CS203 Project

# **Group:**

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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 in a website)

## **Functionality –**

## **For the RTL implementation**:

## 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. This will be implemented using a mux and counter.

## 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.

## **For website**:

## We would create simulation of the above. We would extract information from the database and generate a fine consisting of the person’s name, plate number and the exact time of breaking the signal.

# **Project idea 2:**

## **Title –** Elevator system

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

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

## **Functionality –**

## There will be two lifts L1 and L2 represented by binary digits 0 and 1 respectively and 8 floors (depicted by 3-bit number). Lift L1 would have the priority of going up whereas lift L2 will have the priority of going down (using priority encoding). They 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.