Face and person recognition From Live video

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***Abstract*—The main challenge in recognizing person infacial feature. The use of Multi view data to handle the poseunconstrained video is exploiting the identity information in variation and its challenges. Multi-camera network commonly multiple frames and the follow dynamic signature. These identityused for biometric and surveillance system, multiple view sign include face, body, and motion. In this paper, face detection point overcome the drawback of single view point. Foris necessary first-step in face recongnition systems, with thepurpose of localizing and extracting face region from theexample multiple view point increases the position of thebackground. The human face is a dyanamic in nature and also person in different poses has high degree of changebality in its appereance, which results face detection a difficult problem in computer vision. The method we have developed combines approaches from computer vision, for face detection and pose estimation, with those from machine learning for classification. We show that the identification of a target face can be determined by first proposing faces with similar pose, and then classifying the target face as one of the recognized faces or not. Faces at poses differing from those of the training data are rendered using a coarse 3-D model with multiple texture maps. Furthermore, the texture maps of the model can be automatically updated as new poses and expressions are detected.**

Key words: face detection, localizing faces, robust face detection.

I. INTRODUCTION

The recognition of the face from videos has numerous applications in Video Surveillances and Computer Vision. The main challenge of detecting face image in videos is the pose and the illumination variations and sudden changes in the movement of the object. An increasing number of video cameras observe public spaces, like streets, airports, railway and bus stations, shops, schools and other educational institutions. In some use-case scenarios, like video surveillance, there are justified reasons for capturing and sharing acquired multimedia data to authorize personnel, due to security reasons. In most scenarios it is sufficient to detect the activity, whereas data on persons engaged in these activities do not matter. Therefore, there is a strong need for protecting the privacy of persons captured in such multimedia content. The main challenges of designing the Robust face recognition algorithms are pose variation, self-occlusion of facial feature. The use of Multi view data to handle the pose variation and its challenges. Multi-camera network commonly used for biometric and surveillance system, multiple view point overcome the drawback of single view point. For example multiple view point increases the position of the person in different pose.

Proposed Work & System Architecture

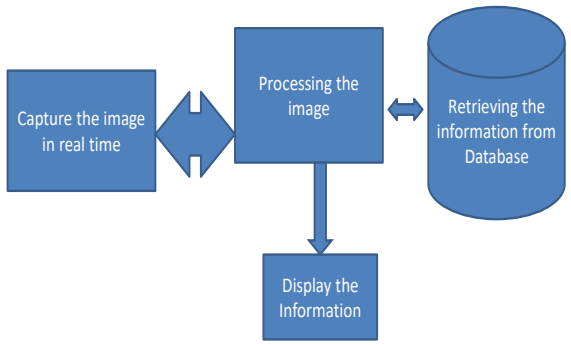


Fig.1 .SYSTEM ARCHITECTURE

From fig. 1, in simple words,The proposed system analyzes and recognizes the exact face image from the video even though there are pose variation and illumination variation while the existing systems deals with the recognition of the face images from still images. The main aim of this project is to identify and detect the image from the video. Proposed System is all about video processing and extracting the image.After extracting the image, send it to the server or Databasei.eretrives the information from the database.Server find out the information related to the person in the image and Display it..

II. LITERATURE REVIEW

The paper,written by **W. Zhao, R. Chellappa**tells us about a given video images of a scene identify one or more person in the scene using a stored database of faces. The paper sheds light on various areas of the use and applications of biometrics system.The paper provides up-to-date critical survey of still-and video-based face recongnition research.

The paperproposed by **J. Wright, A. Y.Yang** Implementeda robust face recognition system via sparse representation. In this paper they proposed a trainable feature selection algorithm based on the regularized frame for the face recongnition.

The paperby**J.R.Barr ,K.W.Bowyer** , This paper proposes a novel method of enhancing the face recognition process from video sequence with various pose. Paper also mentions some of the most new algorithms.

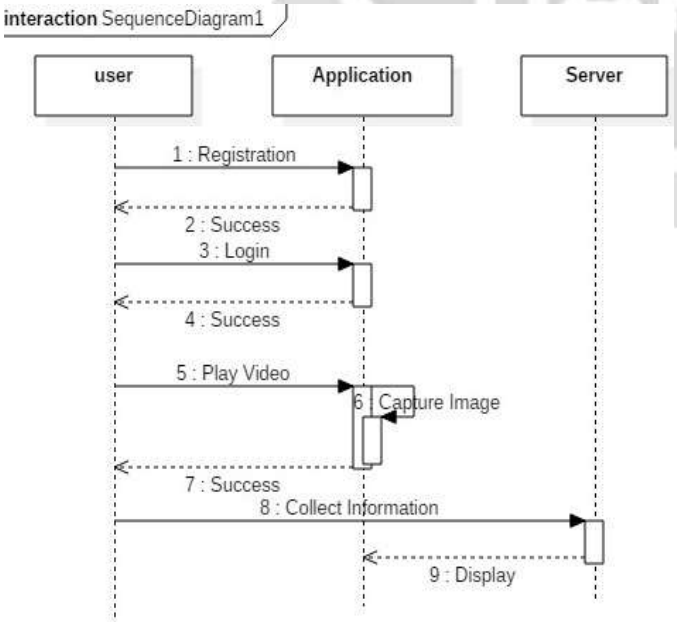
Thepaper,proposedby **A. J. O'Toole *et al* ,**in this paperThe goal of this study was to evaluate human accuracy at identifying people from static and dynamic presentations of faces and bodies.

The paper proposed by **Dantoneet.al.**build on the framework and develop a real-time facial feature detector. The system is based on regression forests that learn the relationships between facial image and facial feature locations. It is capable of impressive performance on the challenging Labeled faces in the wild database. Thus, it is not clear wether the algorithm is suitable for face detecting in these environments.

Fig. 2The performance of system described on the labeled faces

III. SUMMARY

We have discussed several methods in the recent literature for human detection from video.Proposed System is all about video processing and extracting the image.After extracting the image, send it to the server or Database.Server find out the information related to the person in the image and Display it .



The stages included in the proposed face detection system are:

1]Registration : Click on the registration button. Registration page should get open. Fill the form and submit.

2]Login: If password and username is correct it will successfully login.

3]Then play video. Capture the image from the video which we want to detect or identify. After extracting the image, send it to the server or Database.

4]Server find out the information related to the person in the image and Display it .

A]3D-MODEL FACE TRACKING:

Face tracking can be formulated as a problem of fitting a rigid or non-rigid 3D model to the face of the user.

- Tracking using rigid model:
  This subsection describes some trackers that use a rigid 3D face model. These form the basis for more advanced face trackers.The model is fit to the image by matching either local features or facial texture.Problem arises when the model is not flexible enough to cope with the situation in the new frame.This can be especially true when rapid changes in the facial expressions are present.

- Tracking using non-rigid model:
  Non-rigid tracking algorithms buikd on the work described in previous section.The idea is to add an additional set of parameters to the 3D model in order to allow deformations. In fig3. The model contains a 3D description of a face as well as parameters for controlling facial expressions and face shape variation between individuals. This parameters can be divided into 2 groups. The first group consists of action parameters. These defines the dynamic changes in the facial expression like eye blinking and lip movement . The second group of parameters are called shape parameters.

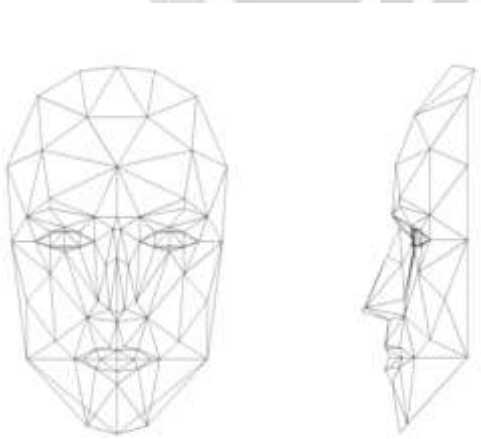


Fig. 4 The candidate face model

TheWork flow described below:

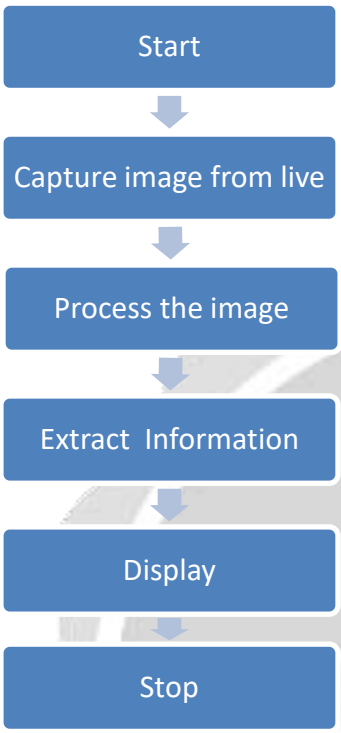


Fig. 5 Flow of the experiment

IV.RESULTS AND PERFORMANCE ANALYSIS

Hardware Description: Intel Dual Core, 2GB RAM with Ubuntu Operating system.

IDE:NetBeans.

Programming Language: JAVA

Database:SQL

V.EXECUTION

Fig.6 Login Page

Fig 7.admin login

Fig 8.Registration for new user

Fig 9.capturing the person in real time

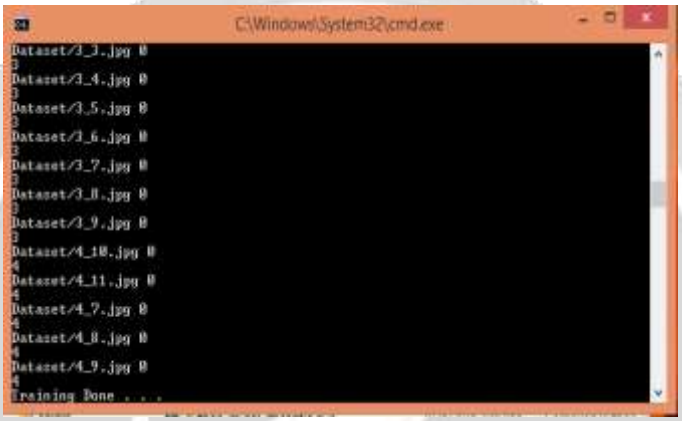


Fig 10.It willmatching the pixel of capture image with the face in database image

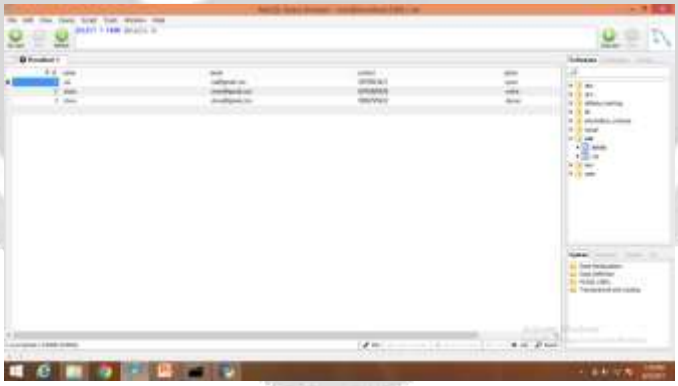


Fig 11.Information stored in database.

CONCLUSION

This paper gives a broad overview of face tracking, detecting and facial feature localization algorithm. As per the study and reference from different papers , we can conclude that this project is feasible and developed.Face detection can be used in public spaces, like streets, airports, railway and bus stations, shops, schools and other educational institutions.It provides security.We have presented methods for detecting and identifying characters in video across wide variations in pose and appearance by combining a simple 3-D model withview-dependenttexturemapping.Placingtheviews ofthefaceinacommon reference frame

allows more efficient search than possible with an unorganized collection of images, and provides a basis for automatic model update. Use of a simple 3-D model rather than a detailed face model avoids introducing severe rendering artifacts.

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