بسم الله الرحمن الرحيم
ألم نجعل له عينين 8
ولسانا وشفتين 9
وهديناه النجدين 10
صدق الله العظيم

ACCESS WINDOWS BY IRIS RECOGNITION

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By

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ABSTRACT

This project aims to design and develop an iris recognition system for accessing Microsoft Windows. The system is built using digital camera and Pentium 4 with SVGA display adapter. MATLAB ver. 7.0 is used to preprocess the taken images convert the images into code and compare the picture code with the stored database. The project involves two main steps: (1) applying image processing techniques on the picture of an eye for data acquisition. (2) applying Neural Networks techniques for identification .The image processing techniques display the steps for getting a very clear iris image necessary for extracting data from the acquisition of eye image in standard lighting and focusing. In a use of your images, the images are enhanced and segmented into 100 parts. The standard deviation is computed for every part in which the values are used for identification using NN techniques. Locating the iris is done by following the darkness density of the pupil. For all networks, the weights and output values are stored in a text file to be used later in identification. The Backprobagation network succeeded in identification and getting best results because it attained to (False Acceptance Rate = 10% - False Rejection Rate = 10%), while the Linear Associative Memory network attained to (False Acceptance Rate = 20% - False Rejection Rate = 20%)

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CHAPTER ONE

INTRODUCTION

Biometrics is a study of methods for recognizing and identifying a person based upon one or more intrinsic physical or behavioral traits such as fingerprints, Deoxy Ribonucleic Acid (DNA) or retinal patterns (Russ, 2004). A good biometric identifier has two basic characteristics: [1] stability [2] distinctiveness. A stable biometric does not change over time thus hair length would not be a good identifier. Meanwhile a distinctive biometric is unique to an individual (Mohammed *et al.,* 2004).

Traditionally, personal identification is based upon what a person possesses for example a physical key or identity (ID) card. It can also base upon what a person knows, e.g. a password. However these methods have some limitations: keys and ID cards may be lost or misplaced while passwords may be forgotten. Biometrics, on the other hand, minimizes those risks as it uses traits that are part of humans. In recent years, biometric personal identification grows as an interesting field from industrial and academic point of view (Zhu *et al.,* 2000). It provides an alternative to username and password, as well as to smart card. Biometrics seeks to tie identity much more tightly to a person's particular unique features. These could be anatomical, physiological, or even behavioral. The sounds of a person's voice, or they way in which they sign their name, are examples of behavioral biometrics. Their blood type or markers in their tissue or fluid samples (including DNA itself) are examples of physiological biometrics which are typically used in forensic applications. Most

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