

# School Child Tracker System Using IOT

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**Abstract:-** Recently many cases of missing children between ages 5 and 15 years are reported. Parents always worry about the possibility of kidnapping of their children. So some schools have implemented systems which helps to track the live location of child which travel through school bus. It only tracks the location of school buses and notifies the admin who's at school side. So what about those students who travel individually. Here this paper proposes an Android based solution to aid parents to track their children in real time. Nowadays, most mobile phones are equipped with location services capabilities allowing us to get the device's geographic position in real time. The mobile application use the GPS and SMS services found in Android mobile phones. It allows the parent to get their child's location on a real time map and its marked attendance at school. Also display the attendance of particular student to the teacher. The system consists of two sides teacher side and parent side.

**Keywords:-** Internet of Things (IOT), RFID, Global Positioning System (GPS) location tracking, SMS notification.

## I. INTRODUCTION

Children's security has always been a priority problem whose solution must constantly be improved. Children safety is importance to their parents even if they have most excellent precautions, children, due to their lack of skills to protect themselves. School bus play an essential role in carrying most of children everyday all over the world. While there are several problems that might disturb the parents with respect to the travel of school going kids. This system is especially focused on children's movements from home to school entrance, trying to solve a little part of the school-age children's security problem.

## II. MOTIVATION

The aim of this system is to develop a Safety System which provides the details of entry and exit of the student from school using RFID. The proposed system provides a facility to track the exact location of the child using RFID and GPS in a cost effective way. So this could be implemented even in small scale schools. Such systems must be installed in order to reduce the number of abduction taking place.

## III. PROBLEM DEFINITION

Designing the system for the parents that will help to track their child between home to school vice versa. The system will also make the attendance of the student. The attendance and the location will be notify on Android application to the Parent.

## IV. SCHOOL CHILD TRACKER SYSTEM SOFTWARE AND HARDWARE REQUIREMENT

### ➤ Software Requirement:

- Android Studio
- Arduino ide

### ➤ Hardware Requirement:

- NodeMCU
- RC522 Sensor
- ZX303 PCB
- Node MCU
- ESP8266



Fig 1



Fig 2

**V. SYSTEM DESCRIPTION**

**A. System Design**

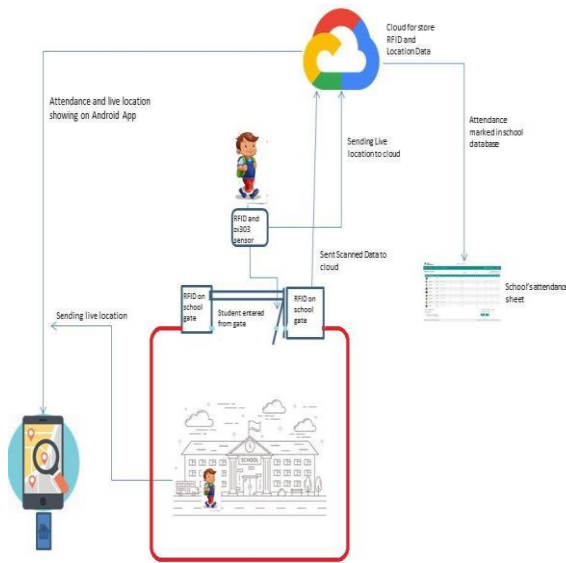


Fig 3



Fig 4:- RFID Scanning

**B. System Architecture**

There are three modules in our system:

- RFID Scanning
- Location Identification through GPS
- Notification

➤ *RFID Scanning*

- The first module is RFID scanning, which will scan the attendance at door step of the school and notify the attendance status to the parent.

➤ *Location Identification through GPS*

- The second module is getting the location of ID card and tracing the current location of the student.
- This will display the current location on the Android phone of the student.
- Only his child location will be displayed to that parent.

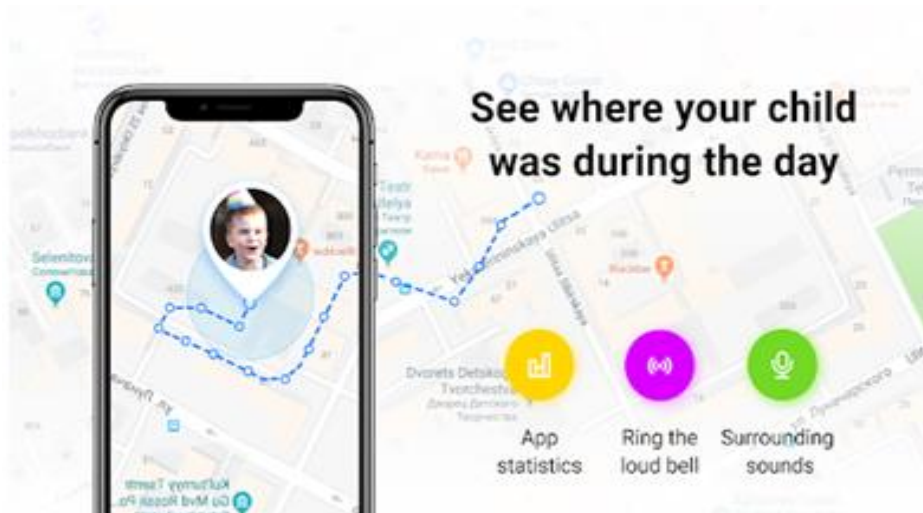


Fig 5:- Location Identification

➤ *Notification*

- Display the attendance of particular student to the teacher.
- This becomes analyzing data easy for the teacher.

- This system is capable of notifying parent through SMS once the child enters/leaves the school.
- Also using this system parents can track the live location of child.



Fig 6:- SMS Notification

➤ *Advantages:*

- System can track live location of individual child.
- System sends the notification to the parent through SMS once the child enters/leaves the school.
- Marks the attendance of child.

## VI. CONCLUSION

This system endeavors the safety of the school children during the daily outing. Using RFID system will detect the child whether reached or not at school. The message will be sent simultaneously to the parents and the School. The details of the child attendance will also be updated in the school database. The GPS is used for live tracking of the child if it goes other than the usual Path and it will display to the parent through android application.

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