

# Project Report

**Definition : Live Sketch From Webcam**

**Code:**

```
import cv2
import numpy as np

def sketch(image):
    gray = cv2.cvtColor(image,cv2.COLOR_BGR2GRAY)
    blur_gray = cv2.GaussianBlur(gray,(5,5),900)
    edges = cv2.Canny(blur_gray,45,90)
    ret,thre = cv2.threshold(edges,70,255,cv2.THRESH_BINARY_INV)
    return thre

cam = cv2.VideoCapture(0)

while 1:
    ret,frame = cam.read()
    cv2.imshow('Live Sketch', sketch(frame))
    if cv2.waitKey(1)==27:
        break
    if cv2.waitKey(1)==13:
        cv2.imwrite('sketch.jpg',sketch(frame))
        print('Image Saved!!!')

cam.release()
cv2.destroyAllWindows()
```

- Convert the image to grayscale.
- Apply a Gaussian blur to smooth out the image.
- Apply the Canny edge detection algorithm to detect edges.
- Apply thresholding to create a binary image of the edges
- cam captures input from the webcam
- If the 'Esc' key (key code 27) is pressed, the loop is broken and the webcam is released using cam.release().

If the 'Enter' key (key code 13) is pressed, the current frame is saved as a file named 'sketch.jpg' and a message is printed to the console.







