Annexure 2 - GUI & Description

A-2.1 Graphical User Interface

The Figure 102 shows Graphical User Interface (GUI) of developed CBIR application. The full-fledged GUI enables user to

- Select query image and target (search) folder
- Extract features of image(s)
- Specify input parameters
- Perform segmentation with two different methods
- Retrieve images with various algorithms

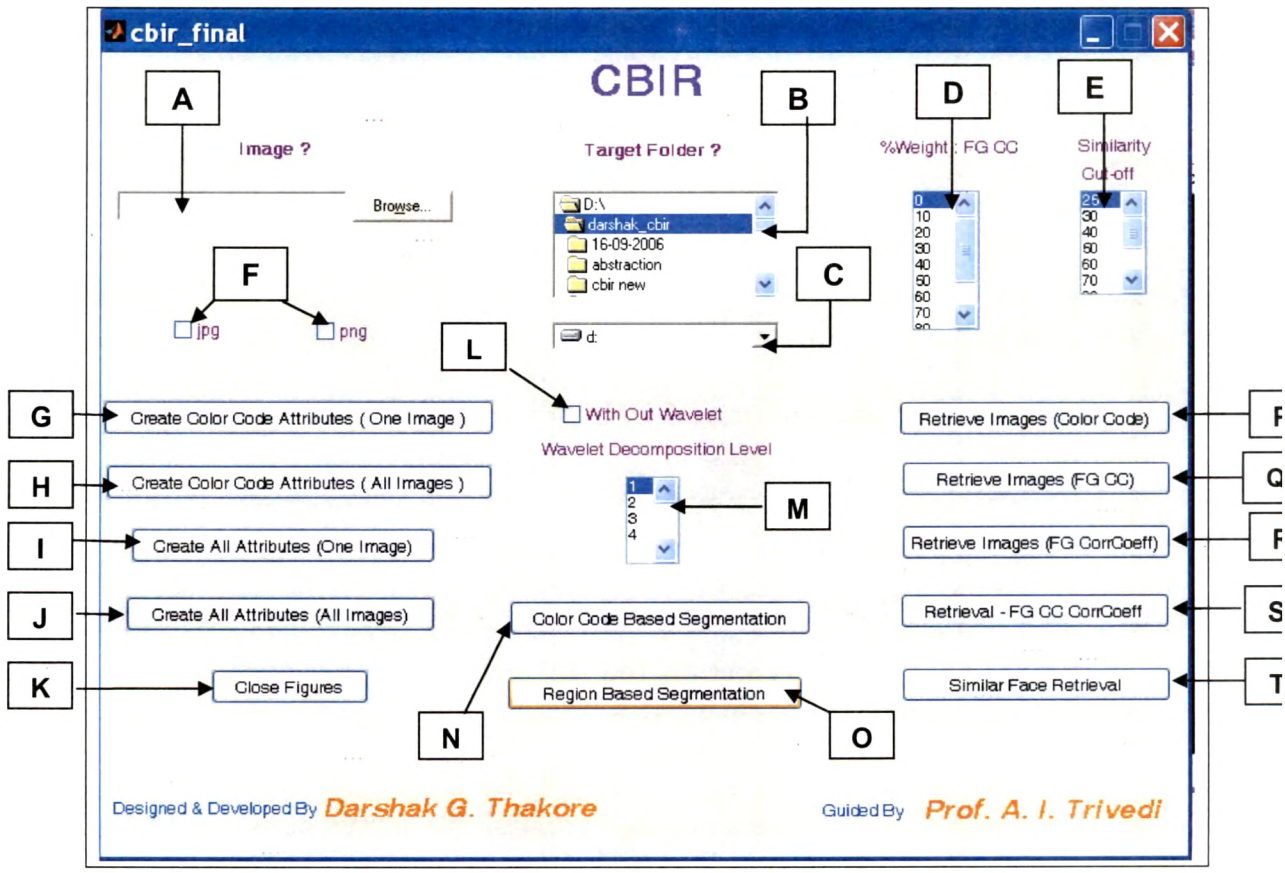

Figure 102. GUI of the CBIR

A-2.2 Component Description

The functionality of various components of GUI are describes below.

A. Image selection

The component enables user to select image by browsing files as shown in following Figure 103. The selected image will be processed for feature extraction or segmentation based on the task selected. The image will be treated as a query for image retrieval purpose.

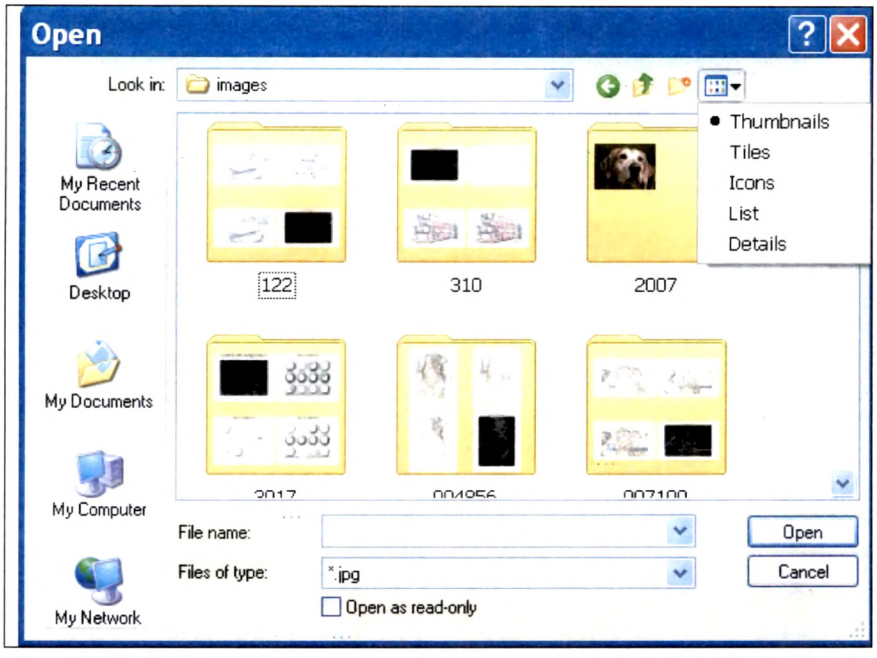

Figure 103. Image Selection by Browsing

B. Target folder selection

The folder selected specifies (i) feature extraction of all files of folder or (ii) target folder for image search.

C. Drive selection

The disk-drive selection for target folder is achieved with the GUI component.

D. Weight Selection for Foreground Color Codes (%)

The input parameter is used for specifying % proportion of foreground color code similarity in composite similarity measure.

E. Similarity Cut-off

The input parameter specifies cut-off of similarity measure for image retrieval.

F. File type selection

The jpg or png file selection is achieved with the checkboxes.

G. Image feature extraction - Color Codes, one image

The color code attributes are formed for an image specified at GUI component A.

H. Image feature extraction - Color Codes, all images

The color code features extraction is performed for all files of folder selected with GUI component marked as B. The confirmation dialogue box, as shown in Figure 106 is prompted before proceeding for a time expensive processing.

I. Extraction of all features – one image

All features of an image are extracted with the component.

J. Extraction of all features – all images

All features of all images of folder selected with GUI component marked with B are extracted with the component. The confirmation dialogue box, as shown in Figure 106 is prompted before proceeding for a time expensive processing.

K. Close all figures

The button is used to close all windows (figures) produced for output.

L. Exclude Wavelet decomposition

The checkbox excludes wavelet decomposition step when checked.

M. Wavelet decomposition level

The selection specifies wavelet decomposition level.

N. Color codes based segmentation

The button-click performs color codes based segmentation of selected image.

O. Region based segmentation

The button-click performs prominent boundaries detection based segmentation.

P. Color codes based image retrieval

The image retrieval based on similarity measures of color code attributes will be performed with the button-click.

Q. Foreground Color codes based image retrieval

The image retrieval based on similarity measures of foreground color code attributes will be performed with the button-click.

R. Foreground Correlation Coefficient based image retrieval

The image retrieval based on similarity measures of correlation coefficients of foreground will be performed with the click of the button.

S. Foreground Color Codes and Correlation Coefficient based image retrieval

The image retrieval based on composite similarity measures of foreground color codes and foreground correlation coefficients will be performed with the click of the button. The proportion of percentage weight is specified with component marked as D.

T. Similar face-image retrieval

The similar face-image retrieval is performed with the button-click.

Various Dialogue boxes

Figure 104 shows two dialogue boxes prompted when image for feature extraction or query image for similar image retrieval is not specified at component marked as A.

Figure 105 shows prompted dialogue box when image type selection is not made.

Figure 106 shows prompted dialogue box for confirming proceeding for time consuming process of extracting features of all files of specified folder.

Figure 107 shows prompted dialogue box when wrong selection of target folder is made.

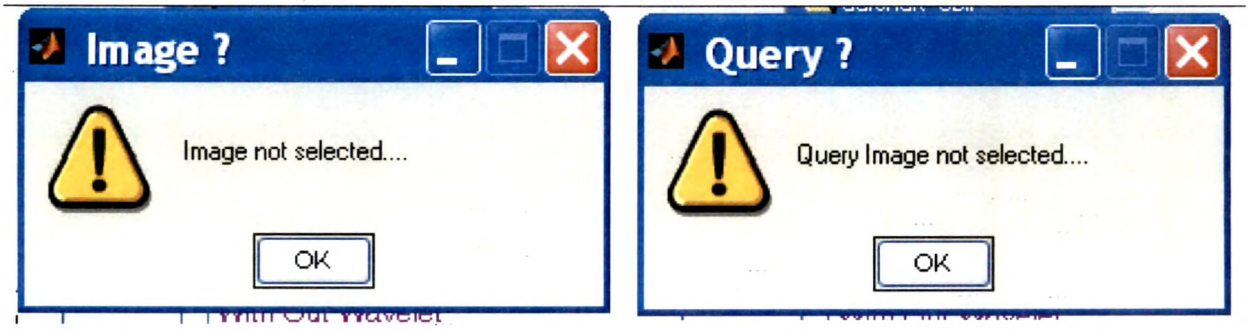

Figure 104. Dialogue box for unselected image

Figure 105. Dialogue box for unselected check box for image type

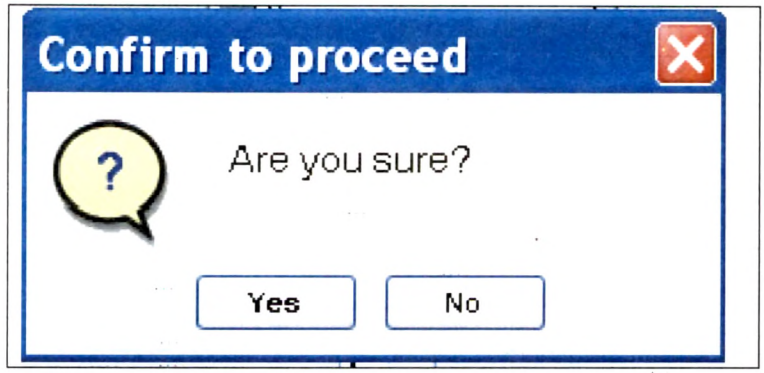

Figure 106. Dialogue box for confirming all image processing for all attributes

Figure 107. Dialogue box for wrongly selected target folder for image retrieval