



PLACE AND ATTENDANCE TRACKING SYSTEM

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Abstract : In present days there are several biometric systems available to identify a person. Among them, one of the famous biometric systems used in day-to-day life is the face detection & recognition system that can handle several kinds of applications such as checking whether the person wearing a mask or not or for authentication purposes, etc so we came up with an idea to collect the student attendance daily by using the technique of face detection & recognition along with the place they are present by taking the data from the CCTV cameras .which helps both the students and management to save their time and avoids miscommunication at the time of attendance and it also helps the management to track the status of every student and to identify unknown persons if available in the class or the campus premises and provide the security to each and every person at the campus premises.

IndexTerms – Authentication,CCTV,Biometric.

INTRODUCTION

Attendance is the primary criterion that plays a major role in a student's life. Without a proper existence, there is a huge loss of physical study in the student's life as it acts as the building block for the career. That's the reason many universities said attendance is the main criterion for the student to attend any kind of activities which takes place at the organization. The physical presence of students makes them study various kinds of things such as peer discussion, leadership, sports, cultural activities, etc.

The universities came with the subject-wise attendance as the student should know the importance of each subject. The universities gave little flexibility by saying that 65% is only mandatory if they want to attend for the final examination if they are unable to attend college due to unhealthiness also only a little percentage will be gone .so instead of asking for more than 80% they asked it should be only more than 65%.

Olden days they used to take manual kind of attendance means the faculty taking class used to call the students by their name or by the unique roll number given to each student and the students used to respond to their respective names or the roll numbers and in that if any one of student miss to respond and faculty miss totally total count with the marked count the student used to lose the attendance.

In later days as technology developed they came up with the idea such as scanning of the id cards every time before they enter institute and while they are leaving the institute which means that the time between the entry and the leaving time is the time which a student is spending at the institute but the problem behind this is that anyone can scan the id it need not be only the student whose id card it is which creates so many miscommunications between the faculty and the parents of the student .so in the future case it was not being used in open gate universities or colleges.

At present days they make up of using the biometric system mainly the biometric system means using the measurement and calculation of the characteristics of human beings the popular biometric system being used is the fingerprint to calculate the attendance of the student but it is also creating a lot of problems as it is taking a lot of time and sometimes if all the students came at the right time then there is a late mark as students cannot keep the biometric at the correct time due to the crowd.

We came up with the idea of using the face recognition and detection system where the face is recognized by taking the captured from the CCTV camera and after every class the scan and capturing is going to take place and the information such as name, Location, a Roll number is being given to the database and the message is being generated if the student is not being present in the class.

LITERATURE REVIEW

In[1]2021 a review paper on "Smart Attendance Management System" paper has been published according to that paper attendance was monitored by using the webcam and temperature sensor means if the person is detected then features are compared if it is known person then the temperature has been checked and if the temperature is normal then only attendance has been marked.

In [2] 2018 "Student Attendance Management System " paper was published according to that paper attendance was collected electronically and saved to the database and the architecture followed by them is MVC(Model, View, Control) and implemented using the power of larvel framework.

In[3] 2022 a system was introduced namely the "QR code SMS system with the notification" according to that model once the camera captures the photo the student needs to scan the QR code present on their ID cards so that the system will collect the details of students and store that the particular roll number is present and the student will receive the notification the process completed.

In[4] 2015 "Students Attendance Monitoring System Based on RFID and GSM Network" system was introduced there is an RFID reader connected to the ARM microcontroller and there is also a GSM modem connected to the microcontroller. RFID card is used to

scan contain a unique ID whenever a student scan that id the message is received by the parent phone as well as by the database of the client.

In[5] 2011 "Student attendance Management " was introduced which is a software development webpage where the only teacher can give the information and students can only check their marks, attendance, activities, and timetable and any software changes can be done by the administrator.

In[6] 2011, a "Biometric Attendance System" paper was presented and according to that presentation, the biometric fingerprint has been used to calculate attendance once the candidate put the fingerprint it is compared with the registered fingerprints, and to which fingerprint it matches the information provided to that fingerprint is taken and the attendance has been recorded.

RESEARCH METHODOLOGY

The methodology we are going to use is that we will be continuously collecting the data in the form of faces into the system by capturing them from the streaming footage of CCTV and noting the location of camera along with the id number of the student .The information which is reaching the database is the information of particular student (i.e) at what time they are present in which place and also the performance report of student etc.The data how it is stored in the database is mentioned below.

Here we are using standard methodology where the data is taken in sprints (sprint is time period of 7 days and sprint working days are 6 days) and sent to the database and sent to the data warehouse where data base consist of less amount of data the data warehouse consist of huge amount of data from day one to day end of one particular student

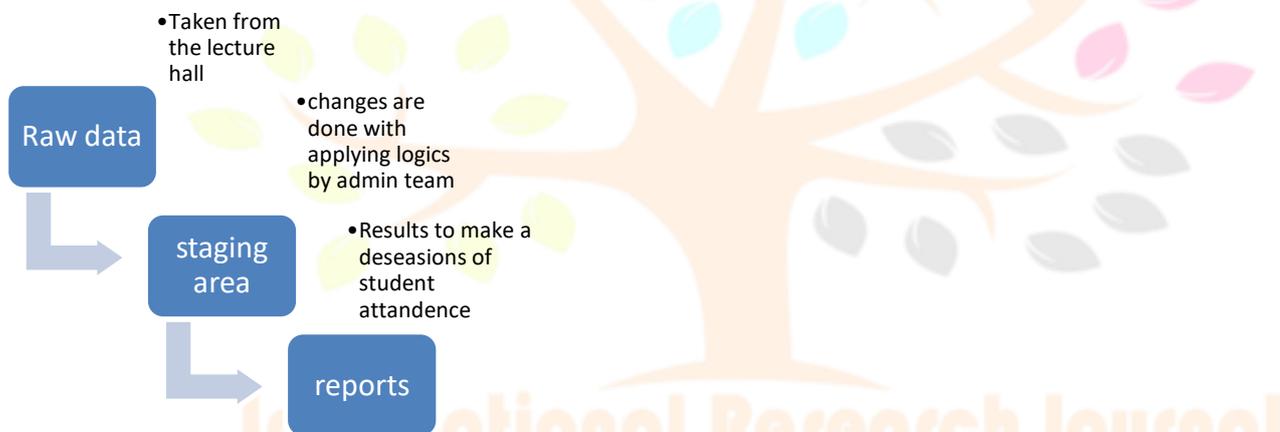
In this the structural data is converted into numerical data and the numerical data is converted into descriptive data where easy to understand for the user (we will be also calling it as user interface) the data is filtered using some of the logics

The basic data which is collected to act on it we will also calling it as muck up data because insert update and deletion of the data has to happen the data is processed into to database and we also maintaining access points each number represents the particular accesses like example read only , read and write only and read , write and execute also this are the three access where we are mostly working on in the processes of extracting the end product

For this process to maintain we are using **water fall module** which is one of the software development module in this process the work.

In this module the first phase moves to next phase only when the previous stage is completed

Deliverables Structure of the module:



According to this flow of the data the whole methodology works they are three types of modules they are SCD type1 , SCD type 2and SCD type 3,

We are using SCD(Slowly Changing dimensions) type 2 in our methodology as in this we are able to track entire data current data and entire history of attendance of student.

RESULTS

The overall structure of the project explains about the best and modern technology to gather the information from class students regarding their presence in particular lecture according to the presence in the lecture hall the system with the help of management make the exact decision on the top of student attendance with transparency.

DISSCUSSION

We just briefly understand this face recognize system with today's real time working expectation as its very easy to understand the concept of the FRC it can also be use in many other security related premises as to identify the criminal background of the individual citizen in particular state , I hope the real time experiment of this kind of FRC's in the real world only gives the better experience of the techy plus software interdependent project

CONCLUSION

Finally we ensure that the FRC's in the lecture hall gives better performance to gather the information of presence of student in lecture hall in smart way with accuracy , standards ,and also includes the beauty of transparency to access the individual attendance with unique identification number

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