**Sky Imager Aggregator Documentation for Admin/User**

**Short description of the system as a whole**

The RaspberryPi is connected to the camera true an Ethernet cable. The purpose of this system is to accesses the camera to take a picture every 10 seconds. Once the photo is taken a mask is applied to cover the surrounding objects. When this process is finished the software accesses the server and sends the photo.

**Minimum HW requirement**

* RaspberryPi 3 Model B+
* Noobs microSD
* Power supply 2.5A 5.1V
* Ethernet cable
* camera

**Library and SW**

The RaspberryPi works on Debian operating system which is a Linux based system. For use of this code you will need python 3.5 and python 2 as well.

OpenCV library is needed as well, which you can install by following this link: <https://www.pyimagesearch.com/2018/09/26/install-opencv-4-on-your-raspberry-pi/a>

You will also need the following libraries:

* numpy
* subrpocess
* datetime
* http
* os
* sys
* time
* json
* base64
* copy
* configparser

And to control the program we use supervisor service.

**Installation and use**

Using the code is pretty simple and can be done in two steps:

1. You need to download the repository from github

2. Change supervisor service configuration file by adding the two scripts to supervisord.conf like so:

[program: split]

directory = /home/pi/code

command = python3 split.py

startsecs = 10

nodaemon = false

autostart = true

autorestart = true

This is to be done for SendStorage.py the same way. For more information about supervisor read the instruction manual.

**Configuration**

To set most general parameters a configuration file is available. The file is read at the very beginning at main program start up. You can find the file in *config* folder. Parameters:

* *cap\_mod* = capture interval

Image is captured when following condition holds:

Modulo operator is used in the condition so it is more than recommended to use values that divides 60. These values are interval of image capture in seconds. Possible values: 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30 a 60.

* *cap\_url* = IP camera url

Example of configuration file:

[DEFAULT]

cap\_mod = 10

cap\_url = http://192.168.0.10/JpegStream.cgi?username=...&password=  
...&channel=1&secret=1&key=...