**SMART CARD BASED AUTOMATIC CAR PARKING SYSTEM**

**ABSTRACT**

Smart card based car parking uses a microcontroller along with sensing circuits monitoring entry and exit of cars. The car owners are allowed an entry only when their Smart card is swiped .The amount in the card automatically gets reduced with a display indication besides indicating the available number of parking. For loading the amount 2 push buttons are used SW1 for Rs500 and SW2 for 300.Example is shown for 2 cards but it can be extended to many numbers. An H-bridge arrangement operates the entry and exit boom motors operating clockwise and anticlockwise for opening and closing. A buzzer sound comes while the card is swiped. Upon every entry of a car the parking availability gets reduced by one number while every exit the number increases. A standard power supply is used. A seven segment display displays the status. A switch is used in place of Smart card for minimizing the project cost.

**BLOCK DIAGRAM:**

 **16x2 LCD**

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**BATTRY**

**RECHARGE SWITCH**

**8051**

**Microcontroller**

**MOTOR**

**BUZZER**

**SENSOR 1**

**SMART CARD**

**SWITCHES**

**SENSOR 1**

**HARDWARE REQUIREMENTS:**

8051 Microcontroller, LCD, LED, Crystal, Resistors, Capacitors, Diodes, Transformer, Voltage Regulator. Smart card, DC Motor

**SOFTWARE REQUIREMENTS:**

Kiel compiler

 Language: Embedded C or Assembly