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Design A Dynamic Reconfiguration Manchester Compression For Web Applications

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ABSTRACT: The research community have the significant attention in the field of approximate computing in the over few years, mainly in the context of several signal processing applications. In computing, the image and video compression algorithms like MPEG and JPEG are especially important. Therefore, because of the human imperceptibility, they are tolerant of erroneous of computing which can be used for achieving highly power efficient implementations on these algorithms. A reconfigurable inexact architecture for MPEG encoders is proposed. Its major purpose is for maintaining a specific Peak Signal to Noise Ratio (PSNR) threshold for any video. Depends on the characteristics of each unique video we propose two heuristics for tuning the approximate degree of RAB in these two modules during runtime. An experimental result achieves a power saving over a conventional architecture of MPEG encoder. The presented reconfigurable architecture for the MPEG encoder can be simply expanded for various applications of DSP.

Index Terms: Approximate circuits, approximate computing, low power design, quality configurable

I.INTRODUCTION

A finite amount of computing imprecision in image and video dispensation algorithms repeatedly results in an unimportant amount of noticeable change of visual in the output, which considers these algorithms as ideal candidates for the utilization of approximate architectures in computing. Approximate Computing architectures improve a small relaxation in the correctness of output results in significantly simpler and implementations of lower power.

The most approximate hardware architectures are projected which suffer from the restriction that, for extensively varying the parameters of input, it becomes much tough for providing a quality bound on the output, and in various cases, the quality of output may be critically reduced. The sigificant reason for this quality of output variation is that in the hardware architecture the degree of approximation (DA) is permanent statically and cannot be modified for various inputs. One possible solution is to assume a conservative approach and utilize a very low DA in the hardware; hence the output accuracy is not drastically exaggerated. However, such a conventional approach will, as expected, considerably impact the power savings as well.

II. EXISTED SYSTEM

There are of two compression techniques. One is Loss less compression and another one is Lossy compression. Lossy compression is employed to decrease the information of a image, picture or video. By victimization this technique of compression the tip user loses some data. It will be lose to the receiver and also to the sender. In the applications of net and transmission lossy compression is in the common usage.

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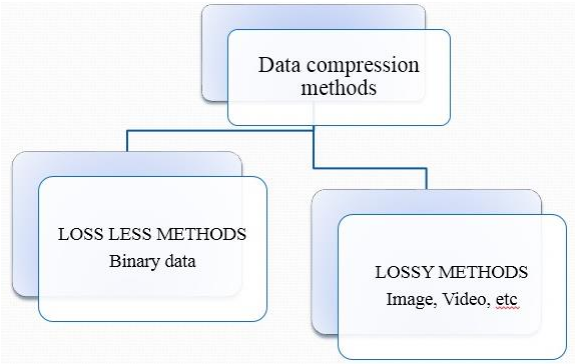

Fig. 1 Block Diagram

To overcome this drawback of reduction of the information, a brand new compression technique was been introduced. i.e, Loss less compression.

Loss less compression is sort of opposite to the Lossy compression. Lossy compression is irreversible compression and Loss less compression is a reversible compression. Loss less compression sends the image without reduction of the information to the receiver.

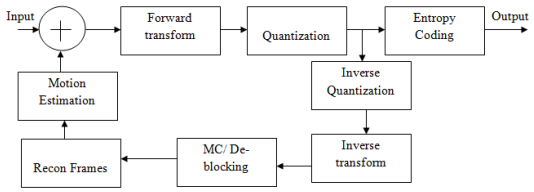

Fig. 2 Existed System

MPEG encoding includes three types of frames: 1) I-frames (intra frame encoded); 2) P-frames (predictive encoded frame); and 3) B-frames (bidirectional encoded frame). As apparent from their names, the data bits are totally encoded by an I-frame. Generally, An I-frame precedes each data stream of MPEG. P-frames are built by using the variations between the present frame and the instantly preceding I or P frame. B-frames are produced relative to the closest two I/P frame on either side of the current frame. Additionally, the I, P, and B frames are compressed when subjected to DCT, which is used to eliminate the existing inter frame spatial redundancy.

III. PROPOSED SYSTEM

By exploitation of Loss less compression, the user won't loss any information or data from the image, picture or video. The image quality also won't be improved by the Loss less compression. The process of Loss less compression is as follows: At initial stage the information of the image are remodeled into binary forms i.e, zero and one format (0,1). This binary information can splits into rows and columns. This can be mentioned as binarisation. During this method the binary digits can form like bits in a very sequence. These bits can forward to down as the regular bits.

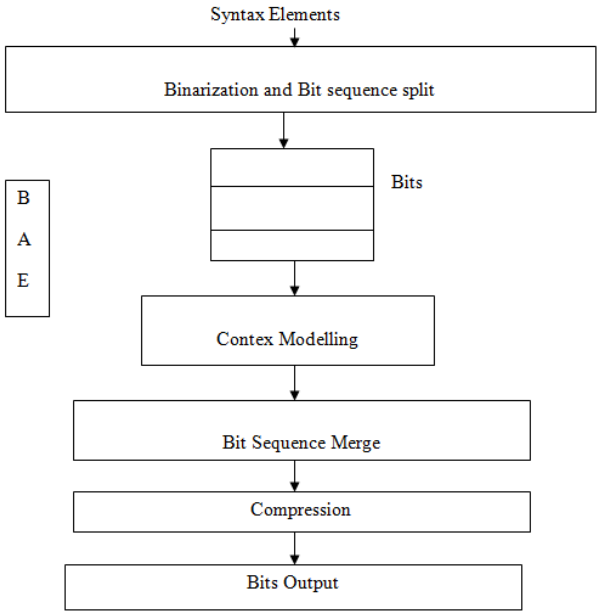

Fig. 3 Proposed System

These bits are ready to merge. Currently the information are united because the

initial digit of the primary row with the primary digit of the primary column. During this method all the rows and columns are united. Then the binary data is prepared to compress. As we all know that, we are utilizing Loss less technique here to change the image. The image are reworked into binary information here just in case of Loss less compression. This can be very helpful Technique to achieve the precise image as we did like. In this technique, initially the binary data will be upgraded into black and white format as we tend to shown with in the fig 3.

Then the image are going to be transmitted into binary knowledge i.e, zero and one format as we tend to shown in figure. Here we tend to square measure victimization 64 bit compression that is extremely helpful to the rework. Finally, this compression can send the original data as output. The ultimate output comes with none loss of information within the image, as a result of we tend to used Loss less compression technique. For this point Loss less compression is extremely advantageous and really technique than Lossy compression technique.

IV. RESULTS

Fig: 4 Color Image

Fig 5. Black and white

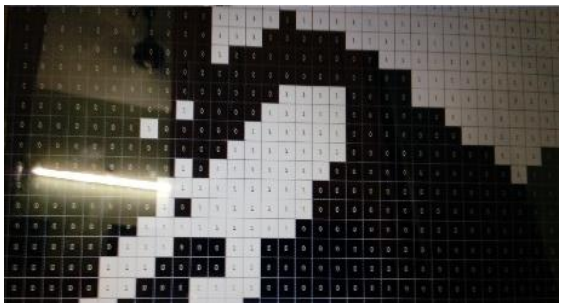

Fig 6. binary data

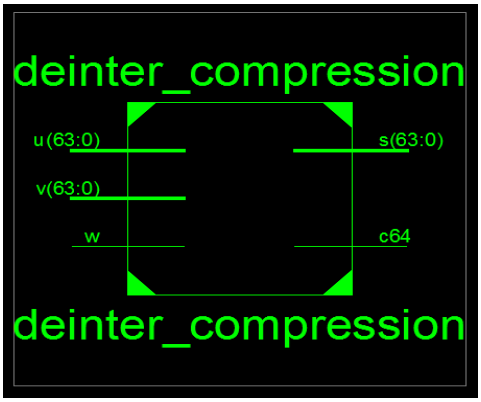

Fig.7 RTL Schematic

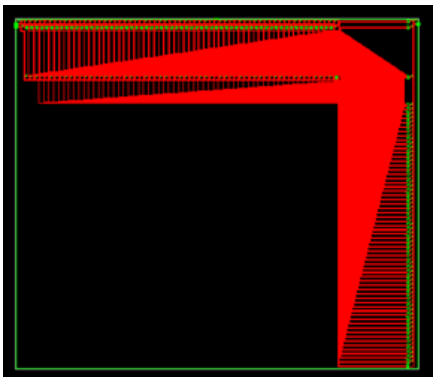

Fig 8. Technology Schematic

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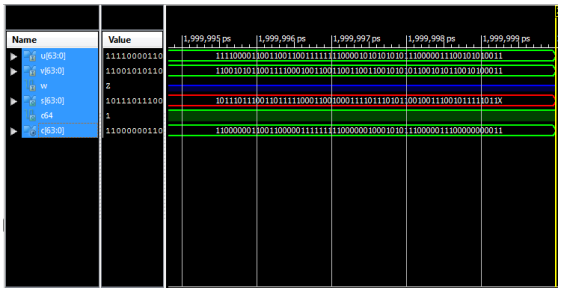

Fig 9. Output

V. CONCLUSION

This new and advanced proposed system tells us the about the transformation of the image from one device to another device. Let us assume that I want to transmit a color image from Transmitter to Receiver, and then I have to consume more data. By using this technique, the color image will be transformed into black and white image and then it will be transformed into 0, 1 binary form by compressing the data. Then with this compression technique data is compressed without any loss in data. Hence, finally the color image is translated to binary data by using MATLAB and the binary data is compressed by using Xilinx 14.7.

VI. REFERENCES

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