Project Name: Automatic Car Parking Counter With 7 Segment Display

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Sensor list:

S.No	Name	Quantity
1.	Ultrasonic sensor	2

Instrument:

S.No	Name	Quantity
1.	8051 series Microcontroller	1
2.	Arduino	1
3.	Transistor	1
4.	Push Button	1
5.	Diodes	3
6.	Voltage Regulator	1
7.	LED	3
8.	7-Segment Displays common cathode	2
9.	Resistors 1k,10k,4.7k,100ohm	5
10.	LED Display	1

Project description:

The system is designed for optimum energy usage and is very beneficial in case if we want to count the number of cars present in the car parking lots .This is done by simply incrementing the counter.
The system uses Ultrasonic Sensor pairs in order to fulfill this purpose and thus saves a huge amount of energy. Each pair consists of 2 sensor pairs placed at a certain distance from one another in the opposite direction. The transmitter is used to transmit rays straight to the receiver which receives the input and feeds this to an 8051 Microcontroller.
As soon as a car enters the area where the system is placed, it is detected by the Ultrasonic sensor module and this info is fed to the microcontroller. The microcontroller process this input received. At this time the system also counts the number of car present and increments a counter on each arrival, this count is displayed on a 7 segment display.

If car parking lots are not available, then show it on LED display and also show whether the available slot is free or not.
The system also uses Arduino for incrementing the Bluetooth gate open in the long run bearing in mind that the counter should be placed where only one car crosses at a time.