Department of Electronics and Communication Engineering
Delhi Technological University
Delhi-110042
www.dce.edu

CERTIFICATE

This is to certify that the report titled **"Implementation of 3G based wireless communication network among nodes of the traffic monitoring system"** is a bonafide record of Major Project-II submitted by Shubham Goyal (Roll no: 2K13/VLS/21) as the record of the work carried out by him under my guidance. The said work has not been submitted anywhere else for the award of any other degree or diploma.

Date:

Dr. S. INDU
(Guide)
Associate Professor
ECE Department
Delhi Technological University

Department of Electronics and Communication Engineering
Delhi Technological University
Delhi-110042
www.dce.edu

DECLARATION

I hereby declare that work presented in this report, titled **"Implementation of 3G based wireless communication network among nodes of the traffic monitoring system"**, in partial fulfillment for the award of degree of M.Tech. in VLSI Design & Embedded Systems, submitted in the Department of Electronics and Communication Engineering, Delhi Technological University, Delhi is my own work carried out during December, 2014 - May, 2015 under the guidance of Dr. S. Indu, Associate Professor, Department of Electronics and Communication Engineering, Delhi Technological University, Delhi.

Date:

SHUBHAM GOYAL
Roll No: 2K13/VLS/21
M. Tech. (VLSI Design & Embedded Systems)

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Date:

SHUBHAM GOYAL
Roll No: 2K13/VLS/21
M. Tech. (VLSI Design & Embedded Systems)

ABSTRACT

Traffic congestion is a challenging problem today because of increasing number of vehicles day by day. To overcome this problem, an economical solution is to administer the traffic flow. Traffic Modeling is a technique that is used to manage and control the flow of traffic.

A distributed camera network based traffic model has been designed that extracts video based features and processes the same to classify the road condition as open, slight congestion, heavy congestion or traffic jam. The work successfully monitors traffic conditions across a road; however it does not include a communication module to transfer traffic statistics to the server.

This traffic system involves extracting the features (SIP and STIP) from the video frames generated by the camera. The number of SIP is indicative of number of vehicles on a road and ratio of STIP to number of SIP is suggestive of percentage of moving vehicles. To enable sharing of traffic statistics among nodes, we need to establish a wireless network. Also, we intend to upload traffic status of roads to the server over the internet, so that any user can access the same to know about present traffic state at a particular road.

This project intends to implement this wireless network using 3G network. The same 3G network can be used to upload the data over the server, the server then processes the received data from various local traffic monitoring systems using suitable algorithms and based on the results it issues traffic statistics, which can be utilized to administer the traffic flow.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES