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An Automated Attendance Monitering by Using Image Processing Technology

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Abstract

Now a day's technology is improving gradually but nineteenth century technology is developed stage in those days schools and colleges take the attendance using names or roll numbers. In 20th century attendance is taken using biometric technology. Today these technology using also some govt organizations and private organizations also using our employing attendance daily monitoring and Govt. schemes also used but some places these biometric technology is hacked so that if person is not available in that office but shows the present in that day using some technically so that we can replace that technology using image processing technology. This technology is using in satiate communication system. The image processing technology we can use in schools and colleges and Govt. and private organizations employ attendance and Govt. schemes also, this technology is very transparency and high security also.

INTRODUCTION

The image processing technology is mostly used in satellite communication system. In this technology first we can take the picture by the camera and this picture sends the ground station, in ground station the picture quality and size are improved using some techniques then that picture is quality is improved so that now easily analyzing the picture information, this is the process of image processing technology.

The image processing technology many ways to using now a day, they are Anisotropic diffusion, Hidden Markov models, Image editing, Image restoration, Independent component analysis, Linear filtering.

Independent component application we can use our project, in class room identified the students individually. The image processing technology reconstruct the image using the matlab software, this soft ware using synthesis purpose.

Independent component analysis attempts the a group of signal decompose into independent signals, for example group of signal look like a audio, so that signal is separated to image and audio signal these process is called independent component analysis. Independent component analysis separation of a mixed signal gives very good results.

A simple application of Independent of component analysis is the fresher's party , where the underlying speech signal are separated from a sample data consisting of people talking simultaneously in a room.

Early graphical design developed so that graphical applications also developed such as video games, in the video games have small resolutions that means small number of color, resulting in easily visible pixel.

In the realm of real-time 3D computer graphics, pixelation can be a problem. Here, bitmaps are applied to polygons as textures. As a camera approaches a textured polygon, simplistic nearest neighbor texture filteringwould simply zoom in on the bitmap, creating drastic pixelation. The most common solution is a technique called pixel interpolation that smoothly blends or interpolates the color of one pixel into the color of the next adjacent pixel at high levels of zoom. This creates a more organic, but also much blurrier image. There are a number of ways of doing this; see texture filtering for details.

Pixelation is a problem unique to bitmaps. Alternatives such as vector graphics or purely geometric polygon models can scale to any level of detail. This is one reason vector graphics are popular for printing – most modern computer monitors have a resolution of about 100 dots per inch, and at 300 dots per inch printed documents have about nine times as many pixels per unit of area as a screen. Another solution sometimes used is procedural textures, textures such as fractals that can be generated on-the-fly at arbitrary levels of detail.

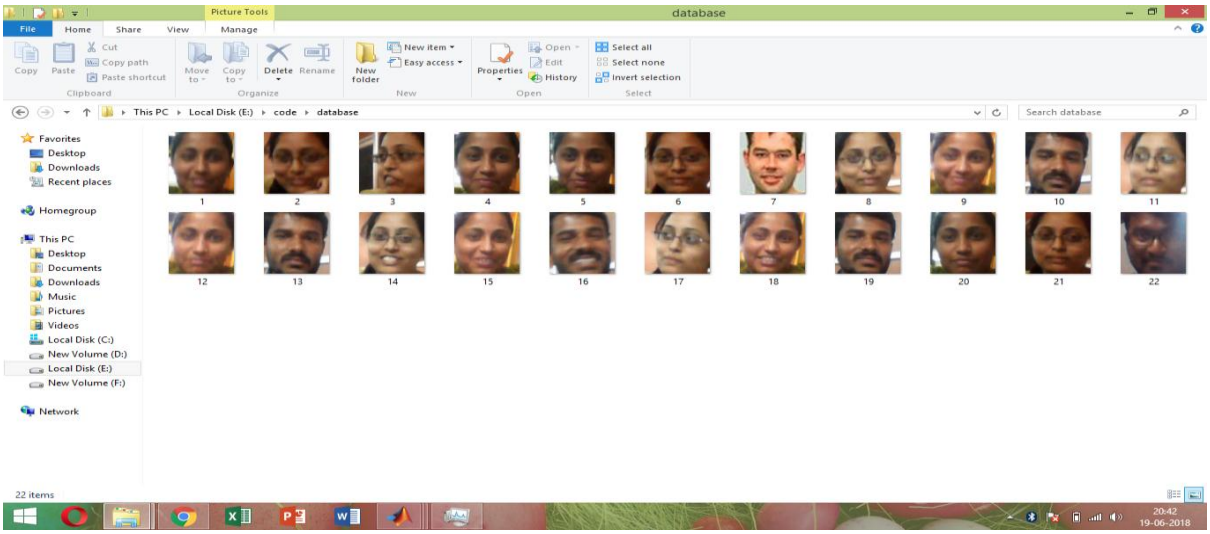
IMPLIMENTATION

The identification person by using the camera .These camera capture the person face in different angles because the person face detection easily identified so that first we taken each person capture images for the reference purpose .

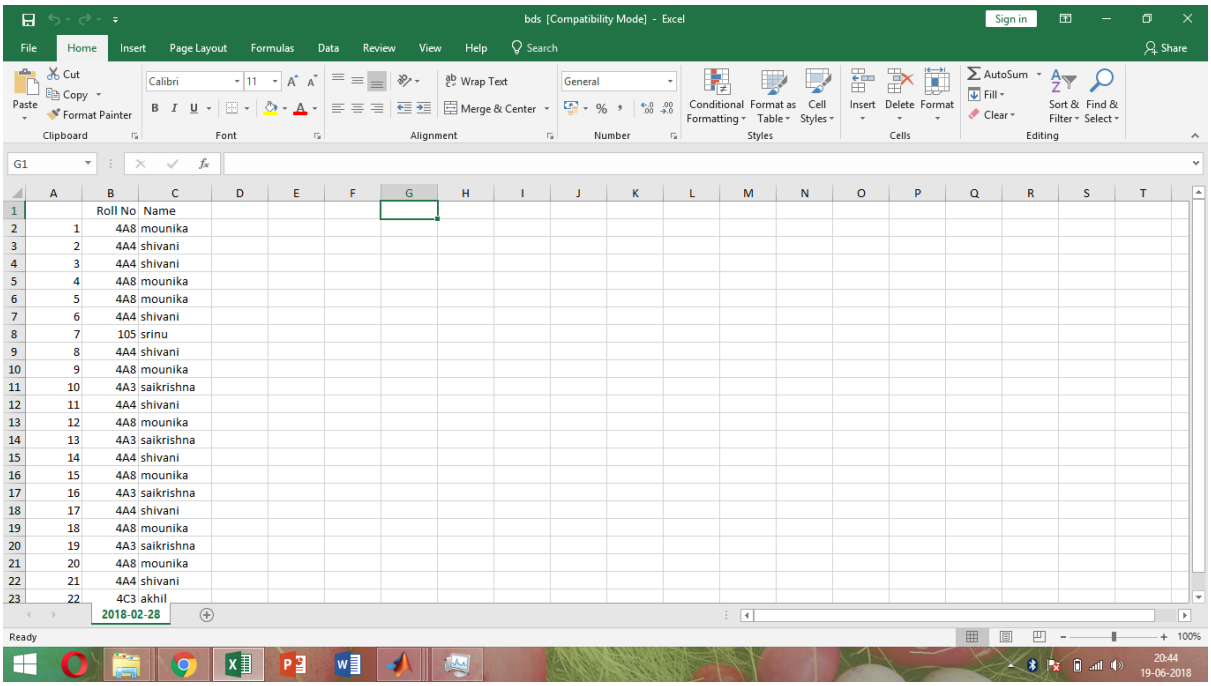
Here some challenges are there to identified the image capture ,they are lightning effect and mask the photograph or image capture and some different conditions are facing to capture the images so that we overcome these challenges and improve the image quality also so that we are using high resolution camera and more reference the image captures.

The face recognition basically rely on the detection and characterization of individual facial features. The image features include the eyes, nose and mouth. The detection of faces and their features recognition makes these approaches robust of the faces in the input image.

First we collect the students images capture by camera or other ways and each image given number and name and information about the student, each student image have taken three or more samples because more reference images have to easily identification the student. These total information stored at one place that place is called database, these database information is more important for the future references. Now database is created, it has total information about the students



This way to store the images of the students in the database system.



	A	B	C
1		Roll No	Name
2	1	4A8	mounika
3	2	4A4	shivani
4	3	4A4	shivani
5	4	4A8	mounika
6	5	4A8	mounika
7	6	4A4	shivani
8	7	105	srinu
9	8	4A4	shivani
10	9	4A8	mounika
11	10	4A3	saikrishna
12	11	4A4	shivani
13	12	4A8	mounika
14	13	4A3	saikrishna
15	14	4A4	shivani
16	15	4A8	mounika
17	16	4A3	saikrishna
18	17	4A4	shivani
19	18	4A8	mounika
20	19	4A3	saikrishna
21	20	4A8	mounika
22	21	4A4	shivani
23	22	4C3	akhil

Figure: Database sheet

Now students are entering the classroom one by one or forming a group in the classroom, the camera is capture the images when entering the classroom or in the classroom, if in the classroom students are seating on the bench so that image captured a group image. Independent component analysis method using each face detection and separation in the group image and separated the image identified the person and gave the attendance in automatically.

This is the process to Independent component analysis using the an automatic attendance monitoring in the classroom at schools and colleges.

CONCLUSION

Implementation of the face recognition system using the independent component analysis, the system successfully recognition of the images of the students in different conditions. Independent component analysis recognition of the faces of the student and information store the database with help of the mat lab. The database has more reference images that mean more poses in the image capture, it is more help full to the taken the attendance.

FUTURESCOPE

In this paper only capture the images and detection and indentified the person with reference of the database sheet information and taken the attendance in the classroom automatically without help of the faculty, so that faculty not taken attendance separately, feature include the video camera also, so that we will work with real time applications using independent component analysis.

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