Visual Die-Analysis Tool

All computational die analysis needs to be visually validated and corrected. This requires thousands of visual pair-wise comparisons. The results of these comparisons have to be recorded in two ways:

1) The image clusters must be recorded on a spreadsheet.
2) The images themselves must be moved into an appropriately named folder in DROPBOX.

This record-keeping process is, currently, done by hand, very time-consuming, and a source of many clerical errors. Automating this process would eliminate errors and save hundreds of hours of time.

Currently, I am using three separate applications:

1) Excel
2) Dropbox
3) Safari

The computational model delivers results as an Excel sheet. Image numbers in the same row all belong to the same cluster:


STEP 1: The images have to be moved into appropriately named folders in DROPBOX, such as

46;001_46;004_46;082_46;115_46;121_46;131_46;142_46;T072_46;T088_46;T105_46;T117

Image numbers are always separated by an underscore. Singletons are moved into a folder SINGLES.
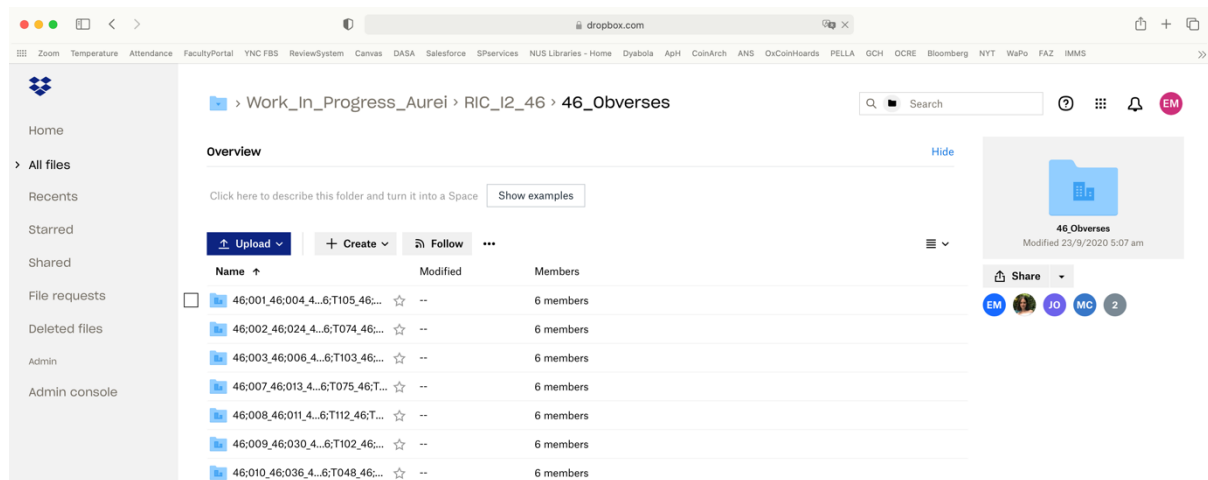
As soon as the images are in their folders, visual analysis can begin. Currently, I open two windows of the same DROPBOX folder in my web-Browser, and then click through the images with the DROBOX image viewer (the grey bar beneath the image):
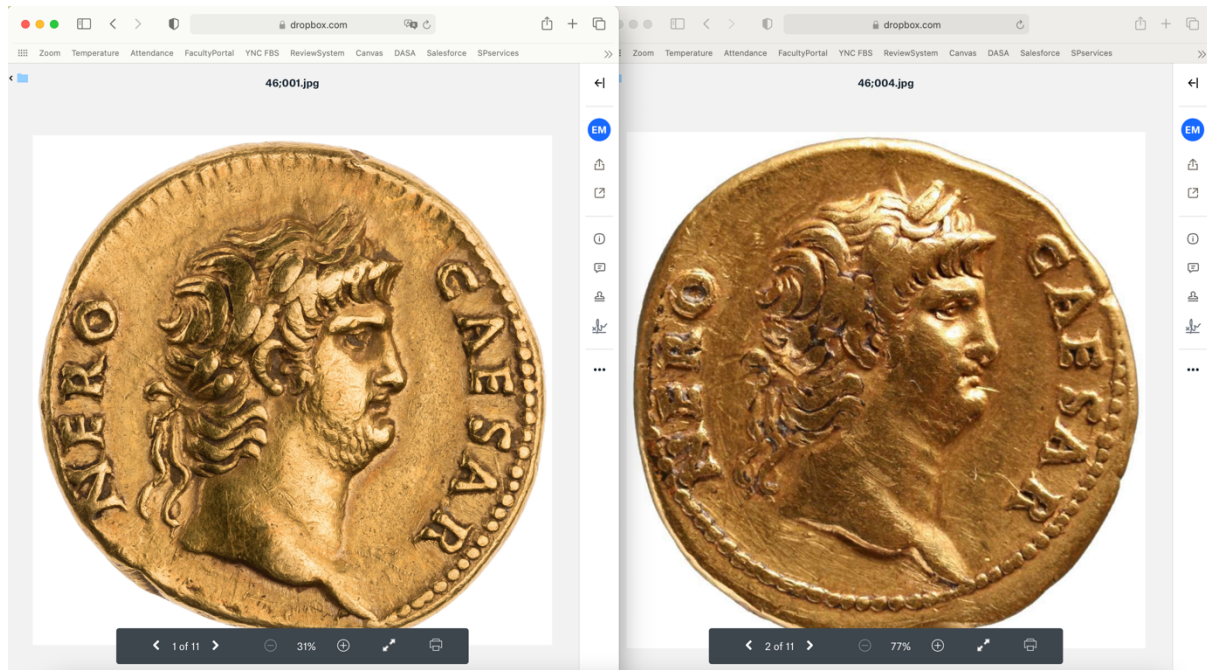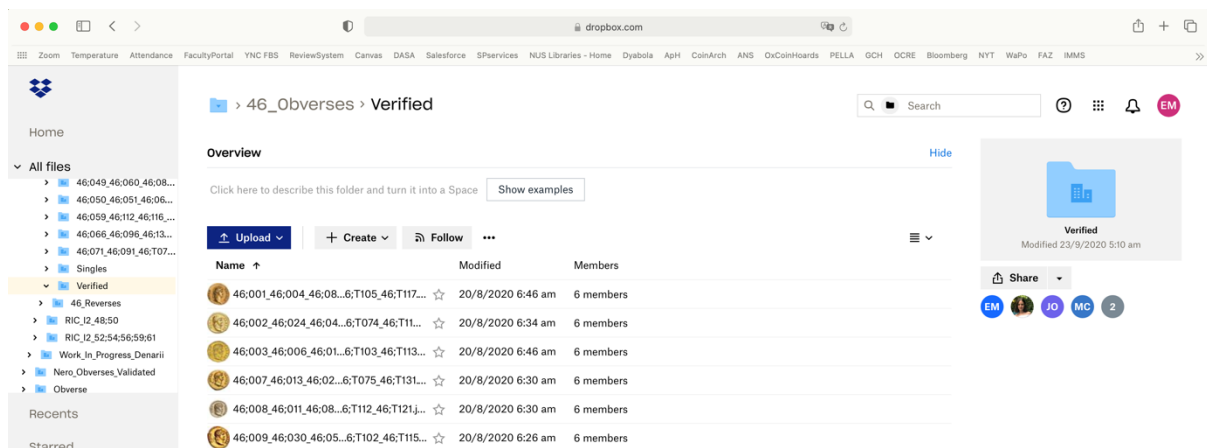

STEP 1:

If an image matches, I leave it in the folder. If not, I move manually move it to the SINGLES folder, and manually correct the spreadsheet.

STEP 2:

After, I have validated a folder I

   a) pick the best image in the folder.
   b) copy it into the folder.
   c) rename it according to the folder number.
   d) move it to the VERIFIED folder.

STEP 3:

I compare all images in the VERIFIED folder to each other, to make sure that the algorithm has not broken up an image cluster into two or more clusters. If need be, clusters are combined into one. Again, I manually move the images, rename the folder and correct the spreadsheet.

STEP 4:

I compare all images in VERIFIED to all images in SINGLES and assign un-assigned images to predicted clusters. Again, I manually move the images, rename the folder and correct the spreadsheet.

STEP 5:

I compare all images in SINGLES to each other to detect missed clusters. Again, I manually move the images, rename the folder and correct the spreadsheet.

STEP 6:

I check all images in the each named folder to each other to determine whether there are two or more images of the same physical coin. If this is the case, I record this in the spreadsheet (in the case below, in column T) and calculate the number of physical coins (in the case below, in column U):

THE APPLICATION

The application should link EXCEL, DROPBOX, and a WEB-BROWSER. It should have an interface with four functions:

1) MATCH
   Images are either left in their current folder or moved to the folder with the matching image. The Excel-sheet and the Dropbox folder – both in terms of name and files – are automatically updated.

2) NO-MATCH
   The non-matching image is moved to Singles, the Excel-sheet and the Dropbox folder – both in terms of name and files – are automatically updated.

3) BEST IMAGE
   Allows to select an image in a folder. It is a) copied, b) named after the folder number, and c) moved to VERIFIED.

4) IDENTICAL IMAGE
   Identical images are marked as such in the Excel sheet, e.g. (46;82_142), and the number of **coins** per clusters is automatically updated (in this case by -1).

This is it. Please let me know whether it can be done.