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| Internship Project Title | TCS iON RIO-45: Digitization of Attendance Management System - Application Development |
| Name of the Company | TCS iON |
| Name of the Industry Mentor | Shraddha Ketkar |
| Name of the Institute | PrepInsta Technologies Pvt. Ltd. |

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| Start Date | End Date | Total Effort (hrs.) | Project Environment | Tools used |
| 25-09-2021 | 04-10-2021 | 45 | Chrome, Windows 10, Android 9 | MS Office, AppSheet |

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| **Objective**  The objective of this project is to develop a mobile application for attendance management system for students. |
| **Introduction**  In current scenario, marking attendance in the class session is an essential task of the subject handlers, since marking the attendance can regulate the students to attend the sessions and verify the number of students in the class. The management and maintenance of student information is a key task for any institution.  The task of marking attendance was traditionally carried out manually with a log book. Later, this task is carried out by the desktop applications. The desktop application is a standalone application installed in the particular desktop or laptop and the tasks can be performed only with that particular desktop system. The main drawback of this system is that the computer systems are not portable hence it cannot be kept anywhere to perform the task such as mark and attendance entry.  These limitations of the traditional systems are overcome by the mobile applications. The mobile application allows the users to install this application in their mobile devices. The user can update the student attendance and mark details in the local mobile database by connecting their mobile devices with the server which keep the attendance details through internet. Hence, the updated attendance details can be viewed even offline. In order to reduce the manual work and to achieve more efficiency in managing the student information, this project presents a mobile application to manage the student attendance more easily and effectively. The proposed application can store student information to the server database and it can be retrieved by the mobile phone anytime the users want to. Through this system, teachers can easily record the student attendance and can generate the reports. |
| **Approach**   1. Firstly, we create an application through the AppSheet tool, which is a part of Google Cloud for creating applications without coding. 2. Then, we start customizing the application according to our project needs, i.e., identify and store the attendance details that the school would like to capture for each student in the class. The details could be roll number, name, grade and subject. 3. The Attendance application will display the different courses, and the students of different grades enrolled to it. The professor will be able to mark them present the moment they join the class, their email will uniquely identify each student. 4. The data of marked students will be stored safely in an google spreadsheet which can thus be used to present different statistics which can be filtered using roll numbers, grades and courses. |
| **Workflow**    Figure : Schematic diagram of the mobile application  The above schematic diagram of mobile application for attendance management system. This mobile application consists of one login module namely staff login. The staff login enables the staff users such as staff members, faculty member, principal, dean, etc. of the educational institution to enter, edit, and update, and view the student attendances. The attendance details are stored in the databases.  The biggest advantage of this is that by chance if the professor forgets to mark the attendance at the time of joining of the student, he/she can update the same later in the database(spreadsheet) and the same will be synced to the application.  **Diagram**  Figure : Overall Description of the Application (Graph View) |
| **Outcome**   1. Student’s details that school would like to record as attendance. 2. Mobile application for attendance management. |
| **Enhancement Scope**  There are enormous ways to enhance the scope of this project,   1. Firstly, in the present scenario the professor/teacher has to manually click on the “Attending” button to record the attendance of the particular student. The enhancement that we can expect here is that as soon as the student joins the online class, the application automatically records the attendance of the student. 2. Secondly, along with the attendance of the students we can also record their performances in weekly quizzes, assessments and viva sessions, which will then become easy for their professors to grade them accordingly in their final semester examinations. |
| **Link to code and executable file**  Link to run the app directly in browser: <https://www.appsheet.com/start/fba0d88e-f49e-4d6b-b8f1-b5d149cf607d>  Link to Install the app on mobile: <https://www.appsheet.com/newshortcut/fba0d88e-f49e-4d6b-b8f1-b5d149cf607d>  Link to Excel Database: <https://docs.google.com/spreadsheets/d/1-O6SMLyMEj7ZH80ZnKWfTRWm-92dL0vAESIaZ1eXQs0/edit?usp=sharing> |