IMAGE RETRIEVAL BASED ON CONTENT

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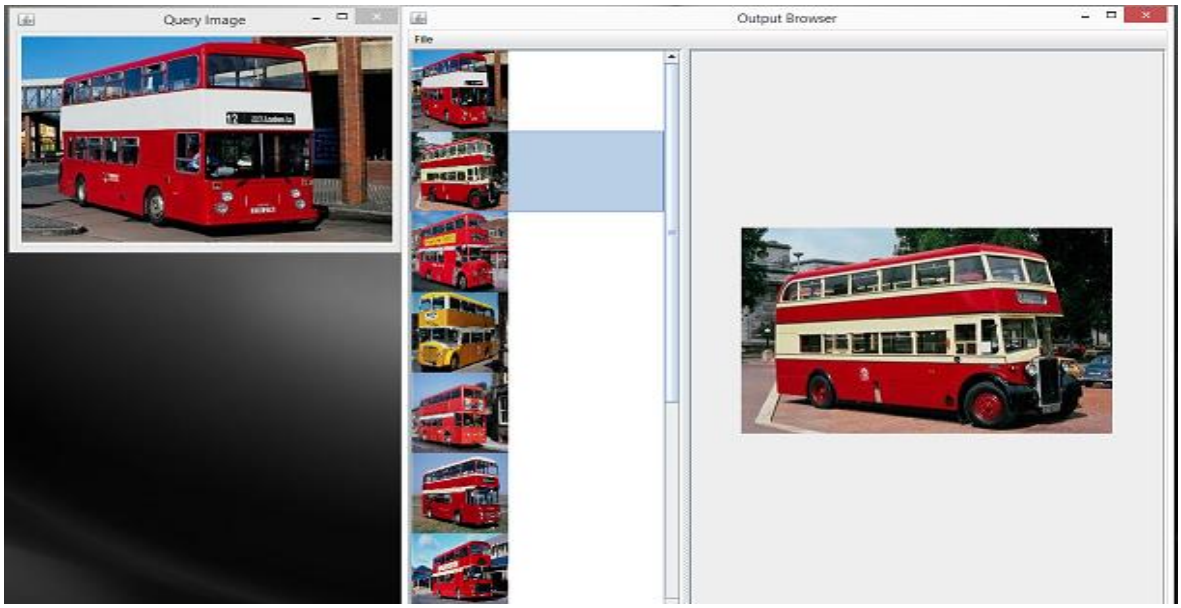
ABSTRACT

In this, we propose a content-based image retrieval method using both color and texture features. As its color features, an image is divided into six (2*3) or (3*3) non-overlapping regions. From each region in the image, we extract the first three moments of the color distribution, from each color channel and store them in the index i.e., for a RGB color space or HSV color space, and we store 54 or 81 floating point numbers per image. As its texture feature, GLCM is calculated from which texture descriptors are adopted. Texture features are also extracted globally and locally. Texture features includes energy, contrast, entropy, homogeneity and variance. Globally 5 texture features are extracted. When image is divided into 6 regions the feature vector is of size 30. We assign weights to each feature respectively and calculate the similarity with combined features of color and texture using Euclidean distance as similarity measure.

Key Terms: Color and texture features, RGB, HSV, GLCM, Euclidean distance.



Conclusion: Global features extracted from an image are useful in presenting images that have no certain specific region of interest with respect to the user. Region based features are more effective to describe images that have distinct regions. In this project, we presented image retrieval based on content that introduces three alternatives to answer an image query, which are to use either region based, global based features, or a combination of them. We use GLCM, which is a powerful texture extraction technique either in describing the content of image regions or the global content of an image. Color moments as a region wise color feature taken as color similarity metric combined with GLCM texture features have been proved to give approximately good retrieval results.

Software Specification:

System type: 32/64-bit operating system
Processor: Intel Pentium and above , 2GHz and above
RAM: 1GB and above
Languages: Java.
Database : Ms-Access

Hardware Specification:

Display: 7.5" and above, LED display screen.

Summary of Projects in terms of Application Area and Subject Knowledge

S.NO	Subject Knowledge / Application Area	Web Technology	Software Testing
1	Fine Arts	√	√
2	Business	√	√

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uides current Area of Research: Soft Computing ,Machine Learning and Data & Knowledge Engineering.

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