

IOT Based Unauthorized Student Travelling Detection

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Abstract - IoT based Unauthorized Student Travelling Detection System is a system for student authentication using biometric which is more user friendly and simple. The existing conventional bus system requires, administrator of bus to manually detect the unauthorized students. Commonly it seems that such system lacks in automation, where a number of problems may arise. The design system consist fingerprint scanner, sensors, OBU (On-Board Unit) and management revenue server. The students will be allowed enrolling their fingerprints, after paying the bus fees. During the entry time when students impress their fingerprints, against the scanner, by using pattern matching algorithm the system compares the new fingerprint patterns and the relation between various points of the fingerprint with the enrollment database. A match is recorded as a knock exercising acquisition, processing, transmission, matching, therefore only authorized students able to enter and exit from the bus. OBU transfers this data to the server and administrator can access this data with the help of mobile application. This system provides valuable facilities for easy record maintenance offered not only to administrator but also to authorized students for getting the updates of the bus locations. Through this automatic system, time and manpower is reduced to the great extent.

Key Words: IOT,GSM,IR Sensor,Arduino Uno,Cloud Fingerprint Sensor.

1.INTRODUCTION

The project aims to produce real time student authentication and detection system for bus based on IoT. The project's features is not only to for authentication Capturing and detection, but also to inform student about bus arrival time and any accident occur it will be inform to the student. As such, the system should automatically collect and analyze information the primary data source for this project. In schools and colleges, students uses bus facility without paying bus fees and sometimes students

miss their bus. So to identify the students using bus facility in unauthorized way and to inform the students about correct arrival timings of bus so that they will be catch the bus. This really motivated us to design and develop IoT based Unauthorized Student Travelling Detection.

2. LITERATURE SURVEY

In this plan Idea are basic and high continuous Zigbee - biometric framework for simple and efficient participation the board utilizing the fingerprints of the workers at any association alongside the representative approaching and active log support. Right off the bat representative's fingerprints are checked by programming and a character number is assigned as their enlistment. Amid the participation time when representatives awe their fingerprints, against the scanner, the framework looks at the new unique mark designs and the association between different focuses in the unique mark with the enlistment database. A match is recorded as a thump practicing obtaining, handling, transmission, coordinating. Through this programmed framework, time and labor is decreased to the extraordinary degree.

In work on validation framework dependent on. In earlier years, as the incessant event of school understudy's transport security mishap, the understudies have genuine physical and mental damage. So as to upgrade the productivity of the understudy's administration, the paper proposes another school transport personality verification framework dependent on RFID for data trade. The whole framework is modified by C language as per the interest of traveler character confirmation. The hardware utilized in the school transport understudy's character verification can verify the personality of understudies or instructors and different travelers to achieve the capacity of work force the executives.

3. PROBLEM STATEMENT

In schools and colleges, students use bus facility without paying bus fees and sometimes students miss their bus. So to identify the students using bus facility in unauthorized way and to inform the students about correct arrival timings of bus so that they will be catch the bus. This really motivated us to design and develop IoT based Unauthorized Student Travelling Detection System.

4. METHODOLOGY

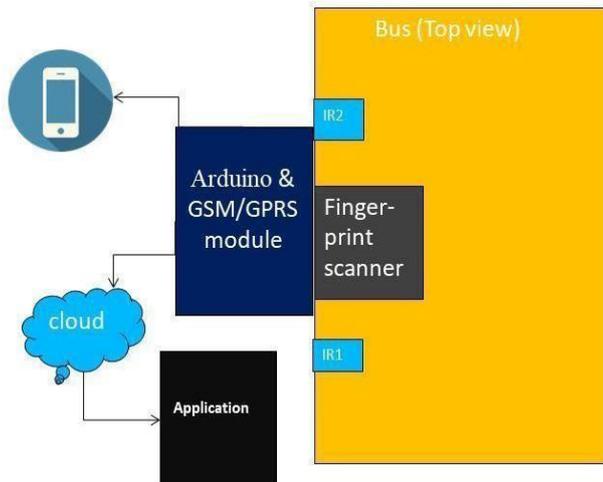


Fig -1: Block Diagram

The following Block diagram aim to clarify the techniques which is used throughout the project. A broad definition will be given the concepts involved in the development of the system: fingerprint matching algorithm, Arduino and IR sensors. Some more, specialized terminology will be explained.

4.1 Fingerprint Scanner

The student will enroll the fingerprint while paying the fees and impress the thumb against scanner while enter into and exit from bus. The fingerprint matching algorithm used to match the student fingerprint and fingerprints into flash memory. If the student is authenticated then alert will off else alert will on.

4.2 Arduino and GPRS/GSM

Arduino to taking input from the fingerprint scanner and sending commands to GSM/GPRS module. GSM/GPRS is used to communicate with the Internet for sending data to the server.

4.3 IR Sensors

IR Sensors are fundamentally electronic gadgets which are utilized to detect the progressions that happen in environment. The change might be in Article, individuals, shading, temperature, dampness, sound, heat and so on. They sense the Article and work in like manner

4.4 FingerPrint Pattern Matching

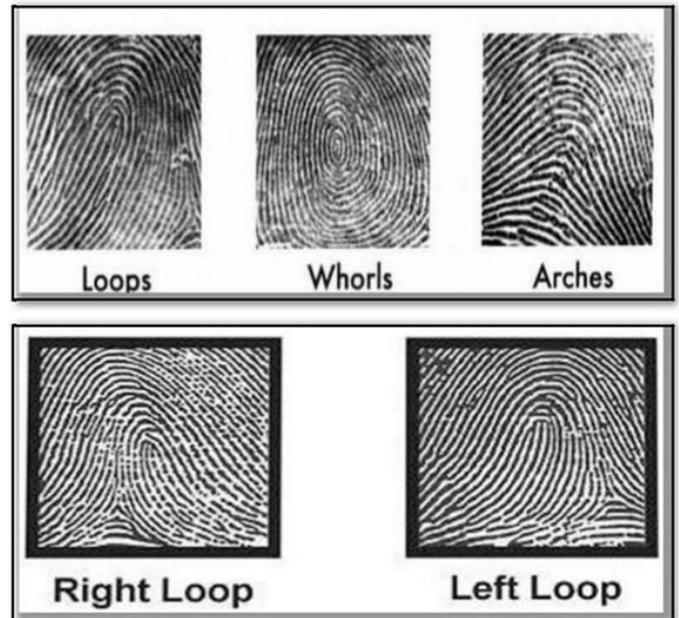


Fig -2: Fingerprint Formats

5. CONCLUSIONS

IoT based unauthorized student detection travelling system is mainly consist fingerprint scanner, sensors, OBU (On-Board Unit) System achieves a satisfactory result on the aspect of function, which includes verification, query and other functions. The device is applied in the intelligent transportation management system of the college bus, which can effectively avoid the malignant events occurring in the middle students.

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