Abstract

CBIR (Content Based Image Retrieval System) uses the visual information of an image to give the relevant images as the output. In this paper, we have implemented CBIR by the method of generating Feature Vector using Plane Sectorization. The plane of the image is sectorized in four different ways, namely: 4 sectors, 8 sectors, 12 sectors and 16 sectors. For each of these, feature vector is generated by taking the mean value of coefficients of each sector and by augmenting the zeroth and the highest column component for every plane. Taking the Sectorization is performed on DCT transformed image. The results are compared on the basis of absolute difference and Euclidean distance. The evaluation parameters used are LIRS (Length of initial relevant string of images), LSRR (Length of string to recover all relevant images), Precision and Recall. We have also introduced a new parameter LSRI (Longest string of relevant images retrieved). The database used is Wang database which comprises of 1000
images divided into 10 classes. To compare and evaluate the performance of 4, 8, 12 and 16 DCT sectors, we have considered the overall average of precision and recall. Also, in our earlier works [13], we have applied the algorithm of Feature Vector Generation using DCT plane sectorization on Column-wise transformed plane of images. Here, we are applying the same on Row-wise transformed images and have compared the results of both the methods as well.

References

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Index Terms

Computer Science Artificial Intelligence

Keywords

Cbir lirs Lsrr lsri Euclidean Distance sum Of Absolute Difference Precision And Recall dct