**TRAFFIC LIGHT DESIGN USING MICROCONTROLLER**

**ABSTRACT**

Today, the number of cars is rapidly increasing which creates a real traffic control problem. While the conventional traffic control systems are inconvenient to provide fast and fair solutions for the congestion problem.

This research addresses the traffic control problem and hence proposes an intelligent traffic light control system. In particular, the proposed system senses the presence or absence of cars on each lane, and then estimates the time to open each lane, which is proportional to the number of cars on that lane.

Practically, the system circuit has been printed on a board with three main components; namely pressure sensors, microcontroller, and traffic lights. Then a C program has been developed to enable the microcontroller for receiving inputs from sensors, calculating the times to open lanes and sending appropriate logic decisions to traffic light. The obtained results prove the accuracy and reliability of the system.

In addition to the practical test, the intelligent traffic light control system has been successfully simulated, where the simulation results are found to be the same as the calculated ones.



**System Block Diagram**