Project on:

Attendance tracking system

Logo

Description automatically generated

Mini project report

(3rd sem project)

2021-22

*Submitted by:*

Mr. Rajarshi Bhattacharjee

*University roll no:* 2017662

B.TECH in Artificial Intelligence and Data Science

**CERTIFICATE**

This is to certify that the project entitled ”ATTENDANCE TRACKING SYSTEM” is a Bonafede work carried out by Rajarshi Bhattacharjee, University Roll no. 2017662, as a part of Mini Project Work in Computer Science and Engineering during the year 2021-2022 under the guidance of Mr. Pankaj Kumar.

**ACKNOWLEDGEMENT**

Here by I am submitting the project report on “Attendance Tracking System” as per the scheme of Graphic Era Deemed University, Dehradun. First and foremost, praises and thanks to God, the Almighty, for showers of blessings throughout my project work to complete the project model successfully. I would like to express our sincere gratitude to Mr. Pankaj Kumar, mentor of my project, for providing a congenial environment to work in and carry out my project. Finally, I am very much thankful to all the faculty members of the Department of Computer Science and Technology, friends and our parents for their constant encouragement, support and help throughout the period of project conduction.

**INTRODUCTION**

In many colleges, we have an attendance system for each subject, and the lack of the same leads to problems. It is difficult for students to remember the number of leaves taken for a particular subject. If every time paperwork had to be done to track the number of leaves taken by staff and check whether it is a lack of attendance or not, it involves a lot of time and is inefficient too.

This attendance tracking system takes roll no as the input of absent students and counts the no of leaves he/she can take. This tracker will send out an email to the student when he/she takes the second last leave as a reminder that only 1 more left with him on that subject. If the student takes further leave, both the student and the corresponding staff receive emails regarding the lack of attendance. The only thing to do in the tracker is just enter the subject code and roll number of the student absent from the class and the rest will be taken care of by this tracker system.

**PROBLEM STATEMENT**

Attendance tracker system is a necessity for both students as well as teachers, it makes attendance management easy both for students as well as teachers. As the regular system of colleges, the approval to give exams depend upon the attendance of each subject. The teachers have to count the attendance of each student which is a tedious task, as well for the students, it is difficult to remember the number of leaves taken for a particular subject this problem faced both by teacher as well as students can be easily and effectively solved by this tracker. The tracker takes the subject code and roll no of the students who were absent in that particular class and tallies them in to the excel file. If a particular student is left with only one allowed leave then the tracker sends a alert mail to that student. If the same student has crossed the allowed limit then a mail is sent from the tracker to both the student as well as the faculty with the information that the student has reached the limit and shall not be allowed for exams. This tracking system will be helpful both for students and teacher

MOTIVATION

Ever since I started learning Computer Science, I wanted to step into deep learning of data science, data handling and different algorithms for the same. The idea to solve the daily life problems that we face by computer knowledge and programs made me curious about the concept behind them. I wanted to learn the underlying methods and algorithms that can be used to make attendance tracker. Since the burden of academic studies and the need to perform well in my college, took a toll on my extra learning hours, I decided to opt for this project thereby indirectly making it a part of my syllabus and hence it led me to know about python programming language and other things. I would also like to add that this project would have been harder to make if it wasn’t for the immense help and support of my mentor Mr. Pankaj Kumar sir, was always ready to clear any doubts I had. He was always just a text or a call away. I would like to thank him from the bottom of my heart.

**TOOLS USED**

Following are the tools that is used creating the program:

* Python IDLE shell

In order to a make the project the following and modules are required in python

* openpyxl
* smtplib

MS Excel version 10.0 or newer version is required

The Excel sheet should contain the following data:

* Roll number
* Student mail ID
* Subject {1,2,……..N}

Opertaing system: Windows 11

* Processor: Intel core i5,10th gen
* Disk space: 1 TB

METHODOLOGY

The complete tracker works like this:

* Take input from the user to define the threshold, In this case let us take it as n.
* Create 2 list:

1. For reminding students(l1)
2. For lack of attendance(l2)

* Import required modules
* Initialize required variables and import the data file in use.
* Create a function to save excel on every update
* Create a function to track attendance: A function for checking the list of absentees against the threshold condition is required. The updates must take place to the variables declared outside the function as global variables.
* Create a function check that takes three arguments:

1. A-List containing total.no.of. leaves of the students
2. A List of roll numbers of today’s absentees
3. Subject Code

* Loop through the list of students (row\_num) and for each student check the following conditions:

1. If total no.of.leaves == warning threshold
2. If total no.of.leaves > warning threshold

* Here, considering that a student will not be allowed to write exams if he takes more than n leaves. Thus, the warning threshold is n. If a student takes n leaves, including today’s absence, then a reminder mail has to be sent to him, else two mails stating the lack of attendance have to be sent such that one for student and the other for staff.
* Now, if total no.of.leaves == warning threshold – add the mail Id of the corresponding student to the list l1,otherwise l2. If the student’s mail ID is added to list ‘l2’, then the roll number should be added to the mail for sending the staff.
* Create functions for mailing: Two functions, namely mailstu() and mailstaff() are to be created.
* Take the necessary details from the list l1 and l2 and send the emails to student and the staff
* The final step is to write a loop that gets input from users until they say no more inputs.

CONCLUSION

The completion of the project went quiet well, I learned much new things while I was building up it, and I get up to know various platforms which help us to learn all this stuff. I was able to learn the practical use of python. The practical helped me to learn the debugging of code and development tools of Attendance tracking system Project. Overall working on this project was great fun as I came up with great piece of knowledge and understanding of the topic