

SMART PARKING SYSTEM

CONCEPTS

- Problem Statement
- Existing System
- Proposed System
- Advantages and Applications of proposed system
- Tools

PROBLEM STATEMENT

- Parking in big areas has been a major problem due to no clarity over where to park the vehicle in the parking areas and no idea whether the parking area is completed full or not before entering in the area.
- Also the payment process becomes very problematic in such crowded area. For this online payment is a better option using RFID cards.

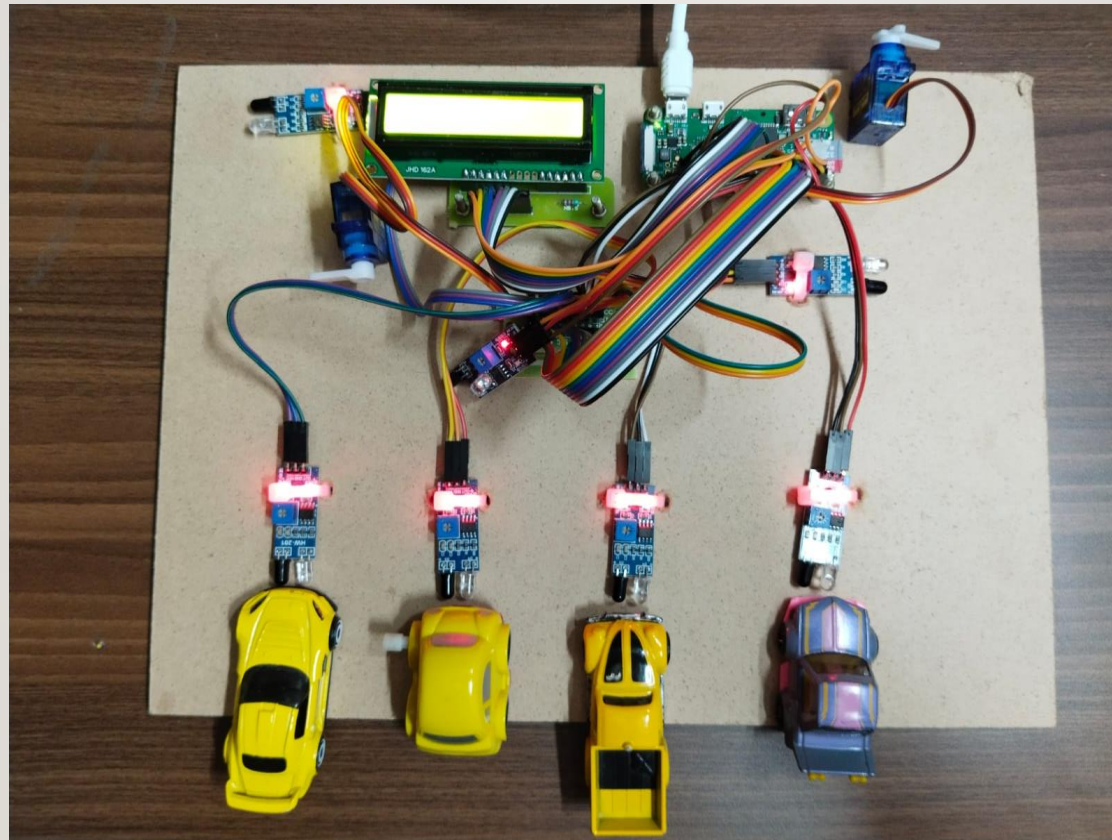
ABSTRACT

- Parking in big shopping malls and crowded area is a big hectic task and creates a lot of problem. To address this problem our project IOT Smart Vehicle Parking enables the driver to know the empty slots where he can park his vehicle and also guides the driver to the slot where he can park his vehicle. Our project enables to reduce traffic problems and also reduces time because it beforehand shows the driver where to park his vehicle and also whether the parking area is completely full or any vacant spaces are available or not.

EXISTING SYSTEM AND ITS DRAWBACKS

- **Manual Parking Process:**
- **The driver enters the shopping mall and goes to subway area and finds the spot to park his vehicle .**
- **This system causes problems because the driver doesn't know whether the subway is completely full or not before hand and also should find area where to park his vehicle**
- **Lack of prior knowledge of whether to park the vehicle**
 - .Drawback:** Delayed detection of where to park the vehicle and increases traffic near shopping malls and crowdly area.

SYSTEM SETUP



KEY FEATURES OF PROPOSED SYSTEM

- **Prior Knowledge of slot:** The system enables the driver before hand to know where to park his vehicle by showing empty slots in the parking area.
- **Shows the direction to slots:** The system shows the driver the direction of slot where his vehicle can be parked.
- **Emergency Alert:** In case of a fire breakout the fire alarm get on in the mobile app and enables the driver to know there's a problem at the place.
- **Online Payment:** This App enables to pay amount online and prevents rush at payment area.

HARDWARE TOOLS

- 1) Raspberry Pi Zero
- 2) IR Sensor
- 3) FIRE Sensor
- 4) Wi-Fi module
- 5) LCD
- 6) Buzzer
- 7) Regulated Power Supply.
- 8) Servo Gates
- 9) Connecting wires

SOFTWARE TOOLS

- Python IDLE
- Micro Python programming language
- Android App
- Raspberry OS

APPLICATIONS OF SMART PARKING SYSTEM:

- **Easy Parking at malls**
- **Apartment Complexes**
- **Commercial Establishments**
- **Industrial Facilities**
- **Emergency Response Services**

TIMELINE

Work	Time
Identify and buying components	1 week
Circuit Interfacing	1 week
Programming	2 weeks
Testing	1 week

CONCLUSION

- Traffic Problems are serious concerns because it causes lot of time consumption and also creates sound pollution due to continuous horn sounds. Our project enables that the car can be parked safely at the free slot in big parking areas and also shows the car direction of where to park which reduces time. Knowing before hand of free slots can help driver to know whether he can park his vehicle in the particular parking area or not.

THANK YOU

- ❑ MV Srikanth Reddy(22BCE7422)
- ❑ J Manas Vamsi Krishna(22BCE7312)
- ❑ K Kartikeya(22BCE8926)
- ❑ N Krishna Vamsi(22BCE7486)
- ❑ K Siddharth(22BCE7499)
- ❑ D Avinash Anjani Kumar(22BME7038)