International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395 -0056
Volume: 03 Issue: 11 | Nov -2016 www.irjet.net p-ISSN: 2395-0072

Survey on Facial Recognition Techniques

Harshala Shailani[1], Kailas Gosavi[2], Juber Kureshi[3], Rahul Somwanshi[4]
kailasgosavi47@gmail.com

[1]*Student, Computer Science, SKN Sinhagad Institute of Technology, Maharashtra, India*
[2]*Student, Computer Science, SKN Sinhagad Institute of Technology, Maharashtra, India*
[3]*Student, Computer Science, SKN Sinhagad Institute of Technology, Maharashtra, India*
[4]*Student, Computer Science, SKN Sinhagad Institute of Technology, Maharashtra, India*

Abstract -*In India Criminal Record Management System are not available for local police stations for identifying the past criminals and their histories. The department of Police is the major organization of maintain the criminal records. For this purpose Indian police station use the new technique Face Recognition .Using this technique the Police Inspector Easily store the face of the criminal and using other technique store the blood group ,age and address of the criminal In FR system multiple algorithm are use ED algorithm, GB algorithm, RGB to HSV and ,CS .This type of system is available in India only for IB(Intelligence Bureau),RAW(Research and Analysis Wings),CBI(Central Bureau of Investigation) but not for local Police Station .Numerous techniques are available for Face Recognition system(FRS). This paper highlights the use of Face recognition techniques, FingerPrint , clustering and classification through attributes(age, smoker, drinker, druggist, blood group, face image etc) to maintain the record of criminals. This technique give the link to find out the criminals.*

Key Words*:Face Recognition,Finger print Scanner,*Edge Detection Algorithm (soble), Gaussian Blur algorithm, Channel separation.

1.INTRODUCTION

In India local police station currently operates using paper based mechanisms. This results in volatility of evidence in the case where important documents are lost. In addition to this, there is loss of traceability, transparency and accountability. The capture andstorage of biometric data and Face Image is also done using paper systems. This makes comparison of biometric data less efficient in comparison to automated processes. Although this has been inuse for a long time, the operations can be greatly enhanced through electronic means. In this study, we propose a software prototype for the Indian Local Police for automating some of their business processes. To this effect, a number of business processes were identified through a userid and password with police officers. The identified business processes were the basis of the developed software prototype .A survey was carried out that aimed to gauge Criminal Record Management System police to manage Criminal Information System (CIS).

1.1 HARDWARE

In our project ,biometric scanner are used for finger print of criminal and camera use to get image of criminal.Facial recognition analyzes the characteristics of a person's face images input through a camera. It measures the full facial structure, including eyes, nose, mouth, and jaw edges ,lips . These measurements are retained in a database and used as a comparison when a user stands before the camera. This biometric has been widely, and perhaps wildly, touted as a fantastic system for recognizing potential threats (whether terrorist, scam artist, or known criminal) but so far has not seen wide acceptance in high-level usage. It is projected that biometric facial recognition technology will soon overtake fingerprint biometrics as the most popular form of user authentication. In thise technology are use edge detection algorithm ,RBG to HSV algorithm ,noise reduction technic, image segmentation .

Fig -1: Image detection camera

2.Face Detection Steps:

1. **Channel separation:** Using channel separation separate the image into RGB and contain color value of RGB channel each channel mask.
2. **Noise Reduction:** After channel separation Using channel separation remove the noise in image using Gaussian Blur algorithm.
3. **Grayscale**: A Grayscale image use in which color are shade gray.
4. **Edge Detection**: The procedure for Sobel Edge Detection without using MATLAB. In sable calculate gradient of image for each pixel position in image.
5. **Cropping**: Cropping is used for removing the unnecessary part of the and give improve the framing of the image .
6. **Image Segmentation**: In Image Segmentation Partition the image into 8*8 block with similar attribute.
7. **RGB to HSV**: The RGB to HSV conversion the RGB value is divided by 0….255 to 0….1.

R'=Red/255
G'=Green/255
B'=Blue/255

1.2 Finger Print Scanner

The fingerprints captured for biometric use to check the criminal fingerprint processing. This is not the case with those fingerprint capture for security vetting process which does not any process but saved directly into database together with personal details.

Fig -2: Finger print scanner

Security vetting process requires the total in biometric system, input fingerprint image is processed to already store image and then features are extracted from the said thinned image .

The fingerprint scanner are two basic type work:It need of an Images to determine whether the pattern of ridges and valley to match the pattern of ridges and valleys in pre-scanned images. Only specific character which are unique to every fingerprint filter and saved as an inscription biometric key or mathematical representation, the no of fingerprint is scanned. Only series of no in binary code which is used for verification .The algorithm can't re-convert to an images, so no one can duplicate our fingerprints .first collect the basic information about bio data for the person before the biometric data is captured.

3. CONCLUSION

Face Recognition is a challenging problem in the field of image processing and computer vision. In this project, different face image pre-processing techniques: average filtering, image resizing, image blurring , grayscale , and image cropping techniques are explained.Also we proposed a fingerprint-matchingapproach which is based on standardized fingerprint modelto synthesize fingerprint from original templates.

ACKNOWLEDGEMENT

The authors would like to thank the MINT Social Media for allowing them to carry out this research.

REFERENCES

[1] Falaye, A., Adama, N., & Agemerien, F. (2013, November). Design And Implementation Of Crime Investigation System Using Biometric Approach

[2] D. Zhang and Y. Wang. (2009)Gender Recognition Based on Fusion of Face and Multi-view Gait.(2009) In LNCS, volume 5558, pages 1010-1018. Springer, 2009.

[3] R. D. Zota and L. Ciovica, "Designing software solutions using business processes," *Procedia Economics and Finance*, vol. 20, no. 15,pp. 695–699, 2015.

[4] Gunda, S. G. (2008). Requirements Engineering: Elicitation Techniques. Trollhattan: University West, Department of Technology, Mathematics and Computer Science.

[5] Face Recognition Techniques - An evaluation Study,Dr.Asmahan M Altaher,Department of Management Information System, Applied Science University, 166-11391, Jordan,Email: a_altaher68@hotmail.com.