International Journal for Innovative Engineering and Management Research
A Peer Revieved Open Access International Journal
www.ijiemr.org

# COPY RIGHT

ELSEVIER
SSRN



IJIEMR Transactions, online available on 06th Feb 2023. Link :http://www.ijiemr.org/downloads.php?vol=Volume-12&issue=ISSUE-02

**DOI: 10.48047/IJIEMR/V12/ISSUE 02/07**

Title **Alerting and Tracking System of Dislocated Object**

Volume 12, Issue 02, Pages: 53-56

Paper Authors
**Ch. Roopachandrika, Dr.K.Anji Reddy**


USE THIS BARCODE TO ACCESS YOUR ONLINE PAPER

To Secure Your Paper As Per UGC Guidelines We Are Providing A Electronic Bar Code

International Journal for Innovative Engineering and Management Research
A Peer Revieved Open Access International Journal
www.ijiemr.org

# Alerting and Tracking System of Dislocated Object

**Ch. Roopachandrika**,228W1F0011, Department of Computer Applications, V.R.Siddhartha Engineering College, Vijayawada, Andhra Pradesh, India, roopachinnam333@gmail.com
**Dr.K.Anji Reddy**, Senior Assistant Professor, Department of Computer Applications, V.R.Siddhartha Engineering College, Vijayawada, Andhra Pradesh, India, anjireddy5558@gmail.com

**Abstract**
In the present scenario losing valuable things is a big loss and regret but when it comes to the security of our objects, we are very helpless. It's of a great concern in these days. So, in this paper it focused on the theft of the object by alerting the owner and recovering the lost device by tracking. This system consists of a mix of both software and hardware which hardware includes the Arduino Nano technology. This system is being implemented by the two mechanisms alerting and tracking the electric system which works by the basic4.0 Bluetooth technology which allows the user to get alert by the buzzer. When the user is far away from the Bluetooth range and if the misses the buzzers alert, then that object attached by this system can be easily traced by its location through GPS technology which got implemented by the GSM module. The software includes the Bluetooth Android app. There is also a data security by which location can be shared to the authorised person whose number got registered. This device will be affectively protecting the kids' pets and valuables. In such a way the owner will be in more forward steps in order to protect their devices without being theft.

**Keywords:** Bluetooth, GSM module, GPS tracker, security,

## Introduction

Our objects are being theft and it's hard to even find them in most of the cases. Not only in the case of the objects or devices it's been a toughest task to handle the pets and the kids in most of the crowded areas always we must keep eyes on their activities to avoid the theft. Recovering the theft objects consume more time in which may cause to losing our valuables permanently. In a case of that we always feel regret that we must feel more cautious about the object safety so theft may not be happened. In most of that cases we always want to be warned and get alerts about the device safety when it is in danger mode before the theft and recovering the object or device should be much more convenient even after its theft. In current situations, one approach is Bluetooth based anti-theft device for smart phones. the system is in a keychain model in which the user just get an alert in which the user unable to find the devices location when it's in out of the reach from the users area and other approach which is antitheft protection of vehicle using GPS tracker and android apps. In this, the user can find the object just by using the GPS tracker after the user came to realise that his device is being is missing but he didn't get any alert regarding it. So here its focussed on both alerting and tracking system when the object being theft in which the user will get an alert when the object is in danger mode or out of the user's area. Even the object being theft the object can be easily trackable by getting it's GPS location easily and alerts not only the user by also the surrounding people by indicating them the wrong act is happening until the object is recovered.

## Literature Survey

ANTI-THEFT PROTECTION OF VEHICLE USING GPS TRACKER & ANDROID APPS JULY 2019.

The vehicle's anti-theft system is a module used to protect motor vehicles from theft by using three layers of security. The first layer uses a registered fingerprint for user authentication that can enable the machine on. The second one uses a GPS tracker to recognize where the position of the vehicle. The third one of security uses a remote engine cut-off system to shut down the machine remotely using the Android app.

The first module is attached to the motorcycle body consists of fingerprints for biometric verification, GPS tracker for vehicle tracking and a microcontroller that controls the entire onboard system, including turning on and off the machine remotely. The second module is an application on the Android system used to detect where the location of the vehicle and applications that can be used to shut down the machine remotely.

The method used in this research is the waterfall, it consists of systems and software design, module creation, module testing, module integration, system testing, operation and repair. The results show this system is trusted to secure the motor vehicle by using a fingerprint as user authentication and GPS Tracker in which accurately detect the location of the motor vehicle, and then the system can shut down the motor power from a distance so that it can discover the theft of the vehicle.

BLUETOOTH BASED ANTI-THEFT DEVICE FOR SMARTPHONES, FEBRUARY 2019
Mobile phone robberies and extraction of personal data has become a growing concern. Increase in cost of mobiles has also led to increase in the number of robberies of mobile phones. Hence there is a need of a system which will in dictate immediately that the theft is taking place and produce an alarm to scare the thief and also make surrounding people note of such incidence.

This can be implemented using Bluetooth module which will be kept inside the pocket. The Bluetooth module is paired with the Bluetooth of the mobile. Here the mobile contains based 'Locate Beacons' software to connect and measure the BLE beacon's distance. The other end i.e., hardware device contains a microcontroller interfaced with BLE beacon. If the connectivity between mobile and Bluetooth module is more than two meters, mobile sends the command to hardware. Then hardware receives the command and gives the alarm and vibration continuously. At the same time in mobile also toggle the light and sound to identify the mobile location. This hardware device is small and looks like a key chain to keep in pocket

**Methodology**
The system is being connected using the Arduino nano. In order to get the alert, Bluetooth is used to give a notification to the buzzer when the users phone is dis-paired from the Bluetooth and GPS tracker will be activated when the user send the message to the GSM module. The GSM and GPS modules are being implemented using the Arduino Nano as shown in Fig[1.1].

This system is being implemented using the Arduino nano. It is the main important component in establishing the circuit. The Arduino nano board based on AT mega 328P or AT mega 628 microcontroller which connectivity is similar to that of Arduino UNO board. The Arduino board is being programmed with embedded C language by installing the Arduino IDE Software before the programming. The Arduino is being instructed using the Embedded C language.

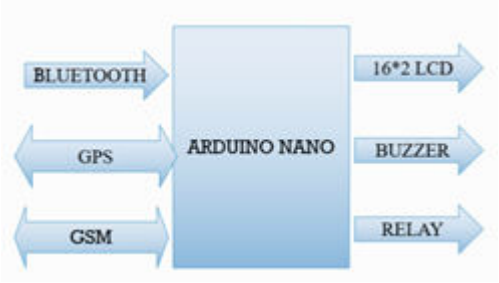


Fig 1.1: Block diagram of the proposed system

International Journal for Innovative Engineering and Management Research
A Peer Revieved Open Access International Journal
www.ijiemr.org

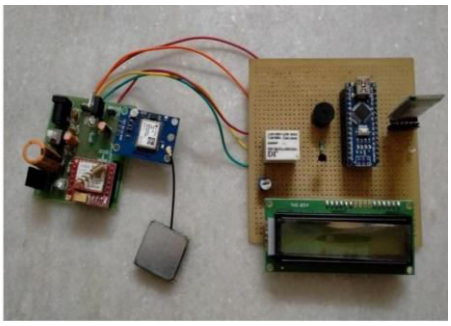

Fig 1.2: Proposed architecture of the System

**Implementation**

At first the device is being connected to the user's mobile by the HC-05 Bluetooth module. The GSM is being initialised with the specific SIM card into the device, the user should register their mobile number to the GSM module which is in the device. As due to the GSM connectivity the GPS tracker provide the devices location to the user when the user sends a message for the device location

When the device connected object is far away from the 10m away from the user's mobile which is above the Bluetooth range the object will be despaired from the user's mobile which makes the buzzer to be on and makes the user and also surrounding people to be aware of the theft and the buzzer will ring until the device is recovered.

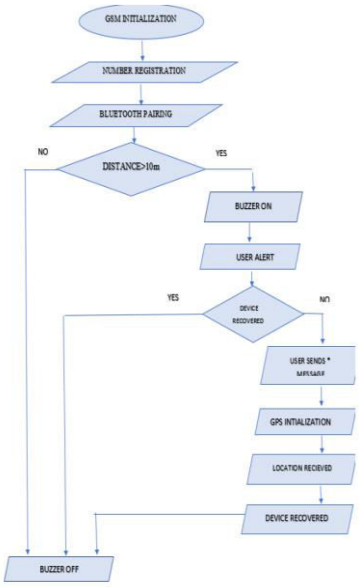


Fig 1.3: Workflow of the system

When the device crossed a long distance away from the users zone an unable find at eye distance the user can use the availability of the GSM module which provides the network connectivity to the GPS tracker. By sending a message only from the user registered mobile number the device will automatically send the location to the user registered number and they can recover the device through that location. Where by using the GSM modules the tracker will get the network access even there is no WIFI, and the address can only share by registered mobile number. This can help in security of the device locations.

So, until the device is recovered and again the Bluetooth is paired up with the users mobile Bluetooth the buzzer will make sound and keep aware the surrounding people and also the user to be more alert and find the object easily.

**Advantages**

• The device makes an alert to the user quickly and protects it from being theft, where it can effectively protect your valuables in an 10m effective distance range.
• The device can be tracked even the user misses the alert using GPS.
•Data privacy only the authorised members can track the device location. The user can be alerted within a short distance.
• Controlling the device can be compatible with mobiles and tablets.

**Conclusion**

This system will help not only in preventing the theft also to recover our objects. It also helps to keep the track of the pets and kids who are the big asset for us. In the most of the cases in preventing the theft and removes the biggest worry of the present generation.

**References**

[1] H. Y. Shi, "A new weighted centroid localization algorithm based on RSSI," in Proc. International Conference on Information and Automation, 2012, pp. 137- 141.
[2] Pei-gang SUN, Hai ZHAO, Ding-ding LUO, "Research on RSSI-based Location in Smart Space," ACTA

ELECTRONICA SINICA, 2007,vol 35(7),pp:1240- 1245.
https://www.flipkart.com/buy-genuine-wireless-bluetooth-4-0-anti-lost-antitheft-alarm-device-tracker-anti-lost-theft-gps-locator-anti-theft-remote-hutterrecording-anti-lost-theft-spy-mini-tracking-device-anti-lost-theft-finder-autocar-pets-kids-motorcycle-track-smart-tracker-compatible-android-iossmartphones-location-smart/p/itmd3afe57f1

[3] Dereje Tekilu Aseffa, "Bluetooth Based Antitheft device for SmartPhone, February,2019. https://www.researchgate.net/publication/331298793_BLUETOOTH_BASED_ANTI-THEFT_DEVICE_FOR_SMARTPHONES.

[4] Jaiteg Singh ;Dapinder Virk, "Bluetooth Enabled Anti-Theft System Using Android Based Hand-Held Device", 2018 6th Edition of International Conference on Wireless Networks & Embedded Systems (WECON), 16-17 Nov.2018 https://ieeexplore.ieee.org/document/8782082