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Luggage Tracking System Using IoT

Akshatha M R¹, Chandan M N²

¹Research Scholar, Dept. of MCA, PES College of Engineering, Mandya

²Assistant Professor, Dept. of MCA, PES College of Engineering, Mandya

Abstract: *The luggage tracking system is designed to track the luggage and bags which gets lost or theft from public and other areas. When people travel, there is always the chance of their luggage and bags being stolen, which is where the proposed system comes in. The luggage tracking system is based on an alert system that uses an Arduino Nano board and a GPS module. The alarm is also activated if the bag is stolen and moves outside of a certain range. Furthermore, a map is constructed via which we can monitor the location of the bag as it moves by dropping markers, which in turn informs us the location of the bag as it moves away from the owner.*

In this, the IOT components are being used like Arduino Board and a GPS Module in order to track the bag and to keep track of things, a frontend or mobile app is constructed.

Keywords: *IOT components, Arduino board, GPS, GSM model, Battery booster, Buzzer, Bluetooth model.*

I. INTRODUCTION

Internet of Things (IOT) is the systems administration of actual articles that coordinate gadgets implanted in their construction to convey and recognize cooperation's between themselves or concerning the outside climate. It is an organization of items like constructions, vehicles, and so on outfitted with sensors, hardware, and different things identified with the framework that help these articles assemble and trade data. IOT permits objects to be detected and overseen from a far-off passage, expanding monetary advantage, exactness, and execution. IOT-based innovation will offer hearty support quality later on, basically changing our day by day lives and adding to them. In this task work, a gadget that is shrewd and associated utilizing IOT based innovation is created for following missing packs.

This will assist with settling the issue of cases including baggage and resources misusing, robbery, or misfortune in the movement sector Loss of gear can occur with anybody independent of the conditions and conditions. Luggage and packs with significant archives or valuable things and can be lost or burglary with which individuals can lose their significant material. By and large it is seen that individuals can get looted in open regions like rail line stations, transport stands and other public and private regions. Likewise, individuals can even fail to remember their baggage and packs which can have significant and fundamental things So it is exceptionally important to find the sacks if there should be an occurrence of misfortune and burglary.

II. LITERATURE SURVEY

Every Software development requires the survey process. The Survey cycle is expected to get the prerequisite for the product. The Survey additionally comprises of considering the current framework and furthermore learning about the instruments required for the improvement of the product. An appropriate comprehension of the devices is a lot of fundamental. Following is a concentrate of the data of the material gathered during writing study. Literature survey is a methodology of identifying the problems in the existing system through research and proposing the development of the system to solve the problems of existing system.

A. Luggage Tracking System Using IOT

Authors: Sudha Senthil Kumar

Year: 2019

Findings

In this paper, the gear global positioning framework chips away at a caution premise where an alert is set up with the Arduino Uno board and a GPS module. Likewise, the alert is turned on when the sack is robbery and goes outside a specific reach. Moreover, a guide is made through which we can follow the area of the sack as it moves, as the markers are dropped which in a manner gives us As the pack moves away from the proprietor, this is the area of the pack. In this, In order to track the bag, IoT components such as an Arduino Board and a GPS Module are used, as well as a frontend or mobile application in order to monitor.

B. Design and Implementation of an IOT Based Baggage Tracking System

Authors: Olalekan Shobayo, Ayobami Olajube

Year: 2021

Findings

The proposed system in this study includes a GSM/GPS module that is integrated into the tracking system to keep it connected at all times. Also, Arduino microcontroller is added to the framework for data handling. The framework gives the area of baggage on a guide for ongoing following and, that can be accomplished when the GPS module recovers the area directions of the pack and sends it to the microcontroller for handling. Thereafter, the prepared data is sent as a SMS through the GSM module, which gives an association between the pack and the traveler utilizing the GSM correspondence framework. This IOT based gadget gives travelers the upside of seeing the current area of their things from anyplace on the planet.

C. Real Time Airport Luggage Tracking System

Authors : Rishabh Chaturvedi

Year: 2018

Findings

The proposed paper was created using wireless communication techniques An airline employee inserts passenger information into the system database that is connected to the device in the real world application, and the device is then associated. to a module. At whatever point the gear is moving, the gadget explores the baggage as per its position. When compared to present monitoring systems, the suggested approach focuses on boosting monitoring details because it enables for individual luggage tracking. As a result of the use of an accelerometer, the proposed solution consumes less power.

III. SYSTEM ARCHITECTURE

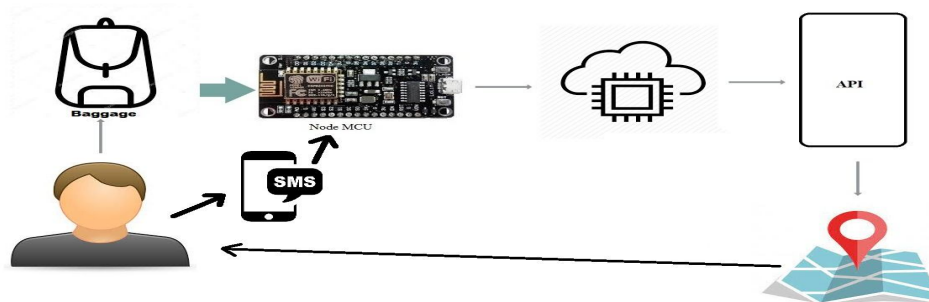


Fig1: System Architecture

Block Diagram and its working

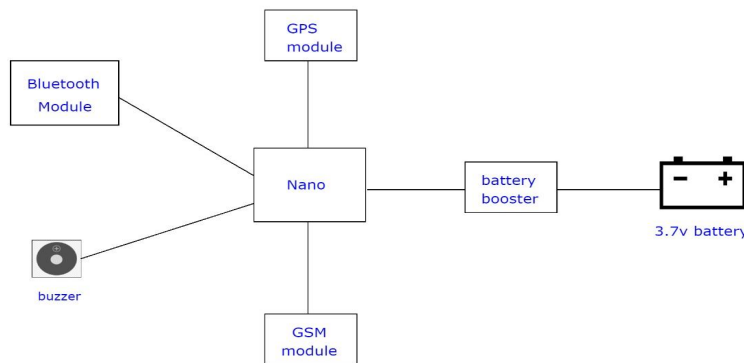


Fig 2: Block Diagram

In the above block diagram, the user and the device will be connected through Bluetooth module. The device will be attached to the baggage, if the distance between user and the baggage is more than 10 meters the Bluetooth module will be disconnected and a buzzer sound will be produced with the help of buzzer module and user will receive an alert message about the baggage lost through GSM module. If the distance between user and the baggage is more than 50 meters then user can send an SMS 'LOC' this will be read by the device and it will response it with the real-time location to user mobile with the help of GSM and GPS modules. User can also send a message 'BUZZ' this will trigger the buzzer in the device through this user can also retrieve his baggage.

IV. EXISTING SYSTEM

Konaks Bags sells luggage and bag packs that can be tracked using a smartphone app. With the assistance of the GPS beacon present taken care of we can follow the gadget through the application introduced in the cell phone. A ton of identifiable labels are accessible which can be attached with the sack to follow the packs when they are lost. These labels have inbuilt GPS chip through which the organization would follow the lost pack.

A. Disadvantages

- 1) In this we can just track the packs whenever they have been lost and not when they are robbery, so this doesn't give the element of giving the guarantee that if the sack could at any point be recuperated.
- 2) Also, we will not be knowing when the sack was lost or robbery so assuming we become more acquainted with about it few hours after the fact, it very well may be plausible that might have moved or gone far away and a great deal of distance.

V. PROPOSED SYSTEM

In our proposed system, the user and the device will be connected through Bluetooth. The device will be attached to the baggage, if the distance between user and the baggage is more than 10 meters the Bluetooth will be disconnected and a buzzer sound will be produced and user will receive an alert message about the baggage lost. If the distance between user and the baggage is more than 50 meters then user can send an SMS 'LOC' this will be read by the device and it will response it with the real-time location to user mobile. User can also send an message 'BUZZ' this will trigger the buzzer in the device through this user can also retrieve his baggage.

A. Advantages

- 1) Provides a text and visual alert along with real time location of the baggage.
- 2) User can easily track the baggage without any hassle.
- 3) The cost of the project is very less compared to existing system.

VI. CONCLUSION

This undertaking shows the execution of following the packs which are either lost or taken utilizing IOT Certain strategies and procedures have been made and proposed to accomplish something similar. Experimentation has been carried out, and maps have been generated to track the position of misplaced and lost baggage. The results of the experiment also show that the bags can be tracked easily based on the hardware implanted in them, and then by tracking that hardware and tracking the route and directions and Determine the position of the bag using a map.

VII. FUTURE ENHANCEMENT

In the future, the system can be made more efficient by researching about different IOT technologies. The range can be increased for locating the baggage even if it's not in same city.

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