IBM Project Name: Real-Time Communication System Powered by AI for Specially Abled

TEAM ID: PNT2022TMID30475

Importing req. lib.

```
import cv2
import numpy as np
import matplotlib.pyplot as plt
```

Image processiong

```
# Create a image

img1 = np.zeros((400,600,3),np.uint8)
plt.imshow(img1)

# Drawing Functions
# Draw a circle

circle = cv2.circle(img1, (300,200), 50, (255,0,0), -1)   # (0,0,0)--->(R,G,B)
plt.imshow(img1)

# Drawing rectangle

rectangle = cv2.rectangle(img1,(200,100),(400,300),(0,255,0),6)
plt.imshow(img1)

# Drawing line
```

```
line1 = cv2.line(img1,(200,100),(400,300),(0,0,255),4)
line2 = cv2.line(img1,(200,300),(400,100),(0,0,255),4)
plt.imshow(img1)

circle = cv2.circle(img1, (300,200), 50, (255,255,0), -1)   # (0,0,0)--->(R,G,B)
plt.imshow(img1)

# Text on image

text = cv2.putText(img1, 'openCV', (200,50), cv2.FONT_HERSHEY_SIMPLEX, 2, (255,255,255),5)
plt.imshow(img1)

# Reading the image

img = cv2.imread('/content/boy.jpg',1)
plt.imshow(img)
# Convert BGR to RGB

img_rgb = cv2.cvtColor(img, cv2.COLOR_BGR2RGB)
plt.imshow(img_rgb)
# Convert BGR to Gray

img_gray = cv2.cvtColor(img, cv2.COLOR_BGR2GRAY)
plt.imshow(img_gray)
```

```
# Finding shape

img_rgb.shape

(983, 736, 3)

img_gray.shape

(983, 736)

# Resize the image

resize = cv2.resize(img_rgb,(500,1000))

print(resize.shape)

plt.imshow(resize)

# Image crop

crop = resize[130:370,150:300]

plt.imshow(crop)

# Edge Detection

edge = cv2.Canny(img_rgb,100,200)

plt.imshow(edge)

# Blur image

r = resize[130:370,150:300]

blur = cv2.GaussianBlur(r,(13,13),cv2.BORDER_DEFAULT)

plt.imshow(resize)

plt.imshow(blur)
```