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COMPARISON OF DIFFERENT TRANSFORMATIONS IN IRIS RECOGNITION SYSTEM

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Abstract:

Iris recognition system is a very powerful system and give security to the society and the technology is a trusted one but, to give more strength to the iris recognition system the proposed system deals with comparison of different transformation in authentication mainly focus on false acceptance rate, false rejection rate and time management of the entire process to give effective result of the proposed system justify the best transformation applicable for the iris recognition. In this system for iris recognition system own eye database has been used for the entire process and apply different transformation like Fourier, Haar, Wavelet and Laplace transformation used and made comparison among the results like FAR, FRR and time and choose the best result from the proposed justify with the results.

Keywords: *Fourier Transformation, Haar Transformation, Wavelet Transformation, Laplace Transformation, Iris recognition.*

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INTRODUCTION:

The proposed mainly focus on the transformation which is effectively suitable for the system compare to the existing system. The system deals with own eye database which was taken from St.Joseph eye Hospital Trichy, Tamil Nadu, India under the guidance of Dr.Vannila for better results in the own database. The Figure 1. Shows the entire flow of proposed system and execution. Totally 4 transformation has been taken in the system namely Fourier, Haar, Wavelet and Laplace transformation [1-7].

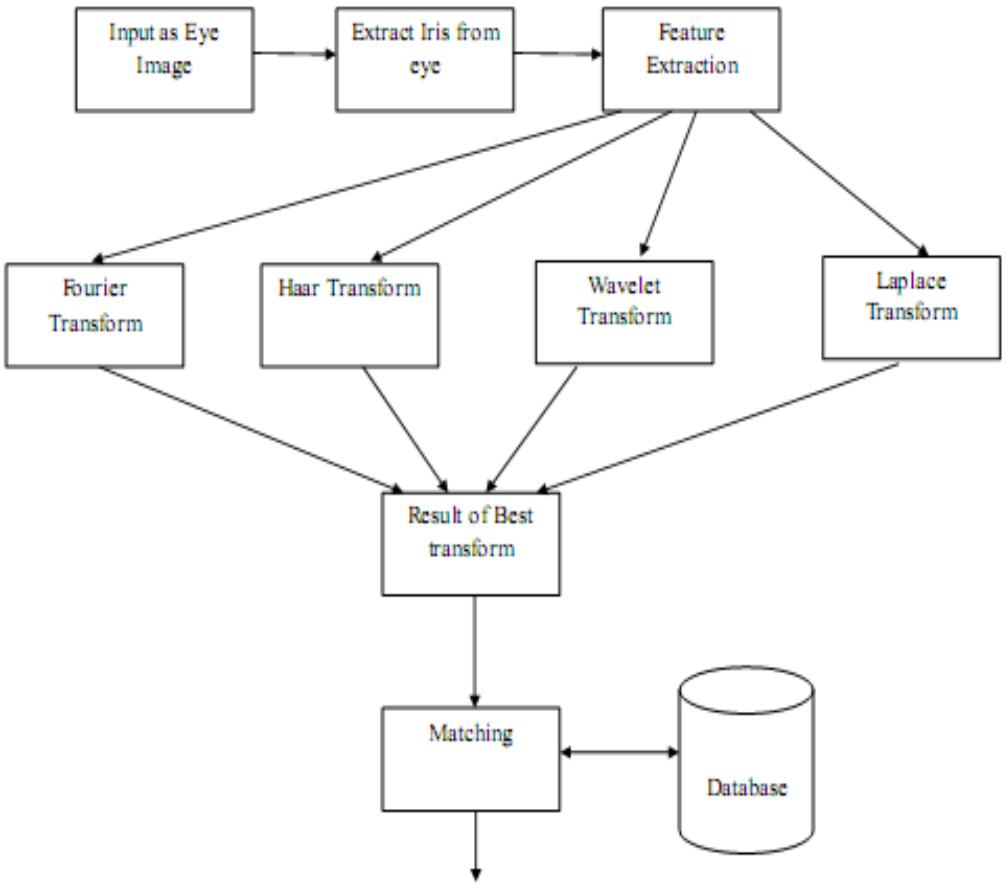

Figure 1. Basic Architecture Diagram of the system

METHODS AND MATERIALS:

The system has own eye database with and without contact lens is the major strength of the database and also extraction of eye to iris recognition can be made using [3]. Now the feature extraction process which gives best result is the main objective of the system for that process comparison made with the system [4].

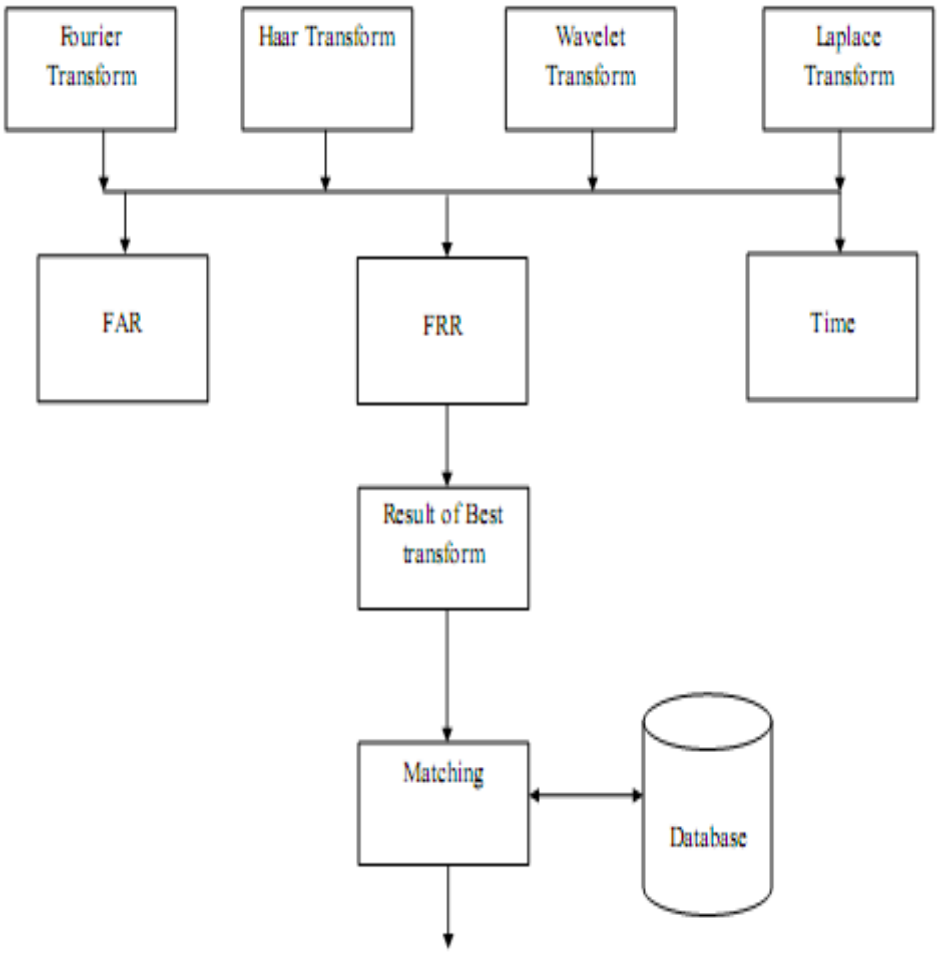

Figure 2. Selection of Best Transformation

Implementation:

The Implementation part is very important for every system especially in this system eye image database consist of with and without contact less images as well as disease affected eye images are also been used for the entire system and process with feature extraction like texture for that process 4 transformations has been implemented and make comparison among those transformation with FAR, FRR and time as a parameter for the best result and applied for the system to give best security compare to the existing system [3].

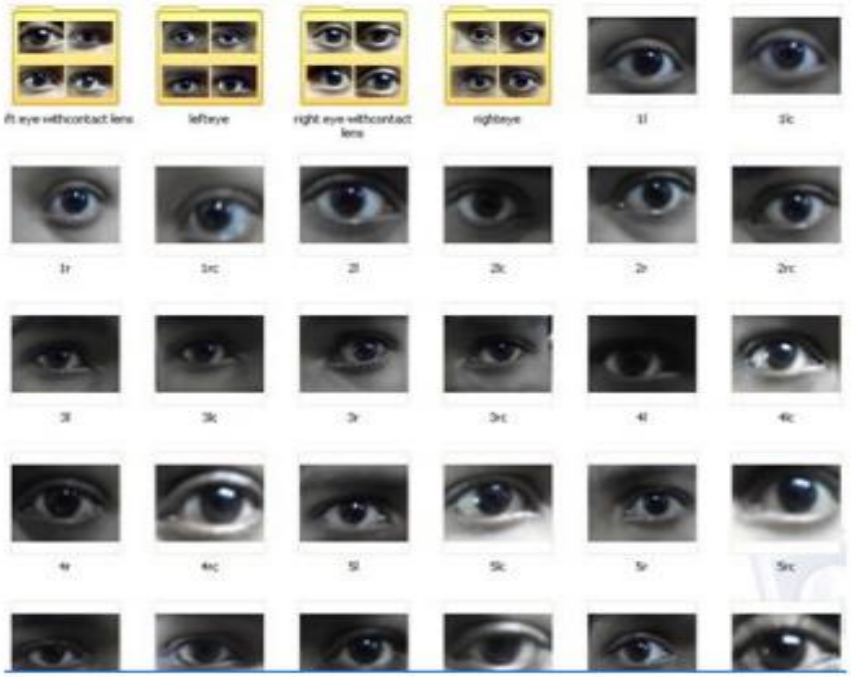

Figure 3. Own Eye Database

Figure 4. Sample Iris extracted Image

Table 1. Comparison of Transformation

S.No	Transformations	FAR (%)	FRR (%)	Time (S)
1.	Fourier	98.17	99.08	0.23
2.	Haar	98.17	99.08	0.12
3.	Wavelet	99.08	99.08	0.11
4.	Laplace	98.17	98.17	0.17

CONCLUSION:

The Proposed system deals with the several transformation like Fourier, Haar, Wavelet and Laplace transformation and totally 109 images taken from that FAR, FRR and time has been taken into account and wavelet transformation is effective compare to existing transformation in the iris recognition implementation of the proposed system

results justify the statement.

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