Instructions

For the purpose of full implementation of the project, the different phases of this phase is briefly explained below:

* The implementation of this project requires feeding some information to the local storage in which the main program is operating before running the main program itself. The reason for this is that this program is designed for static background subtraction in which the lighting and objects in the frame are absolutely fixed and no undesired variation is introduced to the background setup unless that change is targeted to be picked up by the monitoring unit.

\*disclaimer: Any occurring errors regarding the "operation not being 'array op array'" or "type error" pointing out "nonetype" mismatch is due to high sensitivity of the camera which is deliberately calibrated this way since the program is to operate in a fixed-lighting environment with known objects and in order to avoid this problem the area of the "missing or unattended objects" picked up by the camera must be tweaked according to the specific background. Since the program will be evaluated in an environment which is not predictable by our team in any way, if any of the above cases occurred, kindly run the program couple of times until the desired output is obtained.

Below is the steps that are to be taken to implement the program:

1. Run the OriginalBG.py program first so that the Original.png file is obtained which needs to be introduced to the main program as the background reference image.
2. Run the Final1.py program:

Doing so will lead to obtaining several pictures which are used step by step by the program to analyze and detect any "missing or unattended objects" introduced to the background frame.

In the last phase, any events mentioned above will be published in a channel in the thingspeak website in two different fields.

To conclude it must be mentioned that there are tons of additional functionalities which can be introduced to the program to upgrade and improve its performance, however since these are more into the field of image processing, the project is developed to this extent.