

CLOUD BASED ATTENDANCE SYSTEM

PROJECT REPORT

Submitted by

ARYENDRA AGNIHOTRI- 20BCS4230

ANKIT AHIR- 20BCS4223

ANURAG TOMAR- 20BCS4245

in partial fulfillment of Minor Project for the award of the degree of

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE ENGINEERING HONS. IN CLOUD COMPUTING



**CHANDIGARH
UNIVERSITY**
Discover. Learn. Empower.

CHANDIGARH UNIVERSITY, GHARUAN

MOHALI, PUNJAB – 140413

NOVEMBER, 2022

Abstract

This dissertation is on the development of a cloud-based attendance management and information system. This work comes as a solution to the challenges of time theft and error prone attendance data analysis faced by using the manual method. The system has features like staff overtime calculation, staff/student attendance percentage calculation, meal orders, information dissemination through SMS and email which contributes to its uniqueness. The work is made up of two sections; the Hardware subsystem and Software subsystem. The hardware section involves collection and transmission of attendance data via the use of a Radio frequency identification tag reader and tag, interfaced with an ESP-12E Node microcontroller unit. The software section incorporates the design and development of a transaction processing and management information system which would handle the processing, analysis and storage of attendance data received from the hardware section via Hypertext transfer protocol (HTTP) requests. All the modules developed, were tested and attendance data analysis was carried out to ensure that the system met all the requirements.

INTRODUCTION

Attendance Management System is software developed for daily student attendance in schools, colleges and institutes. It facilitates access to the attendance information of a particular student in a particular class. The information is sorted by the operators, which will be provided by the teacher for a particular class. This system will also help in evaluating attendance eligibility criteria of a student.

The purpose of developing attendance management systems is to computerize the traditional way of taking attendance. Another purpose for developing this software is to generate the report automatically at the end of the session or in the between of the session.

The scope of the project is the system on which the software is installed, i.e. the project is developed as a desktop application, and it will work for a particular institute. But later on the project can be modified to operate it online.

METHODOLOGY

The Project is loaded in Visual Studio 2010. We used Visual Studio for Design and coding of project. Created and maintained all databases into SQL Server 2008, in that we create tables, write query for store data or record of project.

Documents were compiled for final output to be submitted to the client. This includes the documentation and software. Giving some user orientation or tutorials on how to use the system is held at this stage.

Hardware Requirement:

- i3 Processor Based Computer or higher
- Memory: 1 GB RAM
- Hard Drive: 50 GB
- Monitor
- Internet Connection

Software Requirement:

- Windows 7 or higher
- Visual studio 2010.
- SQL Server 2008.

Attendance Management System Constraints

The lists below are some constraints that may be encountered during the operation.

- **Natural Disaster** – can naturally interrupt any operation in the school such as floods, earthquakes, and typhoons.
- **Hardware** – in some cases like unexpected brownouts, using computerized transactions is unavailable and sometimes the hardware components of the computer like power supply, motherboard, and hard drive could be affected by the improper shutdown of the computer due to unexpected brownouts that will cause computer malfunctions. Improper use of the computer may also cause hardware problems.
- **Software** – computer virus is the most common problem in software functionalities. This is done by downloading from the internet like images, music, videos that are not necessary to the system. File sharing from infected USB pen drives could spread the virus to the computer system.

CONCLUSION

The cloud based Attendance Management and Information System would save funds, improve productivity and aid better administration by providing an efficient tool that receives data, processes it and generates accurate attendance reports in a fast and timely manner.

- The system can be used for schools, colleges, or universities for taking down attendance.
- The system can be used during parents' meetings to show parents about their children's attendance performance.
- It can also be implemented in organizations for attendance.
- It maintains the records in a large database instead of the conventional method of maintaining a register which further simplifies the process of searching for a particular record.
- Admin may easily get the attendance history of a particular student.
- The system introduces a manageable and systematic approach to maintain attendance records.
- No proxy attendance will be entertained.
- It saves user time, cost and institute resources.
- Records can be easily accessed and stored and other information respectively.
- Maintaining the all secured database on the server which will be accessible according to the user requirement without any maintenance cost will be very efficient as compared to storing all the customer data on the spreadsheet or physically in the record books.