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RFID Based Public Transport Ticketing System

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Abstract: Nowadays public transport systems like metro are well advanced. The need to improve passenger safety, convenience and performance of existing public transport is increasing the demand for intelligent transportation systems in the market. The paper-based ticketing system for collecting bus fares has been considered the source of major financial losses in India. It is difficult to assure every passenger to buy a ticket. A paper ticket becomes useless for passengers upon reaching the destination. The number of untold tickets per day is very high. In the era of technology, India should focus on developing an automated system to collect bus fares. Therefore, this paper proposes an automated card operated system using RFID and GPS for bus travel in India.

I. INTRODUCTION

Today, everything in the world is smart and digital. Many advances have also been made in the transport sector. However, public transport buses in India have always been an area where such new developments have changed their faces. Work for public transport is one of the areas of intelligent vehicle research. Every bus is controlled by a conductor. The conductor will collect money from each passenger and issue a ticket. To overcome this, we will create an IOT based ticketing system. The purpose of this project is to calculate the passenger using the IR sensor and automatically calculate the distance traveled by the passenger using the GPS sensor, and the corresponding amount is debited from the RFID card.

II. LITERATURE SURVEY

In general, every bus is controlled by a conductor. The conductor will collect money from each passenger and issue a ticket. Initially, printed papers or tokens are used as tickets. Nowadays hand-operated machines are used to print tickets. This system has several disadvantages. The passenger has to carry the ticket till it reaches its stop, the conductor must ensure that everyone has got the ticket, the time taken for ticketing is comparatively high and the need for more paper to print the ticket is. For example, if a passenger wants to travel in a bus. He has to take money with them. Then the conductor will collect the money and he will give the ticket. All passengers have to repeat for this. This will lead to more time and waste along with human resources and energy. The data relates to an AFC system integrated with an automated vehicle location system that records a transaction Each passenger to board the bus, with characteristics about the route, vehicle, and travel card along with the time and place in which the journey began. Some of these have been recorded for the purpose of allowing on board ticket inspection, but in addition enable innovative spatial verification features introduced by the methodology.

Internet of Things in Automatic Fare Collection

An automated fare collection system (AFC) is a basic station equipment consisting of an automated gate machine, a ticket vending machine, and a ticket checking machine. In this application, a stable and integrated platform is essential to smooth passenger flow in peak hours; At the same time, all data will be collected and transmitted to the server.

B. RFID-based automatic bus ticketing In recent progress, various technologies have made remarkable development in various fields for public welfare and public transport is one such area [6] - [9]. RF modules will gain the spotlight due to the near and higher mileage of future public transport bus systems with advanced technologies such as Radio Frequency Identification Devices (RFID)

III. MODULE IDENTIFICATION

The project can be used by bus passengers who are traveling in the city. The apprentice can view daily ticket transactions. The RFID card is given to the passenger and when the passenger gets into the bus, he / she has to swipe the card in the RFID reader and also swipe to the destination point in the device.

The purpose of this project is to calculate the passenger using the IR sensor and automatically calculate the distance traveled by the passenger using the GPS sensor, and the corresponding amount is debited from the RFID card.
To avoid paper base ticketing system
No conductor interference
Ticket history will be stored in database
Transaction count will be automated

1. Swipe the RFID card on receipt of the passenger
2. Store GPS location in Swipe
3. Send SMS to traveler with GPS location
4. The passenger swipes the RFID as soon as he reaches the destination
5. Calculate the distance from step 2
6. Deduct money

IV. MODULE DESCRIPTION

• The bus is used by regular bus passengers to make frequent intercity travel trips at a profitable cost compared to daily bus fares.
• Bus ticketing is done manually with no computerized user detail record.
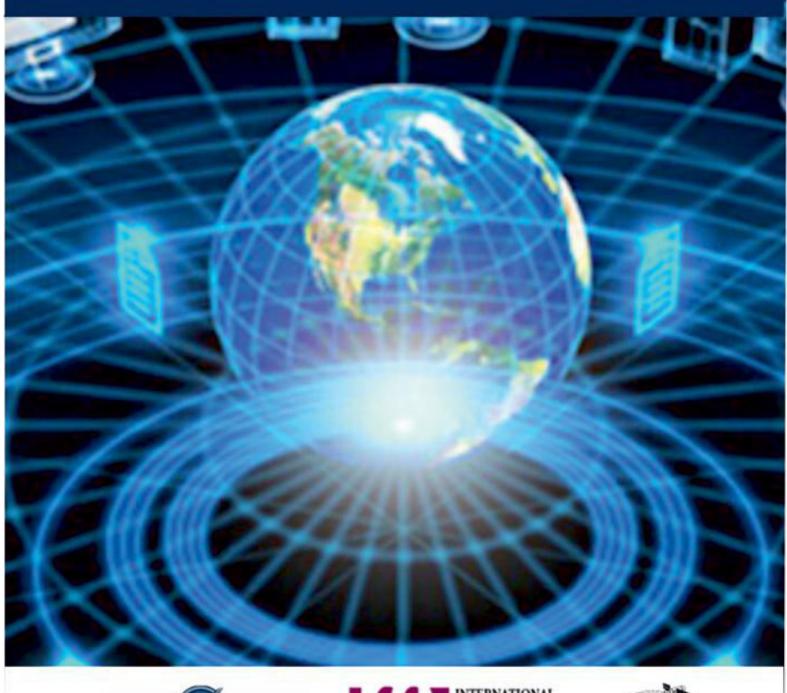To overcome this, we have decided on our project topic
• Every bus is controlled by a conductor. The conductor will collect money from each passenger and issue a ticket. To overcome this, we will create IOT based ticketing system
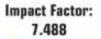
V. CONCLUSION

The project will be presented as a fully automated, reliable, transparent and convenient system for ticketing.
RFID cards can be reusable, much more convenient than paper-based ticketing systems.

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