

CS 545 Comparison Assignment

Materials Due: October 13, 2015, 8:00 AM

All items and details (dates, typo fixes...) subject to change – always check with instructors, and watch the deadlines for dropboxes in D2L (Learn@UW-Stout)

Overview

Create a webpage to load two images. From them create a third image showing a comparison between the two input images. The third should easily demonstrate the difference(s) between the images.

Details

Create an html (text) file that ends with the extension “.html”

Create an associated JavaScript (text) file that ends with the extension “.js”

- **For content**
 - The page should offer the viewer an explanation of how two images can be compared
 - Provide an example: stating what a third image shows about two images
 - The page should ask the viewer to load TWO images into the page
 - The page should then display the loaded images
 - The page should also display an image illustrating the differences between the two images
- **Requirements**
 - Page must have a paragraph describing what is going to be done/compared/differenced and why this is useful (i.e. a description of the comparison process and its usefulness)
 - Page must be able to load two user input images
 - Page must display the input images “as-is”
 - Page must display the comparison image
 - HTML and JS files must be in human readable form using “good” coding style
- **Bonus**
 - Provide options for the user to select methods of comparison to be applied
 - Provide options for the user to select how the comparison is displayed in the 3rd image
 - Post the page to your personal website (provide URL in a text file when turned in)

Thought/Idea References:

<http://www.araxis.com/merge/documentation-windows/comparing-image-files.en>

<http://jeffkreeftmeijer.com/2011/comparing-images-and-creating-image-diffs/>

<http://www.lac.inpe.br/JIPCookbook/6050-howto-compareimages.jsp>

https://en.wikipedia.org/wiki/Image_differencing

<http://effbot.org/zone/pil-comparing-images.htm>

http://vis.uky.edu/~cheung/courses/ee639_fall04/readings/ccv.pdf

Practical Algorithms for Image Analysis: Description, Examples & Code,

M. Seul, L. O'Gorman, M. J. Sammon, Cambridge University Press, 2000

Digital Image Processing, 3rd Edition, R.C. Gonzalez and R.E. Woods, Pearson Prentice Hall, 2008

Possible Comparison Ideas:

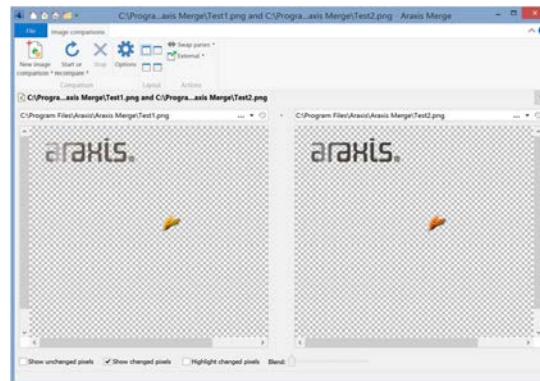
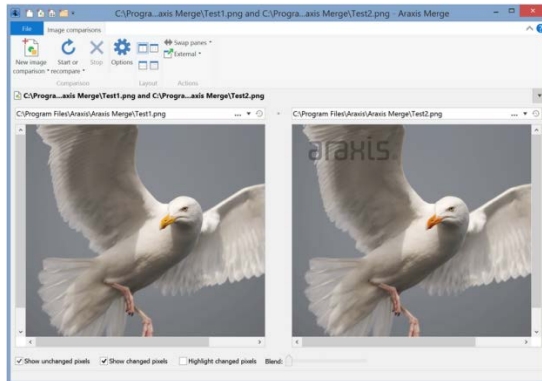


Images from:

<http://jeffkreeftmeijer.com/2011/comparing-images-and-creating-image-diffs/>

First two images are input.

The third image displays the second image with a green square around a region that is different.



First two images are input.

The third image displays changed pixels.

Images from:

<http://www.araxis.com/merge/documentation-windows/comparing-image-files.en>

A third idea from: *Digital Image Processing*, 3rd Edition, R.C. Gonzalez and R.E. Woods, Pearson Prentice Hall, 2008, circa page 77:

Write a computer program to set to zero the least significant bit of every pixel in an image, subtract this image from the original image, and then scale the difference image to the range [0, 255].

Turn-In (to the appropriate D2L dropbox)

The finalized "page"

Minimally this should be 2 files:

The .html file and the .js file

Optionally you may also use css and additional images

Thus there may also be additional files

Optionally you may post this page to your personal webpage

Provide a text (.txt) file with the URL if you do so

You still must provide the above zipped materials as well

Zip all files together before turning them in.

Be certain when unzipped the page will display correctly by double clicking on the html file.

Page should display correctly using any web browser

Likely Firefox or Chrome (maybe Safari) will be used for grading