NotifyMe – An Android Application for Student Service Administration

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Abstract— **Institutions usually keep most records manually. In manual systems, updating and referring to all the records was quiet cumbersome and it had a high probability of errors. As Smart phones have become popular; there appears a new trend to handle student administration via intelligent mobile terminals, in which the college staff, students and parents can access the information and be familiar with the ongoing campus activities. The proposed project will provide interactive environment for the staff, students and their parents by getting knowledge of student attendance, exam performances, grades, timetables, notices using android application. In the current system, the administrator collects the information and then provides the access rights accordingly based on the roles of the users. The main aim of the proposed project is to add automation and mobility to the process of student service administration of an institute.**

Index Terms—**notification, marks, AC2FM, student records.**

I. INTRODUCTION

NOTIFYME is a service application that provides a new way of management of student services. It will have the following options on the home page: registration for a new user, login for an existing user and the basic information about how the different categories of users can access the different types of information on the application. Once a user logs into the system, he/she can get access and perform certain activities based on their roles. The roles of various users of the system will be will be Student, Parent, Teacher and Admin. A student can create an account and login. A student can have a look at their respective attendance, scores in mid-semester exams and get notification about the examination time-tables, holidays, fee-payment, convert their CGPA to percentage and vice versa and get the approximate CGPA from expected marks. A parent can create an account and login in order to get access to their child's attendance, get notifications regarding the examination time table, notices about holidays and fee- payment. A teacher can create and log into their respective accounts in order to upload the question banks, syllabus and the assignments along with their submission date and can enter the attendance of respective classes they teach. An Admin provides access rights to the users based on their respective roles and can add and delete the users as and when required.

II. EXISTING SYSTEMS

There are many existing systems for student services administration.

A. Android Based Smart Learning and Attendance Management System[1]

This system provides services such as online study material, notices, academic calendar and online reminders of examination, online attendance record, performance record and parent intimation system using Android app [1].

B. Android Based College Notification System[2]

This system serves to replace the traditional notice board with E-notice board; this system saves time, reduces paper work and student and staff gets notices on time [2].

C. SMS based Student Services Administration[3]

This android application provides delivery of student specific information including test scores and monthly attendance record using SMS. This system can be upgraded and can be developed as an Android application which will be more suitable/user friendly [3].

D. Notification System to Students using an Android Application[4]

The notification system is an Android application used for making communication easier between the students and teachers. As all the respective notices will be directly uploaded by the teachers it will reduce time and student will get the required information as and when needed [4].

III. PROPOSED SYSTEM

A. System Architecture

The Admin logs in with his credentials and can provide the access rights according to the roles of the users. Also the admin can update the users. The users can log into the system via the android application or the website and can access the information and modify it as per their roles.

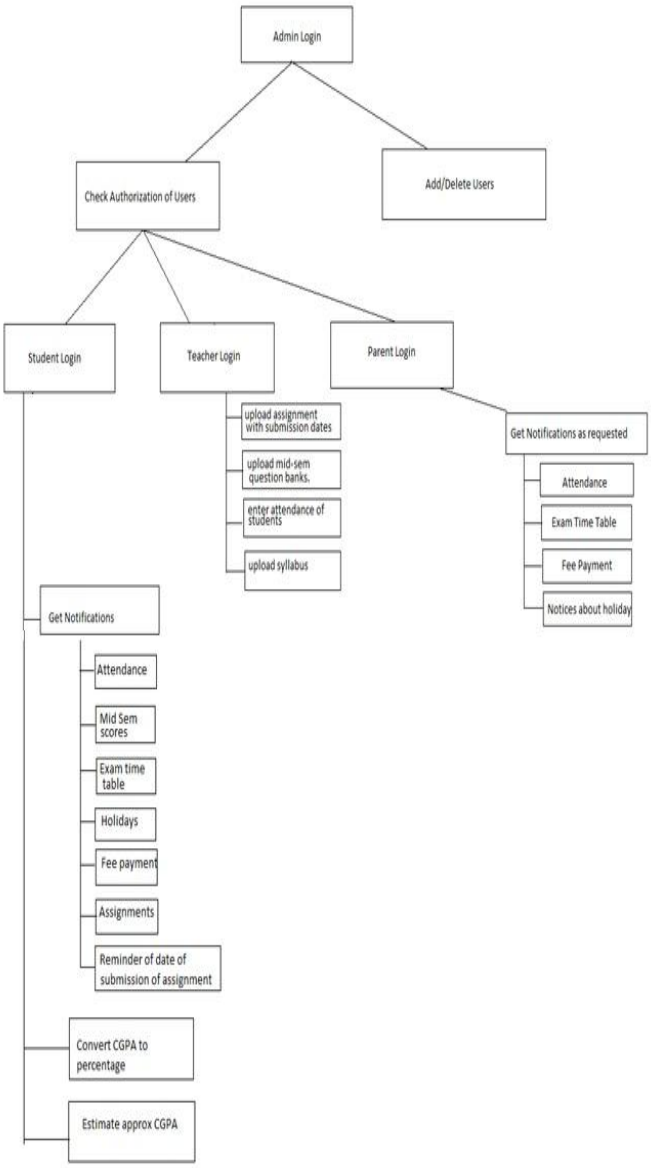

Fig.1 System Architecture

B. *Data Flow in the System*

The main components for data flow diagram are Admin, Student, Parent and Teacher. The admin and teachers can enter and edit the student information on the server through which the entire system operates. The students and their parents can retrieve the students' information from the server based on their respective unique identity numbers. The parents and the students register themselves first and then the admin grants the access to the system.

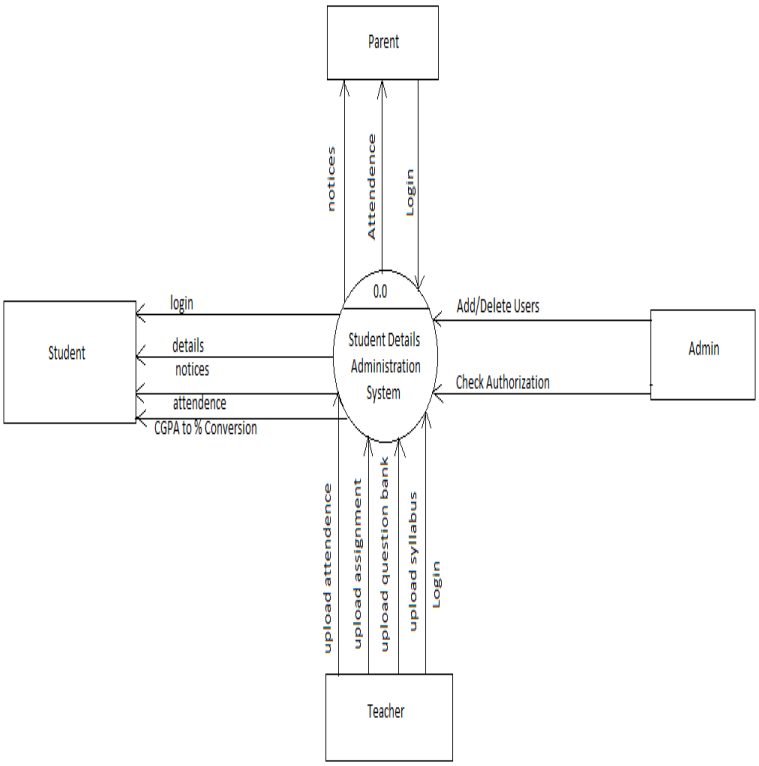

Fig.2 Data Flow Diagram

C. *Algorithms used*

The steps of AC2FM (algorithm for calculating approximate CGPA from the marks entered) are as follows:

Step 1: Take user inputs as D_i, E_i, H_i, I_i, N_i and O_i

Where D= marks obtained in theory paper, ranging from 0-80

E= marks obtained in term work, ranging from 0-25 H= average score of two midterm exams, ranging from 0-20

I= marks obtained in viva/practicals, ranging from 0- 25

N= credits assigned for theory, ranging from 0-4 O= 1 (always)

Step 2: Calculate $L_i = D_i + H_i$

Step 3: Calculate $M_i = E_i + I_i$

Step 4: Calculate $R_i = L_i/10$, take (integer value + 1)

Step 5: Calculate $S_i = (M_i*2.3)/10$, take (integer value + 1)

Step 6: Calculate $T_i = N_i*R_i$

Step 7: Calculate $U_i = O_i*S_i$

Step 8: Repeat Step 1 to Step 7 n times, where n is the number of subjects

Step 9: Calculate $A = \sum_1^n (N_i + O_i)$

Step 10: Calculate $B = \sum_1^n (T_i + U_i)$

Step 11: Calculate C = B/A

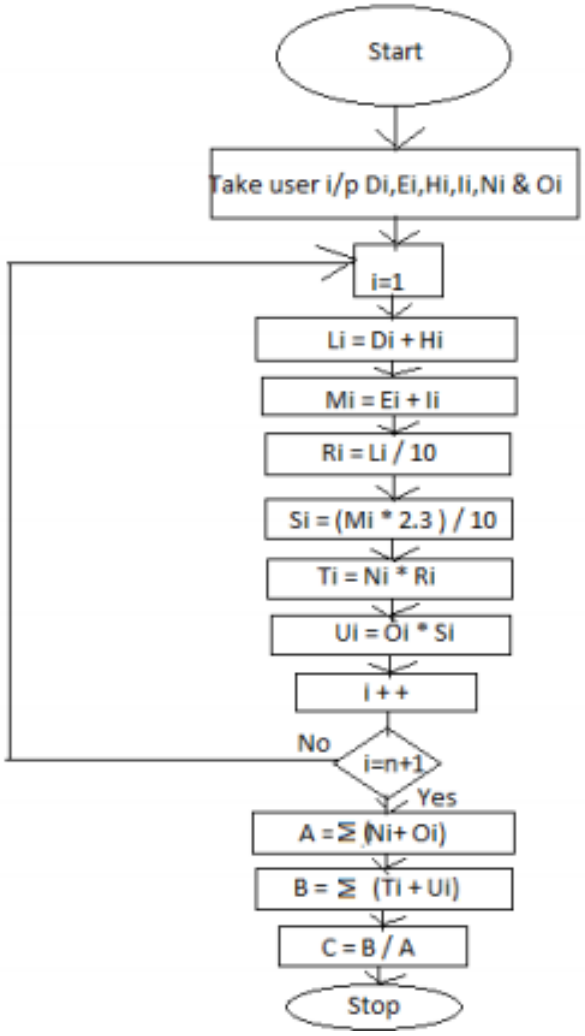

Fig.3 Flowchart of AC2FM

The steps for approximate conversion to percentage from CGPA are as follows:

Step 1: Check whether the CGPA is above 7,equal to 7 or below 7.

Step 2: If CGPA<7, then Percentage=[7.1*(cgpa)]+12, else go to step 3.

Step 3: If CGPA>=7, then Percentage=[7.4*(CGPA)}+12.

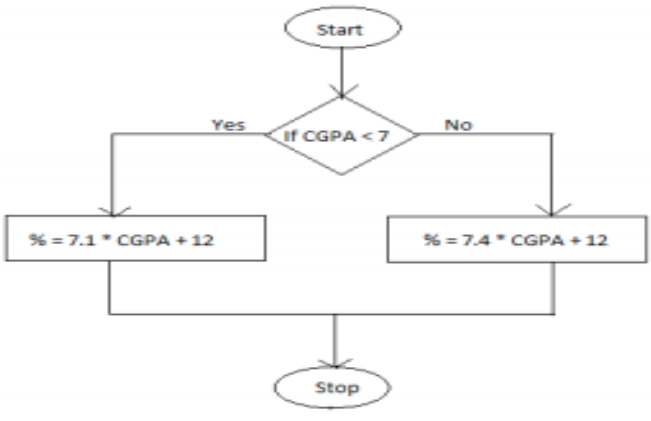

Fig. 4 Flowchart of percentage to pointer conversion

The steps for approximate conversion to CGPA from percentage are as follows:

Step 1: Check whether the percentage is above 63.80, equal to 63.80 or below 63.80.

Step 2: If percentage<63.80, then [CGPA=(Percentage-12)/7.1].

Step 3: If percentage >= 63.80, then

[CGPA=(Percentage-12)/7.4].

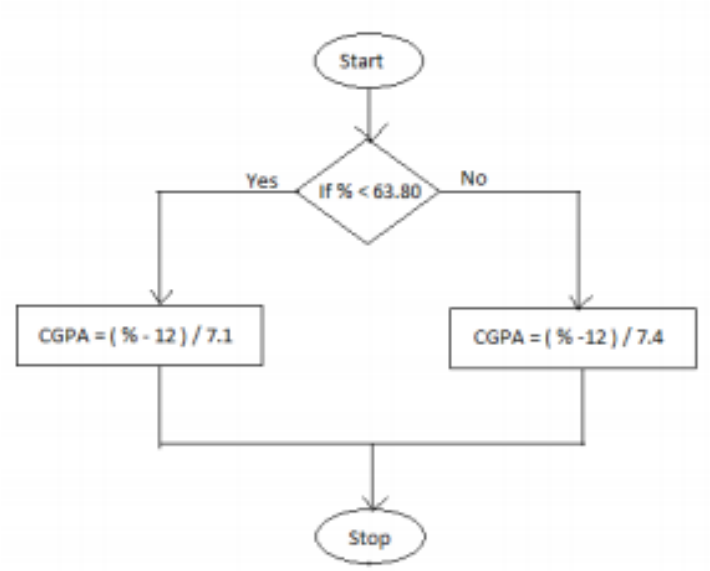

Fig. 5 Flowchart of pointer to percentage conversion

IV. CONCLUSION

In this paper, an approach for Student Services Administration with the help of an android application has been proposed. Comparison with traditional approach shows that the proposed system is more reliable as it involves lesser man power, also providing more convenience to the students as they can access everything via the application only. The success of this project will provide a great aid for the organization in effective administration and easy access for everything related to the curriculum. The future goal is to create a flexible system which manages student details for iOS and Windows phone as well for particular educational institutions. It gives a novel approach for generating test using utility based agent. The institutions are efficiently able to communicate with the students, their parents and their stakeholders.

V. IMPLEMENTATION

The implementation process begins by dividing the modules which are present in the system. There are four modules which play an important role in the whole implementation process. The two modules i.e. the admin module and the teacher module are to be implemented on the website and the remaining two modules i.e. the student module and the parent module is

implemented using android application in order to reduce the tedious tasks. This implementation is done on the server side and on smart phone. Implementation on the server is done using .Net in Visual Studio 2015 using C#, while the implementation of the application part is done by using Android code in Android Studio. The application is tested on Android smart phone version Gingerbread 2.3.3.

VI. ACKNOWLEDGEMENT

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