Abstrak

Kondisi lalu lintas di jakarta sudah sangat berantakan, kemacetan dimana mana sehingga waktu semakin lama semakin banyak terbuang di jalanan. Apalagi di perempatan jalan yang padat pada pagi hari dan sore hari, semua saling serobot mau mendahului supaya tidak terkena lampu merah, oleh karena itu kondisi jalan semakin macet karena pada saat arah yang sedang macet mendapat giliran lampu merah, antrian kendaraan macet itu menutupi jalan untuk arah yang sedang mendapat giliran lampu hijau, oleh karena itu kondisi akan semakin macet tanpa akhir.

Banyak sekali janji bisnis yang meleset hanya gara gara kemacetan lalu lintas karena sulit sekali untuk dapat tepat waktu tiba di tempat tujuan. Mau bagaimanapun caranya jika sudah macet tidak akan bisa kemana mana lagi, Oleh karena itu disini penulis merancang sistem pengendali nyala lampu lalu lintas merah kuning hijau di 4 arah perempatan secara otomatis berdasarkan sensor yang mendeteksi ada mobil yang akan lewat di setiap arah.

Pada saat di salah satu arah terdeteksi ada mobil, lampu di arah tersebut yang tadinya merah menjadi hijau, kemudian pada saat mobil di arah tersebut sudah lewat, sensor di arah lain mendeteksi apakah ada mobil di arah lain, apabila ada, maka gantian di arah yang terdeteksi ada mobil tersebut yang gantian menjadi hijau. Sistem ini bekerja dengan menggunakan perangkat diantaranya : Mikrokontroller ATMEGA16, Memori data (SRAM), sensor inframerah, dan LED

Kata kunci   : Mikrokontroller ATMEGA16, memori data (SRAM), LED, dan sensor inframerah

ABSTRACT

Traffic conditions in Jakarta is very messy, where is the congestion so that the longer the more time wasted on the streets. Especially in the intersection of crowded roads in the morning and afternoon, all mutually serobot would precede so as not to be exposed to red lights, therefore the condition of the road getting stuck because when the traffic jam gets red lights, the queue of vehicles jammed the road to cover The direction that is getting the turn of the green light, therefore the condition will be getting stuck without end.

Lots of business appointments that missed just because of traffic jams because it is very difficult to be on time to arrive at the destination. No matter how the way if it is stuck will not be where else again, Therefore here the authors designed a red traffic light red yellow traffic controller system in the 4-way intersection automatically based on sensors that detect there is a car that will pass in every direction.

At the moment in one direction detected there is a car, the light in the direction that was red became green, then when the car in that direction has passed, the sensors in the other direction detect whether there is a car in the other direction, if there is, then switch in the direction There is a car that turns turn green. This system works by using the device include: ATMEGA16 microcontroller, Data memory (SRAM), infrared sensor, and LED

Keywords: ATMEGA16 microcontroller, data memory (SRAM), LED, and infrared sensor