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An IOT Based System for Tracking Children and Women

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ABSTRACT: At present times, Child and lady security are the primaries. It is extremely provoking for guardians to interminably screen their youngsters. This try is supposed to plan an unbelievable following and see construction that screens the enhancements of youngsters or ladies. It continually gathers the information and stores it for additional dealing with considering limited rehash, utilizing Google Map nearby the position and district of that subject through GPS. This cycle works basically by setting the gadget secure of the subject. In the event of crisis i.e., on the off chance that the subject is lost or a fall is seen. The watchman of that specific subject can follow the part of the information. Precisely when a crisis is recognized, the framework ordinarily sets off a message on the watchman's cellphone consequently cautioning that the subject is at a serious bet. In that capacity, the guard gets a consistent locale by getting a specific position. It helps watchmen subject[children/ladies] persistently, particularly like extras near them, and spotlight on their own work with near no manual mediation**.**

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KEYWORDS: GPS, Google map, Threshold frequency, Location.

I. INTRODUCTION

The overall planning structure is used all over the world, and it gives watchmen the assurance that their children's childhoods are safe from bad things happening. In this model, we'll show how important it is to the design to follow the young person and show the execution's best part. A high-accuracy GPS is required to complete such a structure. Using a GPS with poor precision in this design might cause some misunderstanding in the area around that young kid. the GPS of that gadget sends the longitude and degree to the gsm module, gsm module gets the data about the longitude and degree of that youth's locale, further, this message will be conveyed off to the client for following the region of that lost adolescent. this model gives the plan to cultivate a negligible cost, high precision, and straight forward structure by using Google Maps. GPS accuracy can be hurt by Google Maps. This model shows research that uses Google Maps to show where a young person is around the world. Google's high accuracy in making maps shows that it is making improvements. Basically, kids can't say anything bad about the humiliations they face in their daily lives to their people. It's also hard for gatekeepers to see how their young people are being used. Because it keeps kids from being followed, every teen needs a free, always-on global positioning system. In this system, the information from all of the

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sensors, such as the temperature sensor, the heart rate sensor, and the GPS location information, is used to figure out what's going on with the young person and alert the different gatekeepers using gsm as the requirements are. Putting together a youth global positioning system to give parents peace of mind that their child is safe from dangerous activities. If a parent moves out of the incorporation district, the information about their missing child is sent to their new address. Also, if a young person needs to tell someone they are in danger, they can press a sign on the device for a crisis response.

GPSmodule

The GPS uses a network of satellites to figure out speed, location, heading, and time. This network is spread all over the world. It uses a group of 24 or 32 dynamic satellites in orbit around Earth that send a precise microwave signal and give GPS users more power.

GSMmodule

The GSM modem, which can also be used as a cell phone, can take any SIM card from a GSM network operator. Each SIM card has its own phone number. This SIM900A GSM modem can talk and build an SMS-based remote-control application that is embedded. It has two bands, 850 and 1900 MHz, which makes it a flexible plug that can send data over long distances. Its ability to roam internationally is a plus, and it has a longer battery life and can send data at up to 9600 bps baud rate.

ArduinoUno

The ATmega328 is the microcontroller chip used in the Arduino Uno (datasheet). It has 14 digital input/output, 6 analogue input/output, 12 digital input/output, a 16 MHz crystal oscillator, a USB connection, a power jack, an ICSP header, and a reset button.

II. LITERATURE REVIEW

Al-Mazloum, E. Omer, M. F. A. Abdullah proposed a paper on simple tracking deviceusingGPSandSMSTriggeredSystem thatreturnsthelocationofthesubject.[1]

Al-Mazloum, E. Omer, M. F. A. Abdullah work on GPS and SMS based following and offers a response for following young people by gatekeepers using Smartphone, they propose designing that consolidates two Smartphones one being the client(child) and another being server (parent), whenever the parent needs to follow their child, They will send a requesting through SMS and on client-side the mindful individual takes care of regard for that extraordinarily coordinated message replies with region nuances and subsequently on parent side the region nuances will be presented on the aide.

Advantage: Short message organization-based following.

Downside: Need for an Active Listener and phone with the young person.

The paper by El-Medany, W., Al-Omary, et al. describes a low-cost, continuous global positioning system that gives exact limits of the vehicle being followed. [2]

he quad-band GM862 cell quad-band module is utilised in the implementation. Real-time access to the server and a graphical user interface on a website are used to show the exact position of a car on a particular aid, thanks to Microsoft SQL Server 2003 and ASP.net. Also included in the document are details regarding the vehicle's speed and mileage. An Automatic Meter Reading (AMR) system may be set up and managed at a cheap cost utilising GSM-based General Packet Radio Service (GPRS) technology, which transmits information about power use to a central server. A accurate electronic metre, a transmission office, and a server for charging are the essential components of the proposed AMR system.

Having AMR and a low price are both advantages.

Due of its complexity, it is a hindrance.

How a GSM and GPS module may be used to defend a vehicle from theft is shown by Hu Jian-ming, Li Jie, and Li Guang-Hui. [3]

It uses a C8051F120 mixed-type single-chip processor and a vibration sensor to identify stolen vehicles. Structures keep in communication with their owners through GSM, which helps keep their vehicles secure and stable at all times. [2] GPS/GSM (Global System for Mobile Communications)-based Vehicle Tracking Alert System has evolved and works with other systems, according to Fleischer, PB Nelson, and the rest of the authors. It is possible to maintain track

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on municipal transit vehicles at all times using this technology, which guards against theft and accidents. Due to static constant disclosure being used by the majority of automobile anti-theft systems, we're all set to launch. A GSM and GPS module-based anti-theft system for automobiles is what we're currently working on in this article. The C8051F120 mixed-type single-chip processor is used to design the construction, and a vibration sensor alerts the driver when a vehicle is close. Auto-location is feasible because to the GPS module's anti-theft construction.
Advantage: GPS Tracking System, Anti-Theft System There is a drawback to this product: It is only suitable for cars.

The response offered by Almomani, Alkhalil, Ahmad, and Josh is a global positioning system that utilises portable technology and is equipped with suitable technologies for the subsequent point of contact.[4]
Tracking is explained in detail in their study. It employs GPS, GSM modem, and GPRS to track automobiles, and it is a client-server approach. For online or mobile device clients who request a location, an SMS is delivered to their mobile device. In response, the GSM modem delivers GPRS data back to the client, which the GPRS server receives and passes on to the server. A cloud database is connected to a personal digital assistant (PDA) in the proposed system. As a result, it stands apart from similar constructions.
In comparison to other persons, inexpensive looked to be a distinct advantage.
Damage: The server must be available 24 hours a day, seven days a week.

Using a simple web server-based technique and SMS for Java-based mobiles, Chandra, Jain, and Qadeer achieved their goals.[5]
This device includes GPS receivers. Using SMS or the web, a customer may provide location-specific information directly to the server. The primary goal of this project is to allow the client to delegate portions of his territory to one or more of his trusted allies. Where flexible organisations are located may have a significant impact on the most effective method of implementing change. In order to provide location-based services (LBS) to the end user, the location is essential since location information is often required for planning, directing, location organising, target tracking, and rescue operations. One of the most well-known structures is the Global Positioning System, which may be one of the clearest milestones behind lb (GPS). Progress on Region-Based Services has been consistent throughout the year. The essayist's goal in this compositional case study is to describe a series of events that have led to the current state of affairs in LBS. In addition, network providers were obliged to offer a redesigned emergency organisation to ensure that all cells (clients) were located within. This is where LBS really got its start.
Precision of region is an advantage.
Demand for a Reliable Network: A burden.

A major shift in the way we think about global positioning frameworks has resulted from Google Maps API advancements in the subsequent releases.[6]

Google Maps API was updated in 2005 to allow directions to be shown on Java-based mobile phones. It is now feasible to integrate consultants into a site for various types of geo-marking and information combining thanks to the Google Maps Application Programming Interface (API). In 2005, Google purchased Android Inc., a cell-stage business, for an undisclosed sum. For example, (Steele and To, 2011). Apple released the first iPhone in June 2007 with a built-in assistant, accelerator, and GPS. In 2009, IBM developed a major app that changed the way people thought about LBS (Shek, 2010). This structure is equipped with a GPS system, which uses satellites to determine its exact position. System tracking is critical in today's environment. This may be used to track the thief's automobile and other objects of importance to the hero. In addition to the GPS and a flexible communication system, the system is built around microcontrollers (GSM). A GSM modem and a single GPS gadget are all that's required for this expedition's two-way communication. When it comes to communication, a GSM modem with a SIM card is just like a standard phone.

The advantage is that it thinks about LBS in a different manner. Insult: All the time, you'll get hands-on support."GPS-GSM Based Tracking System" by Abid Khan and Ravi Mishra investigated the probable findings that might increase the efficiency of the following.[8]

GSM and GPS may be used to track devices in a variety of ways in this study. The course is a critical component of the training, and many drivers rely on it. As a vehicle global positioning system, a vehicle GNSS combines the base of an electronic device that is installed in or inside a car with PC software that allows the owner or customer to monitor the vehicle's location while also collecting data. In order to locate a car, GPS technology is employed in the majority of current global positioning systems. It is possible to employ a variety of bespoke vehicle region technologies. There

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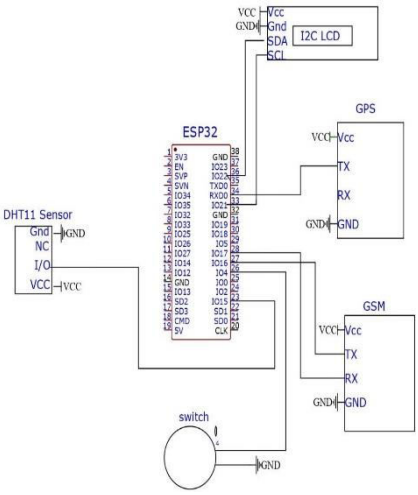
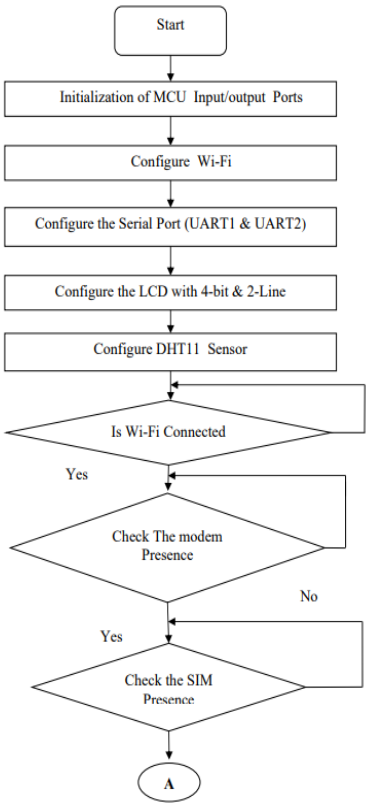
should be a way to display and organise information about automobiles on electronic Google maps through the Internet or via programming.

System Design



Data Flow Diagram



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System Testing
Test cases according to standard format

Test case id	description	Action performed	Expected result	Actual result	Test status
TC1	user swtich press	gps sends location	Message delivers	location	pass
TC2	User model tilt	gps sends location	Message delivers	location	pass

III. CONCLUSION

The whole essence of our response is to follow the steady region of an individual and really take a look at their security. This applies to checking a general by a person. A GPS sensor will be associated with the client and it is coordinated with a compact application. The specific data about the area, courses, etc of the client are to be invigorated by the concerned watchman/association. The structure gives alerts on the selected flexible if it finds any possible risk to the client when it recognizes a couple of dark regions. They will be supported to get to the particular region when they think the client is in danger. The system works capably using developments like GPS modules, GSM modules, trading units, Monitoring Units, and Batteries. Programming, for instance, Blynk, Cloud Services can uphold the improvement of this structure with negligible cost and efficiency.

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IV. FUTURE WORK

Progress in Technology and purchaser need to organize contraptions and to fit in customary wearables. The approaching GPS Satellites can give better arranging accuracy considering one more game plan of atomic tickers. Further created security is the primary worry in following and checking the subject with restricting the fuel cost, lower practical costs, and growing proficiency.

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