

RFID based Passengers Tracking System Inside an Airport Terminal



R Mohana Priya, R.Karthikeyan, K Vinoth, P Dhaniya, K Sai Heamanth

Abstract: In this work, a RFID-Enabled area following framework is proposed dependent on Airport. The arranged goals is utilized for each Push and Pull area. Both this modes can be utilized. We can utilize either dynamic or aloof labels. The use of SIP (session commencement convention) foundation alongside area situated center expansion. This strategy makes RFID Location Tracking System-RLTS a more affordable goals for progressive age correspondence administrations. This undertaking likewise manages the presentation examination, favorable circumstances and utilization of RFID innovation. In this task for session inception convention for position finding of any missing items, pets, person and so on, is created. The task remembers various reception apparatuses at better places for a predefined inclusion territories. The territory secured by the radio wire relies on its transmitted power. All receiving wires are associated in a system by means of microcontroller and eventually associated with the server through a passage organize. In this way, the solicitation might be created by any other individual for indicated questions through pc/web/phone line/versatile and so forth through 10 digit exceptional ID.

Keywords: RFID, LTS, LBS, SIP.

I. INTRODUCTION

The paper is RFID based following framework for air terminal security. The product and equipment plan of the Tag-Reader correspondence is clarified. This paper is about the advances used to play out the traveler following in air terminal. RFID labels can be attached to traveler's packs for following them in a specific area. At long last a RFID model intended to be used in air terminals for security and strength is best owed. The work considers a cell system of detached RFID beneficiaries and far-field dynamic RFID labels. It conjointly considers the correspondence gives that will emerge like non-observable pathway conditions or multipath lessening.

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II. EXISTING SYSTEM

While in at present tracking system was only for the luggage tracking and identification. No unique card number written on the RFID tag for the verification, when it's not in use. Location was not traceable.

III. WORKING

The people entering in the airport are been given with an RFID tag. If they are lost (children) they are been tracked by the RFID antenna in airport lobby. The human tracking is been identified in the system by QBX software. If there is a damage in RFID they are given a unique code to be tracked as well.

Tracking report of data is been identified by the tags that are been collected at the end point of the airport.

A. Hardware Components

125 KHz RF Receiving Module
Receiver Antenna Analog MUX
SERVER / PC (QBX) Front End
MICRO CONTROLLER AT89C52
MAX232C

B. Software Required

Assembly Language (for Microcontroller)
QBX Front End Software

AT89C52 is the most popular Microcontroller used. In this project ALP programming (assembly language) is used and the GSM modem as well as ultrasonic transducer and mercury sensor are used. The ultra-sonic transducer is used to generate the ultrasonic waves when the stick fell down the mercury sensor also fall down and we will get a beep sound as well as we will get SMS alert that your stick has been fell down.

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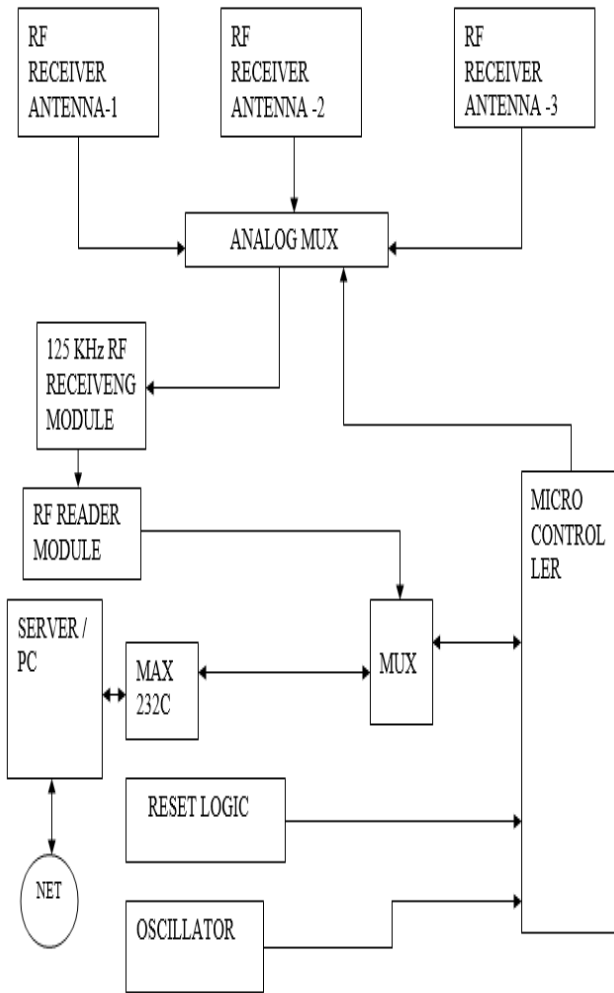


Fig 1. Block diagram

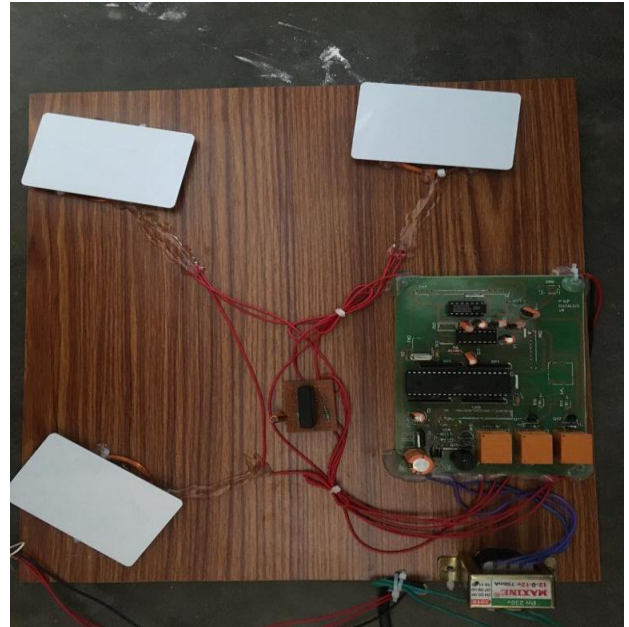


Fig 3. Working Module with Reader

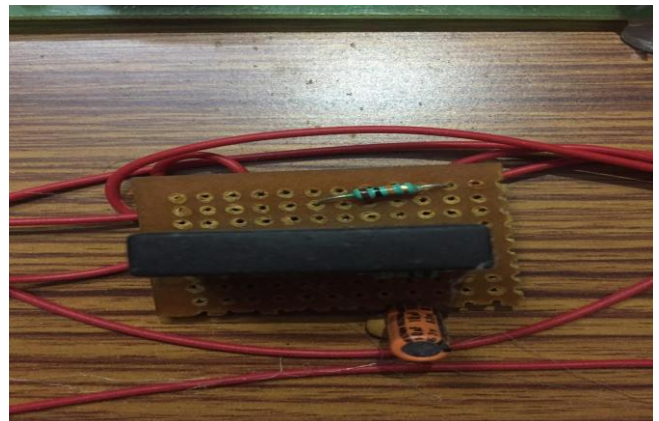


Fig 4. RFID Receiver Module



Fig 2. Working Module



Fig 5. RFID Reader

IV. ANALYSIS

The following should be consider during

1. Information regarding departing passengers.
2. Information regarding arriving passenger.
3. Location of initial and final tracking point.
4. About the final tracking point which considered for departing passengers only.
5. Information about the antenna.
6. Cost parameter like technology cost, installation cost and operation cost.

V. RESULT & DISCUSSIONS

When the stick fell down we will get an SMS alert to farmer mobile that stick will generate the ultrasonic waves continuously

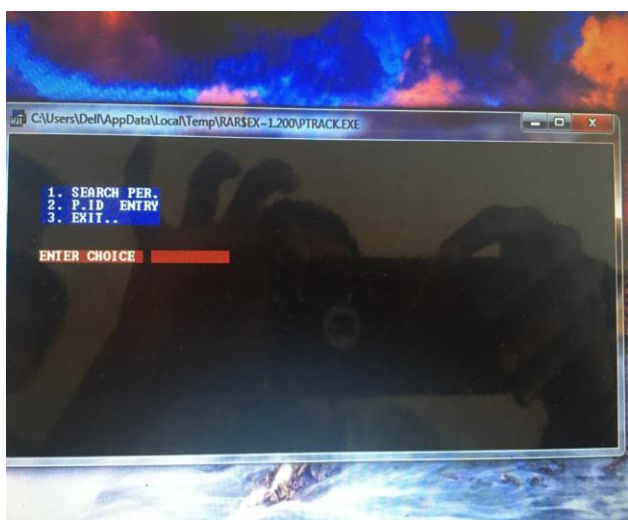


Fig 6. RFID card number to be entered

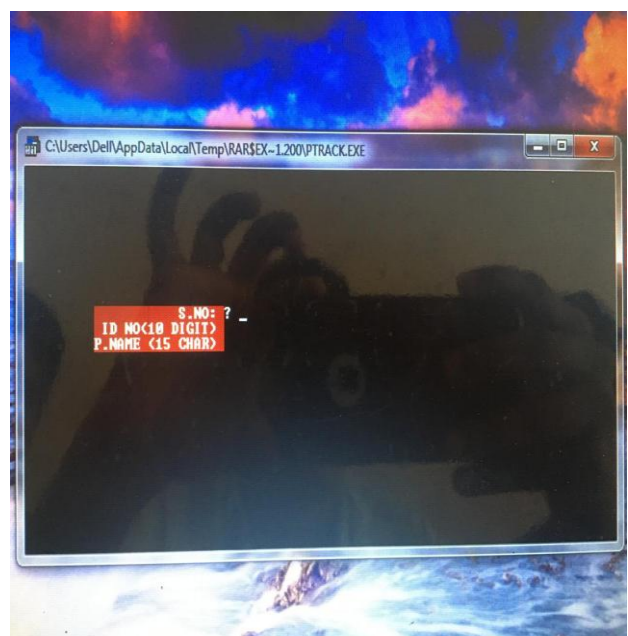


Fig 7. Person named should be entered

Advantages:

- Small instruction set to learn.
- Easy entry level, in-circuit programming plus in-circuit debugging.
- PIC kit units available for less cost.
- Inexpensive Microcontrollers

Disadvantages: RFID proves to be too costly for several applications as compared to other alternatives and identification strategies, like the straight forward barcode. There is a problem for an RFID scanner to read the data in case the tags are made by liquid and metal products. Since these materials reflect radio waves. So we cannot read it properly. Due to this reason the angle of reader has to be changed continuously.

VI. CONCLUSION

In this work, we have exhibited a RFID empowered area following framework dependent on SIP convention. A four layered model is utilized to portray the framework engineering. Additionally it is centered around presentation and dissecting the two primary segments of framework area arranged middleware and area administration area based help (lbs) which give a few advances, for example, GPRS, wifi, Bluetooth.

REFERENCE

1. Valdo henriques and reza alekian, "Mine safety date system using wireless sensor network", IEEE Trans. Ind. Appl., of publication June 16, 2016. safety date system using wireless sensor network", IEEE Trans. Ind. Appl., of publication June 16, 2016.2.
2. Muzaffer Kanaan and Eda Simsek, "On the use of ZigBee technology for coal mine on the use of ZigBee technology for coal mine safety", "IEEE Trans Ind., published in 2016 24th signal processing and communication application conference".3.
3. Miguel Angel Reyes; Thomas Novak, "Injuries surveillance and safety Considerations for large-format lead acid batteries used in mining Applications", 2014 IEEE Ind. Appl., date of conference 27 October, 2014.4.
4. P. Deshpande and M. S. Madankar, "Techniques improving throughput of Wireless sensor network", "A survey in Proc. Int. Conf. Circuit, Power Comput. Technol.", Mar. 2015, pp. 1-5.5.
5. Pan kunkun, Li Xian gong, "Reliability Evaluation of coal mine IOT", IEEE Ind. Appl., date of conference 17-18 October, 2014.6.
6. W. Bing, X. Zhengdong, Z. Yao, and Y. Zhenjiang, "Study on coal mine Safety management system based on hazard, latent danger and emergency Responses" Procedia Eng., vol. 84, pp. 172 177, Nov. 2014.

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