

Task 4 - Design

*ATTENTION: We would like to see how you'd write code without time constraints, so this task is not supposed to be delivered immediately. **Source code must be sent in 4 days (96 hours).***

Suggested Task Duration: 4 hours.

1) Refactor your code using an object-oriented approach. The new design should be done with the following requirements in mind:

1. The list of available filters should take into account the image type (e.g.: if the input image is a single channel 8-bit pixel image, RGB split should not be listed in filter options).
 - a. If you are using **Pillow**, the image type is easily retrieved from the `Image.mode` attribute (see [this link](#) for more details);
 - b. If using **OpenCV**, it's possible to get the Matrix type (see [this link](#));
 - c. If the image library you use does not provide an easy way to get the image type, just create a fake `get_image_type` function that always returns and "RGB" (do not spend time trying to implement one);
2. Should be easy for other developers to make new filters available;

2) Also, change the way the application operates in the command line by allowing the user to choose from a list of available filters (in case no filter flag was given). See the example below:

```
$ python main.py image.jpg
This is an Image App

Available filters:
1. Blur
2. RGB Split

Type the selected filter number: 1  # User Input

Selected Filter: Blur
Type the Blur radius: 4  # User Input
Type the Blur weight: 1  # User Input

Image file processed successfully!
```

Things that **will be** evaluated:

1. Design choices;
2. Documentation: if you create some interface or base class, it's expected to have some documentation, preferable in english;

3. Include a README explaining how new filters should be implemented.

Things that **will not be** evaluated:

1. Do not spend time implementing new filters (although you may fix the current ones if you find any bugs);
2. Do not spend much time in the app command line presentation (fancy command line menus or things alike), feel free to keep it simple;

Send questions to tech-eval@esss.co.