

A Survey on Security for Server Using Spontaneous Face Detection

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Abstract

In today's computerized world, cyber crime has increased. The web network of www also increases day by day. So the protection of software and data in our computers has become very important. For this purpose we are developing the "Server Security System" with the help of some technologies such as GPRS, TCP-IP, SMTP, and MIME. In our project we are developing a system such that we get the image of an unauthorized person or user. To do this we are using a webcam. We send a mail to the authorized person's GPRS phone. For this purpose we use a mobile it can be any mobile. In parallel we are changing the password by generating a random string & then Shutting-Down the computer remotely. By using java programming we can create such applications which will help us to stop the cyber crime. It is not visible to new user so that he is unaware from this software so this will definitely helpful to make them fool.

Keywords: Image processing, Spontaneous facial expression, Eigen face, Principal Component Analysis (PCA).

I. INTRODUCTION

Face recognition has several benefits over other bio metric techniques, some of which are outlined here: All technologies require some or other action by an user, that is the user place his hand on a scanner for finger printing or hand detection and for iris or retina identification person has to stand in a static position in front of a camera. Bio metric systems are beneficial for security. Retina and Iris detection need costly equipment and are much too sensitive to any body motion. Voice recognition is affected by noise that is present in background in public places. Voice Signatures are modifiable or can be forgotten. Facial images can easily be captured using cameras. Face recognition is totally non-intrusive and does not have any health risks.

Now-a-day's people are aware of capacity of computers. They a number of times use computers for storing confidential information or huge servers are maintained to store large Database of any organization. With the increase in use of these servers, frauds or abused actions are also bringing boost, with which is the peril to such giant servers. So security of such system is so important.

We are basically working in security domain. We are developing an intrusion detection system that makes use of Image processing concept for intrusion detection and it is named as Security for Server Using Spontaneous Face Detection. It detects the intrusion

by matching user's image with administrator image. But if image does not match, then it informs it to administrator so that quick actions can take place. With intrusion detection, our proposed system also gives information (Image) of Novice User who tried to access administrator's system, so that he can be tracked easily. We are creating such applications which will help us to stop the cyber crime. It is not visible to novice user which means he is unaware of this software so this will definitely helpful to make them fool. So Security for Server Using Spontaneous Face Detection will be such a powerful intrusion detection system which provides image based detection. There are two general classes of attacks which intrusion detection technologies attempt to identify Anomaly detection and Misuse detection. So our System covers both detection.

1.1 WHAT IS SERVER SECURITY SYSTEM?

In our project we are developing a System such that we can get the image of the unauthorized person. For this we are using a webcam. We send a mail on the users E-mail id with the help of GPRS activated phone for this we are using Sony Ericsson mobile. In the reverse we are changing the password by random string generation & then Shut Down the computer remotely. Using java programming we can create such applications which will help us to stop the cyber crime. It is not visible to new user so that he/she is

unaware about this software so this will definitely helpful to overcome unauthorized access and provide security for our data and various software.

1.2 PROJECT OBJECTIVE

Our project aims at developing an application using Java Technology. So If any unauthorized person is trying to access the data on machine having confidential data then to stop them we can develop the software to stop them. When the user on that machine login then by using mouse click we can differentiate between authorized and unauthorized person. On that mouse click the unauthorized person is trapped. The image of that person is captured, and then the Email with attachment of that image is sending on the owners account with the help of network connection. Then a random password is generated and we can change the password of that machine. After changing the password the machine is turning off.

II. Challenges Faced By Face Recognition

Face recognition is a specific and hard case of object recognition. The complexity of this problem evolves from the fact that in their most common

form (i.e., the frontal view) faces appear to be roughly alike and the differences between them are quite few. Consequently, frontal face images form a very dense cluster in image space which makes it virtually impossible for traditional pattern recognition techniques to accurately discriminate among them with a high degree of success. Whereas the human face is not a unique, constant image. There are many factors that cause the appearance of the face to vary. The cradles of changes in the facial views can be categorized into two groups: intrinsic factors and extrinsic ones. These factors can be further divided into two classes: intrapersonal and interpersonal. Intrapersonal factors are responsible for varying the facial appearance of the similar user, some examples being facial expression, age, facial hair, glasses, cosmetics, etc.. Interpersonal factors are responsible for the differentiation in the facial appearance of different people, some factors way of living and sexual category have confirmed that different age groups, brightness changes and pose variations are three major problems plaguing current face recognition system

III. WORKING

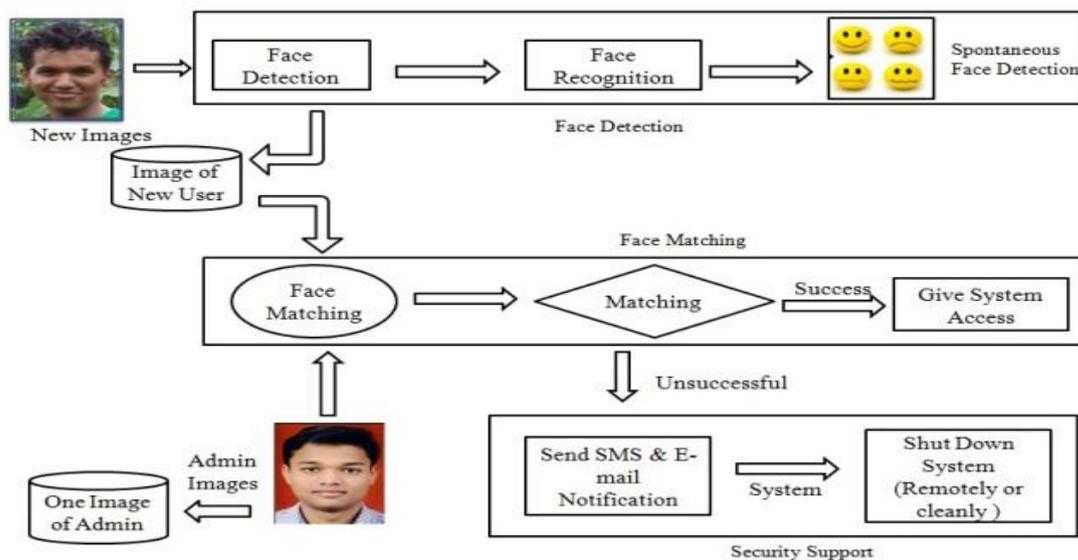


Figure 1 Working of Server Security system

In proposed system we are contains more security from unauthorized user. In system this after welcome screen the system will have another authentication system. If hackers will try to use the system then system will automatically get known that the person is unauthorized, So suddenly the system will take snapshot of the person and it will send mail to administrator

with photo of the person. A SMS will be sent from machine to the administrator containing new random password generated by machine. Remotely Shutdown option for administrator is provided. New password after every illegal access is generated. High Security is provided. And it is able to provide 3 layer securities.

Required Modules:

- Send Message
- PC Shut down
- Read Message (Mobile)
- Image Capture (web Camera)
- Send Mail
- Random String

Send Message Module:

The System will send an Alert Message to administrator. Message contains general information which we have set in system. Whenever a particular action is sensed by a system the alert is sent to administrator. It makes the administrator alert. As per the administrator reply the system will carry out further process.

Image Capture and Mail Module:

When user presses "No" button then an image is captured. This Image is stored in hard drive with .bmp format. An Email is sent to admin with the snapshot of the user who is using machine.

Shut Down/Read Message Module:

Machine can be switched off, Log off or Restart as per the instruction of admin. Machine is shut down within 20 sec. All the tasks are killed and Machine is forced to turn off and new windows password is generated.

Random String Module:

A random password is generated. Whenever user press "No" button then this module starts working. The password which is created is stored in PC in a text file and this text file is sent to admin via SMS and Mail. This password is assigned to system when it is restarted. A new password is assigned to windows after a restart.

IV. FUTURE SCOPE

- If we are going to use this software in big organization then we may use SMS Server for sending messages in large quantity.
- Hidden Cameras can be used (CCTV).
- Face recognition techniques can be used.

V. CONCLUSION

In this paper we have presented our scrutiny related to Server Security which is an Intrusion Detection System in which a Security System for Server Computer using Spontaneous Face detection with SMS Notification and E-Mail support sending unauthorized user's image and random password to Administrator. This system can also be implemented

on Personal Computers.

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