

SMART PUBLIC BUS TRANSPORT SYSTEM

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Abstract— Prior work has shown that when traveling in a bus the payment done for ticket is by cash .The bus ticket has such a payment figure which makes the traveler or the conductor short of money in terms of change. This makes the conductor to keep the change with himself .This creates inconvenience to the travelers. Hence there is a need for better work environment. To overcome this problem we are making use of fingerprints of the traveler which are linked to the database. The registration process will take all the details of the user when traveling for the first time. The account is created with some e-money in it .While traveling user has to give his fingerprint and pay the money for ticket through his account automatically .This overcomes the user inconvenience. This system also provide accident detection this improves the better recovery and reduce the causality rate in an accident. Automated announcement system in bus depot is an attractive feature of this system this system uses rfidtags and readers for the detection of buses which are entering in the depot.

Keyword—IoT,DB, RFID, KSRTC

I. INTRODUCTION

This project deals with the implementation of an intelligent bus ticketing system based on current challenges and problems. Today's transportation system is a hectic for people living in fast running world. Transportation system needs to be smart enough to provide smart service to every individual. The current scenario in bus transport is very irritating, as there is shortage of money either with the conductor or the traveler. It is an issue that is arising nowadays to give a change to buy a ticket, this project will overcome that issue and make the traveler travel with his e-money. In this system, There are using MATLAB program for collection of data called enrolment processes, processing of predefined input and for the DB connections in the hardware portion are using Arduino uno, gsm module and other sensors. Each finger print id have their own account detail this details where accessed when giving an matched input to the system otherwise system shows transaction error. IoT. In simple terms, Internet of Things (IoT) can be defined as the wireless network of devices which are connected to each other to share information and data in order to communicate and produce new information so as to record and analyse it for future use. In our project, using the concept of IoT to handle the enrolment system programed by MATLAB.

II.PROPOSED SYSTEM

The project goes with smart city concept. The smart device which will permit the travelers to travel anywhere in a bus by using e-money. It is an issue that is arising nowadays to give a change to buy a ticket, this project will overcome that issue and make the traveler travel with his e-money. In this system, using MATLAB program for collection of data called enrolment processes, processing of predefined input and for the DB connections in the hardware portion are using Arduino uno, gsm module and other sensors. Each finger print id have their own account detail this details where accessed when giving an matched input to the system otherwise system shows transaction error. IoT. In simple terms, Internet of Things (IoT) can be defined as the wireless network of devices which are connected to each other to share information and data in order to communicate and produce new information so as to record and analyse it for future use. In this are using the concept of IoT to handle the enrolment system programed by MATLAB

The radio frequency identification (RFID). RFID is used to identify the bus which are entering into the bus depot by accessing unique id, details of the bus where displayed and announced using display system and announcement system in the depot. This system provides an advanced accident detection method by using impact sensors the system detects accidents and send notification through the gsm module to the depot for the assistance. In whole sense the system pushes the existing system to smart versproviding smart ticketing, surveillance and safety facilities. This project can be divided into two parts:

A.SYSTEM IN KSRTC BUS

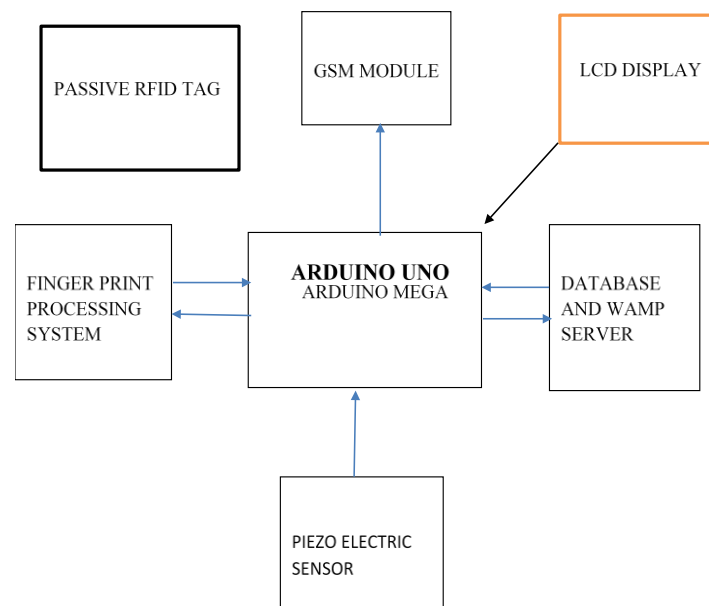


Fig.1 System in KSTRC Bus

The system in bus is the finger print section and accident detection. Finger print processing system access the finger print and process it using matlab program.

The matlabprogram generate a unique decimal code for each finger print. The system will check for the match of the code on the database. It match is found full details of the pre-enrolled account will accessed by aurduino.Conductor deducting the fair from the account and full details displayed on the lcd screen. If the transaction is successfully and data will be updated with new details and new balance of the account will be send to the account holder mobile number using gsm module.

Piezo electric sensor fitted on the body of the bus is used to detect the accidents. If the vibration or impact is over in pre defined level it sends a high signal to aurduino.Anarduino is programmed in such way that to send alert message to the depot using gsm module.

The purpose of the passive tag fitted on the bus is to produce a unique id for each bus.Rfid reader fitted on the depot triggers when the passive tag reaches the accessible distance.

B.SYSTEM IN BUS DEPOT

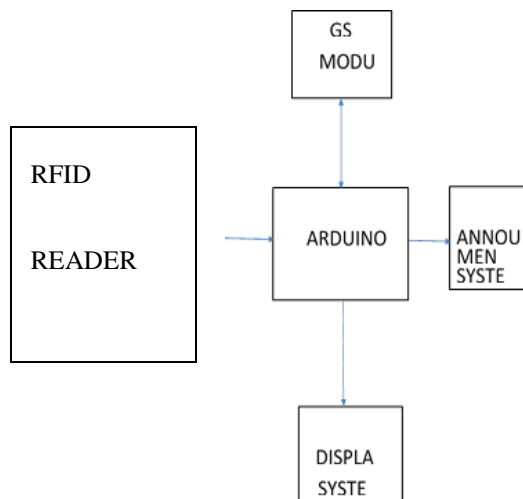


Fig .2 System in KSRTC bus depot

The system in bus depot is the announcement section and bus detection. Arduino is the central system in depot and it controls gsm, rfid, announcement and display unit. Main function of the system are bus detection, announcement system, display system and accident alert system.

When bus enter the depot the rfid reader fitted on the bus depot will be triggered by passive rfid tag fitted on the body of the bus. Each bus have a unique id tag details of the bus is detected from the tag id then the arduino transfers this details to the announcement system module. This module include speaker and sd card module and same data will be transferred to the display unit.

Gsm module in the depot is used to receive the accident alert message from the bus while it receives alert message buzzer and display system synchronizing activated and gives proper alert to the depot authority.

III.RESULTS

The project improved the ticketing efficiency in KSRTC. This smart system efficiently handled the problem due to changes in transaction this system will be a breakthrough for the emerging plastic money concept and efficiency of the ticketing system is improved and successfully obtained the expected result.

IV.CONCLUSION

Smart KSRTC using IoT is our project mainly targeting the problem of ticketing system existing. It smartly improves the efficiency of the ticketing system. Finger print based account management will be a great leap to our emerging plastic money or e-money concept. This project will be a boon for the society as well as the employees in the concerned department. This project provides efficient and fast ticketing money management, multiple access of single account.

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