Random_Image_Service: v 0.1.0 by Kestt van Zyl

Scope: These instructions are designed to guide the user through the installation and operation steps that are required in order to use the custom microservice Random-Image-Service.py program.

Overview: The microservice program will provide a random image service. There are five themes to choose from: dogs, cats, cars, houses, and landscapes. The service will provide a file path for a randomly selected image based on the selected theme. This microservice program is meant to be run with other programs that are designed to work with the defined interface. The program requires the Python Interpreter in order to run.

The program is designed to run standalone on your computer and uses a local address and 2 ports for communication with other interfacing programs. It is not intended to be imported and called from within an interfacing program. It uses sockets and TCP protocol along with ZMQ forr eceiving and sending of simple string messages.

Installation:

Python 3.9 is the version that was used to write this program and the only version that it has been tested with.

There are several Python module libraries required to run this program: **zmq, random, os, datetime, and pathlib.** If you do not have these module libraries installed, you can use pip from within your IDE to install. (Example IDEs: PyCharm, Visual Studio Code, etc.)

Steps for installation:

1.) Place a copy of Random-Image-Service.py into a new directory that is easily accessible.
2.) Add the dogs, cats, cars, houses, and landscapes folders into the directory.
3.) Make sure that you do NOT change the names of the folders or the .py files.
4.) If you would like to use the test interface add the test_interactive.py file to the directory as well.

Operation:

1.) Start Random-Image-Service.py in your IDE. For example, in PyCharm click “Run” to start the program.
2.) A terminal will pop up below and the message “Random-Image-Service Ver 0.1.0 is running” will be displayed. This is indicating that the program is running.
3.) If you would like to test the interface, you can start the test_interactive.py program.
4.) You must first start Random-Image-Service.py before you start test_interactive.py and they must run simultaneously.
5.) In the terminal a prompt will appear, enter a valid command. A list of commands can be viewed in the ‘Available Option Command Messages’ section of this document.
6.) The service can be terminated by typing “STOP_STOP” if you are using the test_interactive.py or you can terminate the service by clicking the stop button in your IDE.

Available Option Command Messages:

Random-Image-Service.py is interfaced with messages. Only the following messages as strings without the enclosing “ “ are valid and will produce an output. The output is defined after the = below:

“get_rand_image(dog)” = a random dog image file path

“get_rand_image(cat)” = a random cat image file path

“get_rand_image(car)” = a random car image file path

“get_rand_image(house)” = a random house image file path

“get_rand_image(landscape)” = a random landscape image file path

“STOP_STOP” = will terminate the service and return the message, "Random-Image-Service Ver 0.1.0 is stopping"

These commands must be entered verbatim. In other words, they must be entered exactly as shown but again, the enclosing “ “ must NOT be included. Extra spaces or other characters will NOT be recognized and will result in an “invalid command, please try again” message.