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CIS 192

### Final Project Proposal

Note: I will working alone on the project.

#### Project Outline:

The project will entail the user inputting a sentence of an artist drawing an object (e.g. "Van Gogh draws cat") and the output will be a image that was found from Google Search that is stylized to Van Gogh's style from a preset of data. The main part of this project will be the regular expression parsing of the input into variables that can be taken in, utilizing the style transfer algorithm implemented with TensorFlow, and output it to the user.

#### Requirements:

1. The custom class will be a photo class that contains the image object that has a custom magic method for string, which instead prints out the link(s) that it came from.
2. Will be using re for regular expression parsing, and using numpy, tensorflow, and matplotlib for processing and displaying the image.
3. The selection of the dataset of the artist to be trained on will be given by a generator, so that we can yield a slightly different style from the artist for each call.

#### Questions:

1. How will the program interface with the user? Would it need to be command line or we can assume that the user can just compile and run the code with access to the main method?
2. The detailed implementation of the tensorflow algorithm will be from referencing an outside source as it contains material that is beyond the current expectation of the class. Will I be penalized for this? I will cite the source and will be referencing to it to thoroughly understand it before implementation.
  - a. Source:  
[https://github.com/ISourcell/How\\_to\\_do\\_style\\_transfer\\_in\\_tensorflow/blob/master/Style\\_Transfer.ipynb](https://github.com/ISourcell/How_to_do_style_transfer_in_tensorflow/blob/master/Style_Transfer.ipynb)