Introduction to the Matlab code

The Matlab code is to demo the algorithm in the paper

J. Ning, L. Zhang, David Zhang and C. Wu, "Interactive Image Segmentation using Maximal Similarity based Region Merging," *Pattern Recognition***, in press, 2009.**

Please cite the above paper when you use the software.

Files in the software package:

- *Demo.m:* Start the program
- *mainGUI.m:* The interface design for the program.
- *DDAline.m:* Draw the line to generate the Object and background marker
- Folder *"regionMerging":* Codes for the region merging algorithm
- Folder *"testImages":* Test images for this demo program

Procedure to run the demo program

Since we have put some test images in the folder "testImages", you may directly go to Step 2 to run the demo. However, if you want to do segmentation on your images, please start from *Step 1*.

- *Step 1: Perform initial segmentation on the input image*

    You perform initial segmentation on the input image by some existing methods, such as EDISON (mean shift segmentation, http://www.caip.rutgers.edu/riul/research/code.html), Watershed, Level Set, SuperPixel, etc.

    Noted: Please save the initial segmentation results as '*imagename*_**IniSeg.png**'

- *Step 2: Run Demo.m, activate the main interface*

    The program will load the default bird example image.
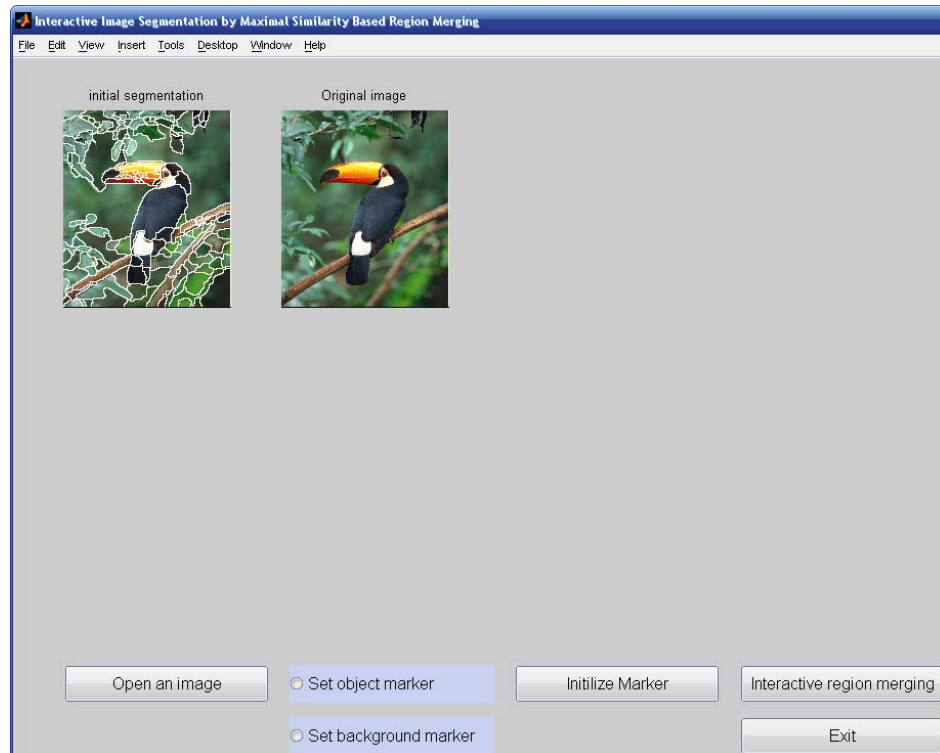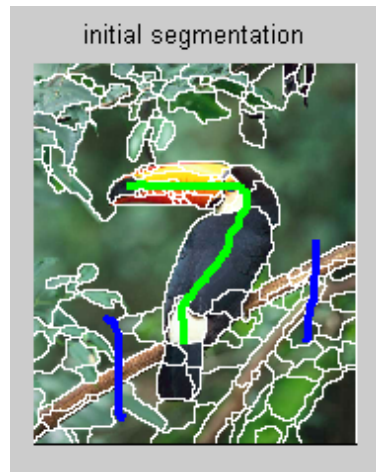
- *Step 3: Set the object and background markers*

  Select 'Set Object marker', and then mark the object seeds in the left image.
  Select 'Set background marker', and then mark the background seeds in the left image.

  Noted: you can remark the seeds by click 'Initialize Marker'.

- *Step 4: Do region merging*

  Click 'interactive region merging', and you will get the final segmentation results.

the result of region merging

Please feel free to contact us if you have comments and problems.

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