INTELLIGENT TRAFFIC MANAGEMENT SYSTEM

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ABSTRACT

With the increasing number of vehicles on road, it has become a matter of concern to manage traffic efficiently. The present lifestyle does not allow any minute to go waste. This paper presents two ideas that will help in managing traffic issues and ultimately gives a new direction to the traffic management. First- CCTV camera synchronised with traffic light. The on off timing of the traffic light is managed according to the traffic on the road. Second-The CCTV camera will be integrated with the street lights(preferably the ones near the junction) which will give a specific light(say, red) whenever the camera detects there is a jam ahead, thus helping a vehicle to avoid that path and take other possible routes.

KEYWORDS: CCTV Synchronisation Techniques

INTRODUCTION

This paper mainly focuses on smart public transport system covering the domains like digital image processing, intelligent CCTV cameras, synchronisation of CCTV camera with street lights to give signal about the road jam ahead, and use of electronic traffic counter to know the number of vehicles passing a particular route and changing the on-off time of signal light accordingly.

EXPLANATION OF WORK

The main idea is to create a data centre in every city which keeps track of traffic all the time.

Avoiding Jam

Image processing technique is used to know the traffic on road. Images from camera are stored in a special format. Images are taken at a particular duration of time. The empty road image is compared with the images of traffic taken in a certain time pixel by pixel. Pixels which are different are getting filled with red colour. In this way the density of traffic is known. If the image shows full red for more than 10 minutes, it triggers the light on the street light(preferably red) indicating that there is a jam ahead. The poles near the diverging roads are mainly considered so that the driver has the option to switch roads, thus avoiding any further addition to the jam.

Traffic Signal Timing Control

Electronic traffic counter are installed to count the number of traffic on a particular road. The traffic light is synced to it. The main aim is that time will be saved if there is less number of vehicles on a particular time or a particular day as the traffic light will show red colour for a short time if the traffic is less thus avoiding the people to wait unnecessarily. Moreover the flash light will be seen by everyone.

CONCLUSIONS

This paper proposes the concept of intelligent management of traffic without involving much change in the existing design and thus saving extra costs. There are apps available to know about the traffic on particular road or the condition of jam. But this restricts the number of user getting the news of traffic as firstly the apps mainly run on smart phones and still these smart phones are out of reach of common man or their proper utilisation is not known. Moreover use of phones again and again just for knowing about traffic doesn't suit most of the people. This paper proposes the concept of synchronising the CCTV camera with traffic light and street lights thus indicating a jam on a practical scenario and thus helping in avoiding it much appropriately. Moreover this is benefitting every individual, be it a smart phone user or not.

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