



Introduction of Data Shrinking Optimization

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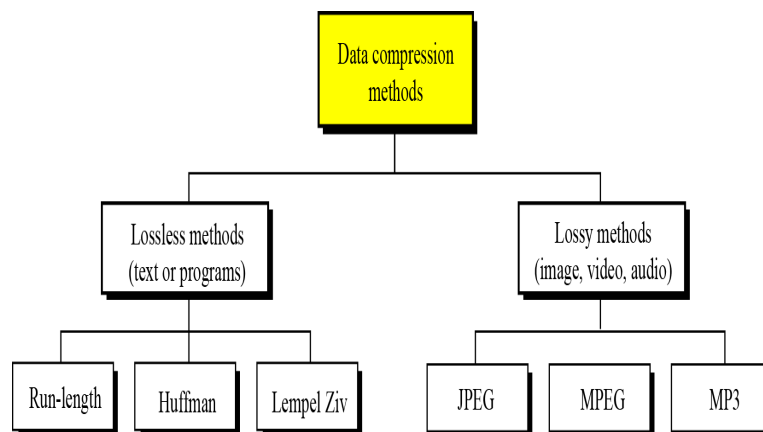
Abstract – This research paper used to compress the data such as text, audio, video and images. This will use various data compression technique to reduce the size of data. During the compression of data there is no change in original data. In some cases like video compression minor change in the data is tolerable so we can use loosely compression but in some cases where this is not tolerable in text compression lossless compression is used.

Keywords – Text Compression, Image Compression, Audio Compression, web mining, Huffman Algorithm.

I. INTRODUCTION

Compression is useful because it helps reduce resource usage, such as data storage space or transmission capacity. A compression scheme for video may require expensive hardware for the video to be decompressed fast enough to be viewed as it is being decompressed, and the option to decompress the video in full before watching it may be inconvenient or require additional storage.

The two types of techniques is used Lossy and Lossless.



[Fig: 1 Types of Data Compression]

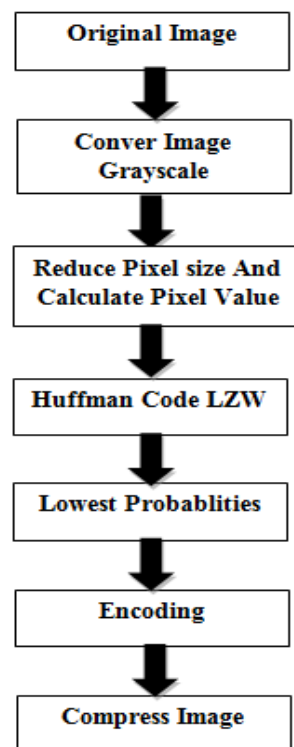
A. LOSSLESS

Lossless data compression algorithms usually exploit statistical redundancy to represent data more concisely without losing information. Lossless compression is possible because most real-world data has statistical redundancy. For example, an image may have areas of color that do not change over several pixels; instead of coding "red pixel, red pixel, and"the data may be encoded as" 279 red pixels". This is a simple example of run-length encoding; there are many schemes to reduce size by eliminating redundancy.

B. LOSSY

Lossy data compression is contrasted with lossless data compression. In these schemes, some loss of information is acceptable. Depending upon the application, detail can be dropped from the data to save storage space. Generally, lossy data compression schemes are guided by research on how people perceive the data in question. For example, the human eye is more sensitive to subtle variations in luminance than it is to variations in color. JPEG image compression works in part by "rounding off" less-important visual information. There is a corresponding trade-off between information lost and the size reduction. A number of popular compression formats exploit these perceptual differences, including those used in music files, images, and video. Lossy image compression can be used in digital cameras, to increase storage capacities with minimal degradation of picture quality. Similarly, DVDs use the lossy MPEG-2 Video codec for video compression. In image. After that apply the Lempel ZIV compression on same image and calculate the results .from the experiment results further we can use the both algorithms and recover the data image reduced the size of data image and calculate same results.

II. Propose System.



[Fig 2: Flow Chart of Huffman Based LZW Lossless Image Compression]

III. Huffman Algorithm

The algorithm for proposed work is given as

Step1: Read image.

Step2: Convert image into gray scale image.

Step3: Reduce pixel value.

Step4: Calculate total pixel value.

Step5: Use Huffman technique & arranged Decreasing Order & Lower probabilities merge.

Step6: Find two lowest probabilities base on Arrange symbols.

Step7: Encoding Performance.

Step8: Original Image is reconstructed.

IV. Feature Work

As the future work on compression of images for storing and transmitting can be done by other lossless methods of image compression because as it is concluded above, that the result of the decompressed image is almost same as that of the input image so it indicates that there is no loss of information during transmission. So other methods of image compression, any of the type i.e. lossless or lossy can be carried out as namely JPEG method, LZW coding, etc. Use of different metrics can also take place to evaluate the performance of compression algorithms.

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