SMART CAR PARKING

Advanced operating system

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A Project for ICREST

Menu

Introduction:
Smart car parking system is a fully self-control device that helps to control the traffic in parking lane.

Benefits:
It has a huge benefits like reduce extra man power, cost, easy to setup etc.

Elements we use:
We are using many electrical elements to develop our device like
1. Raspberry pi
2. Ultrasonic sensor
3. Connecting wire
4. Breadboard
5. Resistor
6. Led Bulb
7. Micro SD Memory card
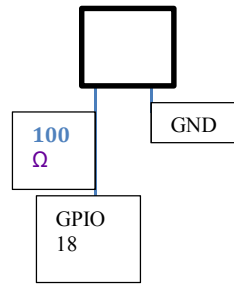
OS:
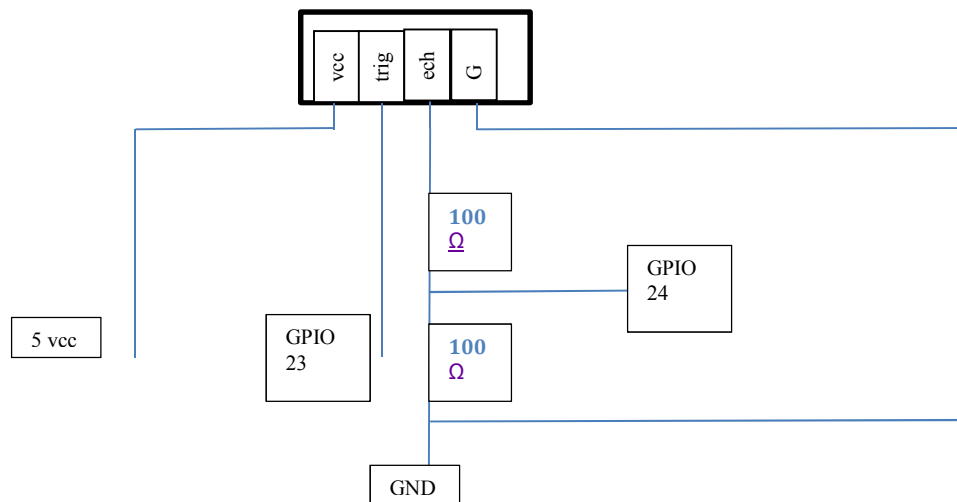We have used the Raspbian operating system.

Working process:
We have placed the ultrasonic sensor in the bread board. Sensor Car out connected with GPIO 13 and 24 which will work for car coming out signal. And ultrasonic sensor car parking which work for car parking signal. Connected with GPIO 4 and 17. And led car out with GPIO 18 and led car parking is connected with GPIO 25.
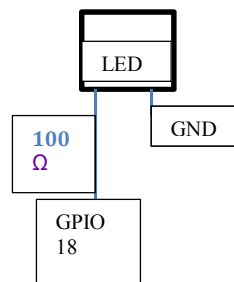
Led Car out:

```
              [    ]
        ┌──────┴──┐
     ┌──┴──┐   ┌──┴──┐
     │ 100 │   │ GND │
     │  Ω  │   └─────┘
     └──┬──┘
   ┌────┴────┐
   │  GPIO   │
   │   18    │
   └─────────┘
```

Car out:

```
        ┌─────────────────────┐
        │  vcc  trig  ech   G  │
        └──┬────┬─────┬────┬───┘
           │    │     │    │
           │    │  ┌──┴──┐ │
           │    │  │ 100 │ │
           │    │  │  Ω  │ │
           │    │  └──┬──┘ │
           │    │     │  ┌──────┐
           │    │     │  │ GPIO │
           │    │     │  │  24  │
   ┌───────┐ ┌──────┐ │  └──────┘
   │ 5 vcc │ │ GPIO │ │
   └───────┘ │  23  │ ┌──┴──┐
             └──────┘ │ 100 │
                      │  Ω  │
                      └──┬──┘
                   ┌─────┴────┐
                   │   GND    │
                   └──────────┘
```

Led Car out:

```
            ┌────────┐
            │  LED   │
         ┌──┴──┐  ┌──┴──┐
         │ 100 │  │ GND │
         │  Ω  │  └─────┘
         └──┬──┘
       ┌────┴────┐
       │  GPIO   │
       │   18    │
       └─────────┘
```

Car parking:

Diagram labels: vcc, trig, ech, G (sensor pins); 5 vcc; GPIO 4; 100 Ω; 100 Ω; GPIO 17; GND