CS203 Project

# **Group Members:**

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# **Project idea 1:**

## **Title** - Traffic Control system

## **Objective** – In this project, we aim to implement a traffic control system along with generation of fine for anyone who breaks the light.

**Implementation -** The implementation will be done in Verilog (if possible, we will implement the same on FPGA)

## **Functionality –**

## **For the RTL implementation**:

## There will a total of 4 traffic lights, for the four directions. Binary values 00, 01 and 10 will be assigned to the lights red, yellow and green respectively. A timer will control the change of red light to green light through yellow. The timer will be displayed using 14 LEDs. This will be implemented using a mux, counter and K-map.

## If the traffic light is broken, a device detects the license plate number of the vehicle and sends the information via digital pulses to a database from which the information corresponding to the license plate is accessed.

## This information is then used to generate a fine for the owner of the vehicle.

## We are using ROM for reading information from the data base.

## If possible, we would like to implement this on FPGA.

# **Project idea 2:**

## **Title –** Elevator system

## **Objective –** In this project, we aim to implement elevator system with one elevator which moves according to the number of passengers in it.

## **Implementation** – The implementation will be done in Verilog. (If possible, we will implement the same on FPGA)

## **Functionality –**

## There will be a lift L1 and 8 floors (depicted by 3-bit number).It will allow at max 5 people to be there in the lift at a time (a counter will keep a check of that), if there are more, then, the lift will not move until the number of people reduces to 5 or less. The floor and their direction of motion will be displayed. The lift will have the priority to go up. The time the lift takes to reach the person will also be displayed. It would need to be updated if midway some-else calls for the lift.