MATLAB Detector Tracker

This is a program for visual object detection and tracking made in MATLAB.

Overview



Figure : The program after it has been started.

**Getting started**

1. **Start the program**

When you have started the program you should have an open window that looks like Figure 1.

1. **Choose an object to track or detect**

After you have started the program you have three (3) options to choose from as seen in Figure 2.



Figure : Click on one of these buttons

* 1. **Choose an image with an object**

In this option you will choose an image, which has not previously been marked. To choose an image, click on the *Browse Image* button, as seen in Figure 2. You will now get a prompt in which you will pick a file of your choosing and then click on *Open*, as seen in Figure 3.

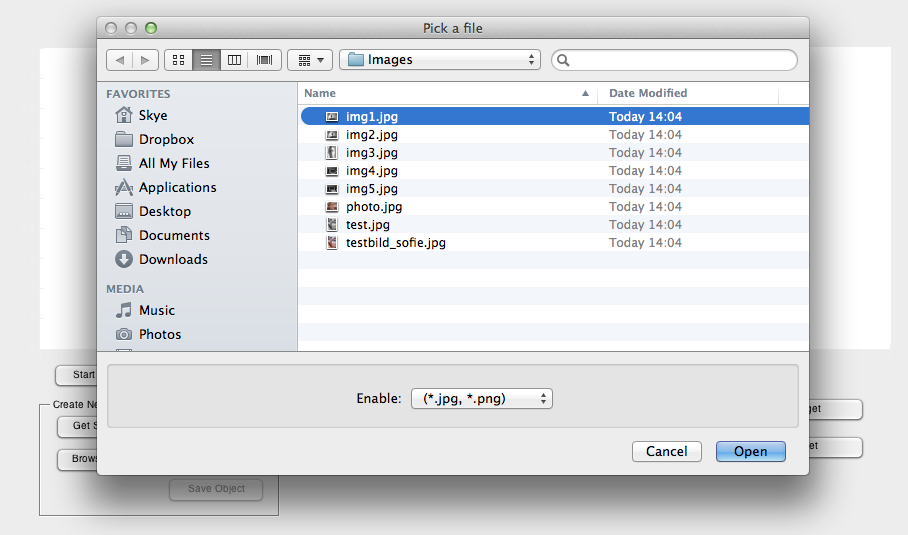


Figure : Choose an image

* 1. **Take a snapshot**

To take a snapshot, click on the *Get Snapshot* button as seen in Figure 4. A snapshot will show up in the Object Window.



Figure : Take a snapshot

Alternate option: Turn on the camera by pressing the *Start Camera* button, a video feed will show up in the Target Window and you will be able to see what you are taking a snapshot of.

* 1. **Choose an existing object**

To choose an existing object, click on the *Existing Object* button as seen in Figure 4. A window will open where you will see the previously added object. Choose one and click on *Open*.

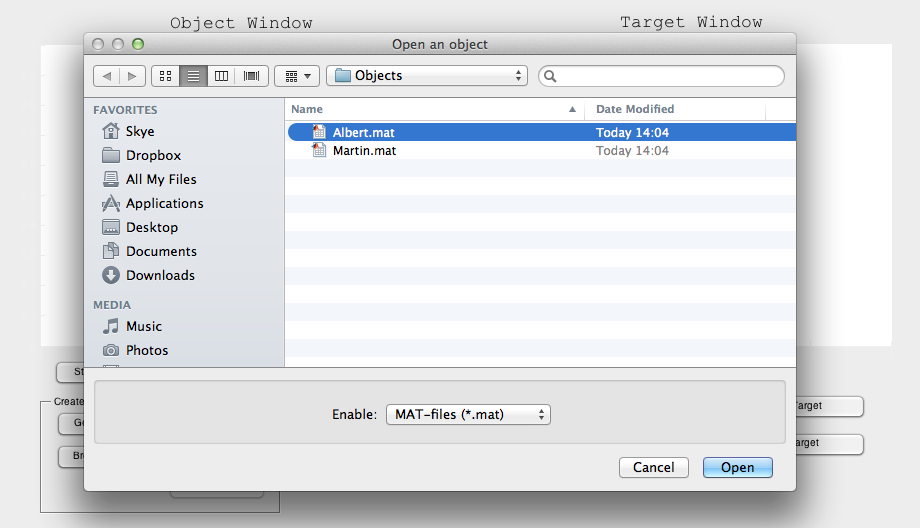


Figure : Choosing an object

1. **Marking the object**

Choose what to track by marking with a square in the Object Window, as seen in Figure 6. When you have marked what you wish to track simply wait until the *Learn Object* button becomes clickable. Move on to number 4.

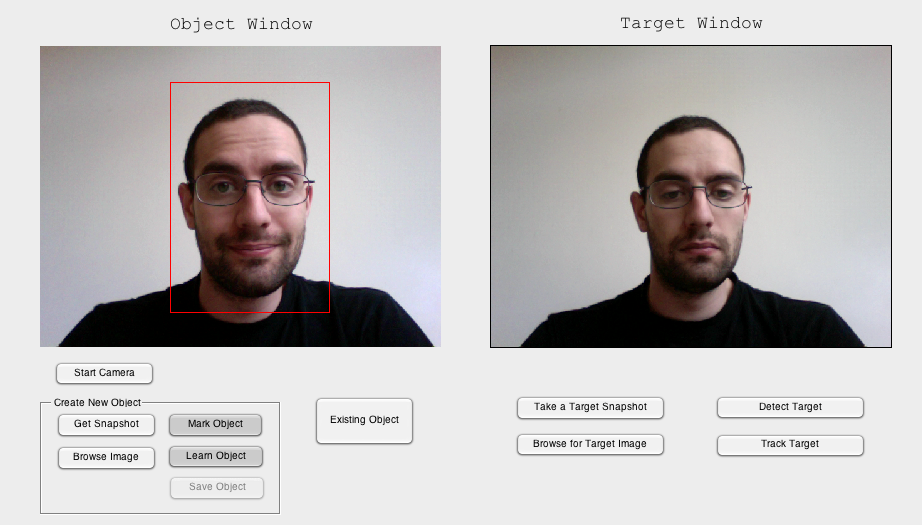
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Figure : Mark the snapshot.

1. **Learning the object**

For the program to know what to track simply click the *Learn Object* button and the program will show you some feature points in a cropped image, as seen in Figure 7.

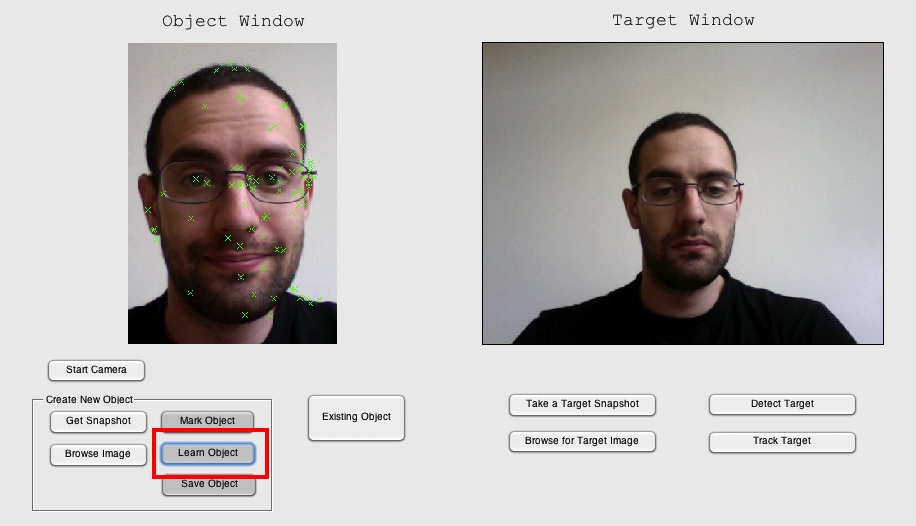


Figure : Learning the object

* 1. **Saving the object**

To save your object for later use simply click the *Save Object* button and the window shown in Figure 8 will show up. Name your object and click on *Save*. You have now saved your object.

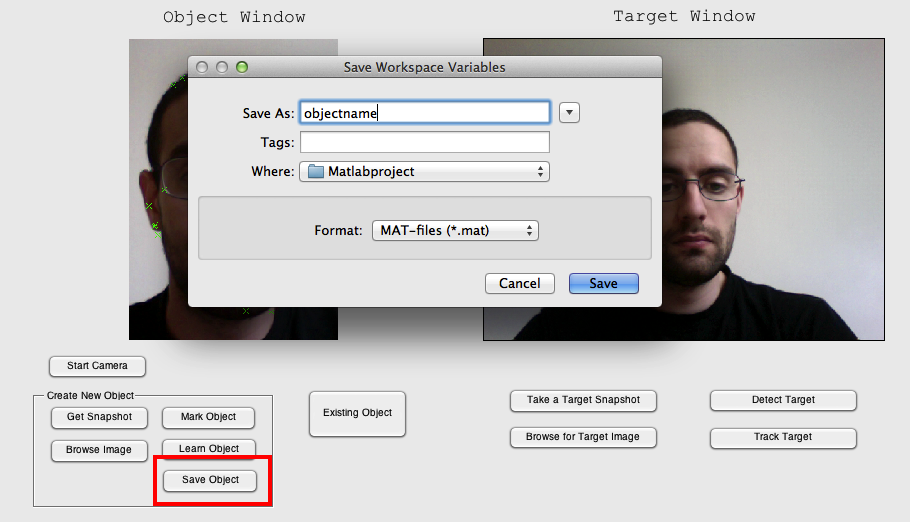
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Figure : Save your object

1. **Track or detect the object**
   1. **Detect object from a snapshot**

Click on the *Take a Target Snapshot* button to get snapshot from which you can then detect your object. Click on the *Detect Target* button as seen in Figure 9.

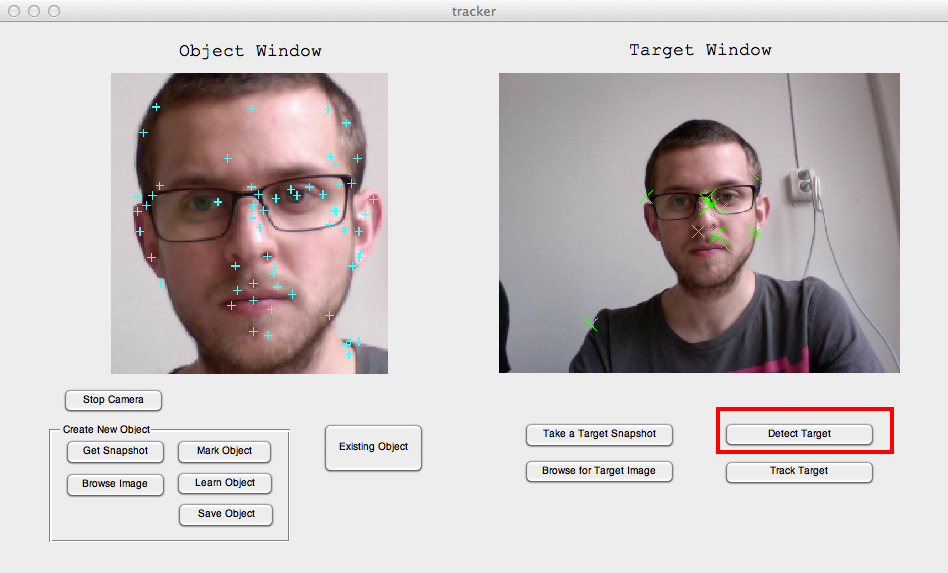


Figure : Detect target

* 1. **Detect object from an image**

To detect your object from any image, click on the *Browse for Target Image* button and then click on the *Detect Target* button seen in Figure 9.

* 1. **Detect object in video feed**

To detect your object in a live video feed click on the *Track Target* button seen in Figure 10.

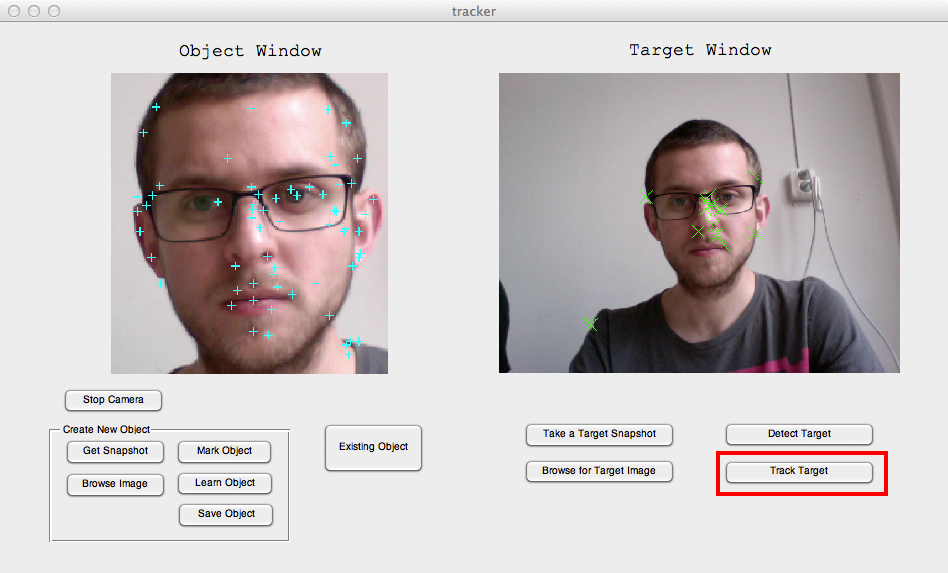


Figure : Track target

1. **Closing the program**

To close the program, simply click on red button in;

the left corner of the window for Mac OSX,

the right corner of the window for Windows.