

RFID based smart master card for bus train Metro ticketing

Abstract

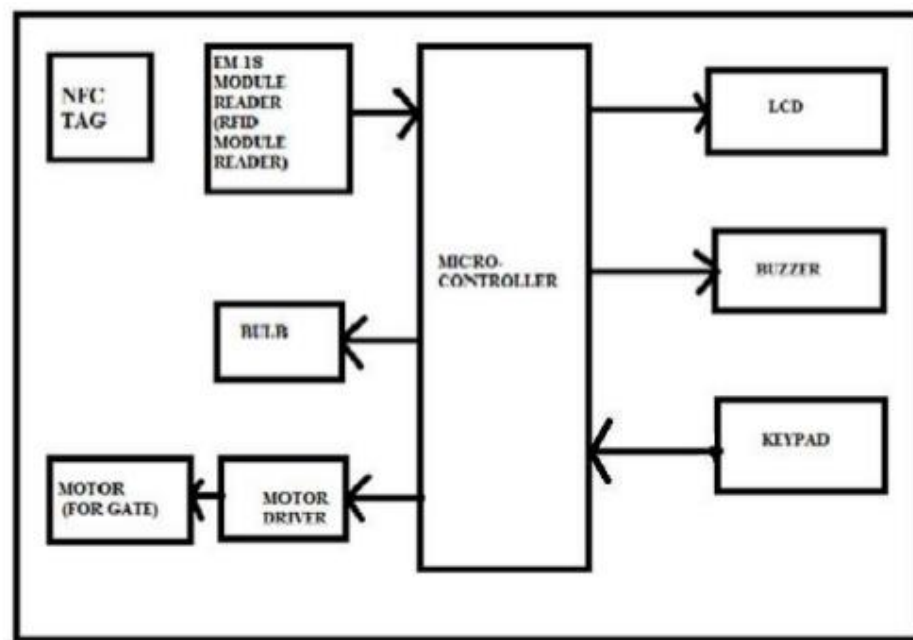
In this paper, RFID based ticketing system aims at providing comfort, tension free and easy way of travelling and also to reduce the man power. In this automated system, we replace the traditional ticket system by smart card that contains all details of the user including bank account information. This is similar to the ATM card. If the people confirm to go in certain bus, by using smart card the person can receive the tickets employing RFID technique and by showing the ticket in front of the bus the door opens automatically and after some predetermined seconds it gets closed. By using LCD display we can be know about the count of passengers inside the bus and free spaces. If the passengers count exceeding the limit, bus can't be move from that place. Voice talking GPS proposed in the transport make the passenger to identify their departing location.

Introduction

Modern cities of today have developed multiple means of communication including Buses, trains, metros and private vehicles. Now each transport system has their own smart card and it becomes a hectic process for users to manage separate smart cards for every transport medium. Thus we propose a smart master card approach that integrates all these systems together and allows for a single master card and a centralized system for all transportation mediums. To demonstrate this concept we use three RFID scanners to demonstrate as bus train and metro train smart card scanners respectively. Now we use three smart cards that work particularly on

each of the systems viz one RFID card for bus, one for train and one for metro respectively. Now we also provide one more card that is the master smart card that can work on all three scanners thus making it very easy for the user to use any transport as desired using the same card. The system also allows for source and destination selection and based on that deducts particular amount from the user master card.

Block diagram



Component

- **Hardware Specifications**
 - Microcontroller
 - RFID Module & Cards
 - Buzzer
 - LCD Display
 - Crystal Oscillator
 - Resistors

- Capacitors
- Transistors
- Cables and Connectors
- Diodes
- PCB and Breadboards
- LED
- Transformer/Adapter
- Push Buttons
- Switch
- IC
- IC Sockets
- **Software Specifications**
- MC Programming Language: C

Advantage

The service therefore vanishes the need of waiting at the bus stop and hence it saves lot of time. For the passengers not utilizing the service, to let them know the buses location coming towards that stop, displays are installed at every Bus stop. The system is also efficient and beneficial in handling an error and the emergency situations