

AUTOMATIC TICKET VENDING MACHINE FOR MODERN TRANSPORT SYSTEM

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ABSTRACT

This research paper is based on the concept of automatic ticket vending machine by using RFID and RTC technique. We employ this ticket friend solution that replaces the conventional paper ticketing by RFID tickets and vouchers, vended throughout automated machine using smart cards, which improves the convenience and security of transaction. Ticket friend solution through automated machine enables the customer to predetermine the transportation details. In this automatic system we change the conventional ticket system by smart card that contains all details of the client including bank account information which is comparable to the ATM card. This automatic ticket vending machine consists of display which shows the accessibility of buses for all destinations. The person can find out the destination place by imperative the buttons presented on that machine with the help of keypad. If the location is selected then the ease of use of buses along with the time is displayed. By using this we can decrease manpower in buses and ticket counters, predetermining of the bus can be complete to find the destination accurately.

Keyword GSM, RFID, SMART CARD etc....

1.INTRODUCTION:-

This project is based on the idea of automatic ticket vending machine by using pc, RFID Reader technique. Ticket friend mechanism employed in automatic ticket vending machine consists of ARM7, PC. This machine is utilized in bus stand or bus stops. In the bus LCD displays next bus stop and the destination ..In order to guarantee the traveler journey with no quarrels Module and BUS- Station Module. after bus leaves from BASE Station, the RFID tag at BUS-Station is read by the RFID reader into the In-Bus Module as well as the tag data is subsequently sent toward BASE-Station via GSM. By using the signals commencing ARM7, GSM modem is used to send correct RFID tag data to the BASE-Station.

2. Literature review:- A review indicated to facilitate passengers would like to create payment for their public transfer trips in the subsequent different traditions

- On board purchase (no change given).
- Purchase ticket from cellular phone phones via

small Message Service (SMS). Keeping in view of the above literature review, it is plain that there is a must to increase a tough, fool proof ticketing system which can decrease the trouble on the ticket dispenser

and also reduce the usage of paper. Location based ticketing is a new service for public transport consumers to achieve a valid receipt by using their cell phone. To employ this service consumers have to be registered at the service supplier (contractor) Bohmeet presents a conception that combines both ideas of mobile ticketing and location-based services to location based ticketing. Location based ticketing is a new service for public transport customers to obtain a valid ticket by using their mobile phone. To use this service customers have to be registered at the service provider (contractor). Another part of this process is the registration of an identification medium, i.e. the German Bahm Card, needed for ticket validation

2. BLOCK DIAGRAM

2.1 Description of block diagram

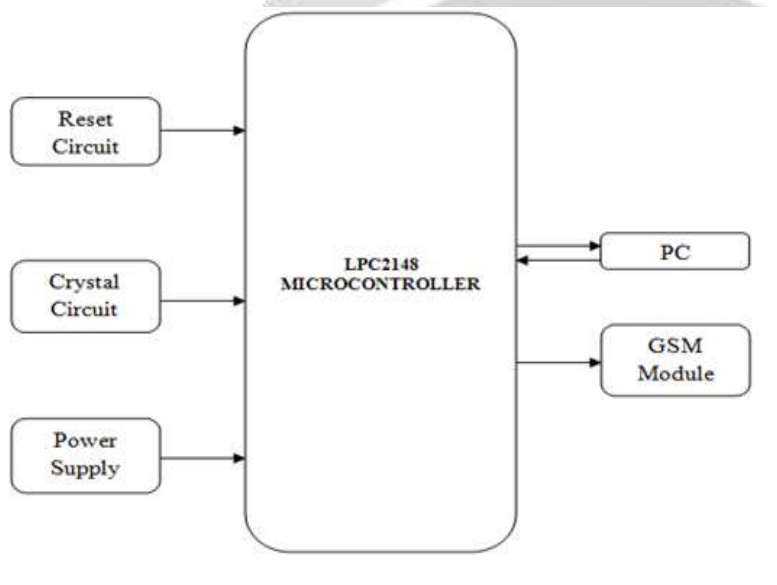


Fig 1 :: bus station module

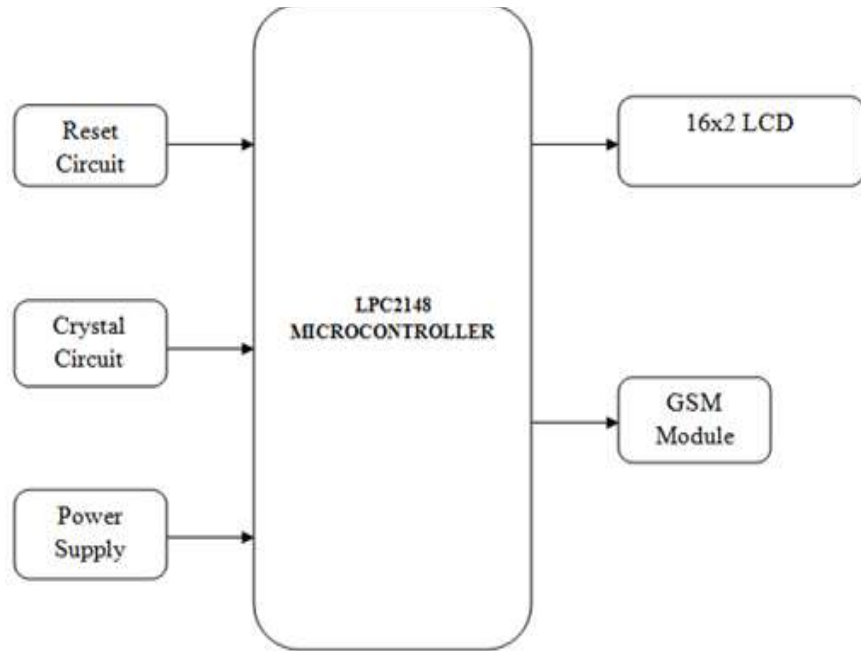


Fig 2:In bus module

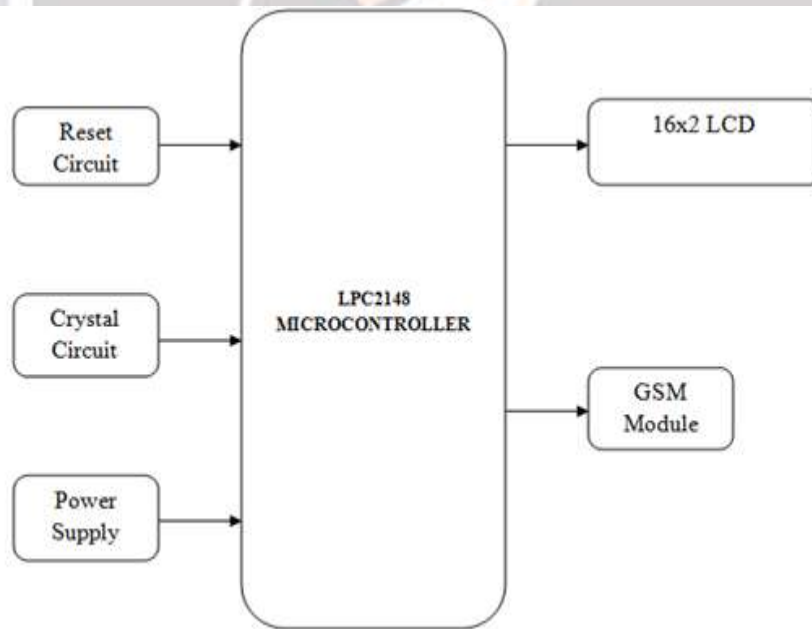


Fig3: In bus stand module

MICROCONTROLLER: ARM 7: The ARM7 family includes the ARM7TDMI, ARM7TDMI-S, ARM720T and ARM7EJ-S processors. The ARM7TDMI core is the industry's most widely used 32-bit embedded RISC microprocessor solution. Optimized for cost and power-sensitive applications, the ARM7TDMI solution provides the small power consumption, small size, and high performance needed in portable, embedded applications. The ARM7TDMI core uses a three-stage pipeline to increase the flow of instructions to the processor. This allows multiple simultaneous operations to take place and continuous operation of the processing and memory systems. The ARM7TDMI core has seven modes of operation: User mode is the usual program execution state Interrupt (IRQ) mode is used for all-purpose disrupt management superior type is a confined mode for the operating system Abort mode is entered after a data or instruction pre fetch abort System mode is a privileged user mode for the operating system. System mode is a privileged user mode for the operating system

MAX 232:MAX232 is compatible with RS-232 standard, have double transceiver. Each receiver converts TIA/EIA-232-E levels into TTL/CMOS levels. Each driver converts TTL/CMOS levels into TIA/EIA-232-E levels. The MAX232 is characterize for process from -40°C to +85°C for all packages.MAX3232 is purposed for application in high-presentation information processing systems with control procedure of wide application

LCD Display:

LCD MODULE (2X 16 CHARACTERS) Dot matrix LCD modules is use for display the parameters as well as fault situation.16 characters 2 lines display is use. It has controller which interface data's and LCD panel. Liquid crystal displays (LCD's) have resources, which mix the properties of both liquids and crystalsThe light rays passing through the LCD would be rotated by the polarizes, which would result inactivating /highlighting the desired characters.



Fig4: lcd diagram

Voice Recorder:The voice recorder API33A3 is utilize In bus model like a tacking model .For bus attain at destination place

SIM 900 GSM module: Featuring associate industry-standard interface, the SIM900A deliversGSM/GPRS900/1800MHzperformanceforvoice,SMS, Data, and Fax in an exceedinglylittlekindissue and with low power consumption. With a small configuration, SIM900A wil l fit the majority the areanecessities in your applications, especially for slender and compact demand of style. management via AT commands (GSM 07.07, 07.05 and SIMCOM increasedAT Commands) SIM application toolkit •internal provide voltage range: three.2 ... 4.8V External provide voltage range: nine ... 12V DC Low power consumptionone.0mA(sleepmode&BSPA-MFRMS=9).Operationtemperature:-40°Cto+8°CPassive RFID is of interest as a result of the tags don't need batteries or maintenance. The tags even haveassociate indefinite operational life and square measuresufficientlylittleto suit into a practical adhesive label

. RFID READER & TAG:

This is a small frequency (125 KHz) RFID reader with serial output with a range of 8-12cm. It is a compact unit with built in antenna and can be directly connected to the PC using RS232 protocol

2.2 Working:

In fig-1 base station module we have a tendency to1st decide destination place mistreatment laptop. All the destination places and time can the computer. Get message of price tagon cellular phone through GSM. In fig-2 In bus system is utilized in bus that consists of 16X2 showLCDdigital display alphanumeric display} display, RFID

reader, GSM module and ARM7. The show gift in the bus displays the name of the placement they're in and also consecutive location.. Once bus reaches the exacting location, scanner can read the tag and send message to the other station giving data concerning current location. In fig-3 Bus stand module primarily operates in receiving module and receives messages sent by in bus module. showthe precise location of the bus on alphameric display Manyvarieties of RFID exist, however at the best level, wecan divide RFID devices into 2 classes: active and passive. Active tags involve an influencesupply connected to a steam-powered infrastructure or use energy stored in AN integrated battery. within the latter case, lifetimes' proscribed by the hold on energy, balanced against the number of scan operations the device shouldexpertise. One example of a full of life tag is that theelectricaldeviceconnectedto AN craft that identifies its national origin. Anotherexample may be a Lo Jack device connected to aautomotive, which incorporates cellular technology and a GPStoascertainthe automotiveif taken. However, batteries createthe price, size, and life-time of active tags not possible for the retail trade

3. Algorithm:

A. In bus station module

1. Select the destination place using PC.
2. Enter User ID
3. Check the account of passenger by RFID.
4. If balance is available then give the ticket message on mobile through GSM.

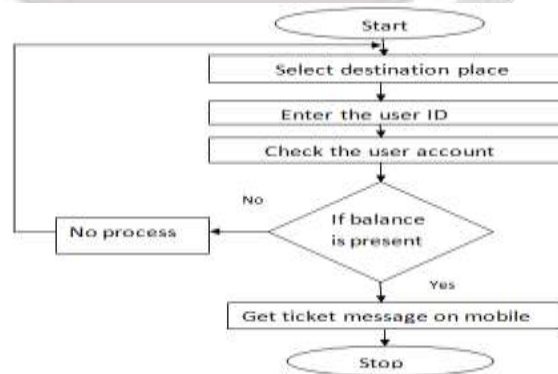
B. In bus module:

1. Initialize the module
2. Read the location of bus by RFID reader from RFID tag of bus stop.
3. Send the message of bus location to next bus stand module by GSM

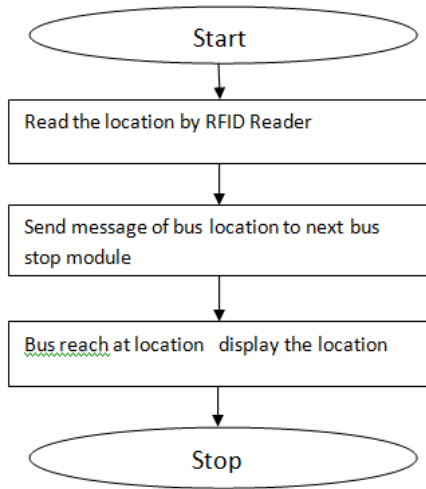
C. Bus stop module:

1. Initialize module
2. module Received the requested data by GSM.
3. GSM module requested for bus location to in bus Display the location of bus on LCD

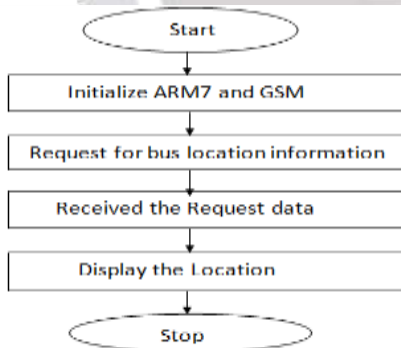
4. Flowchart:- flowchart in bus station module:-



Flowchart in bus module:



Flowchart in bus stand module:-

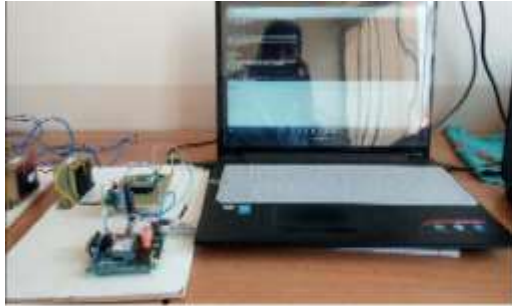


5.Applications:

For automatic ticket vending in government bus stop. Also for automatic ticket vending at private travel agencies.

6.RESULT

1.ATVM



2.IN BUS MODULE



3 .BUS STAND MODULE



7. Conclusion:-

In accordance with things of the general public transport management system at the present, we tend to style a brand new intelligent bus management system by exploitation RFID technology and GSM technology. Cost effective SMS service of GSM electronic equipment is employed for the transfer of knowledge between the modules within the project

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