

MOBILE TICKETING SYSTEM FOR AUTOMATIC FARE COLLECTION MODEL FOR PUBLIC TRANSPORT

ABSTRACT

An embedded system is a dedicated computer system designed for one or two specific functions. This system is embedded as a part of a complete device system that includes hardware, such as electrical and mechanical components. The embedded system is unlike the general-purpose computer, which is engineered to manage a wide range of processing tasks. Because an embedded system is engineered to perform certain tasks only, design engineers may optimize size, cost, power consumption, reliability and performance. Embedded systems are typically produced on broad scales and share functionalities across a variety of environments and applications.

Embedded systems are managed by single or multiple processing cores in the form of microcontrollers or digital signal processors (DSP), field-programmable gate arrays (FPGA), application-specific integrated circuits (ASIC) and gate arrays. These processing components are integrated with components dedicated to handling electric and/or mechanical interfacing. An embedded system's key feature is dedication to specific functions that typically require strong general-purpose processors. For example, router and switch systems are embedded systems, whereas a general-purpose computer uses a proper OS for routing functionality. However, embedded routers function more efficiently than OS-based computers for routing functionalities.

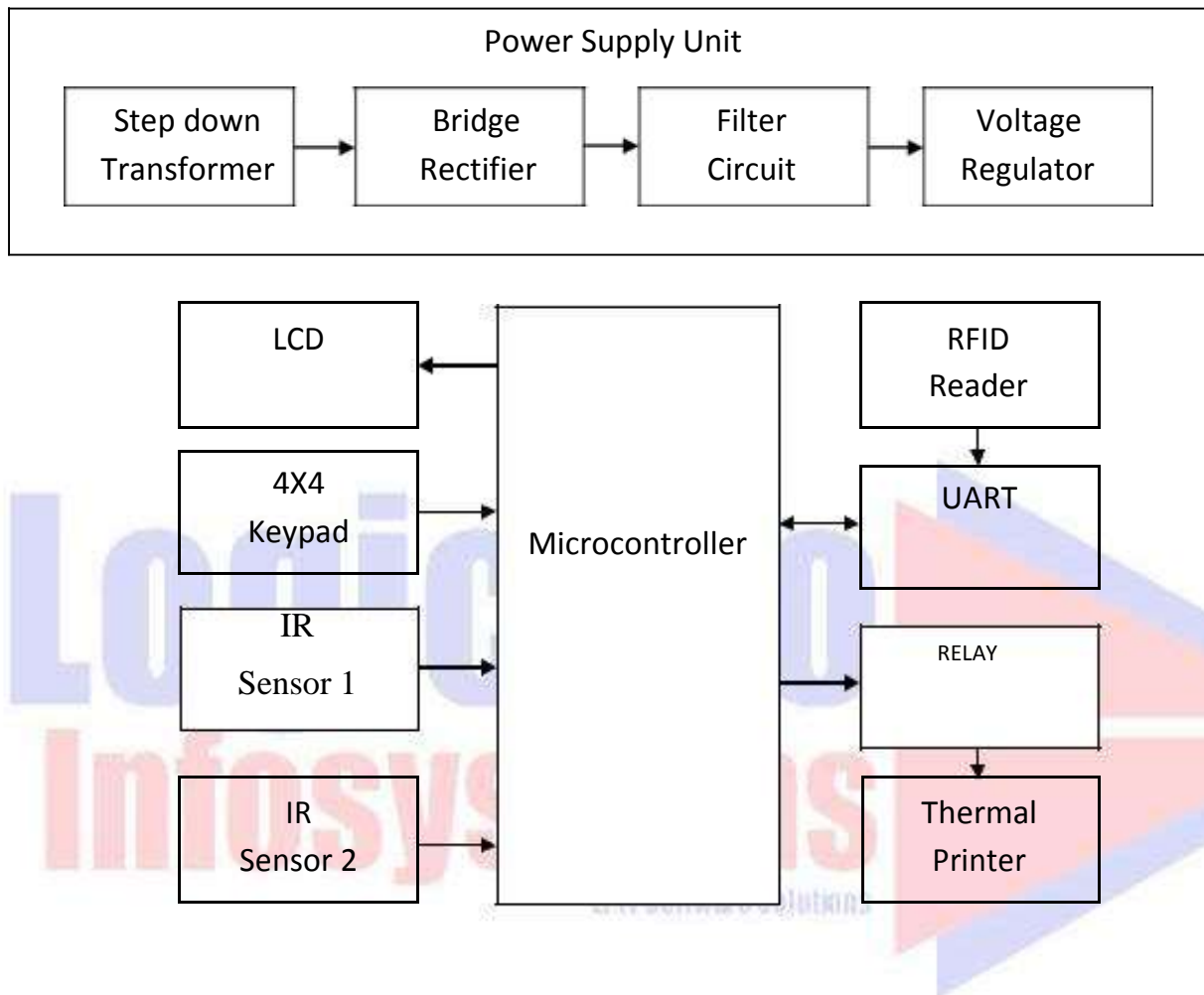
The ticketing system of public transport system is mainly manual and in some areas semi-automatic which is tedious, stressful and involves a lot of time, effort & manpower. Besides, this is highly inadequate to handle the humongous commuter volume. The traveler has to spend lots of time in queue for buying tickets, tokens and smart cards as well as recharging the smart card specifically during peaks hours. To get rid of this hurdle we are proposing a Mobile ticketing model for public transport system.

In this paper we are using the Cell phone (Mobile) of a commuter. The Mobile Ticketing model comprises of a registered mobile subscription either Prepaid or postpaid for the traveler's identity by scanning mobile phone number at the entrance/exit of the vehicle or stations and deducting the fare from the Mobile number immediately in case of prepaid connection and sending the information to the service provider of the Mobile connection in case of post paid mobile connection.

PROPOSED SYSTEM

Here we are going to see mobile ticketing system for automatic fare collection. With the help of keypad in front of the bus door, we will type the destination name so that it processes the rate and will show in LCD display. With the help of RFID card reader it detects the fare of the ticket and Thermal printer will print the ticket. While entering inside we are keeping two IR sensors, so that it will sense number of persons going inside, leaving outside and by subtracting both we will get number of persons in the bus.

BLOCK DIAGRAM:



HARDWARE REQUIREMENTS:

Microcontroller
UART
RFID
Relay
Thermal Printer
IR Sensor



4X4 Keypad

LCD

Power supply unit

SOFTWARE REQUIREMENTS

MCU COMPIERS

PROTEUS SOFTWARE

MICROCONTROLLER may ATMEGA,8051,PIC OR Arduino

