

Exercise 7: Capture and Draw Live Images

Connect to webcam

Identify webcams connected to your system. Connect to the first one in the list. If there are multiple webcams on your computer, specify the desired camera by the device number or camera name. You can use the camera provided in the kit or any other webcam you have access to.

```
webcamlist  
w = webcam;  
% w = webcam('USB2.0 PC CAMERA'); %Alternative syntax
```

Preview webcam image

Preview live video data from the webcam.

```
preview(w)
```

Capture the current image

Use the snapshot command to capture the current image. Visualize the captured image.

```
img = snapshot(w);  
imshow(img)
```

Clear hardware variables when you are no longer using them.

```
clear w
```

Process and verify image

Process the image to extract the line traces. Visualize the traces to verify that these pathways look accurate and there are no extraneous points captured.

```
segmentsPix = imageToPixelSegments(img);  
  
for ii = 1:numel(segmentsPix)  
    coords = segmentsPix{ii};  
    plot(coords(:,2),coords(:,1))  
    hold on  
end  
axis equal ij
```

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