

# **Exam Hall Authentication using Finger Print**

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**Abstract:** Authentication System is used to detect the user identification the correct person. This system is required in many different places such as offices, companies, schools, organization and institution etc. A secure and effective identity management system plays an important role in the successful deployment of an attendance management system. To make the identity management system more secure and reliable for authentication, biometrics data are integrated in the attendance management systems. Biometrics technologies verify identity through characteristics such as fingerprints. This paper describes one of the authenticate the correct person system. The main aim of the paper is to construct the authenticate system using Fingerprint module. In this system Arduino Uno are the main components.

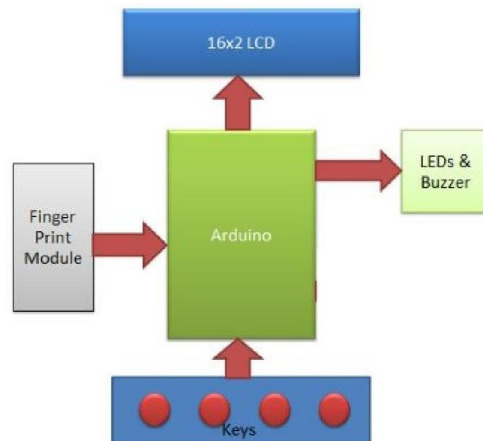
**Keywords:** The system is designed to pass only users verified by their fingerprint scan and block non-verified users. In the examination hall we are use the fingerprint verification system for verified the authorized user or not. If authorized user then it allow to the examination hall. Otherwise cannot be allowed

## **I. INTRODUCTION**

It is expected today that an individual who wants to authenticate himself for a service must have a token and/or password for example identity card, ATM card, driving license, health card and so on. Carrying different cards and remembering passwords for different services is a significant issue for individuals and organizations. A secure and effective identity management system plays an important role in the successful deployment of an attendance management system. To make the identity management system more secure and reliable for authentication, biometrics data are integrated in the attendance management systems. Biometrics technologies verify identity through characteristics such as fingerprints, faces, irises, retinal patterns, palm prints, voice, hand-written signatures, and so on. These techniques, which use physical data, are receiving attention as a personal authentication method that is more convenient than conventional methods such as a password or ID cards because it uses data taken from measurements and such data is unique to the individual and remains so throughout one's lifetime. In these technologies, fingerprint becomes the most mature and popular biometrics technology used in automatic personal identification. The reason for the popularity of fingerprint verification is that fingerprints satisfy uniqueness, stability, permanency and easily taking. In this paper, an attempt was made to look at the prevalence in the high level of impersonation experienced on a daily basis in both private and public sectors, the ghost worker syndrome which has become a menace across all tiers of government, employees concerns over the levels of absence in their workforce and difficulty in managing student attendance during lecture periods. Sequel to this, a fingerprint- based Attendance Management System was developed to provide a faster, more secure, and more convenient method of user verification than passwords and tokens can provide for a reliable personal identification.

## **II. BLOCK DIAGRAM**

Description of methodology : Working of this fingerprint attendance system project is fairly simple. First of all, the user needs to enroll fingerprints of the user with the help of push buttons. To do this, user need to press ENROLL key and then LCD asks for entering ID for the fingerprint to save it in memory by ID name.. Now LCD will ask to place finger over the fingerprint module. Now user needs to place his finger over finger print module and then the module takes finger image. Now the LCD will say to remove finger from fingerprint module, and again ask to place finger again. Now user needs to put his finger again and module takes an image and convert it into templates and stores it by selected ID into the finger print module's memory. Now the user will be registered and he/she can feed attendance by putting their finger over fingerprint module. By the same method, all the users will be registered into the system.



Whenever user place his finger over fingerprint module then fingerprint module captures finger image, and search if any ID is associated with this fingerprint in the system. If fingerprint ID is detected then LCD will show Attendance registered and in the same time buzzer will beep once and LED will turn off until the system is ready to take input again.

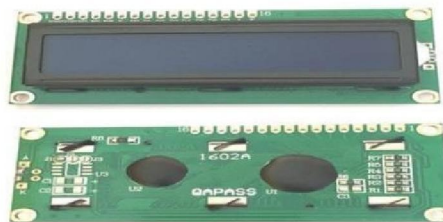
## 2.1 Finger Print Module



This is a fingerprint sensor module with TTL UART interface for direct connections to microcontroller UART or to PC through MAX232 / USB-Serial adapter. The user can store the fingerprint data in the module and can configure it in 1:1 or 1: N mode for identifying the person.

The Fingerprint module can be directly interfaced with any microcontroller as well as Arduino Board. This optical biometric fingerprint reader with great features and can be embedded into a variety of end products like access control system, attendance system, safety deposit box, car door locking system.

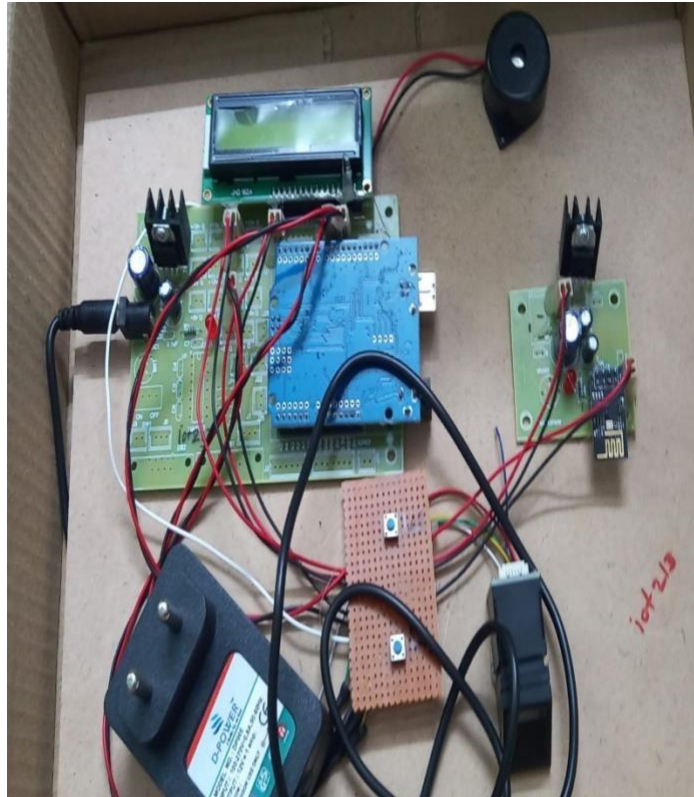
## 2.2 LCD display



LCD modules are very commonly used in most embedded projects, the reason being its cheap price, availability and programmer friendly. Most of us would have come across these displays in our day to day life, either at PCO's or calculators. The appearance and the pinouts have already been visualized above now let us get a bit technical.

16×2 LCD is named so because; it has 16 Columns and 2 Rows. There are a lot of combinations available like, 8×1, 8×2, 10×2, 16×1, etc. but the most used one is the 16×2 LCD. So, it will have (16×2=32) 32 characters in total and each character will be made of 5×8 Pixel Dots. A Single character with all its Pixels is shown in the below picture.

### III. RESULT



### IV. CONCLUSION

Fingerprint based attendance system will help to detect the presence of student and employees in schools, colleges and offices etc. It is user friendly and reliable and most of all it displays the time and date to check whether the user is on time or late.

### V. APPLICATION

- In Schools
- In College
- In Companies
- In Industry
- In hospital
- In malls

### REFERENCES

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