ABSTRACT

Image retrieval is increasingly becoming an interesting filed of research as the images that users store and process keep on rising both in number and size especially in digital databases. The images are stored on portable devices which users have used to capture these images. The aim of this research is to solve the issues experienced by users in image retrieval of digital images stored in their devices, ensuring that images requested are retrieved accurately from storage. The images are pre-processed to remove noise and refocus images to enhance mage content. The image retrieval is based on the content (Content Based Image Retrieval) where images are matched in a database based on the subject of the image. In this research, Corel image database is used with image preprocessing to ensure that image subjects are enhanced. Images are placed in classes and images are retrieved based on the users input. Euclidean distance method is used to determine the nearest objects, thus resulting in the least number of images retrieved by the system. Colour and texture features are used to generate the feature matrices on which the image comparison is made. For KNN algorithm, different values of K will be tested to determine best value for different classes of images. The performance of the design is compared to MATLAB image retrieval system using the same image data set. The results obtained show that the combination of colour, texture and KNN in image retrieval results in shorter computation time as compared to the performance of individual methods.