ENHANCED IMAGE COMPRSSION MECHANISM TO INCREASE THE EFFICIENCY OF BIOMETRIC

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Abstract: In the research work, the implementation work is proposed in order to increase the efficiency of biometric. Different techniques of image compression have been discussed here. Loosy Image Compression Methods and Lossless Image Compression Methods are explained here. These are efficient techniques that are used to compress the graphical content in order to enhance the efficiency of biometric. Along with the HUFFMAN CODING is also utilized to fulfil the objective of research. In proposed work an algorithm based on Huffman Coding has been design to compress image with minimum loss in quality of image. It is most suitable for image transmission during networking. Here the comparison between the traditional and proposed work also highlighted. In proposed work an algorithm based on Huffman Coding has been design to compress image with minimum loss in quality of image. It is most suitable for image transmission during networking.

Keyword: DIGITAL IMAGE, PROCESSING, HUFFMAN CODING

[1] INTRODUCTION

It is a mechanism where unprocessed images are captured from cameras/sensors. These images could be placed on satellites. Such type of graphical contents is also used in space probes. Pictures taken in normal day-today life for various applications are improved. From last few decades a lot of Image Processing methods are developed. Out of these methods most of them are developed for enhancing images obtained from unmanned spacecrafts, space probes and military reconnaissance flights. Image Processing systems are becoming popular due to easy availability of powerful personnel computers, large size memory devices, graphics software etc. In the field which are related to electrical and computer science engineering, image processing is any form of signal processing. In this an image is used as input. An image can be photographs or frames of video. The end result of image processing can be either an image or a set of characteristics or parameters related to the image. In most of the methods of image-processing, image is considered as a two-dimensional signal. Standard signal-processing techniques are employed to it. Image processing usually refers to digital image processing. But optical and analog image processing is also available. The process of capturing of graphical contents that are producing input image is termed as imaging.

[2] IMAGE PREPROCESSING

Scaling: The idea of magnification is to have a closer view by magnifying or zooming the interested part in the imagery.

2. **Magnification:** This method is utilized in order to improve the scale of display for visual interpretation or sometimes to match the scale of one image to another.

3. **Reduction:** To reduce a digital image to the original data, every mth row and mth column of the original imagery is selected and displayed.

4. **Rotation:** This is employed in image mosaic along with image registration

Mosaic: It is a procedure by which two or more images are pooled in order to create a single large image without radiometric imbalance.

[3] DIGITAL IMAGE PROCESSING

In this method computer algorithms are employed to carry out the task of image processing on digital images. It is a subfield of digital signal processing. Digital image processing has many benefits in comparison to analog image processing. It gives permission to apply a much wider range of algorithms to the input data. It is also helpful for the elimination of problems such as the build-up of noise and signal distortion during processing. In view of the fact that images are defined over two dimensions (perhaps more) digital image processing can be modeled in the form of Multidimensional Systems.

[4]HUFFMAN CODING

Huffman code is a specific kind of best prefix code that is usually used for lossless data compression. The process of finding and/or using such a code proceeds by means of Huffman coding, an algorithm developed by David A. The output from Huffman's algorithm could be viewed as a variable-length code table for encoding a source symbol. The algorithm derives this table from estimated probability or frequency of occurrence (weight) for every possible value of source symbol.

[5] MOTIVATION OF RESEARCH

The objectives of research have been given below:

1. Encode user using biometric sample data at time of storing in database
2. Decode data using biometric when user login to allow him to access his own account.
3. Restrict user to make transaction using biometric
4. Making digital wallet available to him if we are correctly logged in as well as he has inserted correct biometric sample
5. More over at time of transaction from digital wallet one time password would be generated so that it could be access by user.

[6]PROBLEM STATEMENT

There are several researches in field of biometrics as it has been considered a commonly used mechanism in different departments. Recent biometric systems are frequently used with ecommerce application. There are several web sites that are using biometric security to allow user to access their wallet. This wallet is used to make transaction for the item purchased. Some time amount in this wallet comes under some schemes and many time users make use of their credit/debit card to add money to their wallet. Thus there is need of security to such electronic wallet.

[7] IMPLEMENTATION WORK

The biometric device takes the input from user; these samples are stored in form of matrix and stored in image base during enrollment face
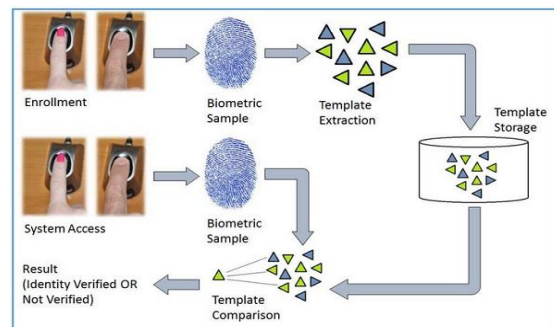

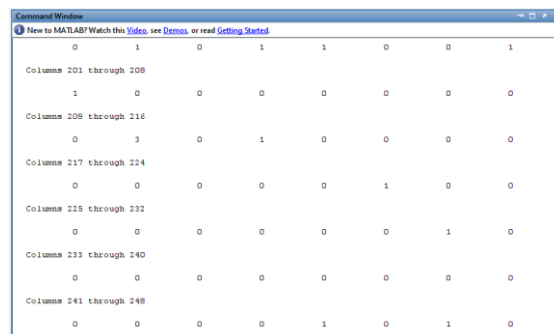
Fig 2 Process flow of Biometric sample

Fig 3 Huffman based compression and decompression of image
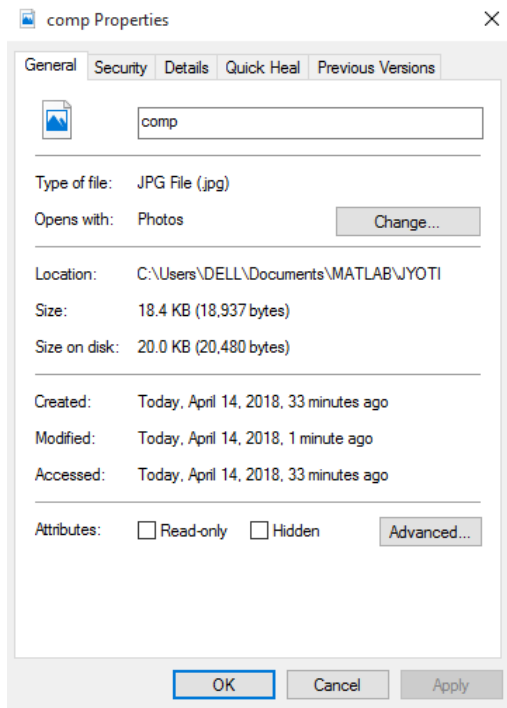
Fig 4 Size of File after applying compression algorithm

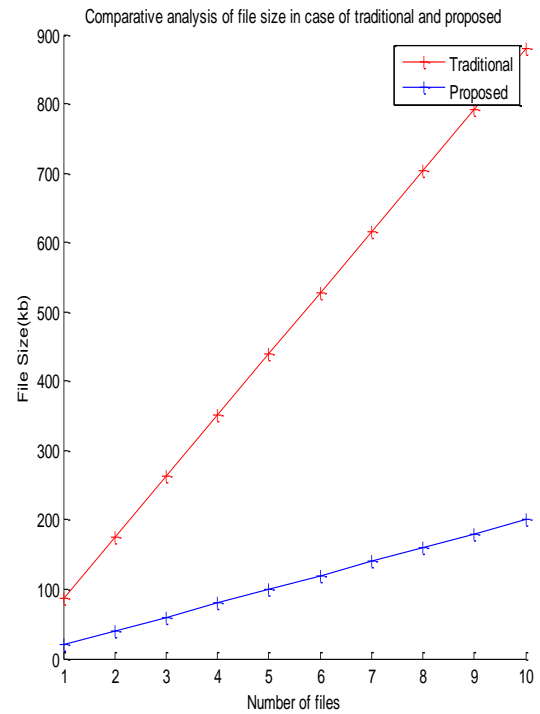**Fig 5** Size of File after decompression of image

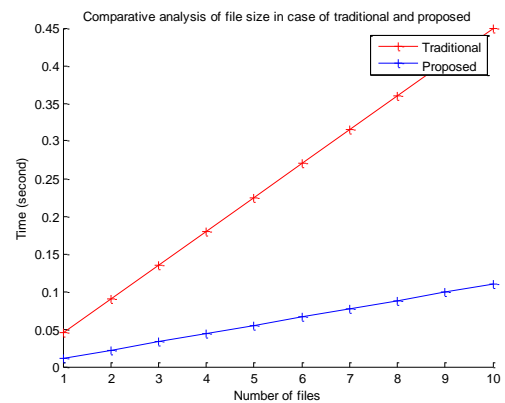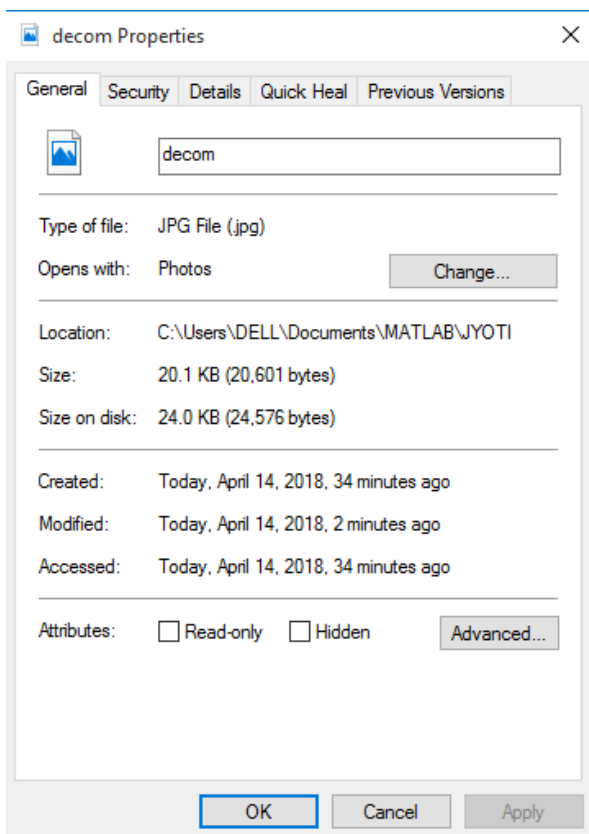**Fig 6** Comparison of file size of biometric sample in case of tradition and proposed

Fig 7 Comparison of time taken during in case of traditional and proposed
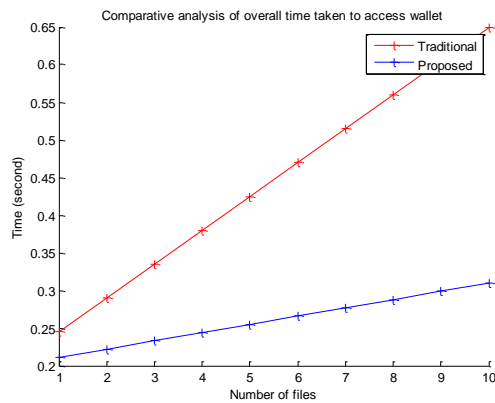
Fig 8 Comparison of time taken to access wallet in case of traditional and proposed

[8]CONCLUSION

The proposed system is far better than traditional biometrics application. Here the security at registration level has been discussed as well as at transaction time. The research has studied effective means by which content of image could be automatically structured, indexed & retrieved. This research has studied the various image compression techniques are loosy Image Compression Methods & Lossless Image Compression Methods. In proposed work an algorithm based on Huffman Coding has been design to compress image with minimum loss in quality of image. It is most suitable for image transmission during networking

[9]SCOPE OF RESEARCH

The proposed system would be far better than traditional biometrics application. It would introduce the security at registration level as well as at transaction time. It would the studied effective means by which content of image could be automatically structured, indexed & retrieved. In proposed work an algorithm based on Huffman Coding has been design to compress image with minimum loss in quality of image. It is most suitable for image transmission during networking. This research would be study of various image compression techniques are loosy Image

Compression Methods & Lossless Image Compression Methods. Sms mechanism could be used to confirm the transaction in order to increase security.

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