

Android Applications for Educational Support

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Abstract: Technology has evolved tremendously over the past few years in many fields. It not only benefits businesses and companies but also has increased the level of accuracy in educational activities. Many new mobile applications are playing a huge role in solving daily problems of educational institutes. These apps are providing anytime and anywhere access to daily college activities to stakeholders of an institute. Teachers use these applications to do their work easily and in less time and students can also get benefits by getting regular updates regarding college activities anytime and anywhere. As for the teachers, various tasks such as taking student attendance, notifying students about homework, mapping students' academic progress, communicating with parents, etc. are provided on these apps leading less paperwork and more organized handling of work. Also, students can have easy access to the daily college activities such as marking attendance, giving quizzes, getting academic notices, viewing results, etc.

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I. Introduction

In today's world, people are more driven towards using their mobile phones for most of their activities. From online shopping to paying bills, everything can be done on smart phones. Considering an educational institute, the day to day activities such as attendance, assignments, timetables of examinations, notices regarding campus activities, etc. are available on Smartphone applications allowing students to easily access and organize their college campus activities. In this paper, we focused on different educational Smartphone applications that provide a whole bunch of such facilities for teachers, students and also parents. The table of comparison helps to understand the basic difference between these applications. Based on this, it will be clear to know what applications could be better to prefer than the rest. The description of parameters such as User Interface, Attendance Method, Reports, Event Management, Assignments, Parent Module, Fees Reminder, etc. gives out better understanding of these applications.

II. Edusense Note [1]



Edusense Note is educational management software offered by Useuse Innovative Solutions Pvt. Ltd. which offers a way to map children's academic progress. It can be used by institutes, teachers and parents. Teachers can manually mark student's attendance through this app. Attendance report is generated in the form of pie chart. Regular updates about student attendance, assignments, and test results can be sent to parents through SMS. Students can get fees reminders on the app. Edusense note also notify students about events happening in institute or college. This application basically provides features such as admission, event management, faculty management, attendance management, library management, Examination management.

Advantages:

1. Detailed student attendance report can be sent to parents within few clicks.
2. Complex tasks such as syllabus management, timetable, scheduling can be managed effectively.
3. Digitize and optimize involved processes to ensure smooth and comfortable operations.
4. Simple User Interface.

III. Edmodo [2]



Edmodo is a social media network offered by Edmodo, Inc. that can be used by teachers, students and parents to use and share school information. Teachers can share or distribute assignments for students on the application. Edmodo provides a great way for communication between teachers, students and parents. Students can take quizzes, give polls and answer daily general knowledge questions to earn points and badges. Edmodo has a very simple graphical user interface. However, edmodo does not provide facilities such as taking attendance, Fees reminders to students, etc.

Advantages:

1. Provides a private and secure environment.
2. Students can post their assignments for their teachers to view and grade.
3. It is open source application.

Disadvantages:

1. Documents uploaded by students or teachers cannot be updated within the application itself.

IV. Offline Attendance Manager [3]



Offline attendance manager is an application offered by Pragh Software Solutions which is useful for teachers to take attendance of students. It has a very simple and easy graphical user interface. Teacher can manually mark student's attendance through this application. It generates a pie chart report of individual students' attendance history. This application can be used only by teachers for the sole purpose of marking student attendance. This application does not provide assignments, fees, result notifications to students or parents.

Advantages:

1. Attendance can be taken through offline mode.
2. Student records can be checked anytime.

Disadvantages:

1. Student list cannot be updated once entered.

V. Student Management System [4]



Student management system is an application offered by Maharishi Markandeshwar (Deemed to be university) that can be used to manage daily attendance of students. Users for this application can be teacher, student and parent. Teacher can manually mark student attendance. Students can view their attendance tracking and overall percentage of attendance. This application also predicts whether a student can miss the lectures in case of emergencies based on the percentage of attendance generated in application itself. Parents can get SMS regarding their pupil's attendance, events, etc. However, this application does not provide fees reminders, library access, etc. The user interface of this application can be hard to understand.

Advantages:

1. Students can decide to skip lectures in emergencies based on attendance report.

Disadvantages:

1. Application does not work when server gets down.

VI. Attendance Manager [5]



Attendance manager is an application offered by Vipul Gupta Apps, that helps students to maintain their attendance and also in bunking classes. It can be used by teachers and parents. This application can only track student attendance. Teacher can fill the attendance information and it will create a percentage wise report of individual student. Students can get updates about assignments, notes through the application. Also, parents can receive SMS regarding student's academic track. Attendance Manager has a simple graphical user interface. However, this application does not provide events notifications, library access, exam management and fees reminders to students.

Advantages:

1. Students can have detailed view of their attendance.
2. Attendance of previous day can also be marked after.

Disadvantages:

1. Other than attendance, no any other feature is provided.

VII. Teachers app [6]



Teachers App is offered by Intellectual Digital solutions and it manage daily attendance of students. It can be used by teachers and students. Teacher can manually mark student attendance. With a simple graphical user interface, it provides features such as sending SMS to parents of absent students, sending fees reminder to students, sending test marks to parents. Students can get fees reminders on the app. This application imports and export data in CSV format. However, this application does not provide events notifications, library access, exam management, etc.

Advantages:

1. Simple user interface.
2. Teacher - Parent interaction is provided.

Disadvantages:

1. This application is not free.
2. App repeatedly crashes.

VIII. Mark Attendance [7]



Mark Attendance is an application offered by Ali Ansari that manages daily attendance of students. Users of this application can be teacher and student. Teacher can manually mark student's attendance. Each student's individual attendance statistics is calculated in percentage through the application itself. Compared to the other educational applications, the user interface of this application is quite complex. This application does not provide fees reminders, assignments, notes, library access, etc.

Advantages:

1. Helps to keep track of students easily.
2. History of attendance on daily and monthly basis.

Disadvantages:

1. No CSV or XLS file export facility.

IX. TrackCC [8]



TrackCC is an application offered by TrackCC Inc. that can be used to track attendance, behavior and grading of students. It can be used by teachers, administrator, parents and students. TrackCC has automatic built in backup to the cloud. TrackCC provide five types of attendance and attendance statistics by student per period. Parents can receive instant attendance data of their pupil. It also provides functions such as daily homework, pop quiz, class exam and team project. Parents get reminders about student specific events and class notes. TrackCC has an easily understandable graphical user interface. Students can receive assignment notifications, notes on the application. Students can also get regular updates about various events. TrackCC does not provide fees reminders, library access, etc.

Advantages:

1. Behavior and grading of students can be tracked.
2. Parents can get instant report about their pupil's attendance, behavior and grading.
3. Simple User Interface.

Disadvantages:

1. Library access and fees reminders are not provided.

X. CoePha



Proposed application CoePha is helpful to all stakeholders of an educational institute. In this system, one can take live student feedback about faculty and institute. This application also helps to take attendance using Smartphone with Bluetooth as well as manual facility available. It will also generate attendance report. Faculty can conduct online tests on scheduled time. Parents can view progress of their pupil; also all stakeholders can access OPAC facility of library through this app.

Advantages:

1. Bluetooth and manual attendance marking.
2. Detection of defaulter students.
3. Data is updated online on firebase

Table 1: Comparison table 1

Parameters	EdusenseNote	Edmodo	Offline Attendance Manager	Student Management System	Attendance Manager
Offered by	Usense Innovative Solution Pvt. Ltd	Edmodo, Inc	Pragh Software Solution	Maharishi Markandeshwar (Deemed to be University)	Vipul Gupta Apps
UI	Simple	Simple	Simple	Complex	Simple
Signup/Login	Teachers, Students and Parents.	Teachers, Student and Parents.	Teachers	Teachers, Students and Parents	Teachers and Parents.
Attendance	Manually	No	Manually	Manually	Only tracking
Assignment, notes	Yes	Yes	No	No	Yes
SMS to parents	Yes	Yes	No	Yes	Yes
Report	Pie Chart	No	Pie Chart	Pie Chart	Percentage

Table 2: Comparison table 2

Parameters	Teachers App	Mark Attendance	TrackCC	CoePha
Offered by	Intellectual Digital Solutions	Ali Ansari	TrackCC Inc.	UG Scholars, PES's COE Phaltan
UI	Simple	Complex	Simple	Simple
Signup/Login	Teachers and Students.	Teachers and Students.	Teachers, Students and Parents	Teachers, Students and Parents
Attendance	Manually	Manually	Manually	Manually and Bluetooth
Assignment, notes	No	No	Yes	No
SMS to parents	No	No	Yes	Yes
Report	CSV format	Percentage	Statistics per period	No

XI. Conclusion

We conclude that, applications such as CoePha, TrackCC, Edusense Note, EDMODO and Attendance Manager provide easy and good academic support for an educational institute in comparison with other mentioned applications. These applications not only eliminate paperwork but also help to provide teachers an easy way to handle huge amount of data. Also, students can view their attendance details as well as academic results through this system. Parents get a facility to view their pupils' academic progress and hence keep track of their educational graph. These applications also provide reliability and easy control over the class activities. Students can view their results in all angles through different graphical representations to get a better understanding of their progress. Due to quick access and ease of information, these applications save a huge amount of time of the entire stakeholders. From our perception, CoePha is better than the other applications. It provides accuracy in result and simple user interface. Time is saved due to automated attendance with the help of Bluetooth. Faculty can view the feedback report, conduct test and record attendance. Students can give faculty feedback and view result of attendance and test.

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