Crime Reporting and Management Using Mobile Application

T.Mahalakshmi[1], E.Shelshiya Mary[2], M.Stella[3], T.Anto Theepak.[4]

[1, 2, 3](Department of IT, UG Scholar, Francis Xavier Engineering College, Tirunelveli, India)
[4](Assistant Professor, Department of IT, Francis Xavier Engineering College, Tirunelveli, India)

Abstract: Criminals identification using face recognition based mobile app to search and identify criminal details. In the existing system finding the criminal and identify the background data is difficult, which leads to time taking process and lack of accuracy. The proposed mobile applications contains criminal details such as name, case no, photo and etc. Police shall search using face recognition and other details easily through mobile. This research proposes an unobtrusive means of acquiring and recording shoeprints of anyone who enters the safe room.

Keywords: Authentication, Criminals, Mobile Application, Reporting.

I. INTRODUCTION

Over the years, a lot of security approaches have been developed that help in keeping confidential data secured and limiting the chances of a security breach. Face recognition which is one of the few biometric methods that possess the merits of both high accuracy and low intrusiveness is a computer program that uses a person's face to automatically identify and verify the person from a digital image or a video frame from a video source [1, 2, 3]. It compares selected facial features from the image and a face database or it can also be a hardware which used to authenticate a person. This technology is a widely used biometrics system for authentication, authorization, verification and identification. A lot of company has been using face recognition in their security cameras, access controls and many more. Facebook has been using face recognition in their website for the purpose of creating a digital profile for the people using their website. In developed countries, the law enforcement create face database to be used with their face recognition system to compare any suspect with the database. In other hand, in Malaysia, most cases are investigated by using thumbprint identification to identify any suspect for the case. However, because of unlimited knowledge through internet usage, most criminals are aware of thumbprint identification. Therefore, they become more cautious of leaving thumbprint by wearing gloves except for non-premeditated crimes. This paper to propose a facial recognition system for a criminal database where the identification of the suspect is done by face matched rather than thumbprint matched.

II. LITERATURE REVIEW

Face detection is a computer technology that determines the location and size of human face in arbitrary (digital) image. The facial features are detected and any other objects like trees, buildings and bodies etc are ignored from the digital image. It can be regarded as a specific case of object-class detection, where the task is finding the location and sizes of all objects in an image that belong to a given class. Face detection, can be regarded as a more general case of face localization. In face localization, the task is to find the locations and sizes of a known number of faces (usually one). Basically there are two types of approaches to detect facial part in the given image i.e. feature base and image base approach. Feature base approach tries to extract features of the image and match it against the knowledge of the face features. While image base approach tries to get best match between training and testing images.

III. EXISTING SYSTEM

- It need employment as the human efforts.
- In existing system works on manual process which is a time taking process and data organizing is not efficient.

IV. PROPOSED SYSTEM

- Police can easily search the crime details from remote using app
- Can upload the photo and identify the crime details
- The system allows automate management system.
- Allows for faster information updates.

V. SYSTEM SPECIFICATION

Software Requirements:

Operating System: Android OS
Front-End   :   HTML, CSS, and JS
Back-End   :   Angular JS, PHP, MYSQL
Tool   :   Android Emulator xampp-win32-5.5.19-0-VC11
                               Android SDK – ad t-bundle-windows-x86
 IDE   :   Eclipse Mars jdk-8u66-windows-i586

VI. MODULES

A. **ADMIN**
- **Create Crime database:**
      Admin enters this system and create the database for crime
- **Update/Delete Crime Database:**
       Admin can only Update and delete the Crime Database.
- **View crime details:**
       Admin can view the details of criminals.
- **Upload Photo**
      Admin can upload the criminal photo

B. **POLICE**
- **Login**
        Police can login this system after they can view home page.
- **Search by name , location or crime history**
      Police are able to have the crime details searching by their name, location or the history.
- **Upload photo and identify crime person**
      Police can upload the criminal photo and get their details whenever they need to retrieve.

VII. SYSTEM ARCHITECTURE

- Detection &conviction of criminals by e criminal Identification Using Face Matching Based Mobile App
- Computerize the attempt of taking complaints and records and establishing a communication gateway among other police stations.
- Transferring the cases or complaints to appropriate police stations by its id & locality.
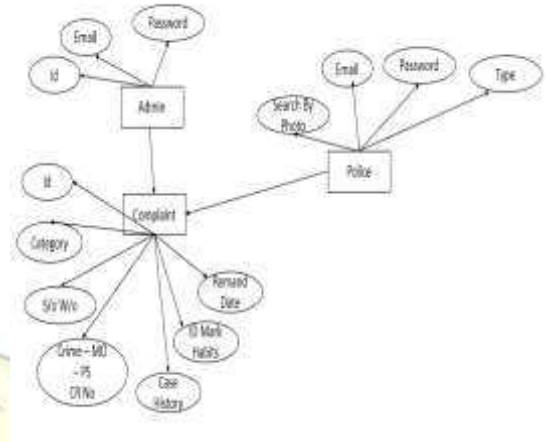

Fig.1 System Architecture

- Update the case details timely to ensure that fast action strategy is applied

VIII. OUTPUT SCREENSHOT

Fig.1 Login Screen
      The module will be protected by user ID and password. Ordinary users of the software will not be permitted to enter into the software. The module will be focusing on reporting to the police and maintaining the records.

Fig.2 Admin Home

The module is used to display the category of crime. It can create the category like kidnapping, Eve teasing etc. It can create new user of police and used for updating the user. It can create the department and division of police station .It is used to create the area of the police user and section of department

Fig.3 ALL CRIME REPORT STATUS.

The module is used for searching all details about the crime. It contains place, nature of crime, location of the crime, reference number, site status of the crime.
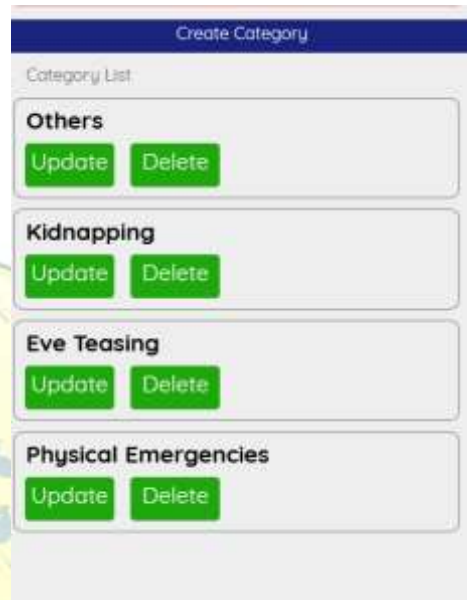

Fig.4 CATEGORY

The module is used for creating new category of the crime. Users will update and delete the new crime category and also search the category of crime.
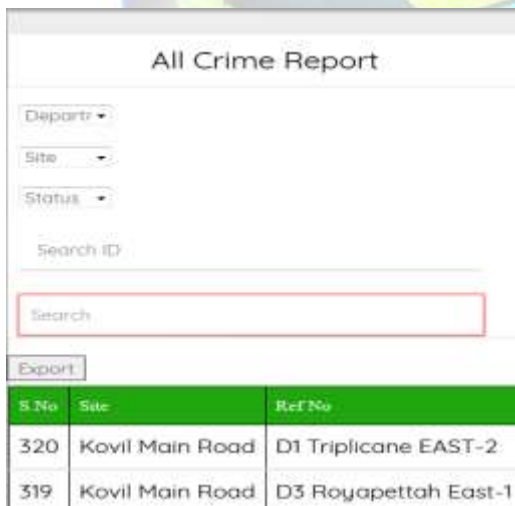

Fig.5 Police user

The module is used to create the police user. It contain Name, ID, Mobile number, Type, Department, Email id ,Password, Rank ID, Police station ID, city, pincode, district.

Fig.6 Modify police user

The module is used to modify or update the details of police user. Its contain all such information of police user.

Fig.7 **Police Home**

The module is used to display the icon of police and work of the police. It is used register FIR, view FIR, register CSR, View CSR, Complaints status.

Fig.8 Reporting Crime

The module is used for reporting the crime. It contain location, nature of crime ,police station, category.

IX. CONCLUSION

The computational models, which were implemented in this project, were chosen after extensive research, and the successful testing results confirm that the choices made by the researcher were reliable. The future proposed system with manual face detection and automatic face recognition did not have a recognition accuracy over 90%, due to the limited number of eigen faces that were used for the PCA transform. This system was tested under very robust conditions in this experimental study and it is envisaged that real-world performance will be far more accurate. The fully automated frontal view face detection system displayed virtually perfect accuracy and in the researcher's opinion further work need not be conducted in this area. The fully automated face detection and recognition system was not robust enough to achieve a high recognition accuracy.

REFERENCES

[1]. Adelson, E. H., and Bergen, J. R. (1986) The Extraction of Spatio-Temporal Energy in

[2]. Human and Machine Vision, Proceedings of Workshop on Motion: Representation and

[3]. Analysis (pp. 151-155) Charleston, SC; May 7-9

[4]. AAFPRS(1997). A newsletter from the American Academy of Facial Plastic and

[5]. Reconstructive Surgery. Third Quarter 1997, Vol. 11, No. 3. Page 3.

[6]. Baron, R. J. (1981). Mechanisms of human facial recognition. International Journal of Man Machine Studies, 15:137-178

[7]. Beymer, D. and Poggio, T. (1995) Face Recognition From One Example View, A.I. Memo No. 1536, C.B.C.L. Paper No. 121. MIT

[8]. Bichsel, M. (1991). Strategies of Robust Objects Recognition for Automatic Identification of Human Faces. PhD thesis, , Eidgenossischen Technischen Hochschule, Zurich

[9]. Brennan, S. E. (1982) The caricature generator. M.S. Thesis. MIT.

[10]. Brunelli, R. and Poggio, T. (1993), Face Recognition: Features versus Templates. IEEE Transactions on Pattern Analysis and Machine Intelligence, 15(10):1042-1052

[11]. Craw, I., Ellis, H., and Lishman, J.R. (1987). Automatic extraction of face features. Pattern Recognition Letters, 5:183-187, February

[12]. Deffenbacher K.A., Johanson J., and O'Toole A.J. (1998) Facial ageing, attractiveness, and distinctiveness. Perception. 27(10):1233-1243

[13]. Dunteman, G.H. (1989) Principal Component Analysis. Sage Publications.

[14]. Frank, H. and Althoen, S. (1994). Statistics: Concepts and applications. Cambridge University Press. p.110

[15]. Gauthier, I., Behrmann, M. and Tarr, M. (1999). Can face recognition really be dissociated from object recognition? Journal of Cognitive Neuroscience, in press.

[16]. Goldstein, A.J., Harmon, L.D., and Lesk, A.B. (1971). Identification of human faces. In Proc. IEEE, Vol. 59, page 748

[17]. de Haan, M., Johnson, M.H. and Maurer D. (1998) Recognition of individual faces and average face prototypes by 1- and 3- month-old infants. Centre for Brain and Cognitive

[18]. Development, Department of Psychology, Birkbeck College.

[19]. Hadamard, J. (1923) Lectures on the Cauchy Problem in Linear Partial Differential Equations , Yale University Press

[20]. Haralick, R.M. and Shapiro, L.G.. (1992) Computer and Robot Vision, Volume I. Addison-Wesley

[21]. Haxby, J.V., Ungerleider, L.G., Horwitz, B., Maisog, J.M., Rapoport, S.I., and Grady, C.L. (1996). Face encoding and recognition in the human brain. Proc. Nat. Acad. Sci. 93: 922 - 927.

[22]. Heisele, B. and Poggio, T. (1999) Face Detection. Artificial Intelligence Laboratory. MIT.

[23]. Jang., J., Sun, C., and Mizutani, E. (1997) Neuro-Fuzzy and Soft Computing. Prentice Hall.

[24]. Johnson, R.A., and Wichern, D.W. (1992) Applied Multivariate Statistical Analysis. Prentice Hall. p356-395