License Plate Recognition System

Capstone Project - 2

Supervised by:

Mr. Mirza Mubasher Baig

Assistant Professor SST

University of Management & Technology Lahore

Team Members:

Adeel Zahid [081220005]

Hammad Hussain [081220177]

Hafiz Tayyab Bashir [022224018]

Adil Abbas Qazi [101520056]

Dedication

We dedicate this report to the constant support and care of our advisor **Mr. Mirza Mubasher Baig**, Assistant Professor Computer Science Dept, University of Management & Technology, Lahore. Not only is he a teacher, he's a mentor to us. Moreover, it is dedicated to the support of all the teachers who have taught and groomed us over the years making our journey every second worth. In the end, we'd like to thank Almighty Allah & our parents for if it wasn't for them, none of us would progress in life.

Approval

This document which is a report titled "**License Plate Recognition using System**" has been read and approved to be graded by us as Capstone Project II for the following students, as fulfillment of their BS Computer Science Degree at University of Management & Technology, Lahore.

- Adeel Zahid ID# 081220005
- Hammad Hussain ID# 081220177
- Hafiz Tayyab Bashir ID# 022224018
- Adil Abbas Qazi ID# 101520056

Head of the Department _____

Dr. Malik Tahir Hassan

Project Supervisor _____

Mirza Mubasher Baig

Assistant Professor SST

Computer Science Dept

University of Management & Technology

Acknowledgments

In the name of Allah the Almighty, the most Merciful & Beneficent

This effort is the direct result of all the hard work and long hours put into it. We would like to extend a moment of heartfelt gratitude to everybody involved in the completion of this project. First and foremost, it is a pleasure to state that this wouldn't have been possible without the positive endeavors of our Supervisor Mr. Mirza Mubasher Baig. Thank you for pushing us over the top and teaching us to persevere.

We would also like to acknowledge Mr. Syed Farooq Ali, Assistant Professor SST for planting the seed of Computer Vision & Image Processing. Without the right amount of motivation and interest, working on this project was impossible.

Lastly, this is to recognize the combined hard work of all the group members; a little effort sure does go a long way.

Project Overview

Project Title	License Plate Recognition System
Objective	To successfully apply image processing techniques in order to segment, project & recognize vehicle license plates
Undertaken by	Adeel Zahid (081220005 Hammad Hussain (081220177) Adil Abbas Qazi (101520056) Hafiz Tayyab Bashir (022224018)
Supervised by	Mr. Mirza Mubasher Baig Assistant Professor (Computer Science Department) SST, University of Management & Technology, Lahore Email: mubasher.baig@umt.edu.pk
Start Date	June, 2013
End Date	July, 2014
Tools Used	MatLab, Microsoft Word
Operating System	Microsoft Windows 7 Ultimate 64 - bit

Contents

Chapter 1

Abstract & Introduction

Abstract

Number plate recognition (NPR) is one of the most important applications of applying computer techniques towards intelligent transportation systems (ITS). In order to recognize a number plate efficiently, location and extraction of the number plate is the key step. When the number plate has been extracted from the image, the segmentation and identification phase takes place. We will use a standard image database to train our system; first, the number plate area will be isolated and then Template Matching technique will be applied to recognize the alpha-numeric characters. The images used in our database have been taken in different light conditions. This recognition system can be successfully applied to an array of different purposes; i.e. from multistory car parking facilities to high speed camera operated systems for law enforcement vehicles. A real time working license plate recognition system can not only keep track of the vehicles with their owner/driver credentials, it can help create a safer more organized network of roads and parking facilities for the betterment of our community.