CIS4517 Project 1: Develop a cloud application: Image Processing Application

Functionality:

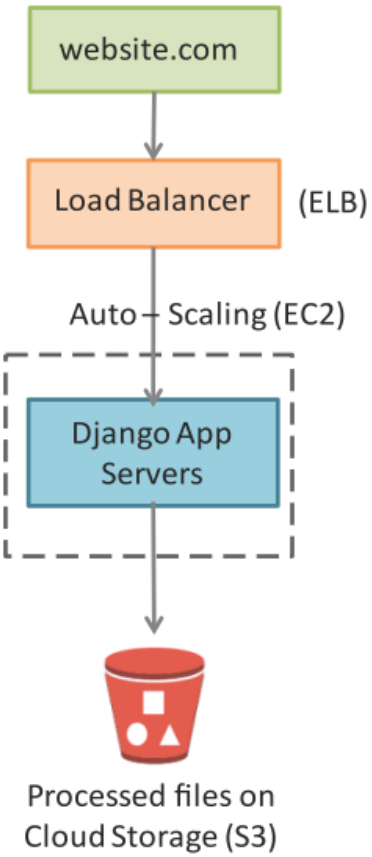
- A cloud-based Image Processing application.
- This application provides online image filtering capability.
- Users can upload image files and choose the filters to apply.
- The selected filters are applied to the image and the processed image can then be downloaded.

Component Design

- **Web Tier:** The web tier for the image processing app has front ends for image submission and displaying processed images.
- **Application Tier:** The application tier has components for processing the image submission requests, processing the submitted image and processing requests for displaying the results.
- **Storage Tier:** The storage tier comprises of the storage for processed images.

Deployment Design:

The final deployment should be like below: The website should be the public IP address of your EC2 machine which serves as the web server.



Please use the Python Web Application Framework – Django
https://www.djangoproject.com/ which is an open source tool for web application development.

Minimum functionality:

1. Design a web portal to upload the image files.
2. Implement at least three out of the following 6 image filtering functions: Gray, Sepia, Poster, Blur, Edge, and Solar.
3. Store the images in AWS S3 storage
4. Display the processed image
5. A web portal to download the processed image.

What to submit:

1. A zip file of all your codes
2. A web portal to test your design and implementation
3. A report to document your function and implementation

A sample template is provided for your reference (courtesy of Bahga and Madisetti from the course textbook). More details of this image processing application can be found in Chapter 3 of the textbook as well as the course slides.

Note: throughout this semester, please don't terminate any EC2 machines you created. You may stop the instances if you don't use them, but don't terminate them.

Due date: March 10, 2022