

Smart Traffic Signal System

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Abstract: *Vehicles selling are increasing in developing countries and it causes an increase in traffic on the road. In India, in metro cities like Mumbai, Chennai and Delhi, the issue of traffic management has become a critical issue as compared to other cities. Traffic congestion is severe problem in most of the cities across the world and it has become a nightmare for the citizens. It is caused by delay in signal, inappropriate timing of traffic signaling, etc. The delay of traffic light is hard coded and it does not depend on traffic. Therefore for optimizing traffic control, there is increasing demand in systematic quick and automatic system. The proposed system is designed to develop a density based dynamic traffic signal control. The signal timing changes automatically on sensing the traffic density at the junction. The microcontroller used in proposed system is ARDUINO. The system contains IR sensors (transmitter & receiver) which will be mounted on either side of the road on poles. It gets activated and receives the signal as the vehicles pass close by it. The traffic lights shall be changed to each side for some fixed time. Even though there are no vehicles at particular side, the traffic signals will glow for a given fixed time. Due to that there is wastage of time & vehicles on the other side have to wait for the time to complete the process. So to reduce the wastage of time, we can implement the system that controls the traffic based on the heavy flow vehicles at each side at the junction and give path to the particular side which has denser traffic and keeping the other sides stopped.*

Keywords: Arduino Mega2560 Controller, IR Sensor, Power Supply

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