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IRIS RECOGNITION SYSTEM USING MODULAR NEURAL NETWORK

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ABSTRACT --- Biometrics is a technique used as a security template to provide to provide high end security for different types of systems. Iris recognition is also a biometric technique that leverage the property of iris this is "Iris of every person is different from every other person". Even the monozygotic twins have the Iris pattern this is different.

Keywords --- Iris, Neural Network, Biometrics.

I. INTRODUCTION

Iris Recognition is a technique that is used to check the credibility of a person with respect to specific system. Iris Recognition is the high end use and implementation of image processing technique [1].It leverages various techniques and principles of image processing like segmentation, transformations and object description. Also data analysis methods like wavelet transformation and hamming distances are used in the system [2].

II. VARIABLE SHIFT BASED IRIS RECOGNITION SYSTEM

It is an independent piece of software that acts on its environment and perceives it. The agents used in our system are code dependent and have string of code as the programs and actions.

The Iris Recognition has two steps as in every system.

Step 1: It is that step which deals with actually getting the iris data about different persons for which we want to create the system. For every person that has to be authorized, his/her data is taken and saved in the system [3].

The basic approach for this step is simple, first we use the infrared light system to take the image of iris then using segmentation and wavelet transformation we get the representation of iris. In our system we divide this data into three (3) equal parts and save them in the data store.

Step 2: This step relates to the working of the system with respect to the people who have to be authorized in real time. The method working is as, first we get the image of iris of the person using infrared light. Then we extract the iris using segmentation and other techniques. Then we extract the features of the iris using wavelet transformation. After feature extraction we represent this data as a 2D array of data and divide it to three (3) equal parts.

Now we take the first part and compare it with the first part of every piece of iris data available using Modular Neural Network. If the match is found then the person is not authorized else if a match is found we compare the other two parts of the current iris with matched Iris. If the pattern's match, the person is authorised else the person is not authorised.
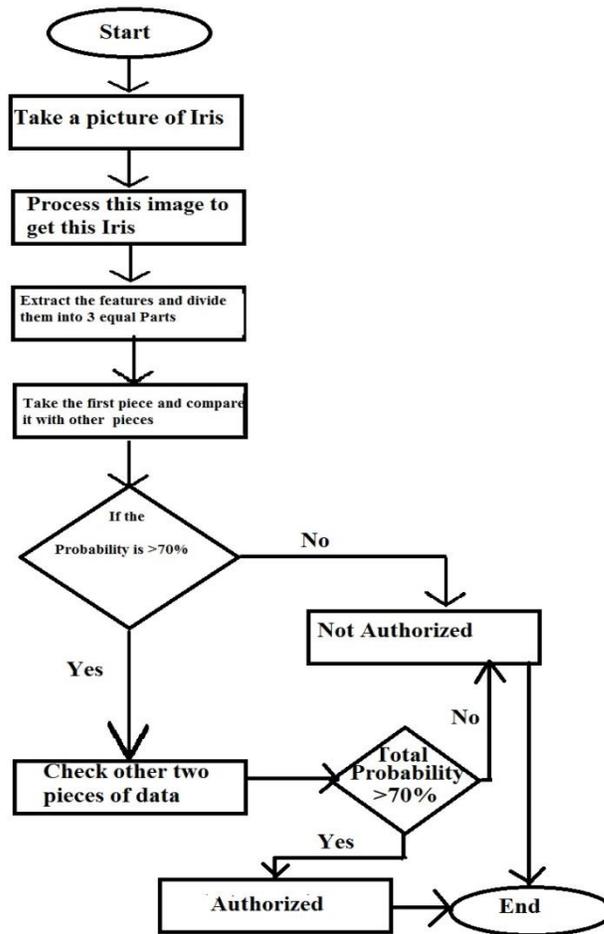

Fig 1: Flow Chart of the Recognition Process

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III.CONCLUSION

The system increases the efficiency by almost 15% also the effect of data segmentation affects the efficiency by a little margin. The iris image quality needs to be high and using the infrared light is necessary as > 70% matching probability is used the authorization threshold.

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