



Auto Student Attendance System Using Student ID Card via Wi-Fi

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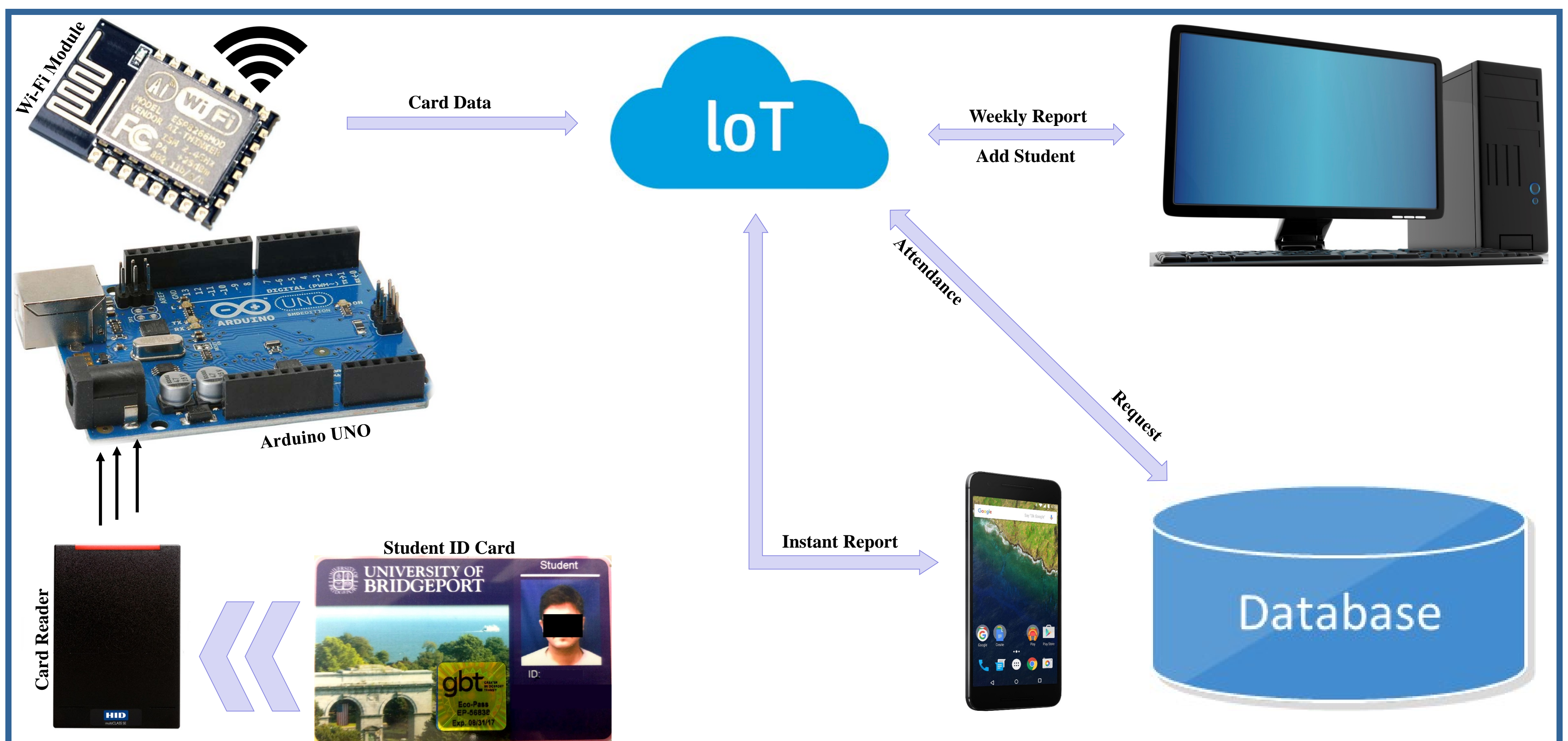
ABSTRACT

The aim of this project is to eliminate the paper-based attendance with auto attendance by using student ID card. Currently, there is a card based attendance used in companies and web based attendance is used in the universities. In the paper-based attendance the paper is often lost, while in the web based attendance when all the students try to log in at the same time, the server gets down. We came up with the solution of having a Wi-Fi based attendance where there is no need of paper and login to the server. It can be done with the help of proximity card reader. When a student holds his card in front of the reader, it will read the card and send it to the database with the help of Wi-Fi module. The database will process data based on the time and date of receiving.

INTRODUCTION

The Internet of Things (IoT) is the next wave of innovation that promises to improve and optimize our daily life based on intelligent sensors and smart objects working together. The majority of the universities are making their campuses smart by installing several devices connected to the Internet. One of the approaches in making a smart campus is by installing a smart attendance system using ESP8266.

ESP8266 is a Wi-Fi module with the capability to communicate with Arduino. Arduino can integrate with proximity card reader. Every student card can have an embedded integrated circuit that communicates with a terminal via radio waves. The data is sent to the database where the information of the student is stored in a table, based on the time and date of receiving data. This can be accessed from a smartphone application.



METHODOLOGY

A student card reading system read each student card and send the data to the database using *ESP8266* Wi-Fi module. Database process the data based on the associated primary key, time of receive and date. An excel report generate at the end of every week for each class. Only the authorized person will have access to the database. *Oracle DB* is used to make the database and establish the connection. There is a smartphone app for instant check programmed in Java. The Android application connects to the database and gives the detailed report of the number of students attend the class each day. The instructor has an admin access to the Android application where he can check the attendance status of all the students and can add or delete additional students who want to take the class.

EXPECTED OUTPUT

- This system will eliminate the paper-based attendance and decrease the load on the campus server.
- The data will be stored in a secure place and available for access 24/7.
- There will be a weekly report on each class attendance with the statistics of each student.
- The instructor will have an instant check on student attendance via smartphone.