Final Year Project Report

Automated Attendance System via Face Recognition

(National ICT R&D funded**)**

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Final Approval

It is certified that we have understand writing this report submitted by Isra Anwar, Shah Nawaz and Ghulam Kibria to complete the final year project named as "Feature Based Face Recognition Using Slope Table" at the University of Management and Technology, Lahore Pakistan to fulfill the requirement of the degree of the BS (CS) Computer Science.

Panel of Examiners

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2. **Supervisor**
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Project Title	Feature Based Face Recognition Using Slope Table
Undertake by	Isra Anwar Shah Nawaz Ghulam Kibria
Supervised by	Mr. Syed Farooq Ali
Co-Supervised by	Dr. Malik Tahir Hassan
Starting Date	26 Aug, 2013
Completion Date	30th September, 2013
Technology	MATLAB, BoRMaN,Weka
Operating System	Microsoft Windows 7 (32 and 64 bit compatible)
Documentation	Microsoft Word 2013

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Alhamdulillah. Thanks to Allah SWT, with His willing give us the opportunity to complete this Final Year Project which is title "Feature Based Face Recognition using Slope Table". We extend our heartfelt thanks to all the people who directly or indirectly helped us in the completion of our project.
From the beginning to the end, our project supervisor Syed Farooq Ali and Project Co-supervisor Dr. Malik Tahir Hassan, our guides has shown immense patience and support, besides providing an incredible amount of guidance. Thank you, sir.
We were highly encouraged by Assistant Professor Mubashir Baig, Touqeer Attique and Mohsin Ejaz who were abundantly helpful and offered, support, invaluable assistance and guidance.

There have been many more people involved in this venture, whose names may not have been mentioned above, but their help is undoubtedly acknowledged. We would like to thank all my friends especially those who helped us to complete our Database for this Final Year Project and for the wise idea throughout the project.

Abstract

Face recognition from image is a popular problem in biometrics research. In the last decade, a lot of research has been done in this area. Face recognition is one of the most relevant applications of image analysis. It's a true challenge to build an automated system which equals human ability to recognize faces. The advantage of face based identification over other biometrics is its wide acceptability because it does not require any keys, tokens, smart cards, PINs, plastic cards, passwords etc., In this work, face recognition has been done using various feature based approaches. In this paper, two new approaches for feature based face recognition are presented. In both of these approaches, new features are proposed and evaluated. The main contribution of this paper is usage of a slope table along with other features for face recognition. The slopes of different fiducial points of facial components (left eye, right eye, nose and lips) are computed to fill the slope table. These two approaches are compared with the existing approaches based on popular features like principal components and ratios of facial components. The results show that our approaches outperform the existing approaches.

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