Abstract: This project provides the biometric security system using the combination of iris and palm print with the help of steganographic technique for authentication purpose. Here the data hiding approach involves to conceal secret personal informatics within their biometric for still enhance the privacy protection.

Keywords - Wavelet Packet Transform (WPT), Palm print, Iris print, Biometric, Steganographic.

I. INTRODUCTION

DIGITAL IMAGE PROCESSING :-

The identification of objects in an image can be start with image processing techniques such as noise removal, followed by (low-level) feature extraction to locate lines, regions and possibly areas with certain textures. The clever bit is to interpret collections of these shapes as single objects, e.g. cars on a road, boxes on a conveyor belt or cancerous cells on a microscope slide. One reason this is an AI problem is that an object can appear very different when viewed from different angles or under different lighting. Another problem is deciding what features belong to what object and which are background or shadows etc. The human visual system performs these tasks mostly unconsciously but a computer requires skillful programming and lots of processing power to approach human performance. Manipulating data in the form of an image through several possible techniques. An image is usually interpreted as a two-dimensional array of brightness values, and is most familiarly represented by such patterns as those of a photographic print, slide, television screen, or movie screen. An image can be processed optically or digitally with a computer.

To digitally process an image, it is first necessary to reduce the image to a series of numbers that can be manipulated by the computer. Each number representing the brightness value of the image at a particular location is called a picture element, or pixel. A typical digitized image may have 512 \times 512 or roughly 250,000 pixels, although much larger images are becoming common. Once the image has been digitized, there are three basic operations that can be performed on it in the computer. For a point operation, a pixel value in the output image depends on a single pixel value in the input image. For local operations, several neighboring pixels in the input image determine the value of an output image pixel. In a global operation, all of the input image pixels contribute to an output image pixel value.
automatic iris recognition system was proposed by J. G. Daugman in 1993. Daugman's and Wildes' approaches linger the most significant and distinguished among most of the recognized iris recognition systems. The use of different image acquisition and iris segmentation methods provides it some advantages in some aspects over Daugman's system. Almost all other techniques that have been proposed since were developed using the basic steps outlined in the pioneering work of Daugman and Wildes.

III. SPECCIFICATIONS OF DIGITAL IMAGE
There are 3 types of images used in Digital Image Processing. They are
A. **Binary Image**
A binary image is a digital image that has only two possible values for each pixel. Typically the two colors used for a binary image are black and white though any two colors can be used. The color used for the object(s) in the image is the foreground color while the rest of the image is the background color.

B. **Gray Scale Image**
A grayscale image is a digital image an image in which the value of each pixel is a single sample, that is, it carries only intensity information. Images of this sort, also known as black-and-white, are composed exclusively of shades of gray (0-255), varying from black (0) at the weakest intensity to white (255) at the strongest.

C. **Color Image**
A (digital) color image is a digital image that includes color information for each pixel. Each pixel has a particular value which determines its appearing color. This value is qualified by three numbers giving the decomposition of the color in the three primary colors Red, Green and Blue. Any color visible to human eye can be represented this way. The decomposition of a color in the three primary colors is quantified by a number between 0 and 255. For example, white will be coded as R = 255, G = 255, B = 255; black will be known as (R,G,B) = (0,0,0); and say, bright pink will be : (255,0,255).

IV. COMPARISIONS:

<table>
<thead>
<tr>
<th>Definition</th>
<th>Iris Pattern Recognition Using Wavelet Packet Transform</th>
<th>High security system provided by steganographic technique using palm and iris scan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
<td>Wavelet Packet Transform (WPT)</td>
<td>stenography technique</td>
</tr>
<tr>
<td>features</td>
<td>The signature of the new iris pattern is compared against the stored pattern after computing the signature of new iris pattern and identification is performed.</td>
<td>The features of palm print and iris are fused then compared with database image feature vectors and its recognized using Euclidean or Hamming distance. If this module is completed successfully then person information which contains person authentication number with four digits key will be matched with extracted data from already hidden image for second level security.</td>
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<tr>
<td>Advantage</td>
<td>• It recognizes only iris texture</td>
<td>• It recognizes iris and palm print for authentication purpose.</td>
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<tr>
<td></td>
<td>• It uses wavelet packet transform</td>
<td>• It uses stenography technique.</td>
</tr>
<tr>
<td></td>
<td>• Provide single level security</td>
<td>• Provide double level security.</td>
</tr>
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V. FUTURE WORK
This project presented the biometric security system for person authentication based on the combination of iris and palm print with steganographic technique for verification. We can provide more security by the combination palm, iris, DNA, face scan and voice recognition system.

REFERENCES