CBIR Java Program

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Used Java Sample Code Provided

1. Create a folder called “Project2”
2. Download Project1.jar file and locate inside the Project 2 folder.
3. Download images folder and move it inside the Project 2 folder. Program can only run if the jar file and the image folder is in the same directory. (jar file should create 2 text files automatically)
4. Double click the jar file to run or open terminal and move to the Project2
5. Execute the jar file by typing: “java -jar Project2.jar
6. colorCode.txt and intensity.txt are created.
7. JAVA GUI is shown

**Using The Program**

1. Select a picture to be used as the source image
2. Use the Previous Page and Next Page buttons to navigate through the database
3. Once a source image is found and selected, push the Intensity or Color Code button to retrieve images by that method
4. Scroll bars will appear as needed on the source image and on the image database (horizontally and vertically). Use the scroll bars to see more content when they appear.
5. When a source image is selected, information about that image will be displayed underneath the image. Users can use this information to learn more about the image. Such information will include:
   1. Name of file
   2. Width
   3. Height
   4. Total number of pixels
6. When a source image is selected, clicking on the source image will open a new image viewer window. Users can select multiple source images and view multiple images simultaneously and the windows can be used to compare images with each other.

A picture containing text, screenshot, printer

Description automatically generated

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| There are six buttons in the program  Previous Page: move to the previous 20 images  Next Page: move to the next 20 images  Intensity: Retrieve images by intensity method  Color Code: Retrieve images by color code method  Intensity and Color code: Retrieve images by intensity + color code method with Relevance Feedback  Relevance: shows checkboxes next to 20 images each page. (if you click again, the checkboxes disappear) |

|  |  |
| --- | --- |
| Relevance - checked | Relevance -Unchecked |
|  |  |

Note: For these query images, the last few images of the first page of retrieval results are not shown because the window size is too small. Need to use scroll bar to scroll down to view the last few images. Use the next and previous page buttons to navigate through the returned results.

Image 1 query using intensity + color code + RF

Initial result (before doing RF, with relevant image selected which will be used for RF analysis):

Graphical user interface, application

Description automatically generated

Precision Value: 9/20

1st iteration result (1st RF analysis results, with new relevant images are selected for 2nd RF analysis):

Graphical user interface, application

Description automatically generated

Precision Value: 13/20

2nd iteration result:

Graphical user interface, application

Description automatically generated

Precision Value: 14/20

3rd iteration:

Graphical user interface, application

Description automatically generated

Precision Value: 14/20