HOW TO RUN

The following steps need to be followed to install the pre-requisites for the Object Detection API.

1. Firstly, we need to install TensorFlow (recommended version 1.15). Steps could be find out at- https://www.tensorflow.org/install.

2. Then we need to clone the TensorFlow repository available at- https://github.com/tensorflow/models/tree/r1.13.0. Download the .zip file and extract it to 'C:/TensorFlow' and rename the folder to 'models'.

3. Now, we need to download protoc (protocol buffers) repository from- https://github.com/protocolbuffers/protobuf/releases/tag/v3.12.3 and extract it to 'C:/TensorFlow' and rename the folder as 'protoc'. Copy the path to the bin folder in Environment Variables.

4. As we have installed protoc we can now generate the .proto files that will help the program to read pre-trained model file. To do so, we have run the following command from command prompt at location- C:/TensorFlow/models/research/object_detection.

```
protoc object_detection/protos/*.proto --python_out=.
```

5. Now we need to download the model using the steps mentioned in model requirements section and copy the model and associated 'frozen_graph.pb' file into 'object_detection' folder.

6. In this step we have create a database with the following specifications and start the MySQL server to enable database connectivity.

ATTRIBUTES

Datestmp: date of detection of object.

Timestmp: starting time of surveillance.

Time: time of detection of object.

Info: details of objects detected and accuracy of detection.

Storage: the location on PC where the image is stored.

propone: 0 for webcam 1 for upload.

proptwo: 0 for video and 1 for image.

	#	Name	Type
☐	1	**datestmp**	varchar(10)
☐	2	**timestmp**	varchar(8)
☐	3	**time**	varchar(8)
☐	4	**info**	varchar(200)
☐	5	**storage**	varchar(100)
☐	6	**propone**	varchar(1)
☐	7	**proptwo**	varchar(1)

Figure 7: Relational schema

7. Copy the gui_app_test.py file and image file from project repository- and run the file using command prompt **python gui_app_test.py**.