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ASSIGNMENT-6

AIM: To develop a python code to detect any object using Haar cascade classifier.

The objects detected in this file are: Russian license plates, eyes, face

PYTHON PROGRAM:

```
import cv2

import datetime

%matplotlib auto


plate_classifier =
cv2.CascadeClassifier("haarcascade_licence_plate_rus_16stages.xml")

eye_classifier = cv2.CascadeClassifier("haarcascade_eye.xml")

face_classifier =
cv2.CascadeClassifier("haarcascade_frontalface_default.xml")



img=cv2.imread("carus.png")

grcp = cv2.cvtColor(img, cv2.COLOR_BGR2GRAY)

faces = cv2.cvtColor(img, cv2.COLOR_BGR2GRAY)
```

```
plates = plate_classifier.detectMultiScale(grcp, 1.1, 5)
eyes = eye_classifier.detectMultiScale(grcp,1.3,5)
face = face_classifier.detectMultiScale(grcp,1.3,5)

for x,y,w,h in plates:
    cv2.rectangle(img, (x,y), (x+w,y+h), (0,0,255), 5)
    cv2.putText(img, 'plate', (x,y-10), cv2.FONT_HERSHEY_SIMPLEX, 0.8, (0,255,255), 3)

for(ex,ey,ew,eh) in eyes:
    cv2.rectangle(img, (ex,ey), (ex+ew,ey+eh), (0,0,255), 2)
    cv2.putText(img, 'Eyes', (ex,ey-20), cv2.FONT_HERSHEY_SIMPLEX, 0.8, (0,255,255), 3)

for(fx,fy,fw,fh) in face:
    cv2.rectangle(img, (fx,fy), (fx+fw,fy+fh), (0,0,255), 2)
    cv2.putText(img, 'Face', (fx,fy-20), cv2.FONT_HERSHEY_SIMPLEX, 0.8, (0,255,255), 3)

cv2.imshow('object detection', img)
picname=datetime.datetime.now().strftime("%y-%m-%d-%H-%M")
cv2.imwrite(picname+".jpg",img)
```

Image used:

Detected Image:

RESULT: Hence, a python code is developed to detect face, eyes and Russian kind license plate using Haar cascade classifier.