International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 09 Issue: 06 | June 2022 www.irjet.net p-ISSN: 2395-0072

FACE RECOGNITION ATTENDANCE SYSTEM

Vrushab Banajawad[1], Nithin Shetty[2], Pratham Shekar[3], Mr. Ajith Kumar B P[4]

[1-3]Student, Dept. of Information Science and Engineering, CEC, Karnataka, India
[4]Asst. Professor, Dept, of Information Science and Engineering, CEC, Karnataka, India

---

Abstract - In this advanced time, face acknowledgment framework plays out a major job in every space. Face acknowledgment is one in every of the foremost typically concerned statistics in day nowadays life. It tends to be used for security, validation, ID, confirmation and heaps a lot of edges all things thought of. Despite having low exactness once contrasted with iris acknowledgment and distinctive finger impression acknowledgment, it's as a rule typically used thanks to its contactless and harmless interaction being advanced. Besides, face acknowledgment framework may be used for participation stamping in colleges, universities and workplaces, and then forth this method characterizes a goal of fulfillment of building a category interest structure which incorporates face affirmation as existing manual network is dreary and verifiably testing to remain awake to. what is more there could also be high prospects of treater cooperation from understudies. later on, the necessity for this framework increments fulfilling these measures. This framework includes of 4 stages information set creation, face discovery, face preprocessing, face acknowledgment and participation updation. At the purpose once the Face speech act and affirmation is puzzled out, the image is modified over to deeply totally differentiating arrangement mistreatment Haar-Cascade classifier and a brief time later additionally completely different over to values practice native Binary Pattern bar chart estimation entirely. Faces are generally known and perceived from live streaming image of the homeroom. Participation are sent to the actual men toward the end of the meeting.

1. INTRODUCTION

Customary methodology for investment stepping in faculties and colleges finally ends up being unbelievably boring and exasperating endeavor for a proletariat to try and do. it's to boot an extra Associate in Nursing trip to the educator/speaker World Health Organization must stamp participation physically occupation understudies name that is tedious taking part in out the total meeting. on these lines, a wasteful assignment to try and do. There are unit several prospects of hash out participation. Henceforth, several institutions began involving varied completely different methods for checking participation like utilization of often Identification (RFID), iris acknowledgment, distinctive mark acknowledgment, etc. even so, these frameworks area unit line based mostly. Face acknowledgment has set Associate in Nursing actual trademark embrace, which may be effectively getable and is unpretentious. The game-plan of assertion contains 2 classes: check and face ID. Face affirmation could be a 1:1 matching cooperation, it investigates face image against the organization face photos and keeping in mind that's a 1: N provides that contemplates an invitation face photos. It means that to create a participation framework that depends upon face assertion strategies. Face of a specific understudy are thought of for actually taking a look at interest. These days, face acknowledgement is broadly been utilized and gain larger prominence. during this paper, we tend to tend to planned a framework that acknowledges the essences of understudies by looking at photos of the understudy whereas new understudy information section and participation are checked consequently within the event that the known face is found within the knowledge set.

2. RELATED WORK

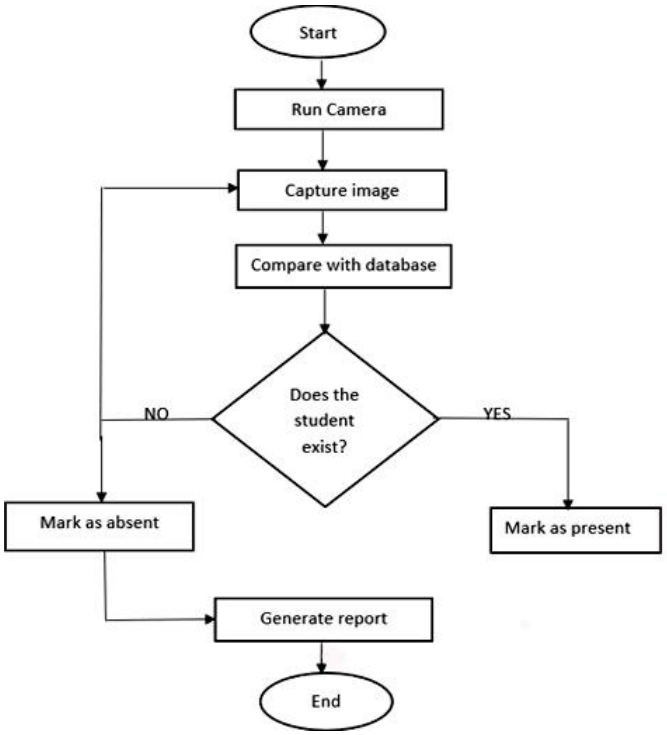
Face may be a distinctive identity of anyone. it's employed in several domains and is that the quickest growing analysis space. several systems area unit being projected for attending management. one in all the systems, generates a wise attending system that uses fast Response (QR) code to trace & record the attending. Students and professors square measure units given a unique QR code, at the beginning of the course, they're required to scan their QR code using a QR reading device. attending of scholars whose QR code is scanned are going to be recorded. this technique is conscious of mobile phones and totally different laptop systems. A reliable attending observation system supported biometric is developed, that is employed to watch the presence of scholars in a very more practical approach. It reduces the probabilities of marking proxy attending and conjointly reduces the issues like missing papers of attending, that occur throughout marking attending manually. lecturers have atiny low fingerprint scanner with them and students can press their finger on that to mark their attending. attending management systems exploitation Iris recognition, unit of measurement a great deal of reliable and proper attributable to the inner characteristics of iris like individuality, time unchangeableness, immobility etc. The Iris pattern of every student is employed for attending. By exploitation the camera live pictures of student iris area unit captured and hold on in a very information. grey cryptography algorithmic program is employed for measurement radius

of iris then that radius is matched with the radius of every student within the information and attending of that student are going to be marked.

In one in all the projected models, 2 information (face database & attending database) area unit used. throughout registration, facial pictures of scholars area unit hold on into the face information. The camera captures the photographs of the schoolroom, the photographs get increased and also the attending is marked within the attending information once face detection & recognition. AdaBoost rule program and Principal half Analysis (PCA) unit of measurement used for face detection and face recognition severally. The LBPH algorithmic program, will acknowledge the front face furthermore as facet face with approximate accuracy of ninetieth. The flow of this algorithmic program starts with dividing the image into blocks and hard the bar graph of every block, then combining the bar graph of all the blocks into one bar graph. This bar graph has some price that is employed for comparison later with the $64000 time image bar graph for identification. Multiple faces are often detected in a very single detection hybrid method of Haar cascade and Eigenfaces methodology area unit used. This method is in a position to discover multiple faces with Associate in Nursing accuracy International Journal of Engineering analysis & Technology (IJERT) http://www.ijert.org ISSN: 2278-0181 IJERTV10IS080085 (This work is authorized underneath a resourceful Commons Attribution four.0 International License.) revealed by: WWW.ijert.org Vol. ten Issue 08, August-2021 312 of ninetyone.67%. By exploitation this methodology, ready to acknowledge faces throughout day and getting dark and also are able to discover fifteen degrees facet facing faces. By employing a digital camera this method will with success perform at quite two hundred cm. one in all the methodologies, considers accuracy rate, stability of system in actual time video process, nonattendance of system and interface setting of the face recognition system. Face detection and recognition area unit 2 main components of face recognition. Feature extraction is finished by the LDA (Linear Discriminant Analysis) methodology. This model takes facilitate of ways like geometric Feature methodology, mathematical space analysis methodology, Neural Network ways, Support Vector Machine (SVM) methodology to develop their face recognition algorithmic program. {experimentally by experimentation through Associate in Nursing experiment} this model of video face recognition system provides an accuracy rate up to eighty two.

3. SYSTEM DESIGN AND IMPLEMENTATION

The purpose of arranging the look part is to plan an answer of the matter such as by the need document. the planning of a system is maybe the foremost crucial issue poignant the standard of the computer code, and contains a major impact on the later phases, notably testing and maintenance. The output of this part is that the style document. the planning activity is commonly divided into 2 separate phases. they're system style and careful style.



User Interface:

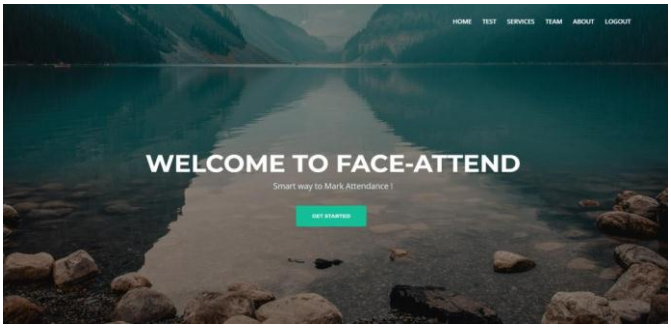
- Teacher module
- Student Module

Functional Requirement:

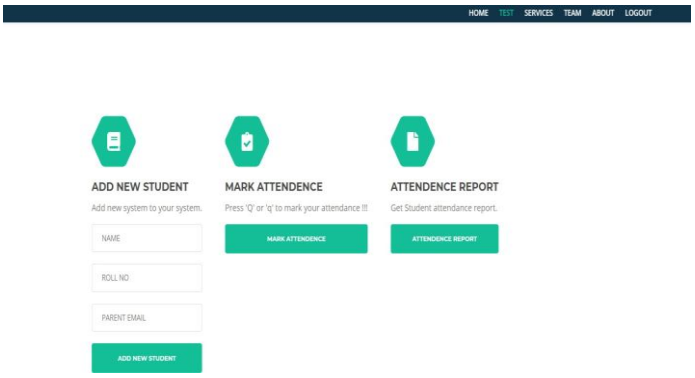
Functional necessities defines the operate of a system or its part. A operate is delineate as a group of inputs, the behavior and outputs. useful necessities specify specific results of a system. useful necessities drive the appliance design of a system. Following square measure the useful necessities employed in the project.

- Process pictures in any needed format i.e., jpg, png, bmp etc.
- Import pictures and store image information regarding the segmentation while not corrupting the contents of the image.
- Segmentation and have extraction of the image.
- Classifying the kind of Fruit.

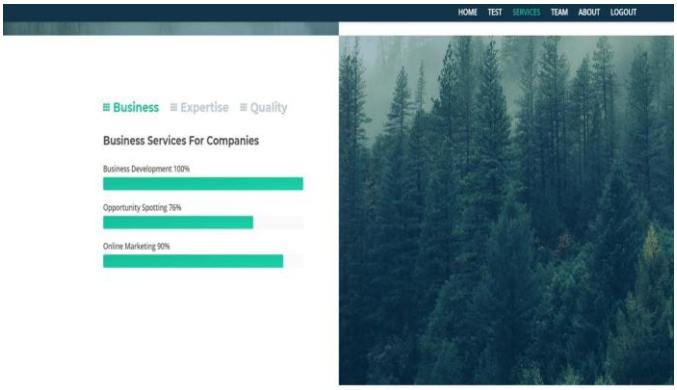
Login Page



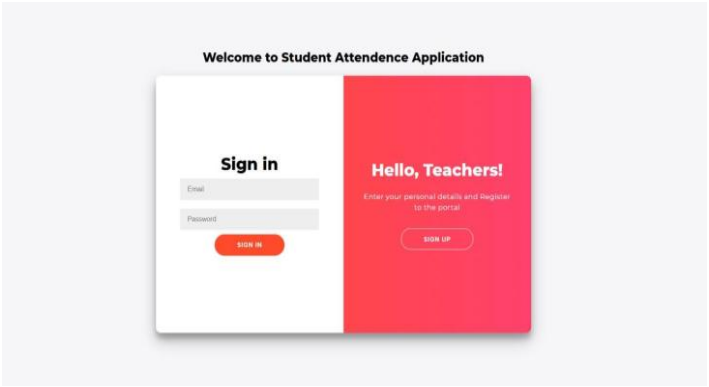
Home Page



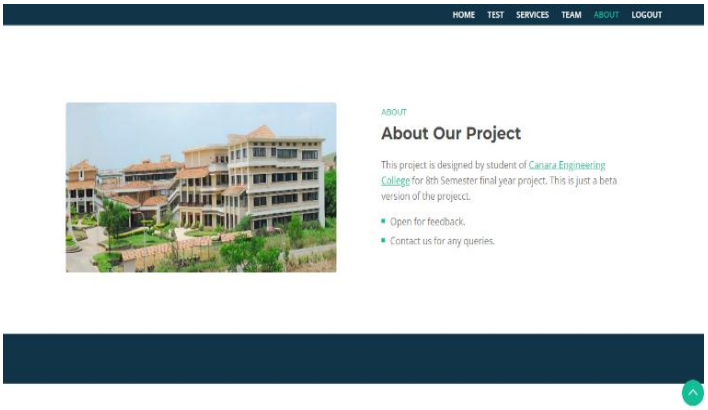
Testing Page



Services Page



About Page



4. EVALUATION RESEARCH METH0DOLOGY

Procedure for Face Recognition:

Step 1: Start

Step 2: Input image

Step 3: Image processing

Step 4: Segmentation

Step 5: Feature Extraction

Step 6: Training the SVM and KNN

Step 7: Submit the new Face images to the trained SVM, and predict the output

Step 8: Calculating the accuracy between SVM and KNN

Step 9: Stop

Procedure for Image Pre-Processing:

Step 1: Start

Step 2: Convert image to grey scale

Step 3: Convert grey scale to binary

Step 4: Stop

Procedure for face recognition in Non-Realtime

Step 1: Start

Step 2: Train the dataset by selecting feature extraction option.

Step 3: Browse the image from dataset for testing.

Step 4: Then Select Pre-processing button to perform preprocessing of the selected face image.

Step 5: Then Select Segmentation button to perform Segmentation of the selected face image.

Step 6: Then Select Feature Extraction button to perform Extraction of features of the selected face image.

Step 7: if button is equal to SVM

SVM algorithm is used for recognition.

Step 8: if button is equal to KNN then

KNN algorithm is used for recognition.

Step 9: End.

5. CONCLUSIONS

In this paper, the purpose is to induce the image of the understudies, convert it into bar graph then LBP, additional store in designing academic assortment. whereas the investment is recorded it matches the options of every understudy to require care of decimal characteristics in preparing instructive assortment. Relate it with the informational index to confirm their quality or group action, mark cooperation of a specific understudy to remain alert to the record. The machine-controlled room group action System helps in extending the exactness rate and speed finally to attain the high-exactness consistent support to resolve the problem for tailored homeroom analysis.

REFERENCES

[1] Siswanto, Adrian Rheas Sestina, Anton Astray Nugroho, and Maul hikmah Galenism. "Implementation of face recognition algorithm for biometrics-based time attendance system." 2014 International Conference on ICT for Smart Society (ICISS). IEEE, 2014.

[2] Lukas, Samuel, et al. "Student attendance system in classroom using face recognition technique." 2016 International Conference on Information and Communication Technology Convergence (ICTC). IEEE, 2016.

[3] Rathod, Hemant Kumar, et al. "Automated attendance system using machine learning approach." 2017 International Conference on Nascent Technologies in Engineering (ICNTE). IEEE,2017.

[4] Okokpujie, Kennedy O., et al. "Design and implementation of a student attendance system using iris biometric recognition." 2017 International Conference on Computational Science and Computational Intelligence (CSCI). IEEE, 2017.

[5] [6]Akbar, Md Sajid, et al. "Face Recognition and RFID Verified Attendance System." 2018 International Conference on Computing, Electronics & Communications Engineering (iCCECE). IEEE, 2018.