

# MAHITHI: An Android Application to Monitor Student's Academic Activities

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**Abstract:-** Recently, Android is used as an operating platform for mobile devices such as smart phones, tablet and computers. The Android platform is a software stack for mobile devices including an operating system and key applications. Developers can create applications for the platform using the android SDK. Faculty and parents need to continuously monitor the student's activities to be aware of any difficulties the student is facing so that they can take appropriate actions to solve them. In this paper an android application "Mahithi" has been proposed. It provides the benefit for the following users like: student, faculty, parent and HOD to get the day to day updates of academic details like: attendance status, exam results, placements, time table and notifications.

**General Terms:-** Android Application, Operating system, Smart phones

**Keywords:-** Mahiti, Student, Faculty, Parents, HOD

## 1. INTRODUCTION

In recent years, communication is a very integral part of our society, and we rely more and more on it with new advances in technology every year. The Internet is a very popular medium for communication of ideas and information between people. The smart phone market is seeing a stable growth, with more and more people depending upon their mobile devices to manage their email, entertainment, shopping and scheduling. However, quick development processes of mobile applications may come at the cost of quality assurance. The mobile devices need mobile operating systems to run the applications. At present, there are already many mobile operating systems, but the most popular ones are Google's Android, Microsoft's Windows Mobile, and Apple's iOS.

Android is an open and programmable software framework for software development for mobile devices, which is released by Google in November 2007. The Android platform is released under the Open Handset Alliance (OHA). The goal of this alliance is to create open standards for mobile devices. They greatly promote Android platform to compete against mobile platforms from Apple, Microsoft and so on.

In the proposed system, we provide a convenient platform for the following users. Firstly, faculty and parents can monitor their child's academic status like internal marks and attendance status. Secondly, students can access information about their class schedule, attendance status and marks. Thirdly, faculty will also be able to get all the required information about students. An android application has been developed using java programming language.

## 2. LITERATURE SURVEY

All researchers have aimed to develop and provide a generalized solution to monitor the various works that are carried out by a college for automation of various tasks. They provided up to date information of the system which improved efficiency of college record management and decrease the space between student and college. The major contributions to this topic are summarized below:

**Sajana.T, Deepika.S, Rajita.M** proposed "Getting Day to Day Updates" [1], an application Tirumala Education, which provides much better mobility than PC's. They are connected the mobile to educational database using latest technologies. It provides a wide range of information about education, jobs results for individual user nothing but college students. It also includes sending notifications, Attendance, viewing academic details like exam results, job notifications put forwarded by different companies.

**Namrata N. Shahade, Priya A. Kawade, Mr. Satish L. Thombare** proposed "Student Attendance Tracker System in Android" [2], which is an Android application to manage student attendance on mobile. The main objective of the proposed system is to add mobility and automation in the existing attendance process. This system allows teachers to take attendance, edit attendance, view student's bunks, send important documents in pdf format such as exam time table, question bank etc. and also helps teachers to inform students about the events that college is going to organize. This system also gives a prior intimation to student as soon as his attendance goes below the specified attendance deadline in the form of an alert.

**Akshay A. Kumbhar, Kunal S. Wanjara, Darshit H. Trivedi, Anay U. Khairatkar and Deepak Sharma** proposed "Automated Attendance Monitoring System Using Android Platform" [3], this application will provide the solution for the traditional approach for attendance marking system, where the students sign on the attendance sheets. This data is then manually entered into the system. This is bit difficult and time consuming. Proposed system consists of two apk files, one for the teacher and one for the student respectively, which are installed on their android devices. Rather than signing on the attendance sheets, the student will mark the attendance by just a single click on his device. Also, the teacher has the facility to generate reports on a single click. There is a facility to generate report of one or more student.

**Shilpa Bilawane, Pranali Jambhulkar** proposed “**Information System Based on College Campus**” [4] Today in college’s student details are entered manually. The student separate records are tedious task. Referring to all these records and updating is needed. There is a chance for more manual errors. As mobile devices have become popular; there appears a new trend to release all kinds of campus information by intelligent mobile terminals. We describe a network for distributing campus information among lecturers and students. The concept of developing campus information system is to ensure that student can access information at any time, at any locations and ad-hoc basic. Information System helps the students and lecturers on campus to find and access information based on ad-hoc basic, which is of interest and relevant to students or lecturers through a smart phone.

**R.Abinaya and R.Manjula** proposed “**A Survey on Smart Connect Using Android and Web Based Applications**” [5] This application provides a generalized solution to monitor the various works that are carried out by a College for managing it. “Smart Connect” provides a simple interface for maintenance of student information. It can be used by educational institutes or colleges to maintain the records of students. The creation and management of accurate, up-to-date information regarding a student’s academic career is critically important in the university as well as colleges. Smart Connect deals with all kind of student details, related reports, college details, course details, curriculum, batch details, placement details and other resource related details too. It will also have faculty details, batch execution details, student’s details in all aspects, the various academic notifications to the staff and students updated by the college administration. It also facilitate us explore all the activities happening in the college. Different reports and queries can be generated based on vast options related to students, batch, course, faculty, exams, semesters, and certification and even for the entire college.

**S.P. Avinaash Ram and J. Albert Mayan** proposed “**Mobile Attendance Management and Employee Registration**”[6] Staff attendance management and employee registration is a mobile application which can be used by the staffs to login their attendance through mobile phone and track other staffs location through mobile phone. Manual registration in biometric systems and entering in the attendance catalogues in different physical locations is the current system used in all the colleges. The staff will get updates regarding their attendance regularly from the admin as they login and log out so that they can keep a track on their attendance by using this application.

### 3. DESIGN

Mahiti is an android application that can benefit the user to get the updates of the student. It uses Android, an operating platform for mobile devices such as smart phones, tablet and computers. The main aim of our system is to provide a platform for faculty and parents to monitor their child’s academic activities. This application has users like the

students, faculty and parents. The design of the proposed system is shown in the below figure:

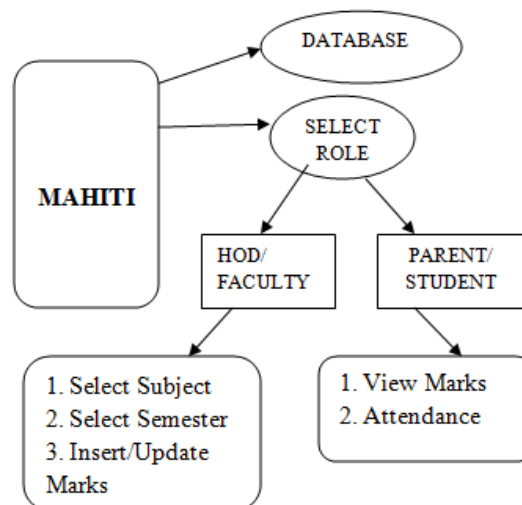


Fig 1: Design of the Proposed System

#### 3.1 Role Selection

The whole mechanism begins from the Role selection. The Role selection is used to identify the type of user that is using the application. But before this a user should be registered. The registered user will be issued a username and password from the admin to ensure authenticated sign in, into the application.

#### 3.2 Roles

The proposed application involves following roles: HOD, faculty, parent and student.

##### 3.2.1 HOD

The HOD module is the role given to the user who is the Head of Department. This role enables the user to access the information of the students. In this particular role a user can enter or update the information of a particular student by initially selecting the respective semester and then the subject.

##### 3.2.2 Faculty

The faculty module is the role given to the user who is a faculty member of a Department. In this particular role a user can enter or update the information of a particular student for his particular subject. This module is similar to that of a HOD module but this module does not have the permission to insert or update the information of the student for the subject he doesn’t handle.

##### 3.2.3 Parent

The Parent module is the role given to the user who is a parent or a guardian to the particular student. A user using parent role can view the overall information the student or their ward.

##### 3.2.4 Student

The student role is given to a student who is currently pursuing his/her education in a particular organization. This role enables the student to view his/her information,

i.e., IA marks, attendance status and the performance comments added by the concerned Faculty/HOD. The Control flow of the Student module is similar to that of the parent module.

#### 4. IMPLEMENTATION

We have made use of java as our basic programming language for application development and php for our database coding. Further we have made use of WAMP server for implementation of a local database as WAMP provides both MySQL and php for programming.

##### 4.1 Modules

From the system design of the project the various structural characteristics are obtained and the following modules are summarized: 1) Login 2) Faculty 3) Student 4) HOD 5) Parent 6) Sending message. Using the php, java programming language, along with the MySQL, the interfaces of all modules are created. Links from one to another are provided. The database connection is also done setting up the WAMP server. Here are the structural algorithms of the above mentioned modules.

##### 4.1.1 Login

**Step 1:** User enters his registered user-id and password.

**Step 2:** If user-id and password are matching  
then  
user can login to application  
else  
user should re-enter the correct user-id and password

##### 4.1.2 Faculty

**Step 1:** Login using valid user-id and password.

**Step 2:** Selects a semester and the particular subject.

**Step 3:** List of students will appear, he can select a particular student.

**Step 4:** He can enter or update student's marks.

**Step 5:** He can also contact concerned parent of the student.

##### 4.1.3 Student

**Step 1:** Login using valid user-id and password.

**Step 2:** He gets all the details about his marks, attendance etc.

##### 4.1.4 HOD

**Step 1:** Login using valid user-id and password.

**Step 2:** Selects any semester and any subject.

**Step 3:** List of students will appear, he can select a particular student.

**Step 4:** He can enter or update student's marks.

**Step 5:** He can also contact concerned parent of the student.

##### 4.1.5 Parent

**Step 1:** Login using valid user-id and password.

**Step 2:** Need to enter the USN of his child.

**Step 3:** He gets all the details about his marks, attendance etc.

##### 4.1.6 Sending Message

**Step 1:** Takes mobile number as input parameter.

**Step 2:** Message can be typed and sent to the concerned number.

#### 5. RESULTS AND DISCUSSION

The following results were obtained by the proposed system:

##### 5.1 Snapshots

The snapshots below give the result of the proposed system. Snap 5.1 is the first page where we need to select a proper role. Once a role is selected login page is displayed, where he need to enter his user-id and password. Snap 5.2 shows the login page. If he forgot his password he can change it by clicking Forgot Password? This is shown in Snap 5.3.

Snap 5.1: Selecting the role

Snap 5.2: Login page

Snap 5.3: To change password

Snap 5.4: Select semeste and subject by HOD

Snap 5.5: Enter data

Snap 5.6: Display student list

Snap 5.7: Marks can be inserted

Snap 5.8: Send message

Snap 5.9: Parent enters USN of child

Subject Name	SMS
First IA mark	25
Second IA marks	25
Third IA marks	0
Comment	vgood
Attendance	80%
Subject Name	ST
First IA mark	20
Second IA marks	25
Third IA marks	24
Comment	good
Attendance	95%
Subject Name	SA
First IA mark	23
Second IA marks	19
Third IA marks	25
Comment	good
Attendance	95%
Subject Name	INS
First IA mark	15
Second IA marks	15
Third IA marks	18

Snap 6.0: Display marks and attendance of the child

## 6. CONCLUSION & FUTURE SCOPE

In the proposed work, we investigated the problem that as in the case of current education system, there won't be much interaction between the faculty and parent of

student. Hence most of the important information about the student will be unknown to the parents. To solve this there should be a medium for direct interaction among the faculty and parents. And also the students need to consult the particular faculty for their IA marks and attendance status, which is time consuming. So we have come up with a solution for all of the above mentioned problems in our application.

An Android application has been proposed which was very useful to the educational institutions. By this application students and their parents can be able to view the marks, attendance status and comments given by the faculty to the particular student. HOD and Faculty have the privilege to enter the marks, attendance status and they can also give comments if any. HOD and Faculty can interact with the parent of the particular student through whatsapp or SMS facilities. This application offers reliability and easy control.

So far we have seen the designed goals, requirements, and design and implementation stages of our system. We have observed that it has some of the basic requirements for monitoring the student's academic activities. Some of the things can be included to this work, which could really enhance the application for easy and effective for the users. Those ideas are given below:

- ☐ Pop up notifications can be implemented with the help of Google Cloud Messaging (GCM), which helps in constant updates of events like internal marks, attendance status, placement activities, workshops to be conducted, assignments submission deadlines and cultural events.
- ☐ Predictions techniques can be used to predict student's performance based on their previous results, which may help the student to perform better in the upcoming semesters.
- ☐ Enhanced platform for parents to interact with the concerned faculty about the academic performance of their ward.

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