

Digitization of Attendance Routine

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ABSTRACT

The aim is to computerized the tradition 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. Also notes, assignment, and notice can be uploaded so that all can get them easily. In this report we introduce an android based application which is robust and provide a paper free attendance management system which is highly economic and faster than the current traditional method of taking attendance.

1. INTROCUCTION

It is a software developed for maintaining student attendance. It facilitates to access the attendance information of a particular student in a particular class. The information will be provided by the teacher for a particular class. This system will also help in evaluating attendance eligibility criteria of a student. The scope of the project is the system on which the software is installed, i.e. the project is developed as an android application, and it will work for a particular institute.

For this, we use android as your main platform and an android application is made using various services like firebase, volley and SQL. This will build an android application that will be helpful in taking the attendance and will give the results faster and can neglect the use of paper work.

Features of the application is:

1. The aim is to computerized the tradition way of taking attendance. By adding a feature of attendance by OTP.
2. 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.
3. Notes, assignment, and notice can be uploaded so that all can get them easily
4. Construct the bridge between student and teacher through the application.

2. RELATED WORK

Then main part design and coding part so basically there will be two module one for teacher and other for student. In teacher module teacher will take attendance by selecting the class, section and year. After that teacher will generate the OTP randomly and ask the student to enter the corresponding OTP for the attendance and teacher also have the option to mark present and absent in case student is unable to send OTP to teacher in required time due to any kind of reason this will create the flexibility in the project to teacher as well as for the student. Now in student module the student has to send the OTP to the teacher which given by teacher to the student in the given frame of time and the attendance will get marked then.

3. SYSTEM DESIGN (DATABASE)

Basically, we are using several tables in our project which are created efficiently in order to get the data. All the tables are interrelated to each other so that data can be retrieve on the basis of joins. Other than that, we have several modules which are also interlinked and dependent on each other and they are working synchronously. Firstly, we had to analysis the whole system and after doing the research work, we had to gather the data and maintain and draw the E-R diagram of the system according the project. All kind design project and database design and proper link up of project in the initial phase had done. Database normalization is also taken care.

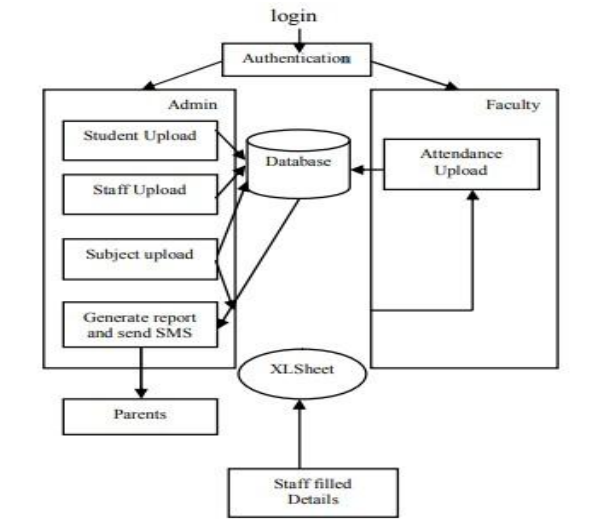


Figure 1. System Design.

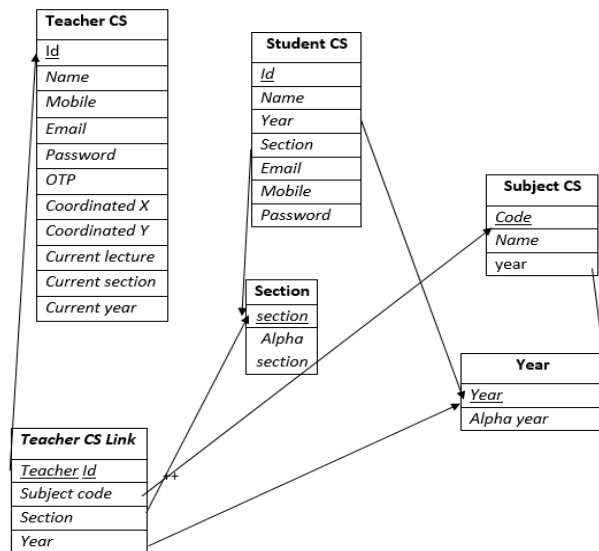


Figure 2. E R Diagram.

4. METHODOLOGY

Basically, our project is divided into certain modules. Students are able to get the exact information about attendance and classes to attend. Teachers can send assignments and notes to students.

4.1 Attendance Module

The main goal is to accomplish the attendance module where the whole attendance criteria is maintained. Then main part design and coding part so basically there will be two module one for teacher and other for student .In teacher module teacher will take attendance by selecting the class, section, and year .After that teacher will generate the OTP randomly and ask the student to enter the corresponding OTP for the attendance and teacher also have the option to mark present and absent in case student is unable to send OTP to teacher in required time due to any kind of reason this will create the flexibility in the project to teacher as well as for the student. Now in student module the student has to send the OTP to the teacher which given by teacher to the student in the given frame of time and the attendance will get marked.

When teacher click on that button then the dialog box will open and the corresponding OTP will be generated and the teacher have to select the lecture to which she/he wants to take attendance of and after selecting all

details teacher have to click on ok button this will send OTP into the database along with other details like section, year, class and teacher id. Initially they all marked absent but after the student send the OTP, he/she get mark present in database accordingly. If someone due to any reason unable to send OTP to teacher so there is an option so that teacher can mark attendance manually in the app.

4.2 Storage Module

Teacher will open the app after the login and verification, then teacher select the class, year, section by using his/her id teacher can upload the assignment, notes, notice and can notify the student regarding that student correspondingly can download the assignment, notes, notice on time without any headache and tension at anytime and anywhere without any tension. Teacher can also edit it according to the need of any kind of change. Similarly, we had also, design the system and according to the need of field and variable and parameter is set and arranged efficiently. There is separate module for the assignment, notes, notice for upload and download for student and teacher. The technology used here is google firebase which is google API which is used to store the files, maintain the real time databases, used for the notification and also for storing the data in non-structural way.

5. RESULTS AND DISCUSSION

Through this activity of android application teacher and student can login to their respective modules.

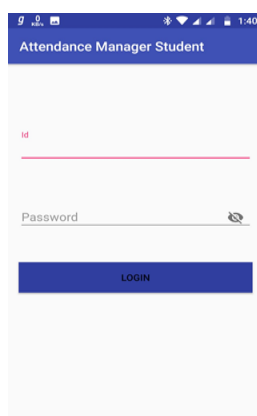


Figure 3. Log-In Page.

After Logging in, teacher can take attendance and list of students is shown to the teacher.



Figure 4. Attendance Page.

Student can enter the OTP details to mark their attendance present.

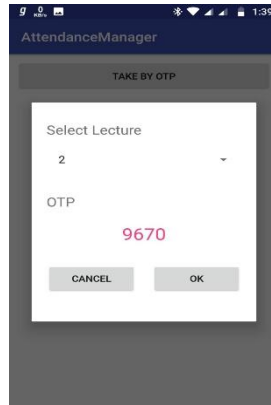


Figure 5. *OTP Page.*

Also, the notes, assignments and notices can be uploaded.

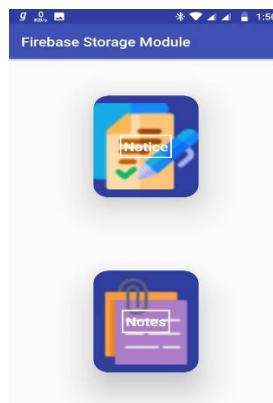


Figure 6. *Storage Page.*

6. CONCLUSION

By using the proposed system, we are overcoming the problems of the manual entry. Here we are implementing a system where the attendance is taken and attendance details have been sent to their respective parents/guardians through broadcasting of Email.

Key Points of an android application are:

- Transparency
- Latency
- Security
- Applications must need to adapt gracefully without affecting other parts of the systems in case of failures.
- Limits imposed on scalability
- Knowledge about the dynamic network topology is a must.

7. REFERENCES

- [1] <https://developer.android.com/reference/>
- [2] <https://dev.mysql.com/doc/refman/5.5/en/>
- [3] <https://firebase.google.com/products/realtime-database/>
- [4] <https://tutorial.eyehunts.com/android/volley-android-example-json-parsing-kotlin/>