

ADMIN MANUAL

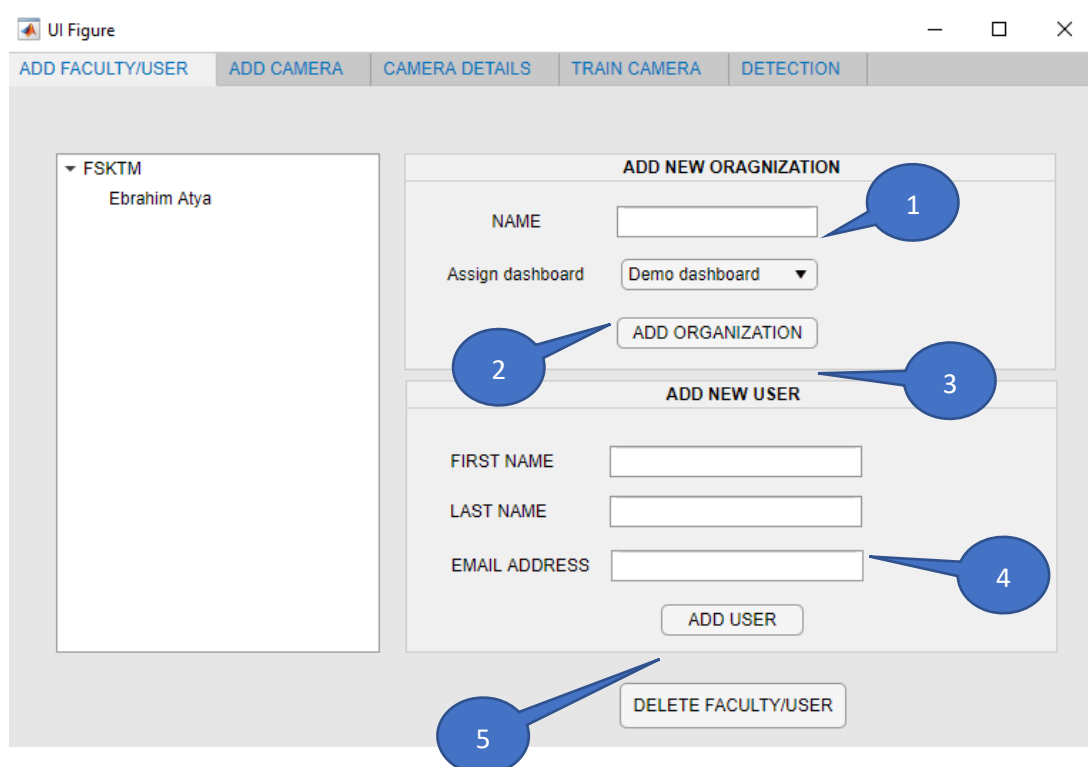
1- Create Thingsboard account:

<https://demo.thingsboard.io/login>

2- Login to Thingsboard and design a dashboard to visualize waste information.

3- Open SmartMonitor.exe and login using Thingsboard email and password.

4- Add new organization and add users to the organization:



1. Enter the name of the organization.
2. Select a dashboard to be viewed by the organization.
3. Click to add the organization.
4. Enter user's information.
5. Click to add user.

5- Add cameras to the organization

UI Figure

ADD FACULTY/USER ADD CAMERA CAMERA DETAILS TRAIN CAMERA DETECTION

CAMERA ID

FSKTM-1

ASSIGN TO ORGANIZATION FSKTM

URL

ADDRESS

http://rasperrypicam.ddns.net:8081/

PASSWORD

USERNAME

admin

LOCATION

latitude

3.1285

longitude

101.65

open map

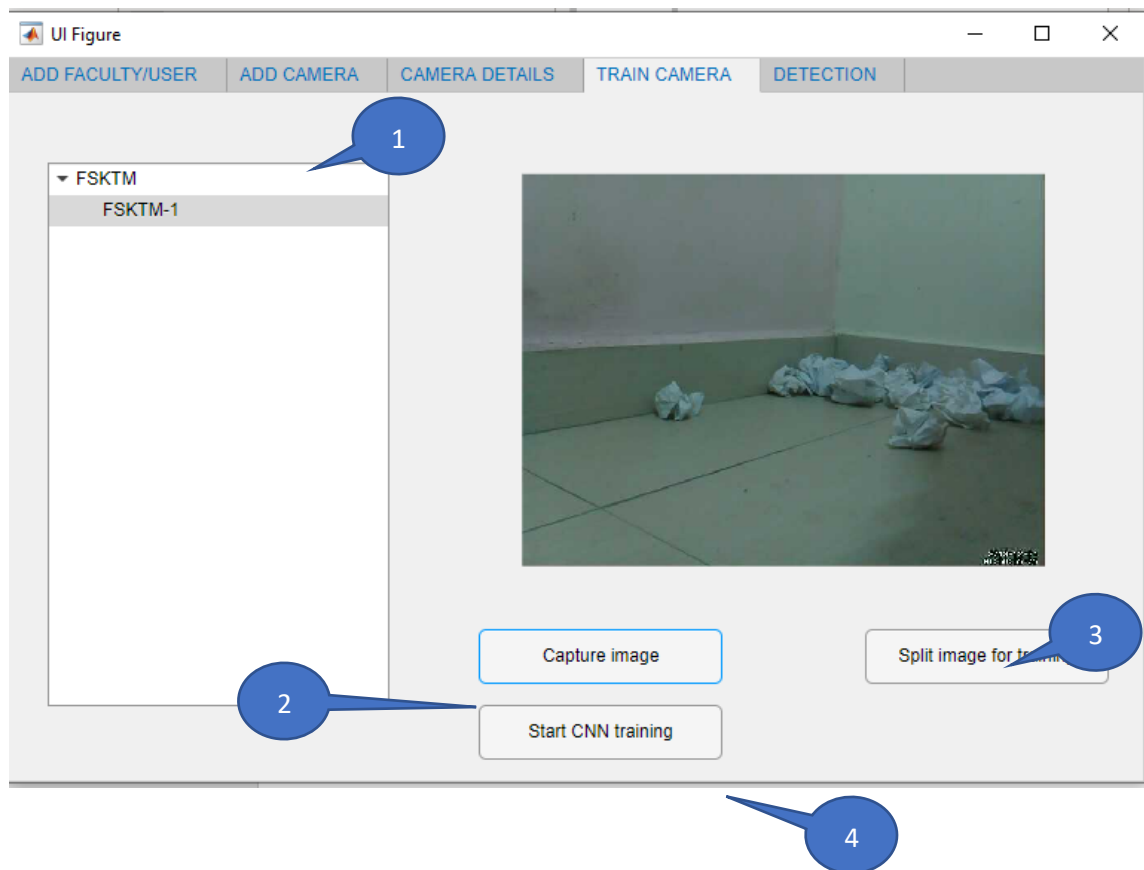
DETECTION PERIOD (in minutes)

2

ADD

1. Enter camera name.
2. Enter the IP address of the camera.
3. Enter username and password for the camera (leave it blank if not required).
4. Enter detection period.
5. Select the organization.
6. Enter location of the camera. You can enter longitude and latitude manually or click open map to get longitude and latitude from the map.
7. Click to add the camera.

6- Start camera training.



1- Select camera

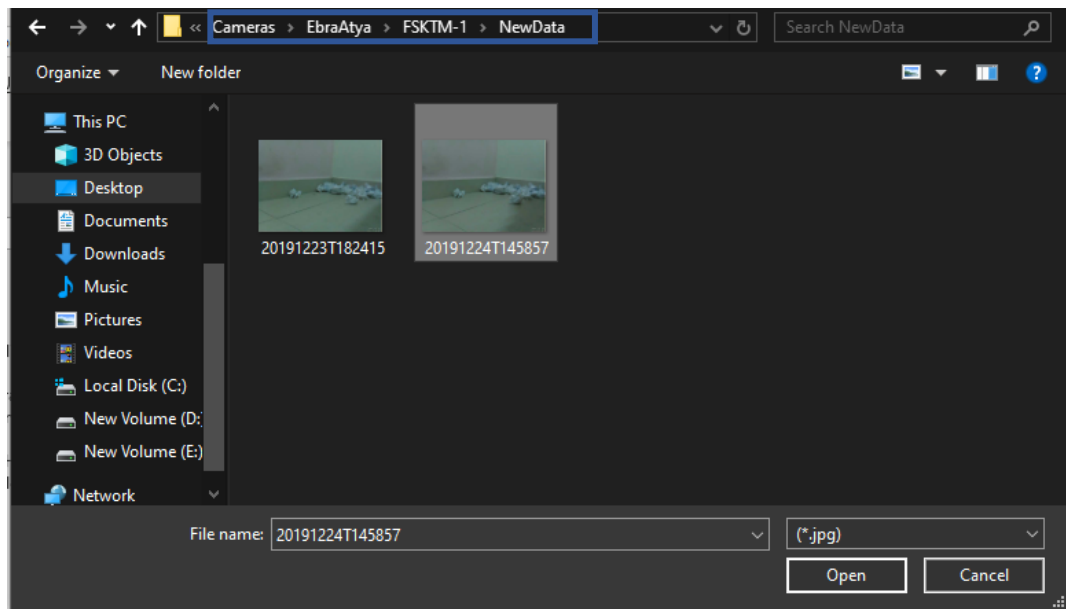
2- Capture image for training

3- Select image file to be divided into blocks for training purpose

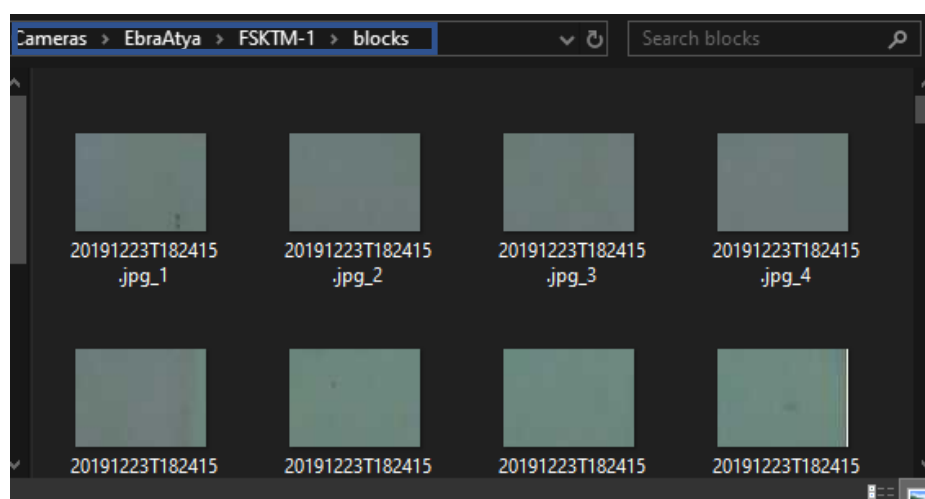
4- Train new data.

Before the system can be run, you need to set and collect data first.

- Capture as many as image from the camera and save it in a folder.
- Click “Split image for Training” button. This button will help you to divide each image into 48 blocks. After clicking the button, the GUI will ask you to select an image.

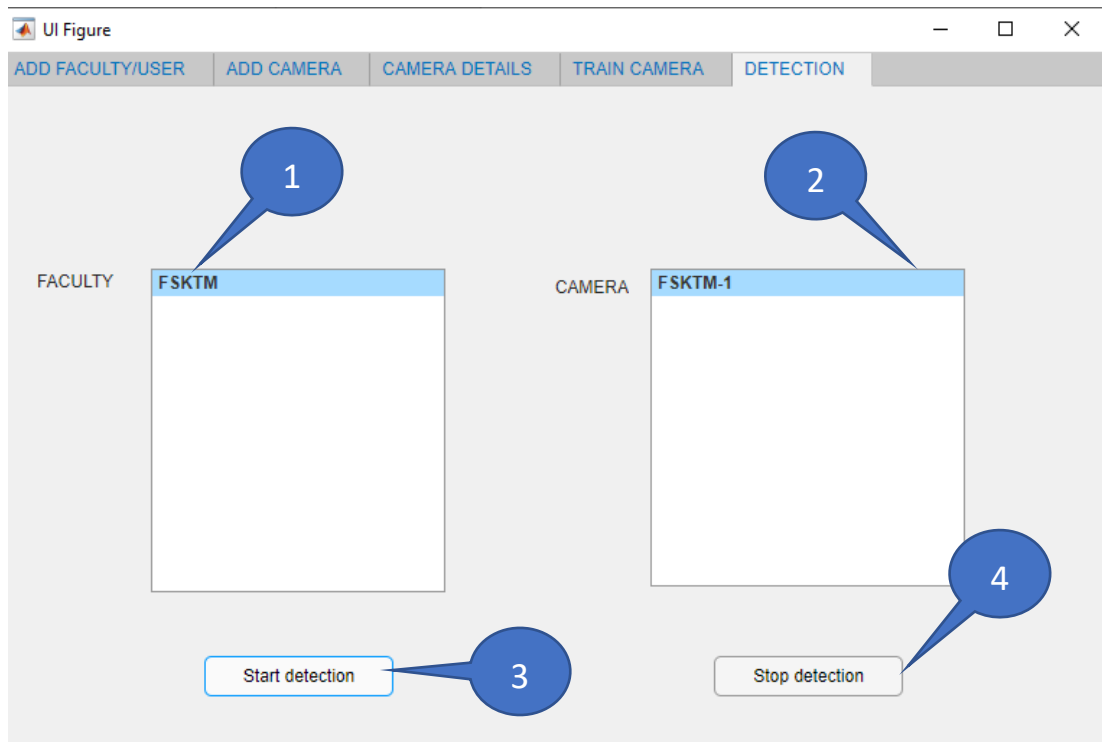


- The image will be divided into 48 blocks and save in the “blocks” folder inside the camera folder in running number.



- You need to manually classify each block to the training set in the “NB_WasteTrainMedium” folder. There are three categories; new_bg1, rain_water, waste.

7- Start detection



1. Select an organization.
2. Select the camera.
3. Start waste detection.
4. Click to stop waste detection.

8- Waste visualization.

You can login to Thingsboard to visualize waste on the created dashboard.

This tutorial helps to set dashboards and alarms on Thingsboard:

<https://www.youtube.com/watch?v=TwJJbxwQX5k&t=602s>