

SMART CARD BASED AUTOMATED PARKING SYSTEM

AIM:

The main aim of this project is to provide automated car parking system using smart card.

ABSTRACT:

Smart card based automated parking system embedded system project explains about new technique for solving parking problems and provide easy method of parking. In present scenario people are not interested to take their cars to public places like shopping malls, gardens because time taken for parking procedure is late. This project will consider present parking system issues and develop advanced parking system.

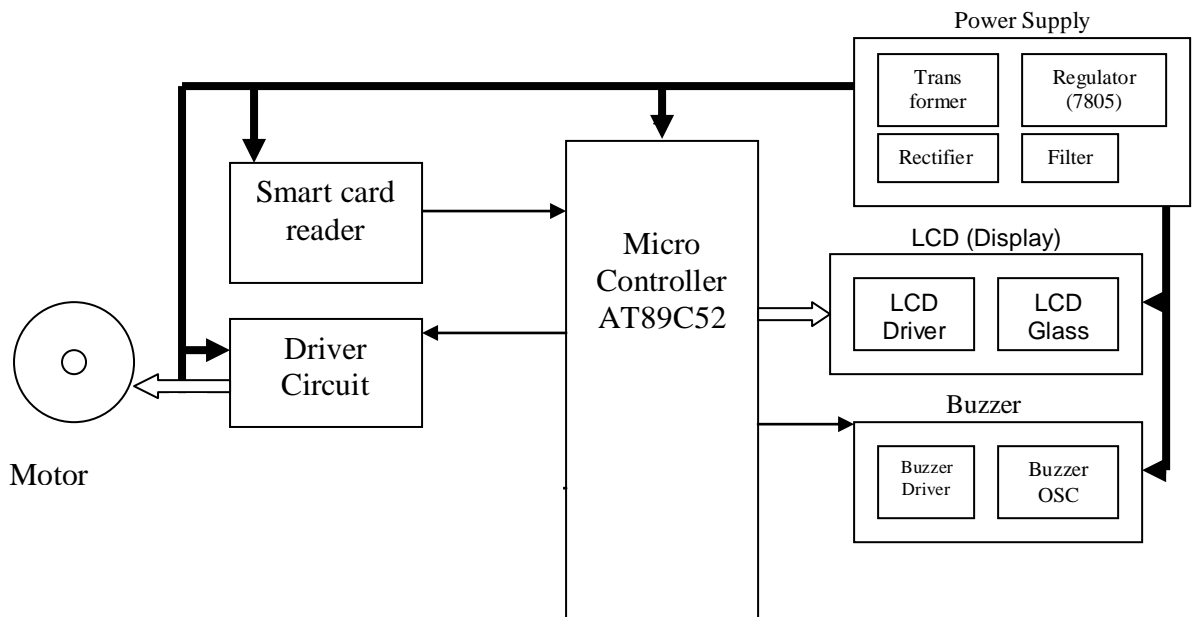
In this new method users are provided with smart card while entering in to parking gate, and users will use this card for check in and check out of there vehicle. This application is integrated with messaging feature where users will receive message about parking space availability. This card can be used only for one time for next time he/she need to buy another card and this card can be used until amount in the card is completed.

WORKING PRINCIPLE:

By paying the amount a smart card is given to the owner of the vehicle & the amount is stored in the database using VB software.

If the person wants to park his/her two or four wheeler he/she has to insert the Smart card in the card reader slot, the microcontroller is programmed in such a way that when the card is detected microcontroller will start the I2C communication to communicate with the smart card. The micro controller reads the amount from card & sends the data to the controller through serial port. The controller checks with the database for balance amount & for authorization if the card is valid and the amount present is sufficient, and then sends the permission to the micro controller to open the gate. If not permitted it will display "ACCESS DENIED" with buzzer sound.

BLOCK DIAGRAM:



COMPONENTS USED:

- ❖ Power Supply
- ❖ Microcontroller - AT89C52Atmel
- ❖ Buzzer - Iron Make Switch. Freq-1 to 18khz.Volt-5v-12vDC
- ❖ LCD - Liquid Crystal Display 2x16
- ❖ Buzzer - Freq-1 to 18khz.Volt-5v-12vDC
- ❖ Max 232 - serial communication
- ❖ Stepper motor
- ❖ Smart card Reader

SOFTWARE USED:

- ❖ Pro-load
- ❖ Keil uVision3
- ❖ Embedded C

APPLICATIONS OF THIS PROJECT:

- ❖ movie theatre
- ❖ shopping centers and hospitals