Road Traffic Analysis(Measuring speed of Vehicle Using DIP)

INTRODUCTION

Traffic flow monitoring and traffic analysis based on computer vision techniques, and especially traffic analysis and monitoring in a real-time mode raise precious and complicated demands to computer algorithms and technological solutions.

Most convincing applications are in vehicle tracking, and the crucial issue is initiating a track automatically. Traffic analysis then leads to reports of speed violations, traffic congestions, accidents, or illegal behaviour of road users. Various approaches to these tasks were suggested by many scientists and researchers.

The approach in this article focuses on methods of image processing, pattern recognition and computer vision algorithms to be applied to road traffic analysis and monitoring. One of the main aspects was to modify these algorithms to fit to real-time road monitoring processes, and as a consequence the prototype of system for traffic analysis was developed. Technically this system is based on stationary video cameras as well as computers connected to wide area network.

Capabilities of the system include vehicle tracking, vehicle speed measurement (without use of traditional sensors), and recognition of license plate numbers of moving vehicles, lane jam detection. Additional features of the system are object/data searching and archiving, statistical analysis. Image processing tasks utilized in the system are image filtering, correction and segmentation, object modeling, tracking and identification, morphological, geometrical and statistical methods. Technical tasks used are motion shooting, video sequence transmitting, frame extraction.
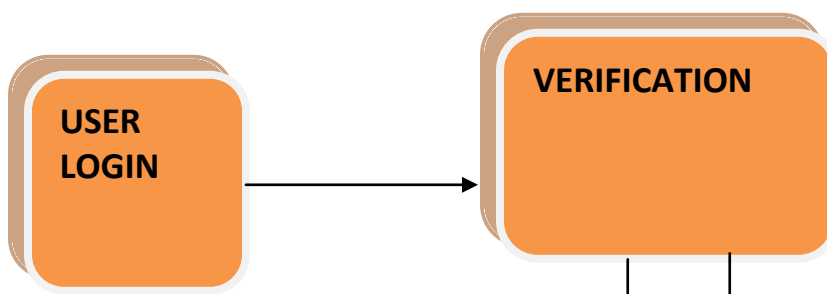
SYSTEM DESIGN

USER LOGIN

VERIFICATION

Fig: System Design