



# SBIT

ENGINEERING TOMORROW

Shri Balwant Institute of Technology

NCR Delhi, Sonapat  
Approved by AICTE, Min. of HRD, Govt. of India and DTE, Govt. of Haryana  
Affiliated to DCR University of Science & Technology, Murthal, Sonapat



## SB Centre of Excellence



SBIT students have come with one of the latest developments in field of Science and Technology, **the Automatic Car Parking System**. Rahul Mehra, Rahul Jain, Anuj Kumar and Yash Vardhan, all fourth year Electronics and Communications Engineering students at the Institute have developed a **car parking system with an inherent lift system**.

Both these systems combine together to form a smart and easy parking system. This system consists of **microcontroller AT89S52** that is the best in the market from viewpoint of **cost as well as reliability**. Basically Automatic Car Parking System works on the principle of keeping track of "First come first served". When a car enters the gate the first sensor is actuated which sends signal to the microcontroller that a car has entered. There is an **LDR (light Dependent Resistor)** placed inside the lift that detects the car. Then there is priority allotted to each and every floor. This priority is checked using comparison operator in **C language programming** done at back end. The uttermost priority is given to the first floor as it is near and saves energy. Sequentially priority is given to 2nd and 3rd floors. The car at each floor is detected using LDR sensor. No IR sensors are used, It's little factual that most of our cars are black and white so the IR radiations will be either absorbed or reflected so no use of IR sensors thus LDR is the best. For humans the most important mode of communication is through the eyes, so keeping this in mind LCD displays all the information i.e. where the car is being parked or what the system is going through right now.

Another parking system developed was a **Multi Car Parking System**. It is a semi automatic system. When the car is at the ground floor it has two choices either to go at the first floor or at the second floor. The LCD provided at the ground floor shows how many cars are parked at each floor. Hence you can park anywhere you want and still can track all the cars. The system is composed of 6 sensors (mainly IR sensors are used). IR sensors are the infra red sensors which have two components a transmitter and a receiver. Both are confronting each other such that a constant voltage is supplied to the microcontroller. As such when the car cuts the line of sight or the IR connection the voltage given by the sensors changes and the microcontroller detects the change and changes the count.

## Solution to Car Parking developed by SBITians

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