

Global Positioning System in Event Management

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Abstract—Global Positioning Systems are widely used to accurately locating one's position nowadays. Using this Global positioning systems the distance between two locations on earth can also be measured. The functions of the GPS are to locate the position of user. My Event project aims to manage the events using GPS throughout the city. The GPS will generate the coordinates of latitude and longitude as well as the bearing angles between two positions. Generally this GPS are design and implement a low cost tracking system suitable to be used for climbing and hiking, sailing activities. In MY EVENT this GPS is used to find a place or an event, where the event is being conducted with the help of micro view.

Keywords: GPS, Navigation, Positions, Coordinates, Micro view, Tracking System.

I. INTRODUCTION

Global Systems network is known to have many applications in the area of tracking. Especially a fisherman who does not know the way or lost their way in the sea could locate their position by using GPS. GPS is used for navigation which provides continuous timing information position of things anywhere in the world. They could acquire a coordinate and a call for a rescue crew to save them with the help of coordinates. Satellites send signals to the GPS receiver to locate the exact position [1].

There are three segments in which the GPS is formatted i.e. user, control and space. Each individual segments are further divided into two parts as we concentrated on ground segment first is control and command of the satellite and the second is for receiving and exploiting some set of data [1]. This GPS data will be extracted and decoded in order to get the information. GPS receiver can also provide information such as time, status, the current latitude and longitude for a particular location.

II. SOFTWARE DESCRIPTION

In this paper, PIC (Peripheral Interface Controller Highlight) [2] compiler is used as platform to write the software part of the GPS location Tracker. As the developed program sequence has its order. Initially GPS receiver status must be checked. This program is used to detect latitude and longitude of a particular location. As shown in the Fig. 1 the following shows the flow.

The flowchart in fig. 1 describes the flow in programs and to run the devices. GPS is being used in Event Managing system where these GPS is using to find a place where the things or Events to be managed at a particular place in such scenario this GPS is being used. GPS enabled monitoring and tracking of devices are finding use over the last few years.

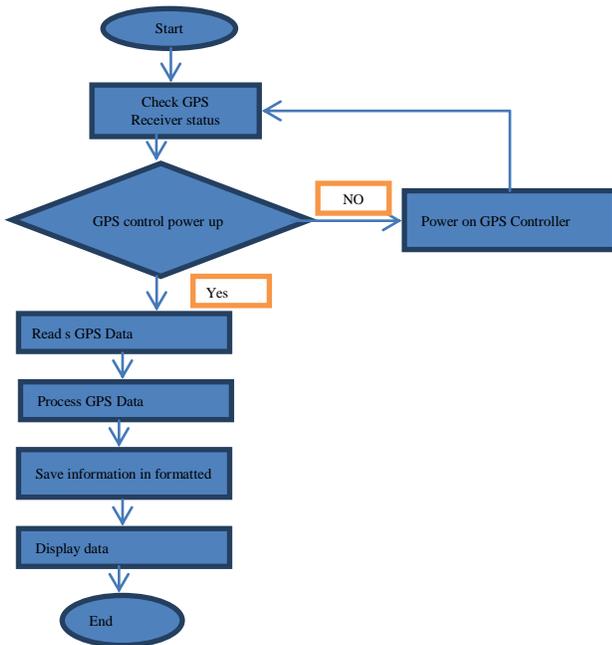


Fig1. Flowchart of subroutine to read GPS data.

This paper reviews some of the recent application areas and discusses the benefits and issues of GPS monitoring and tracking.

III. USAGE OF GPS IN REAL WORLD

Application ranges from military and national security to personal safety and comfort. It then presents a mobile framework that implements a general tracking system [3]. This framework helps to locate lost or misplaced mobile devices and not even in Computer Science domain but also this GPS plays a big role in medical science domain as it helps in finding a variety of other related scenarios such as locating dementia patients. GPS based navigation and searches are now spread widely in many urban areas. Using of GPS in vehicles not only allows them to know where they are but also to locate the vehicles to track when they have been stolen [3]. Any GPS equipped item can be located when stolen or misplaced. Vehicle routing benefits from having GPS equipped vehicles. Both fleet management (managing of vehicles, maintainers) and vehicles belong to the class of NP-complete problems and heuristic solutions to these problems

become more usable with location data being made available continually. By knowing the locations of the vehicles, the nearest vehicle could be dispatched to a requesting service, saving both time and fuel. Everyone can equally be equipped with GPS devices so that their whereabouts can be instantly known. This is valuable for those who suffer from any mental disorders [3]. Those who care for these patients can get to the patients quickly through the locations knowledge. It is possible to monitor the patients and the system could be made intelligent to report locations automatically. People equipping with GPS is quite sense with respect to their security, privacy and one should justify the use ethically. GPS can be used to attach to wildlife to track their locations. This is useful for scientists who study wildlife behavior and movement. Accessing animals is not easy, and this requires that the GPS devices attached to animals be low rugged, maintenance and possibly self-powering. GPS also used for personal activity, for example travellers can carry GPS in order to make a digital trail and helps them to find their path.

A. Other Recommendations

Use of GPS in our project is to maintain the distance and keep tracking of every place so that the events are conducted based on the user wish. This GPS has made a big role, such that the people can refer their own places such as Home, Office or any area according to their need with the help of GPS [4]. Once the location is known, one will wish to mark that location to visualize that location. Marking the locations on the map with coordinates of the location is quite known.

For example: Google maps.

B. Privacy

Monitoring and Tracking can be abused easily and can parallel to snooping into pupils private list. GPS enabled devices has the potential to reveal to authorized and unauthorized parties location information. McNamee, Michael investigates the

ethics of Human-Centric GPS tracking. The GPS has been divided in to three categories: Care, Control and Convenience. The authors pose a series of questions that need answering [4]. These are classified in to four categories property, accessibility, accuracy, privacy. The accuracy category is the set of questions related to accuracy of data collected; the privacy is concerned foreach individual’s private data. The accessibility and property are related to ownership of and access to the data. Examples in these categories include questions such as ‘who is authorized to access the information and who owns the information’. This paper proposes that for a location based service these ethical questions should be carefully considered so, that service can be integrated in to society [4].

To ensure that private data is confidential to unauthorized parties, collected private data often anonym zed (remove identical data). Such can be achieved by inserting fake data into the source data. Some other technique to restrict drilling into private data is to block queries of data this may result in identifying individuals. Let’s take an example the result of the query “Number of people who live in Bangalore, work in GRID and earn more than an expected value could be able to block if number reaches out to be small value”.

C. FRAMEWORK FOR TRACKING THE LOST

GPS equipped items with communication support can be located “when misplaced or stolen with these appropriate software”.

Requirements for framework:

1. Location reported by the user/item with support of communications should be demand driven.
2. Privacy of the owner of items needs to be respecting in other words, for locating information should reveal the location to those who are not unauthorized.
3. This should be able to generate a report of its location andthe device should be capable of communication.

We therefore assume a mobile device i.e. able to send and receive text SMS, and it somewhat fits the second requirement. The location should learn by when and only when the text messages are received. This is because getting the location cab (exact location)be little expensive [5]. To ensure that the location is sent only to those who are not unauthorized, the received text message for security reasons these is checked for the existence of a password pre-registered pass key. The location is reported back if the key is present in the message.

The location can be quite easily found if the device has GPS receiver [5]. Such case upon, receiving the location querying messages, the device should have the GPS and it should have to turn on the GPS system, and then the location is send to the requester. In MY EVENT managing the GPS is being used for to recognize the location of the User who wants to conduct or arrange his function according to his nearest location using this GPS receiver easily finding the location and easy way to arrange or afford the details.

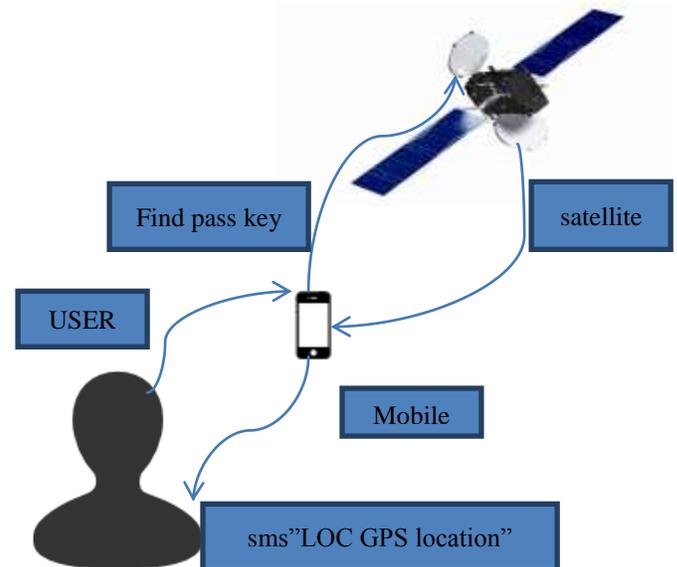


Fig. 2tracking architecture based on GPS

The reason is to turn on the GPS on demand to conserver power. Receivers of GPS are quite power-hungry, and keeping them on all the time the

battery will drain as soon as possible. However the cold start-up time for GPS are significant, and this will contribute to a significant delay before the device is located [6]. A tracking architecture based on the device like Mobile device having a GPS receiver as shown in Figure 2. An authorized user that is the owner of the mobile device sends a text message to the device “FIND pass key is a preregistered secret known only to the user. The reception of the message the device will reply with a text message containing its GPS current location. However, not all devices may be equipped with a GPS receiver. For them they do not have access to a GPS receiver may calculate their locations based on the locations of at least three stations such condition is known as MULTILATERATION [6]. To be tracked a device is installed with a service i.e. is set to activate upon receiving a message.

D. GPS BASED OBJECT TRACKING SYSTEM

Location can be positioned through global positioning system (GPS) using algorithms. The information can be obtained using algorithm across the network and can construct a global view or an object. The system can map the current position of an object using GPS [7]. The is sent using GPRS network towards web server by POST method of HTTP protocol and object’s position data is then stored in database which is used to track .The web application is developed using PHP,HTML for interface,Java Script,Ajax and MySQL with Google map[7] which is embedded that is Google plug-in is taken The system has two parts tracking device and databaseserver tracking device is none other than Google map where whatever address is required is tracked and positioned and stored in the data base it then sends the information with IMEI (Information Mobile Equipment Identity) number which acts as its own identity to the server the data is validated and stored in the database .When the user wants to show the address he can get the live position on

Google Maps .A custom report is also generated for user reference.

E. CAPTURED AND PROCESS THE IMAGE

Based on the image obtained of the particular area where the exact node of that particular area is collected and the image is processed [7]. A common operation is done that is pan merging is done which combines low resolution color band information with high resolution panchromatic images which gives the color image with better resolution. There are number of ways to do this merge operation the simplest one is HSV approach where Hue and Saturation come from color band and value comes from panchromatic band. Here the true image s that give us proper detail of that object. Now the processed image is submitted hitch will detect that present in the images.

F. GIS Collection Based on GPS

GIS (Geographical Information System) is a computer assisted system for storage, analysis, acquisition and display of the data of geographic. Data is coming in different ways such as traditional and digital maps, GPS, remote sensing and databases can be combined in models that stimulate the complex systems behavior. Data collection is the work of GIS construction. This system provides three dimensional position, time and velocity information about any point on the earth with very high precision. Although GIS technology has powerful ability to analyze and manage spatial data, updating database and dynamic monitoring are some of the problems. Hence research on GIS database update is an essential work. Since GPS technology provides a remarkable new means of data to acquire spatial position [8]. There is another task need be resolved that is how to update the GIS database using the more accurate GPS data that has been collected. It is not difficult to understand that it is not possible to get 100% accurate data for GIS[9]. However, it is possible to get more accurate data. And there is no guarantee that GPS data is 100% more accurate than the original GIS position data

because the system error and model error are unavoidable. So as new position data from GPS is acquired, the weighted average method of update is adopted to get the new position information.

G. LIMITATIONS

There are many factors that limits GPS accuracy .The major error arise from the fact that radio signal speed is constant only in a vacuum. Water vapor and other particles in atmosphere may affect signals down like results in propagation delay. Errors due to multipath fading which occurs when signal bounce off a building or terrain before reaching the receiver antenna and also reduce accuracy distance measurement are less reliable when satellite receiver locks and are loosely oriented with each other .The largest potential error is selective availability are intentional of civilian GPS signal[10]. However the enormous benefits to the world of increasing GPS accuracy led US government to turn off SA in 2000 although it has no intention of reactivating it.

H. IMPROVING ACCURACY

The typical GPS receiver is accurate from 60 to 300 feet suitable for most, but not all applications. Sophisticated models that compare the relative speeds of two timing signals can provide location accuracy within half an inch, but they are expensive for average use but how ever can eliminate most of the errors associated with GPS.

IV. CONCLUSION

Global positioning System enables tracking and monitoring of devices has become indispensable and prevalent over the last few years. The range of applications for military security is to maintain their personal safety. This paper has referred some of the current applications and their benefits like care and security and issues of GPS monitoring and tracking and also proposed a mobile framework that implements a simple tracking system in the Event Management. This is a kind of tracking system helps to locate the individual private request who's

having the GPS receiver and who's not having receiver and finds the probability in locating stolen, lost or Misplaced devices, more over in the medical domain to locate the patients suffering from many unwanted diseases. This finding / locating can be done if and only if they carry their locatable devices.

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