

README¹ - Implementation For Image Mosaicking

Outcome

- We are able to correctly implement mosaicking feature given the code from our provider.
- We are able to support this feature through script input.
- We are able to expose it through GUI.

Implementation Detail

- By the structure of the project, two classes has to be added (one to `model.image.operation` & the other one to `controller.handler`) for **adding** a new feature, and one existing class (`ImageProcessorMain.java`) has to be modified for **supporting** this feature.

MosaicOperation.java in **model.image.operation**

- We have to put the underlying mechanisms for mosaicking operation into this class so the model would know what to do on a provided image for this operation.
- Specifically, we generate a size n list of `SeedNode` s which stores the information of the coordinates on the provided image. We then traverse every `pixel` of the image and find the nearest `SeedNode` s around it. After the traversal, we in effect divide the image into n sub-images (tiles), finally we make each tile have one color of the average of its pixel components and this forms a mosaicking image.

MosaicCommandHandler.java in **controller.handler**

- We have to add new handler class so the controller would know how to parse the arguments for the mosaic operation.
- This controler is pretty similar to the `BrightenCommandHandler`, it recives the first two arguments as the source name of the image and the destination name of the image, with an integer representing the mosaic seed.

ImageProcessorMain.java

- We need to put an instance of the newly created `MosaicCommandHandler` into Main's `SUPPORTED_HANDLERS` list.

Side Note

Given the prior code is transparent, i.e. the prior implementation detail is visible, the process of implementing a new feature is relatively easy. Especially considering most command controller share the same logic, and the `BrightenCommandHandler` is a previous instance that expect a series of arguments that is made up of two strings and one integer, as the `MosaicCommandHandler` does as well.

1. Refer "README (Provider Legacy).md" for the pre-existing design and implementations. ↩