in Enlist Database. A audio watchword ought to enroll inside the device. We are using SQL Lite database for storing information.

OVERALL SITUATING FRAMEWORK (GPS) MODULE: It is a course and correct arranging mechanical assembly, tracks the region as longitude and degree base. The GPS Coder The module used this information to glance through a right location of that territory as the street name, nearby crossing point et cetera. For the circumstance where GPS is crippled then the structure will simply send the longitude and extension. The Web is mandatory.

GSM FRAMEWORK MODULE: Worldwide Framework for Portable correspondence (GSM) SIM card is installed inside the wireless to send and get the information in terms of text using GPRS. The GSM SIM is selected inside structure. With growing the utilization of GSM, sort out organizations are stretched out past talk in combination to combine various other applications, machine computerization, as well as m2m correspondence.

Using AT orders the GSM modem can send the message to the predefined numbers. As a general rule, we lean toward for information trade to two or three numbers. In any case, if critical to send the message to various numbers, it is in like manner possible.
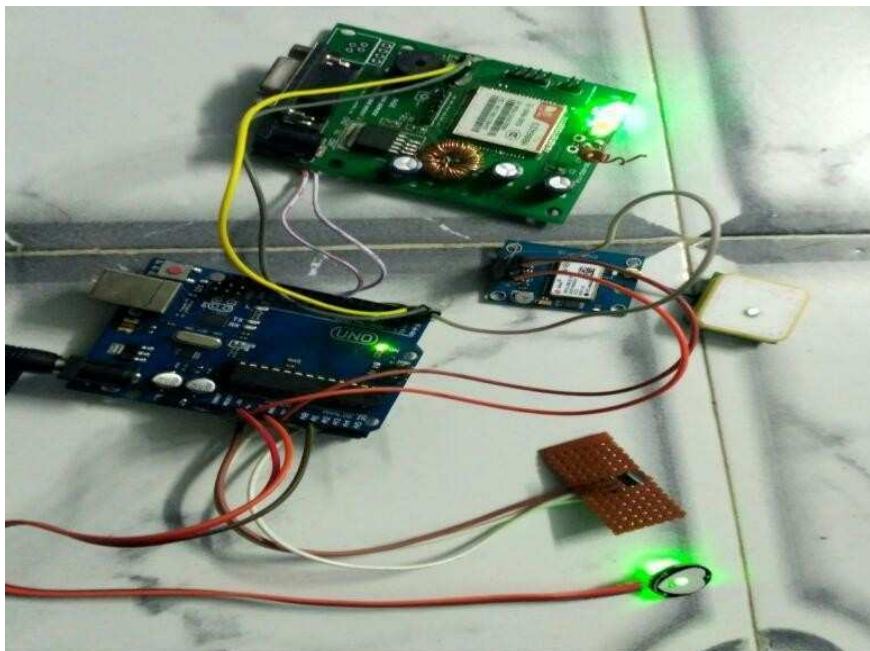
EXPERIMENTAL RESULTS

PROJECT OUTLOOK

Figure 3.Connected hardware components

DISCUSSION ABOUT WORKING

ARDUINO ATMEGA328 BOARD: The Arduino Duemilanove ("2009") is an ATmega328 microcontroller based board based which comprises of 14 computerized inputs, 6 easy sources of information, a 16 MHz precious stone oscillator, USB , jack for power supply, an ICSP header, and reset catcher.

GSM SHIELD (SIM 900A): SIM900 can flexible with all the space prerequisites in the M2M application by measurements of 24mm x 24mm x 3 mm. It is composed with a great single-chip processor incorporating AMR926EJ-Score. The GSM has accompanying points of interest:

1. Spectrum proficiency was inbuilt as well as voice quality is high.
2. Support for new administrations.
3. Supports ease handsets as well as base stations (BSs).
4. Can mingle with integrated service device networks (ISDN) as well as other telephone utilities.

GPS MODULE: The present day, date, time period, dimension, scope, elevation, speed, heading in terms of various information were given by module that can be utilized in numerous devices such as route, armada administration, following frameworks, mapping, and apply autonomy. The module can bolster up to51 channels. The GPS arrangement empowers little frame factor gadgets which convey real progressions in GPS exhibitions, exactness, incorporation, processing force and adaptability. They are utilized to disentangle the inserted framework mix process.

ALGORITHM

1. Characterize sender as well as receiver ports.
2. Provide the serial buffer with baud rate 9600 along bit rate 4800.
3. Instantly set a loop that performs the below operation

    a. Fetch contacts from sim.
    b. Get the information from GPS.

c. Convert longitude as well as latitude from GPS into Goggle URL.

d. Attach the URL along the emergency message.

e. Send HELP message to all the contacts which are in the sim and that message contain help and person location.

SAMPLE OUTPU

Figure 4.Output sent to registered mobile numbers

NOTIFICATION ALERT

At the point when the casualty is in peril, he/she press the crisis catch then area following procedure turns on. Utilizing GPS the exact scope and longitude of victim's area get followed particular alarm message will be sent on enrolled contact.

CONCLUSION

Considering, the Women Safety Device was adequately prepared to bring heartbeat and temperature readings of a lady's body. An edge condition of 100 beats for every minute and 38°C was set above which the ringer would turn on, ensuing to turning on, it sent the message to the police and known relatives by methods for GSM illuminating module. The sent message joins the present position of the woman which is gotten by the territory following the GPS

module. Exactly when the contraption was turned on, readings appeared on the LCD screen were zero beats and room temperature independently. Right when the contraption came into contact with the body, it started showing lady's pulse and temperature readings on the LCD screen.

This proposed design will appreciate essential issues looked by women in the nearby past with inventively stable hardware's and musings. While the overall population may conceivably change for the enhanced, the capacity to act naturally overseeing, sure and extremely can go by help of equipping oneself with best device. The device will give amend information as physical devices give guarantee for the same. Our fundamental target of this work is to make sure every women have to feel safe and tied down. The system will be flexible, shockproof and monetarily sagacious.

FUTURE SCOPE

We can further extend the project by the following:

1. By encrypting the GOOGLE MAPS in the GPS sensor it can detect the area instead of Longitude and Latitude information.
2. By using nano-sized materials, kit size gets reduced.
3. Using wireless GPS modem carrying of kit can be avoided.
4. More effective system can be designed by adding MOTION DETECTOR technology.

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