Abstract

Compression technique plays an important role in diagnosis, prognosis and analysis of ischemic
Comparison of FFT, DCT, DWT, WHT Compression Techniques on Electrocardiogram and Photoplethysmography Signals

heart diseases. It is also preferable for its fast data sending capability in the field of telemedicine. Various techniques have been proposed over years for compression. Among those Discrete Cosine Transformation (DCT), Discrete Wavelet Transformation (DWT), Fast Fourier Transformation (FFT) and Walsh Hadamard Transformation (WHT) are mostly used. In this paper a comparative study of FFT, DCT, DWT, and WHT is proposed using ECG and PPG signal, which shows a certain relation between them as discussed in previous papers[1]. Image processing depends on compression which helps in reduction of file size for large data transmission in a stipulated and reduced time. Wavelet analysis provides one of the common goals of image compression, i.e. the signal or image clearance and simplification, which are part of denoising or filtering. Wavelet analysis uses and thus provides long term intervals. In this modern era medicinal therapies has evolved drastically which requires transmission of medical data over long distances under high security with maintaining efficacy. This paper delivers a comparative study based on compression ratio and Peak-Signal-to-Noise-Ratio (PSNR) values of image qualities for corresponding techniques. This study also ascertains the least distortion of PPG signal among 1D signals after retrieval and information extraction from it and ECG signal based on the intermittent relations among ECG and PPG signals as discussed in other papers.

References

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**Index Terms**

Computer Science  
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**Keywords**  
Fft  Dct  Dwt  Wht  Ecg  Ppg