**ABSTRACT**

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Attendance maintenance is a significant function in all the institutions to monitor the performance of the students. Every institute does this in its own way. Some of these institutes use the old paper or file based systems and some have adopted strategies of automatic attendance using some biometric techniques. A facial recognition system is computerized biometric software which is suited for determining or validating a person by performing comparison on patterns based on their facial appearances. Face recognition systems have upgraded appreciably in their management over the recent years and this technology is now vastly used for various objectives like security and in commercial operations. The number of students present in a lecture hall is observed, each person is identified and then recognized. Face recognition being a biometric technique implies determination if the image of the face of any particular person matches any of the face images that are stored in a database. The expected system engages the face recognition approach for the automating the attendance procedure of students or employees without their involvement. A web cam is used for capturing the images of students or employees. The faces in the captured images are detected and compared with the images in database and the attendance is marked.

Face is the representation of one’s identity. Hence, we have proposed an automated student attendance system based on face recognition. Face recognition system is very useful in life applications especially in security control systems. The main purpose of this project is to build a face recognition-based attendance monitoring system for educational institution to enhance and upgrade the current attendance system into more efficient and effective as compared to before. The current old system has a lot of ambiguity that caused inaccurate and inefficient of attendance taking. Many problems arise when the authority is unable to enforce the regulation that exists in the old system. The technology working behind will be the face recognition system. The human face is one of the natural traits that can uniquely identify an individual. Therefore, it is used to trace identity as the possibilities for a face to deviate or being duplicated is low.

The proposed solution makes use of face databases to pump data into the recognizer algorithm. Then, during the attendance taking session, faces will be compared against the database to seek for identity. When an individual is identified, its attendance will be taken down automatically saving necessary information into a excel sheet. Face recognition is a technique which involves determining if the image of the face of any given person matches with any of the face images stored in the database. This problem is very difficult to solve automatically due to the changes that various factors, such as facial expression, aging and even lighting. Among the different biometric techniques facial recognition is not the most reliable technique but it has several advantages over the others. It is widely used in areas such as security and access control, forensic medicine, police controls and in attendance management system. The main objective of the system is to develop face recognition based automated student attendance system.