A Synopsis on

IOT Based Biometric Attendance For Data Visualization

Submitted in partial fulfillment of the requirements
of the degree of

Bachelor of Engineering

in

Information Technology

by

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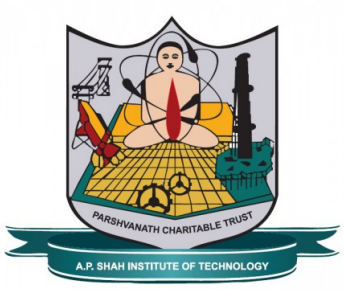

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CERTIFICATE

This is to certify that the project Synopsis entitled ***"IOT Based Biometric Attendance For Data Visualization"*** Submitted by ***"Dinesh Deshmukh (16204015), Akash Bamne(16204020),Nilesh Mohite(16204030),Yash Bhoir(15104031)"*** for the partial fulfillment of the requirement for award of a degree ***Bachelor of Engineering*** in ***Information Technology.***to the University of Mumbai,is a bonafide work carried out during academic year 2018-2019

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Declaration

I declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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Abstract

In recent past, the number of applications based on biometric and have been successfully applied to different areas as diverse as education, government offices industry. The objective of this system is to design and develop a student attendance system used in universities for students. Made to solve manual class attendance monitoring problem in developing countries using iot and biometric technology. A lecturer has to pass the attendance system to mark attendance of students. Internet of things (iot) is used to monitor and manipulate the data stored on server. This system not only helps teacher to take attendance is useful for displaying data and information in the form of graphical charts, figures, and bars. It helps to generate visual reporting for the performance or general statistics of student as per students attendance.

Introduction

The old method for taking attendance is manual work this method takes a lot of time and there are chances that the attendance is not marked properly. There is a lots of chances of making mistakes in taking daily attendance of the students. all these limitations in current system it is necessary to design a system for managing automatic attendance without any mistakes. The proposed system is used for taking the daily attendance of the students by using fingerprint of the students and managing the attendance in suitable environments like colleges. The faculty activates the system for marking attendance and provides it to the students when enter the classroom attendance of the students will be marked in the database after the fingerprint detection.

Objectives

When the number of students enrolled in a certain course is huge, the lecturers tend to call a couple of students name at random which is not fair student evaluation process either. Finally, these attendance records are used by the staff to monitor the students attendance rates. This process could be easy and effective with a small number of students but on the other hand dealing with the records of a large number of students often leads to human error. So to overcome all these limitations of the current system we are designing a system whose main aim is to mark the students attendance automatically and also with in less time and errors.

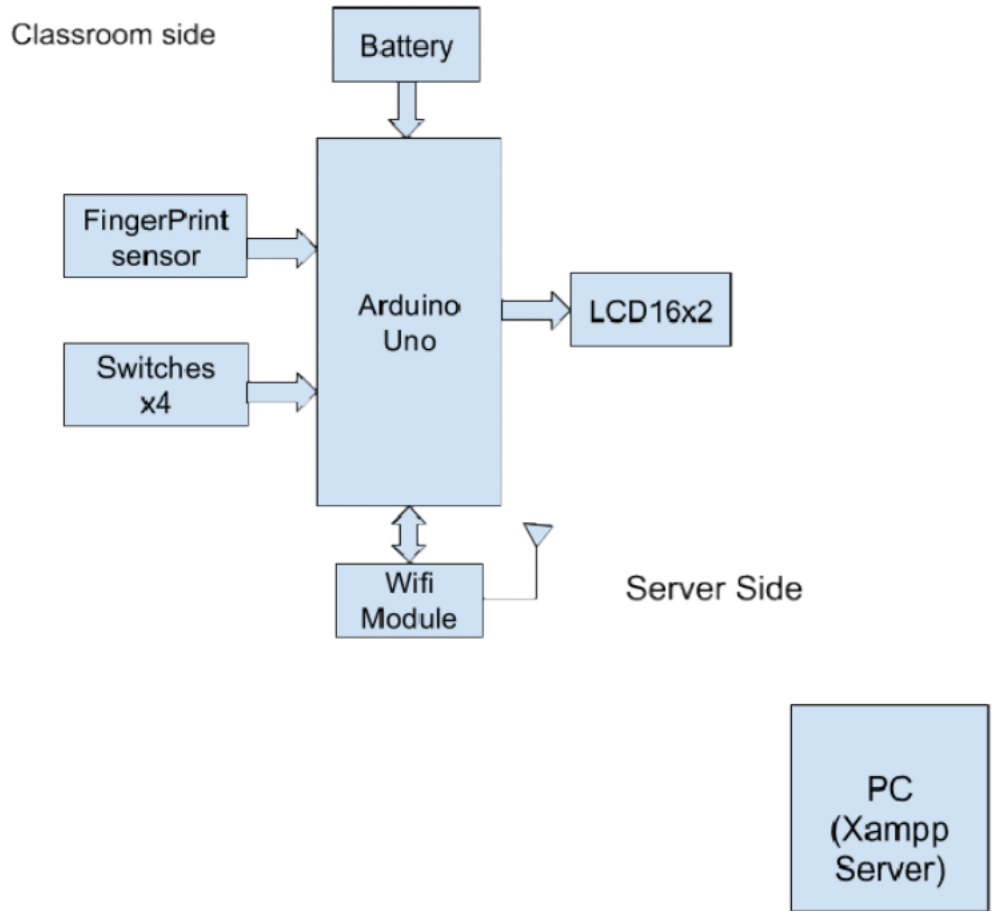
Literature Review

Sr No.	Author	Methodology	Merits	Limitation
1.	Lianjun Chen & Hongbo Zhou	Procedures of dynamic and interactive data visualization from several angles: data processing and data visualization	Key technologies are svg and D3 Svg supports image objects, vector graphics , raster graphics and text. D3 combines data from database with html,svg,css	Svg:the file size is growing very fast, if the object consists of a large number of small elements;it's impossible to read a part of the graphic object, only the entire object and it slows you down.
2.	M.A. Meor Said, M.H. Misran , M.A. Othman, M.M. Ismail, H.A. Sulaiman, A. Salleh, N. Yusop	Displays Attendace on lecturer computer with more attractive graphics and having students complete details using the Fingerprint Reader.	It will used student fingerprint and students do not need to bring any device.This system will integrate with Fingerprint Reader that available in the market.	Systems are not 100% accurate.Require integration and/or additional hardware Cannot be reset once compromised
3.	Benfano Soewito, Ford Lumban Gaol, Echo Simanjuntak &Fergyanto E. Gunawan	Attendance system based on GPS using a smartphone finger print scanner to mark attendance	Its use is practical and simple Attendance data collection more accurate. Because the media used to record employee absences is their fingerprints	Attendance system using this fingerprint can not eliminate the problem of long queues at entry work and also at the time out of work.

Problem Definition

Manual method have a lots of limitations such as every time a lecture, section or laboratory starts the lecturer or teaching assistant delays the lecture to record students attendance. This is a lengthy process and takes lot of time and effort, especially if it is a lecture with huge number of students. Moreover the attendance sheet is subjected to damage and loss while being passed on between different students of teaching staff. The lecturers tend to call a couple of students name at random which is not fair student evaluation process either. This process could be easy and effective with a small number of students but on the other hand dealing with the records of a large number of students often leads to human error. So to overcome all these limitations of the current system we are designing a system whose main aim is to mark the students attendance automatically and also with in less time and errors.

Proposed System Architecture/Working



Fingerprint of students is registered in the database using fingerprint module. There are 4 switches we are using to register the fingerprint of the students. Then 16x2 LCD display is used to display whether person is authorized or not and user interface. Wifi module is used for transmitting the data from Controller to Xampp server application on PC side. Arduino will recognize fingerprint of the student and will transfer this data to xampp Server using wifi Module. Students are supposed to walk in line to enter into the classroom and have to put an attendance before every lecture. Then Place the finger of the student in the fingerprint scanner and comparison of fingerprint of the student is made with the database. If matched with the database then than automatically attendance of that student will be marked. And if fingerprint not detected then a message with fingerprint not detected will be displayed in TTS form on the PC side and also displayed on the LCD. Lecture wise and Date wise report will be generated accordingly and stored in the PC where PC is acting as a server. If there is any error while putting an attendance the same will get notified in the Xampp server. We can store database of 4 students in the system.

Summary

As per our planning the project requirement and analysis phase is completed. In analysis step we have gone through some topic related IEEE papers and analysis of data visualization techniques. we have gone through various data visualization tools. openrefine,pentaho and microsftBI.

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