

# “An Intelligent Automatic Attendance Management System Based on Multi Face Detection Technique”

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**Abstract:** *Understudies confront recognition is an imperative innovation in biometric confirmation and has been utilized as a part of different applications, for example, video screen framework, association with human PC and security. This task portrays about understudy participation framework. For each school, universities and library participation is compulsory. Conventional strategy for taking participation is address calling understudy name and record the participation in sheet. For each address its wastage of time. It is extremely hard to confirm every single understudy in an extensive classroom. To stay away from these misfortunes, we utilize programmed participation framework. The proposed framework portrays a strategy like when he goes into the classroom and imprints the participation by removing the picture utilizing Key segment investigation calculation the framework will record the participation of the understudy in classroom condition naturally. The understudy database is gathered. The understudy database incorporates name of the understudies, there pictures move number. It keeps up a log report section of every understudy with Regard to each subject and furthermore produces a report of the understudy participation. Utilizing Basic Mail Exchange Convention (SMTP) the report of the participation data will be sent to the workforce and furthermore to the guardians.*

**Index Terms** Face Detection, Feature Extraction, IOT, SMTP,

## I. INTRODUCTION

Picture handling is any type of flag preparing for which the information is a picture, for example, a photo or video outline; the yield of picture handling might be either a picture or an arrangement of qualities or parameters identified with the picture. Picture preparing is characterized into two sorts. They are, simple picture handling advanced picture preparing simple picture handling is any picture preparing assignment led on two dimensional simple signs. Computerized picture handling is the utilization of pc calculations or perform picture preparing on advanced pictures. Advanced picture handling for the most part alludes to preparing of a two dimensional picture by a computerized pc. Understudy participation record assumes an essential part in each school, school and college. Understudy participation can be grouped into two kinds. They are, manual participation framework, robotized participation framework. The manual participation framework is exceptionally troublesome for staff to check and keep up every last understudy record in expansive class condition and requires more opportunity for figuring the normal and recording the participation of every understudy. The robotized participation framework will remove the face picture when understudy enters the classroom and imprints the participation naturally. This undertaking depends on face recognition system. A face location framework is a pc application for distinguishing or checking a man a man naturally from an advanced picture or a video outline from a video source.[1] [5]

## II Problem Definition

Face Identification framework is to distinguish a man utilizing his face picture. Face Discovery module that Identification the individual understudies face and refresh the understudy participation database naturally. The initial step is that, the staff and understudy class agent are furnished with their own Username and Watchword to Sign in. Following stage is, the preparation picture and their highlights are put away in the database. At that point, testing picture highlights are contrasted and the preparation pictures. Once the picture is distinguished, the participation will be enlisted. At long last, the participation points of interest of the understudy are send to staff parent through Email.

### A) Objective

Face Identification framework is to distinguish a man utilizing his face picture. Face Discovery module that Identification the individual understudies face and refresh the understudy participation database naturally. The initial step is that, the staff and understudy class agent are furnished with their own Username and Watchword to Sign in. Following stage is, the preparation picture and their highlights are put away in the database. At that point, testing picture highlights are contrasted and the preparation pictures. Once the picture is distinguished, the participation will be enlisted. At long last, the participation points of interest of the understudy are send to staff parent through Email

### B) Scope

With a specific end goal to acquire the participation of individual understudy, this venture proposes the programmed participation framework in view of face Recognition procedure utilizing vital segment investigation Feature Extraction calculation. The framework will record the understudy participation when he or she enters and leave the classroom consequently and furthermore give extra data to staff by keeping up a log report for section and leave time. Utilizing SMTP convention, understudy's participation is sent to their folks through mail. By utilizing this strategy the ascertained participation will be more compelling and efficient. Contrasting with manual participation framework this gives more dependable arrangement. In additionally work, our framework can be utilized as a part of

versatile based face acknowledgment. It can be executed continuously applications utilizing CCTV camera. Rather than Feature Extraction calculation, different acknowledgment calculations can be actualized for successful outcomes.

### III Literature Survey

Muthu Kalyani. K, Veera Muthu.A, Attendance Management System Using Face Detection, M-Tech Information Technology, Sathyabama University, Chennai. Professor, M-Tech IT, Sathyabama University, Chennai vol 1, pp. 10-13, Sept.2000.

Author contribution a framework that takes the participation of understudies for classroom address. Our framework takes the participation naturally utilizing face acknowledgment. Be that as it may, it is hard to gauge the participation correctly utilizing each aftereffect of face Acknowledgment autonomously in light of the fact that the face recognition rate isn't adequately high. In this paper, we propose a strategy for evaluating the participation decisively utilizing every one of the consequences of face acknowledgment got by nonstop perception. Constant Perception enhances the execution for the estimation of the participation we developed the address participation framework in view of face acknowledgment, and connected the framework to classroom address.

K .Senthamil Selvi, P. Chitrakala, A. Antony Jenitha, Face Detection Based Attendance Marking System, International Journal of Computer Science and Mobile Computing pp. 434 -438, Dec.1994.

Taking Participation physically is an extremely dull activity and squanders a ton of time as well. The current biometric participation likewise squanders a great deal of time as it isn't programmed and furthermore requires the contribution of the understudies as well. The work depicted goes for mechanizing the entire procedure. The camera introduced will take a photo of the entire classroom, trailed by identifying singular faces in the picture, perceiving the understudies and afterward refreshing their participation. The picture will be caught twice-once toward the start of the class and once toward the conclusion to guarantee that the understudy has gone to the entire class.

Nirmalya Kar, Mrinal Kanti Debbarma, AshimSaha, and Dwijen Rudra Pal, Study of Implementing Automated Attendance System Using Face Detection Technique, International Journal of Computer and Communication Engineering.vol.59, pp.768 773, May 2010.

Human face discovery and acknowledgment is a vital innovation in biometric confirmation and has been utilized as a part of different applications, for example, video screen framework, association with human-PC and security. This paper portrays about understudy Participation framework. For each school, universities and library participation is required. Conventional technique for taking participation is address calling understudy name and record the participation in sheet. For each address its wastage of time. It is exceptionally hard to confirm every last understudy in an extensive classroom. To keep away from these misfortunes, we utilize programmed participation framework.

### III Existing System

A biometric is an exceptional, quantifiable normal for a person that can be utilized to naturally perceive an individual or confirm a person's character. Biometrics can quantify both physiological and behavioral qualities. Physiological biometrics this biometrics depends on estimations and information got from coordinate estimation of a piece of the human body. Behavioral biometrics this biometrics depends on estimations and information got from an activity.

### IV PROPOSED SYSTEM

It requires no physical connection in the interest of the client. It is exact and takes into consideration high enrolment and verification rates. It can utilize your current equipment framework genuine, existing cameras and picture catch Gadgets will work without any issues. To accelerate the face Identification process we just think about pictures caught in a classroom, with the database of understudies enlisted for that course as it were. This guarantees we process just a little subset of pictures accessible on our focal information base. In Face Identification there are two kinds of examinations: - Confirmation The framework contrasts the given individual and who they say they are and gives a yes or no choice. Distinguishing proof The framework looks at the offered individual to the various people in the database and gives a positioned rundown of matches.

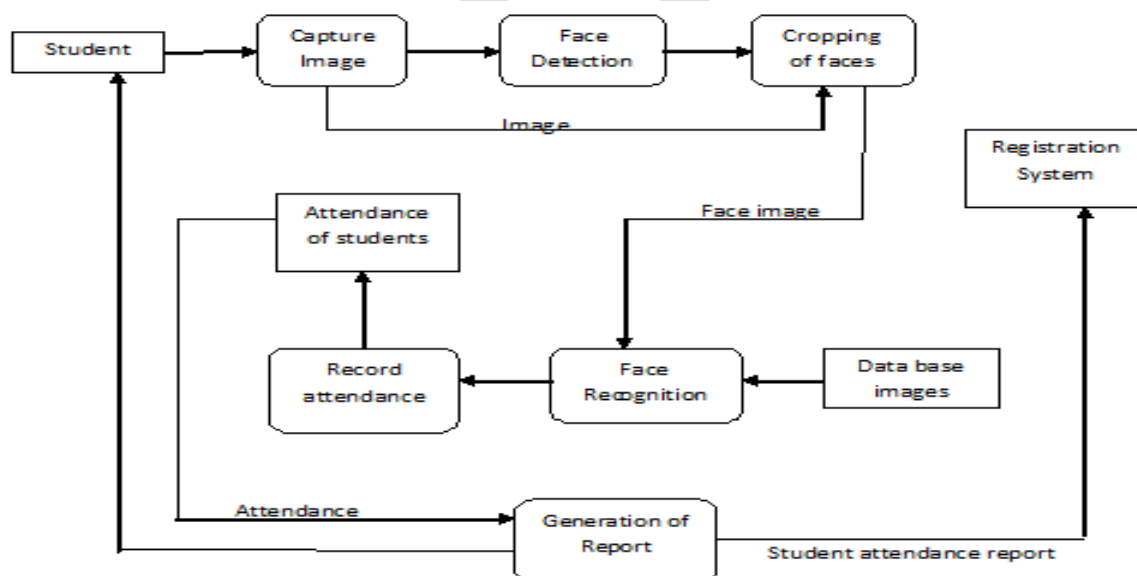


Fig. 1 Proposed System Architecture

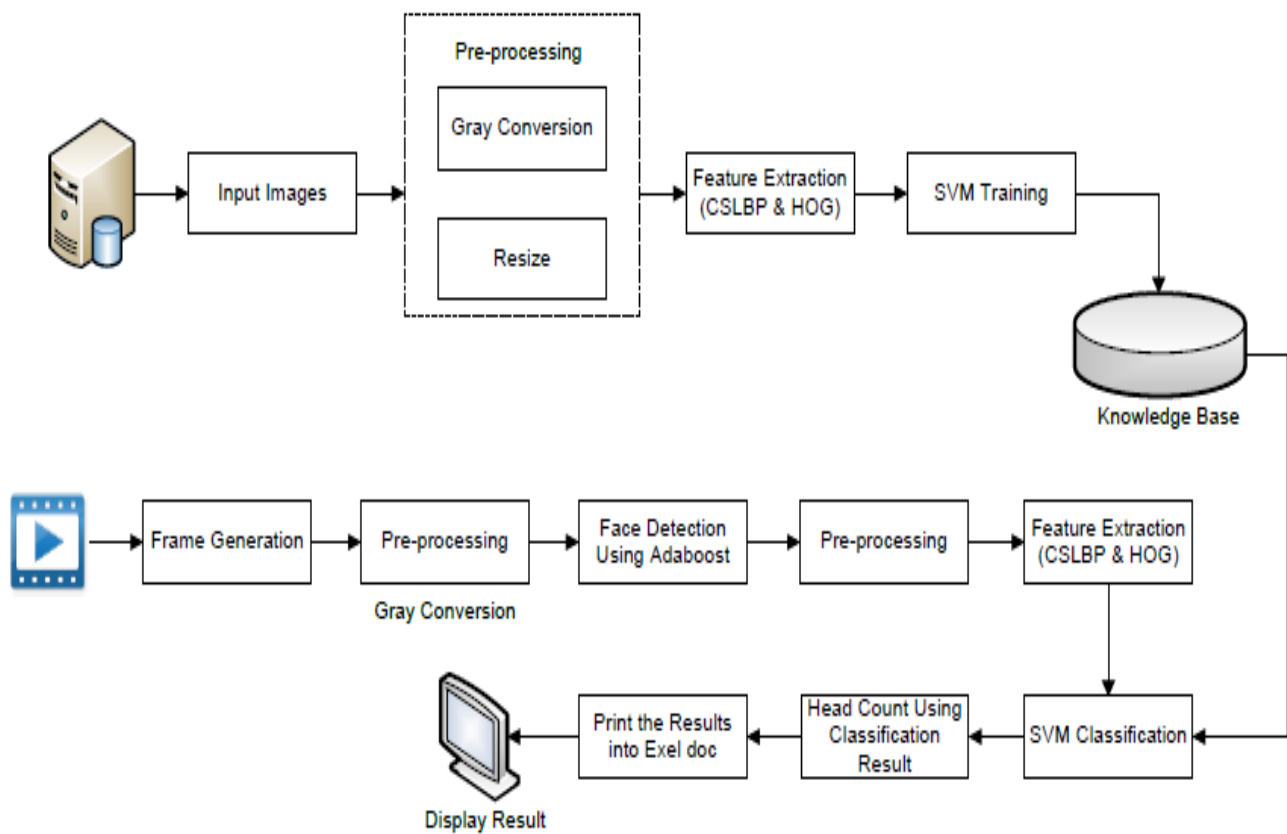


Fig. 2 Architecture

## VI Module Description

### 1. Login Module

The login stage is accommodated the Speaker and understudy class Agent. Login name and password is given to both the teacher and Agent. Without instructor, the delegate can login into the framework. After sign in the info picture is caught and sent for include extraction.

### 2. Staff Register Module

Data about staffs, for example, their name, email id, versatile number, subject they are dealing with and their area of expertise. In understudy data the name of every understudy in the class are shown with every understudy picture. In this module, we have refresh and clear catch. Refresh catch is utilized to take the understudy participation subtle elements and clear catch is utilized to clear the past participation points of interest.

### 3. Staff login Module

In that module staff can be login use to email and secret word .

### 4. Student Register Module

Data about understudy, for example, their name, email id, versatile number, office they are taking care of and their area of expertise. In understudy data the name of every understudy in the class are shown with every understudy picture. In this module, we have refresh catch. Refresh catch is utilized to take the understudy participation subtle elements. Singular understudy is ascertained.

### 5. Add Student Attend

Once the refresh participation catch is clicked then the testing and preparing picture highlights are separated and arranged. In the event that Euclidean separation esteem is least then understudy participation is enlisted. The level of the individual under study is computed

## VII Technical Specification

### 1. Hardware Interfaces

- System : Pentium
- Hard Disk : 30GB
- Monitor : VGA color
- RAM : 1GB

### 2. Software Interfaces

- OS : Windows 7,8. 32 bit
- Language : Java 1.8.0
- Data Base : mysql-installer-community-5.7.9.0 mysql-query-browser-1.1.20win

## VIII Algorithm (Feature Extraction)

- Let perimeter  $P$  be the actual set of boundary pixels.
- $P$  must be ordered in a sequence  $P = \langle (r_0, c_0), \dots, (r_{K-1}, c_{K-1}) \rangle$ .
- Each pair of successive pixels in  $P$  are neighbors, including the first and last pixels.

**perimeter length:**

$$|P| = \#\{k | (r_{k+1}, c_{k+1}) \in N_4(r_k, c_k)\} + \sqrt{2} \#\{k | (r_{k+1}, c_{k+1}) \in N_8(r_k, c_k) - N_4(r_k, c_k)\}$$

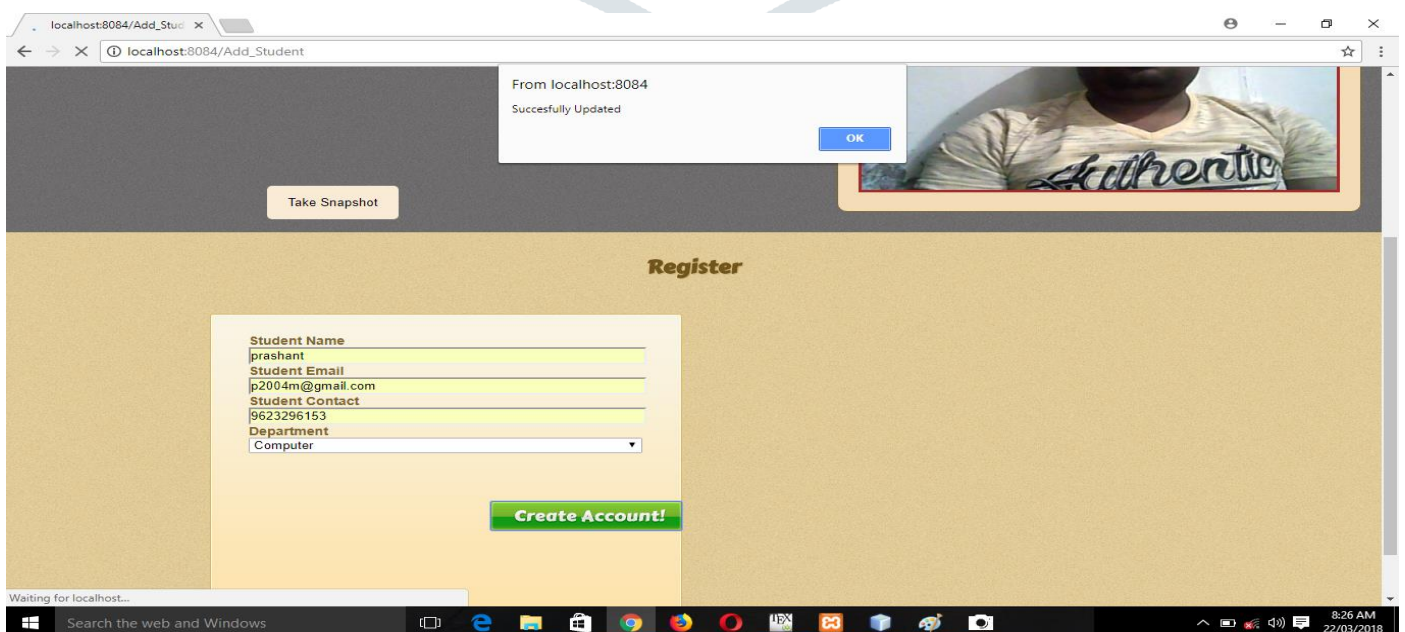
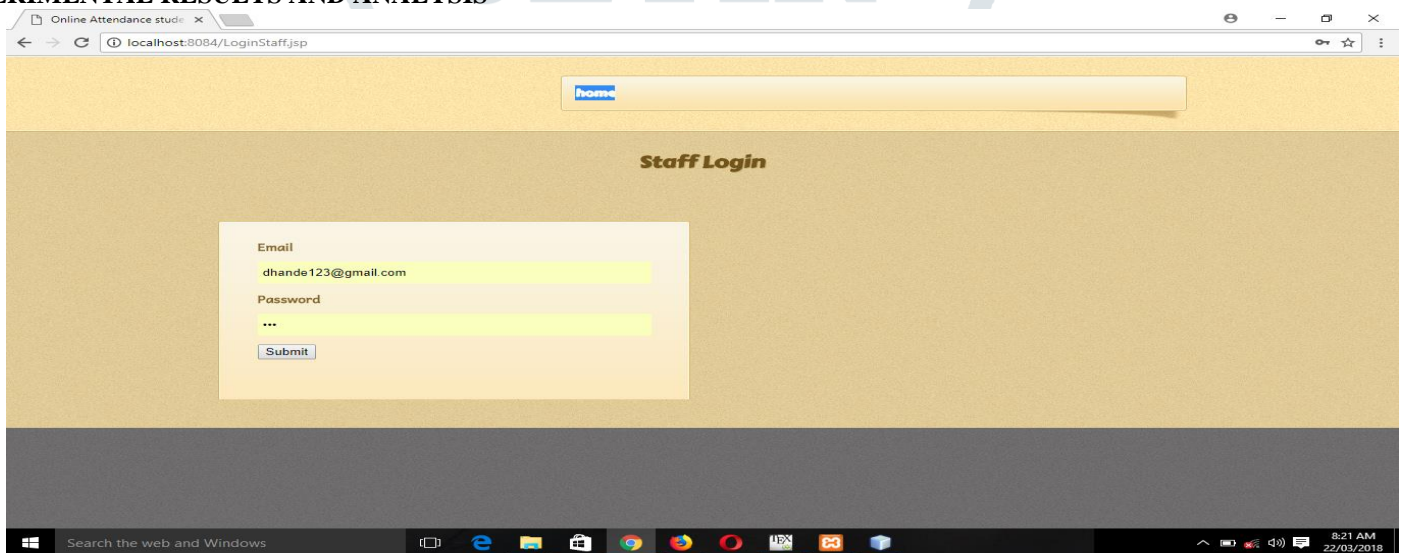
where  $k + 1$  is computed modulo  $K$ .

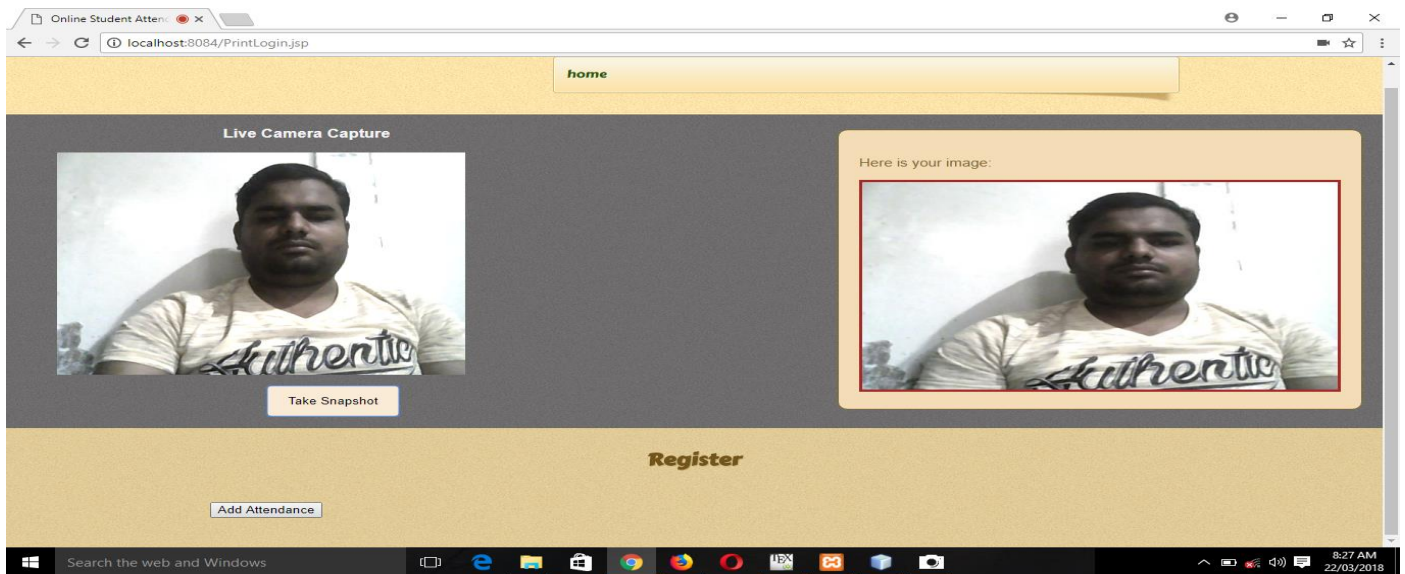
- *Perimeter can vary significantly with object orientation.*

## IX Advantages

- 1) Automated attendance management which does not consumes time and the data is not lost until we erase the data .This method is most ancient in these day.
- 2) The management of attendance in this method is simpler and the attendance is taken more accurately
- 3) People see your emotion by your facial expression.
- 4) Can show if you are happy/sad, satisfied/unsatisfied, angry/pleased etc. without saying a word or while other is talking with you.
- 5) It can make you know if the conversation is boring or interesting by the people's face expression.

## X EXPERIMENTAL RESULTS AND ANALYSIS





**Record Found:-**  
**User Name:prashant**  
**User Email:prashantmatades@gmail.com**  
**User Mobile:9623296153**  
**Department:9623296153**

**Student Attendance Successfully..**



## CONCLUSION

Through this framework, we are certain that the participation of individual understudy, this outline report proposes the programmed participation framework in view of face identification system utilizing Principal segment investigation Feature Extraction calculation. The framework will record the understudy participation when he enters and leave the classroom consequently and furthermore give extra data to personnel by keeping up a log report for section and leave time. Utilizing SMTP convention, understudy's participation is sent to their folks through mail. By utilizing this technique the figured participation will be more compelling and efficient. Contrasting with manual participation framework this gives more solid arrangement. In additionally work, our framework can be utilized as a part of portable based face acknowledgment. It can be executed continuously applications utilizing CCTV camera. Rather than Feature Extraction calculation, different identification calculations can be executed for viable outcomes.

The executed completely computerized confront identification and acknowledgment framework (with an eye discovery framework) could be utilized for straightforward reconnaissance applications, for example, ATM client security, while the actualized manual face location and mechanized acknowledgment framework is perfect of mug shot coordinating. Since controlled conditions are available when mug shots are accumulated, the frontal view confront acknowledgment plan should show an acknowledgment precision far superior to the outcomes, which were acquired in this investigation, which was directed under antagonistic conditions.

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