

NotifyMe- An Android Based Application For Student Services Administration

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Abstract— NotifyMe is an android application that can be used in various Engineering Institutions under Mumbai University. Today in colleges, student details are entered manually which is a tedious task. Referring to all these records, an updating is required. 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. In which the college staff members, students and parents can access the information and will be familiar with the activities which are ongoing in the institutes. It will provide interactive environment for the staff, students and parents by getting knowledge of student attendance, remarks, exams performances, grades, timetables, notices etc. In the current system, the administrator is allowed to collect the information and then accordingly will provide the access rights according to the users. The main objective of this project is to add mobility and automation to the process of managing student information in an institute. The authentication process will add the security feature to the application.

Index Terms— modules, android application, notification, CGPA, Percentage, AC2FM, student records.authorization.

1 INTRODUCTION

NOTIFYME would be 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 will be Student, Parent, Teacher and Admin [1].

A student can create an account and login. A student can have a look at their respective attendance, scores in mid-sem 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 required.

2 BACKGROUND

There exist various systems for student services administration. There is one such existing system which 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].

Another system, that exists, serves to replace the traditional notice board with E-notice board; this system saves time, re-

duces paper work and student and staff gets notices on time [2].

There is one android application that 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].

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].

3 PROPOSED SYSTEM

3.1 System Architecture

The system architecture is the conceptual model that defines the structure, behaviour, and more views of a system. An architecture description is a formal description and representation of a system, organized in a way that supports reasoning about the structure and behaviour of the system.

The system architecture can comprise system components, the externally visible properties of those components, the relationships (e.g. the behaviour) between them. It can provide a plan from which products can be procured, and systems developed, that will work together to implement the overall system. Once the system is developed, the Admin logs in with his credentials and can provide the access rights according to the roles of the users. The users can log into the system and can access the information as per the access granted by the Admin.

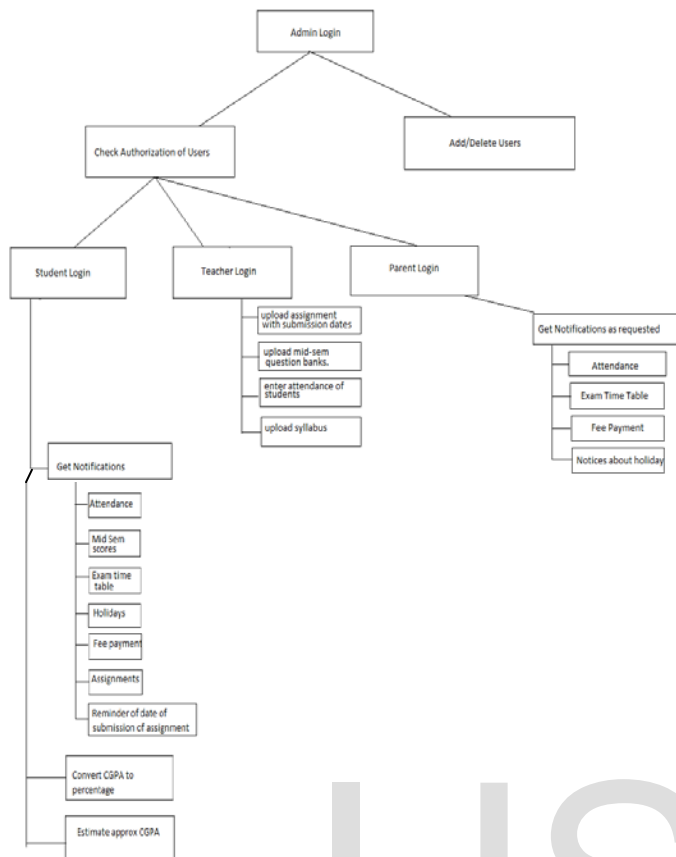


Fig.1: System Architecture

3.2 Data Flow in the System

A data flow diagram (DFD) is a graphical representation of the "flow" of data through an information system, modelling its process aspects. A DFD is often used as a preliminary step to create an overview of the system, which can later be elaborated. DFDs can also be used for the visualization of data processing.

A DFD shows what kind of information will be input to and output from the system, where the data will come from and go to, and where the data will be stored. It does not show information about the timing of process or information about whether processes will operate in sequence or in parallel. The main components for data flow diagram are Admin, Student, Parent and Teacher.

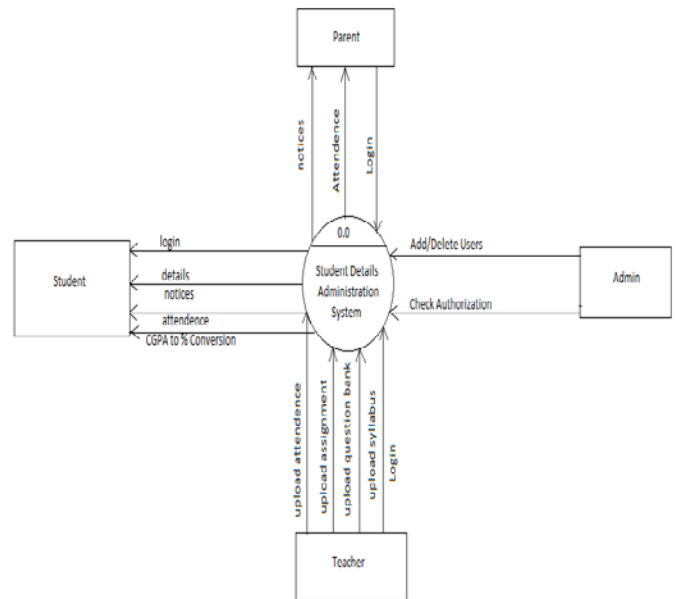


Fig.2: Data Flow Diagram

3.3 Flowchart

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 $A = \sum_{i=1}^n (N_i + O_i)$

Step 10: Calculate $B = \sum_{i=1}^n (T_i + U_i)$

Step 11: Calculate $C = B/A$

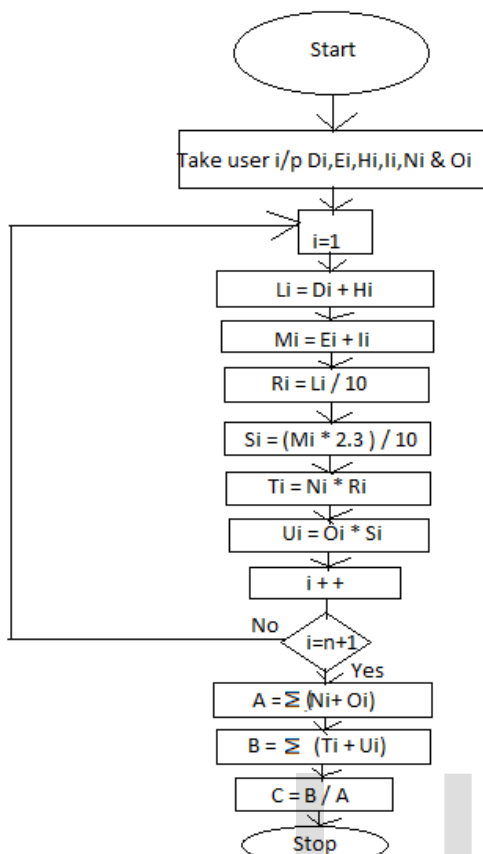


Fig.3: Flowchart for AC2FM algorithm

The steps for approximate conversion to percentage from CGPA is 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 $CGPA \geq 7$, then
 $Percentage = [7.4 * (CGPA)] + 12$.

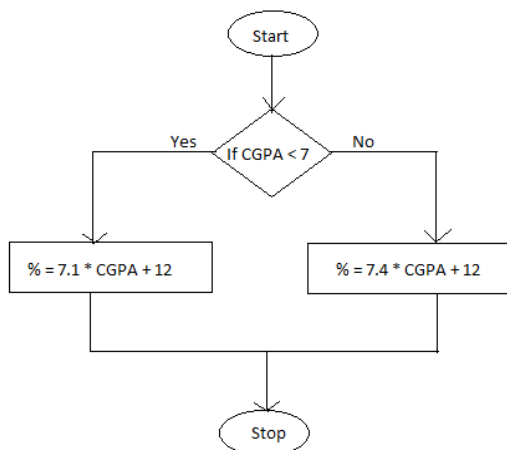


Fig.4: Flowchart for CGPA to Percentage conversion algorithm

The steps for approximate conversion to CGPA from percentage is 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 $percentage \geq 63.80$, then
 $CGPA = (Percentage - 12) / 7.4$.

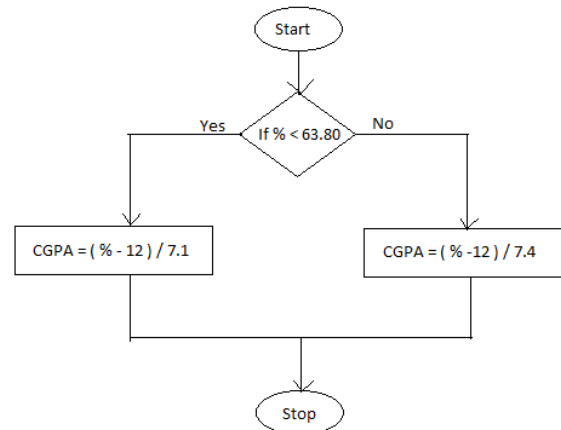


Fig.5: Flowchart for Percentage to CGPA algorithm

4 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 detail 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.

5 ACKNOWLEDGEMENT

We wish to thank our project guide Ms. Jyotsna Gharat who has been very supportive throughout the entire project tenure. A special thanks to our HOD Mr. Jaychand Upadhayay for his guidance.

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