PLAN OF WORK & METHODOLOGY

1.4.1 Selection of various techniques of an image Transform coding,

Based on the information obtained from the literature review, various image transformation are used like DFT, Fractal, DCT, DWT etc.. The proper selection of transform coding is selected for image decomposition,

1.4.2 Design of proper encoding algorithm using MATLAB

After selection of proper transform coding. Select the proper algorithm like Embedded Zero tree Wavelet (EZW), Set partitioning in hierarchical Tree (SPIHT). To implement algorithm, study MATLAB software with image processing Toolbox.

1.4.3. Selection of proper lossless image coding

This is last stage of image compression. Select the proper lossless compression for better image quality. Run Length Coding will be used for the lossless compression.

1.4.4 Design algorithm of lifting wavelet Transform

For image decomposition lifting wavelet transform coding is designed. Because of this transform coding we get the wavelet coefficients which are to be quantized. Lifting wavelet transform is also known as 2nd generation Wavelet Transform or Integer to integer Transform.

It is composed of 3 stages:-

1. **Splitting**: Input sequence is divided into two subsets: Even and Odd
2. **Predicting**: Predict the values to get high - pass coefficients
3. **Updating**: update even indexed vales to calculate low-pass coefficients

![Fig 4: Typical lifting stage](image)

1.4.5 Development of SPIHT algorithms
Using MATLAB software, develop the code for modified SPIHT algorithms for image compression. Actual compression is take place here. As only LL bands are taken as roots, list size is reduced

1.4.6 Development of Inverse lifting wavelet Transform and modified SPIHT and Encoder

As we compressed the image, for further calculation we have to get the reconstructed image. Therefore, for decompression of an image whatever we did for compression of an image, you have to do inverse of that.

1.4.7 Software Testing and Integration:

The developed software routines will be tested in the experimental set up created and it will be tested for different types of rear view mirrors.

1.4.8 Analysis of the results and conclusion:

The results obtained from the execution of the algorithm will be analyzed and compared with the existing system. And expected results will be submitted as a report.