Feedback Tracker: Android Application to Find the Biased Behavior of Students While Filing the Feedback Form for Their Teachers.

Ms.Libi Joseph, Ms. Deepika Bavariya, Prof. Priyanka Nema
St. Aloysius Institute of Technology
Corresponding Author:Ms.Libi Joseph

Abstract: [7] *Student feedback is a process of collecting student reviews about the teacher's performance in order to evaluate the teacher's effectiveness. It hasthus the most powerful influences on learning and achievements. Its power is very often mentioned in different articles about learning and teaching, but surprisingly few recent studies have systematically investigated its meaning. Although feedback is among the major influences, the type of feedback and the way it is given can be differentially effective. Nowadays, technology is increasingly used by human being in every field.*
The concept of "Feedback Tracker"introduced in this paper is to digitalize and organize the feedback process. What makes the "Feedback Tracker" different from the traditional pen paper feedbacks is, it's set of complimentary criteria's taken into consideration, while evaluating each feedback score. The idea behind evaluating the feedback score in a better way is to take into account the biased behavior of each student while filling the feedback form. It is an effort to evaluate the performance of a faculty depending upon the student satisfaction level, taking into consideration the biased behavior of students. Finally this analysis and concept is used to suggest ways in which feedback can be used to enhance its effectiveness in classrooms.
Keywords: *- Feedback, Performance Evaluation, Android SDK, Android Studio*

I. Introduction

[3]The increasing popularity of smart phones has drawn the attention of almost everybody. The applications which run on these have more likely made mobiles a portable computer having multicore processors, gigabytes of memory and a real operating system.

1.1 FEEDBACK

The word 'feedback' is defined as a set of opinions, the information in response to an inquiryor a collection of statements about a certain topic like a new item in the market, that can tell if it is successful/liked. [2]Feedback from students has always played an important role in the maintenance of quality and standards in higher education. As quality assurance arrangements have themselves become more formalized, so too have the arrangements for the collection, analysis and use of student feedback. However, there are a number of other contextual changes that have influenced these arrangements.

1.2 PEN PAPER SYSTEM

Traditionally, the pen paper system was the most common method used for the purpose of obtaining feedbacks. In this system, a form/set of questions is given to each student. The student fills in the score/grade for each teacher and the filled forms are collected for further conclusions.
Following are the drawbacks of the existing system
• Feedbacks are not taken in a definite interval.
• Relationship between a student and a teacher also comes into preference. Hence, even if the faculty's performance is not up to the mark, but his relation with the student is good, he can earn good grades from the feedback process.
• Theory and practical subjects are evaluated in the same manner.
Such systems are not accurate and also add up lots of manual work.
[3]Encouraged by the launch of cheaper smart phones, even students have started using apps for educational purpose. Hence, it is time to break the chains of tradition and use the latest technologies available for the betterment of the society.

1.3 FEEDBACK TRACKER

Feedback Tracker is an attempt to take into account the level of biased behavior of students towards their teachers depending upon which, a score shall be calculated for each faculty from the feedback received and the level of biased behavior. The score thus calculated shall be averaged, and the set of the resulting scores recorded for few months shall be used to create a progress chart, one for each faculty. Also to ensure that feedback forms are filled without lag, pop up alerts shall be provided in a definite interval of time. The chart shall depict the student satisfaction level.

II. Design of Proposed System

The Proposed App starts with a Welcome Screen which displays the App Name and the Logo. The admin who is responsible for maintaining the database records, initially creates a table which consists details of all the eligible students and hence they can directly login to the App without registering themselves. Thus, this prevents any in-eligible student to fill the feedback form and makes it easy for the other users as they can directly access the form.

After logging in the student chooses any one of the faculty from the list displayed on the screen. The admin shall maintain the list of faculty and their respective subjects for each semester. Every student when logs in will be able to see the list of only those faculty members he/she is associated with in the respective semester. Once the faculty is chosen the feedback form is displayed, one question at a time, with each question having 4/5 options. [1]The feedback form designed is based on the 4 year technical course as suggested by Noel- Levitz.At the end students can also share comments about the faculty, which will be sent via their Gmail App from a common ID, thus hiding their identity.

The management once logged in using a specific Username and Password can select any faculty member and view his/her score or progress chart. This will help them to analyze the change in the performance of the faculty.

The admin once logged in can use his dashboard to insert/update/create/delete any of the records from the feedback database. The database shall contain tables for eligible students, the subjects, faculty members and the score of faculties.
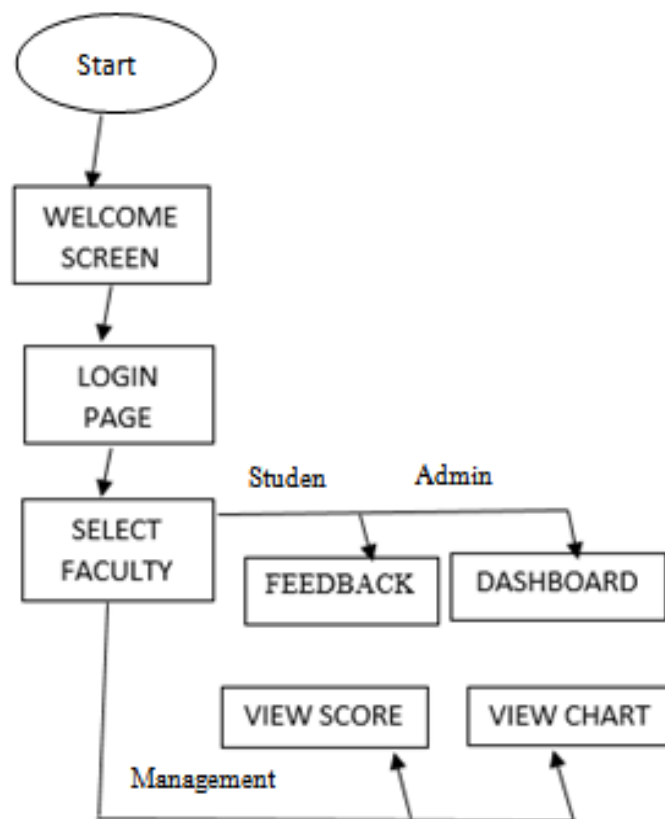

Fig 1: Flow of Proposed System

2.1 ALGORITHM
1. While(login == successful){
    If(user==student || user==management)
    Display Choose faculty page
Else
Display Admin dashboard}
2. For user == student
k= No. of faculties listed in the Choose faculty page
3. User selects one faculty from 1 to k.
Let it be the nth faculty.
4. Feedback Form opens for nth faculty. It has 20 questions (q_i) each having 4 options (o_{ij})
Where j = option no.& $1 <= j <= 4$
i= question no.& $1 <= i <= 20$
5. When for some random values of i and l, $q_i == q_l$ &

    $o_{i1} = o_{l3}$,
    $o_{i2} = o_{l1}$,
    $o_{i3} = o_{l4}$,
    $o_{i4} = o_{l2}$
6. If the user selects
    o_{i2} for q_i & o_{l1} for q_l => No contradiction
7. Else => Biased answer
8. Scan the combination table for the degree of truth related to each combination of options.
9. Calculate the final score from all the truth values obtained from the table.
10. Display the score for the nth faculty when selected by the user, if user == management.
11. Store the calculated score (s_{n1}) in the database table (T). Repeat this process for two more times (s_{n2}, s_{n3}) at a definite interval of 1.5 months.
12. When user == management selects "View chart" for the nth faculty, create a chart using the stored values (i.e.) s_{n1}, s_{n2} and s_{n3} and display it.

2.3 USER CHARACTERISTICS
Three potential groups of users of the application exist:
1. Students 2. Admin 3. The Management
The group 1 user are the students who are authorized to fill in the feedback form. The already registered students can login using their Username and Password, can choose any faculty and fill the feedback form. After completing the form, the user can also comment about the faculty. The comment shall be sent via the Gmail app in his/her smart phone.
The group 2 user is the admin who is responsible to maintain the database records and does necessary changes as and when needed.
The group 3 user is the management, who can view the score list of the faculties, their progress charts and note the changes in his/her performance.
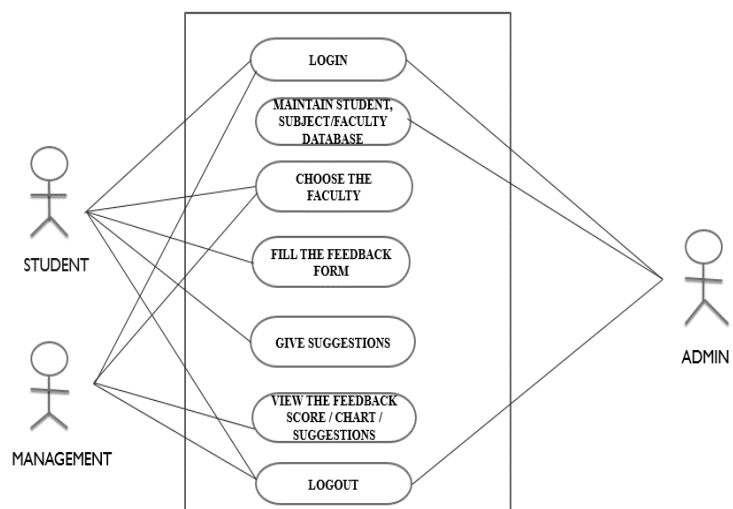

Fig 2: Use Case Diagram [5]

III. Scope

The "Feedback Tracker" intends to become a user friendly and effective tool that is easy to navigate and at the same time provides results nearing accuracy. Maintaining a user friendly application with the best logic used for calculating the effectiveness of a teacher is deemed of highest importance in order to hold user attention and to increase the number of users.

IV. Intended Audience & Contributors

The primary beneficiaries of this application are the authorities and the students of the Institution. The core contributors to this application are the developers of the application and the admin responsible for maintaining the student record.

V. Implementation Details

For implementation of the App 'Feedback Tracker', the platform used is Android and the language used is Java and XML. [3]SQLite is used at the backend. For setting environment of android, there is minimum requirement of JDK to be installed in the system. JDK SE development kit 8 is used for this purpose. Code is written using Android Studio 3.0.1. Using SQLite in Android doesn't require any setup to be followed. Developers only have to define statements for creating and updating database in SQLite. When an App creates and uses a database then the default storage location of the databaseis DATA/data/APP_NAME/database/FILENAME.

Various modules of the App are as follows:

1. Login Module: In this module, registered user have to fill details - the Username and Password to move to the next page of the App.
2. Admin Module: If the logged in user is as an admin then he/she can update/ delete/ create/insert data into the database.
3. Management Module: If the logged in user is as a management member, he/she can view the monthly score and yearly charts of the faculties.
4. Feedback Module: If the logged in user is a student, he/she can fill the feedback form after choosing a faculty and can also share a comment for him/her.

VI. Conclusion and Future Scope

Feedback Tracker App can be used by students conveniently to provide feedbacks about their teachers. It is an effort to modernize the existing feedback process and to help achieve better accuracy in the results calculated from the feedbacks obtained.To improve the services provided by our application and to remove all the inefficiencies it holds, in future we plan to make changes according to user requirements in future.

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Biographies

Libi Joseph
BE (8th sem)
St. Aloysius Institute of Technology
Jabalpur
M.P.

Deepika Bavariya
BE (8th sem)
St. Aloysius Institute of Technology
Jabalpur
M.P.

Mrs. Priyanka Nema
Asst. Professor
Computer Science Department
St. Aloysius Institute of Technology
Jabalpur
M.P.