Configuration and optoipns. Some are not updated, so be careful!

I) Selectable functions.
A) getBestMatch'
1) Job: Find difference in LAB color space between border patch and all possible patches in image. Difference is sum of squares of differences for L,a,b for each pixel (in the patch), each weighted by a priority factor (see C below!). In its simplest form (the default), this priority is 0 for pixels in the target area and otherwise 1. It can however be used to give higher priority to pixel closer to the contour.
2) Default': 'getBestMatchSSD_3color'
3) alternatives
getBestMatchSSD.m (use only luminance)
getBestMatchSSD_3color (use L, A, and B)
**********Do not currently work:
getBestMatchSSD_MEX.c
getBestMatchSSD_3color_MEX
getBestMatchSSD_3color_MEX_dwc

B)'createAdaptivePatch'
1) Job: Grow the size of the patch until some criteria are met. The default version uses all color channels (weighted equally). It grows in each direction alternatively until one of three things happens. 1) the dominant angle changes (from one bin to another);: 2) the patch size was not changed (clipping at image border); 3) radius > MAX_RADIUS
2) Default: createAdaptivePatchB_weighted_3color'
3) alternatives: DO NOT USE any of these! They are not updated and may not work
createAdaptivePatchA.m
createAdaptivePatchA_weighted.m
createAdaptivePatchA_weighted_3color.m
createAdaptivePatchB.m
createAdaptivePatchB_weighted.m (only use Luminance)
createPatch.m

C) matchDistanceFunction
1) Job: Determine whether distance from contour is important in determining the match
2) Default: 'getMatchPriorityOnlyOutsideTarget'
3) Alternatives:
     getMatchPriorityDistanceFromContour.m: Matching will take into consideration distance of a pixel to the contour. The close to the contour, the more important the matching will become.
   getMatchPriorityOnlyOutsideTarget.m: Matching will only take place outside target area, i.e. match_priority != target_area. Distance is unimportant.

D) 'blendDistanceFunction
1) Job: Determine whether distance from contour is important the blending.
2) Default: 'getBlendPriorityOnlyOutsideTarget'
3) Alternatives
   getBlendPriorityDistanceFromContour.m: Matching will take into consideration distance of a pixel to the contour. The close to the contour, the more important the matching will become.
   getBlendPriorityOnlyOutsideTarget.m: Matching will only take place outside target area, i.e. match_priority != target_area

E) calculatePriority
1) Job:
1a) Calculate the tangent suing a small patch around the point of interest (calculate the curve there using a least squares approximation to a unit circle. The calculate the tangent)

1b) Using real patch size, calculate the confidence. Since this is the same for all three color channels and is a percent, we can do it for one.

1c) Then get the local gradient field. Ignore the bits in the target area.

1d) find the dominant gradient: In the default version use the weighed mode. More specifically, get the histogram of the angles. Find all pixels in a given bin, and then get the summed magnitude for that bin. If magnitude is on, multiply the frequency in the bin by the summed magnitude. Then find the mode, and the average magnitude there

2) Default: calculatePriority_weighted

3) Alternatives

calculatePriority_weighted.m

calculatePriority_weighted_DoG.m Same as above, but: make a patch 3 times bigger than needed, fill it, blur it, DoG it, and do the gradients. then clip back down and do the histograms on that

******DO NOT USE:

calculatePriority.m

II) Parameters

A) 'input_image'

1) Job: Which image to fix. NO LONGER USED....reset to value of ImageAgo

2) Default: 'eagle.png';

B) numBins

1) Job: Number of bins in the gradient orientation histogram.

2) Default: 30;

C) 'logfile'

1) Job: Where messages go.

2) Default: log

3) Alternatives: any valid filename string

D) patch_radius_min.

1) Job: Set the starting size (and smallest size) of the patch)

2) Default: 4

3) Alternatives: any positive integer

E) patch_radius_max

1) Job: Set the maximum size of the patch. Should be greater than the minimum, but this is not checked!

2) Default: 20

3) Alternatives: any positive integer

F) stop_growing_threshold

1) Job: Determine by how much (s_g_t*100 in percent) the dominant angle needs to change before growing stops.

2) Default: 0.05

3) Alternatives: any float 0>= n >=1

4) Notes: only used in createAdaptivePatchB_weighted.m

G) magnitudeWeight

1) Job: multiplies the summed magnitude of the dominant gradient by the number of pixels that have that gradient

2) Default: 1 (use)

3) Alternatives: 0 (do not use) or 1

H) badMatchThreshold

1) Job: If no good match can be found, skip this pixel (for now, come back to it later).

2) Default: 50

3) Alterernatives: Any positive float.

I) voidBitThreshold
1) Job: NOT USED
2) Default: 0.2
3) Alternatives: Dunno

J) radiusForTangent
1) Job: How big should the patch for calculating the tangent be.
2) Default: 5
3) Alternatives:
4) NOTES: IS currently HARDWIRED to be: 2 AND NOT USED ANYWAY"

K) blend
1) Job: when copying the new patch onto the target area, blend the new stuff with existing old stuff too! This value determines how much of the new stuff is added in to the "known" areas.
2) Default: 0 (0%, equivalent to "do not use")
3) Alternatives: any float 0>= n >=1

L) resultsDir:
1) Job, where do files (log, image) get written.
2) Default: '.' (current directory)
3) Alternatives: Any valid path

M) imageAgo
1) Job: The image to be processed. Assumes that the image is in the target subdirectory, and is a.png type.
2) Default: 'eagle'
3) Alternatives: Any of the images.

N) machine
1) Job: on which machine shall the code be run.
2) Default: NoMachine (start script will determine)
3) Alternative: Any valid LSGS machine name
4) NOTES:

O) imagePath
1) Job: Where is the image located
2) Default: 'target' (in the 'target' subdirectory of the current directory).
3) Alternatives: any valid path?.

P) 'inpainting_INFO'
1) Job: stuff to write in name of the resulting file, to identify the code that generated the image
2) Default: 'WingersCode_reparsed_Kan'
3) Alternatives: Any valid string

Q) DataWeight':
1) the relative weight given to the data term over the confidence term
2) Default: 1 …
3) Alternatives: any positive float.