In [5]:

```python
import cv2
import numpy as np
```

In [ ]:

```python
# Init Camera
cap = cv2.VideoCapture(0)

# Face Detection
face_cascade = cv2.CascadeClassifier("haarcascade_frontalface_alt.xml")
dataset_path = './Data/'
skip = 0
face_data = []
face_section = np.mat(np.eye(5))
file_name = input("Enter the name of Person: ")


while True:
    ret, frame = cap.read()
    gray_frame = cv2.cvtColor(frame, cv2.COLOR_BGR2GRAY)
    faces = face_cascade.detectMultiScale(frame,1.3,5)
    faces = sorted(faces,key=lambda f:f[2]*f[3])

    # Pick the last face (bcz it is largest acc to area: Area = f[2]*f[3])
    for (x,y,w,h) in faces[-1:]:
        cv2.rectangle(frame,(x,y),(x+w,y+h),(255,0,0),2)

        # Extract (Crop out required face) : Region of Interest
        offset = 10
        face_section = frame[y-offset:y+h+offset, x-offset:x+w+offset]
        face_section = cv2.resize(face_section,(100,100))

        skip+=1
        if skip%10==0:
            face_data.append(face_section)
            print(len(face_data))

        cv2.imshow("Face Section",face_section)


    if ret == False:
        continue

    cv2.imshow("Video Frame",frame)

    # Store every 10th Face
```

```python
        if skip%10==0:
            pass


        # Exiting Code
        key_pressed = cv2.waitKey(1) & 0xFF
        x = cv2.waitKey(1)
        if key_pressed == ord('q'):
            break

# Convert face list in numpy array
face_data = np.array(face_data)
print(face_data.shape)
face_data = face_data.reshape((face_data.shape[0],-1))
print(face_data.shape)

# Save this data into file system
np.save(dataset_path+file_name+".npy",face_data)
print("Data Successfully Saved at ",dataset_path+file_name+".npy")


cap.release()
cv2.destroyAllWindows()
```

```
Enter the name of Person: Shashank
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
```

```
In [ ]:
```

```
In [ ]:
```

```
In [ ]:
```

```
In [ ]:
```