**INTERNET OF THINGS**

**(Smart City!)**

**Abstract:**

A **smart city** is an urban area that uses different types of electronic data collection sensors to supply information which is used to manage assets and resources efficiently. This includes data collected from citizens, devices, and assets that is processed and analyzed to monitor and manage traffic and transportation systems, power plants, water supply networks, waste management, law enforcement, information systems, schools, libraries, hospitals, and other community services. The smart city concept integrates [information and communication technology](https://en.wikipedia.org/wiki/Information_and_communication_technology) and various physical devices connected to the network to optimize the efficiency of city operations and services and connect to citizens. Smart city technology allows city officials to interact directly with both community and city infrastructure and to monitor what is happening in the city and how the city is evolving.

**Proposed Models:**

* Dynamic Traffic Light System
* Conductor-less Bus System
* Smart Parking System
* Temperature Controlled Fan

**Ideas Described below:**

1. Dynamic Traffic Light System

Here in this system we are going to change the **Static** system to **Dynamic System**

by fixing the IR-sensors in each of the Traffic Lanes respectively. The IR sensors will keep track of the density present in the individual lanes. If all the IR sensors are “BLOCKED” means then the system predicts that the Density present in the respective lane is HIGH. So at this situation the Traffic Signal acts accordingly by changing the SIGNAL to **“GREEN”** and changing the opposite signal to **“RED”.** The System works based on the Maximum count value between the Traffic Lanes.

Another important part in this Traffic system is **“Emergency Vehicle”** based traffic allotment system. This system will be worked based on the RFID System. All the Emergency vehicles like **AMBULANCE, FIRE ENGINE, POLICE VEHICLES** needs to be fixed with the RFID Card and the RFID Reader Module will be fixed at some distance away from the Traffic signal and whenever the vehicle enters into the particular area the RFID Reader will scan and sends the RFID data to the respective traffic signal and therefore we can able to reduce the time spent by the ambulance or other vehicles in the Traffic lane area will be reduced.

1. **Conductor-less e-Bus:**

In this System we are gonna make the Buses to work without any conductors.

The system consists of RFID Reader and Tags, Interface for choosing source and destination by the passenger. Every passenger needs an RFID Card which is attached with his/her BANK ACCOUNT. When the passenger enters into the Bus he/she needs to swipe his/her card. After verifying the system will ask for source and destination and the passenger can enter his/her choice. Based on that source and destination the amount will be calculated and it will be deducted from the Main Account of the passenger. If passenger doesn’t swipes for his/her turn then an Warning signal will be sent to the Bus Driver and so does the system works.

1. **Smart Parking System:**

In day-to-day life we are facing lot of issues in the traffic concern and we are

spending our time by waiting for the respective vehicles to be parked. So the waiting time can be reduced by providing the fixed amount of parking slots in the parking area. The system consists of an RFID Reader and Tags, Display unit for displaying the available parking space. When the user enters into the parking area he/she needs to swipe the RFID Card so by using this Data the system will sense if there is any parking slot is available in that area. If available means then the **BOOM BARRIER** will be opened for allowing the vehicle to enter for the same and if there is no available space means then the *BOOM BARRIER* will be *Shut Down*until if there is available area in the parking slot.

1. **Temperature Controlled Fan:**

Our final model which we proposed is controlling the Fan based on the

Temperature parameter. If the room temperature is relatively high then the Speed of rotation of the fan will be 100% and the rotation speed will be reduced for every decrease in the temperature

The system consists of Temperature sensor, DC Fan, Transistor.

Our future enhancements for this module is based on controlling the fan with the help of **“GESTURE CONTROL”** and the **Speed movement of the hand.**

**MODELS WHICH WE DEVELOPED:**









