Islamic University of Technology
Dept. of Computer Science & Engineering

Course no. CSE 4508
Relational DataBase Management System

Project Report

Result Processing System

An automated system to generate the result

Developers
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❖ What is a Result Processing System?

This project is about Result Processing System which is an automated system that will generate & record the result (GPA) of the students in each semester. Besides the system will also have a record of the results of a student in each course at each semester along with obtained marks so that he/she can evaluate himself/herself.

Also, the system keeps track of the tuition fee remaining for each student. In addition, this also provides a feature to determine whether a student will be eligible to sit for the exam or not, depending on his/her attendance percentage.

❖ What it will do?

✓ First of all, the DataBase operator will insert the values into the Student table where the ID & Semester is auto-generated.

✓ Then the course table is updated according to corresponding courses in each semester. Students in a semester will get those corresponding courses. By doing so, assigning courses to a student will be dynamic.

✓ Marks for a student (in a particular course once) is then inserted. While inserting each time, the result calculation trigger calls the result calculating function which then and there calculates the grades for that course and keeping the credit in consideration, the grade is stored, later summed up to generate the final result

✓ Tuition fee (remaining) is also updated after a year for self-scheme students. For the OIC-funded guys, its static. But the tuition fee must be paid each year for others. So, this system also keeps track the remaining tuition fees for a student by fetching his/her semester.

✓ One important criterion for passing is Attendance. Anybody below 75% attendance will not be eligible for the exam. So, by knowing the attendance percentage of a student, we can decide whether he's going to sit for the exam or not. If not, then going through the calculation process for him/her is useless. So, this feature makes the system more realistic.

❖ Motivations & Goals

There are some facts and interest that motivated us to develop a system like this. Those are –
  ✓ Making a specified system just to deal with result processing
  ✓ Providing some additional feature relating to result processing
  ✓ Providing features related to attendance
      ➢ If tuition fee not paid in time, student can't attend classes
  ✓ To develop a dynamic system that has a large but simple database to deal with.

❖ Details about BackEnd

✓ Tables
  1. Student (ID, Dept, DOA (Date of Admission), Prog, Scheme)
  2. Course (ID, Credit, Semester)
  3. Marks (Student ID, Course ID, Attendance, Quiz1, Quiz2, Quiz3, Quiz4, Midterm, Final)
  4. CGPA (Student ID, Semester, GPA, CGPA)

✓ Functions
  1. Gen_ID – Automated ID generation – From Admission Year, Dept, Program, Roll
  2. Gen_Semester – Automated Semester generation – From Date of Admission
  3. InputMarks
      ➢ Takes the ID of a student
      ➢ Inputs the marks for each course of that student
      ➢ Calculates the grade for each course
      ➢ Sums up the grade & Calculates the GPA
  4. ReturnAttendance
      ➢ Checks the mark of Attendance
      ➢ Calculates the percentage, if less than 75, Student is not eligible for exam.

5. Remaining_Fee
   - Checks whether the student is in the OIC-Financial Scheme or Self-Financial Scheme
   - For OIC guys, paying tuition fee once is enough
   - For others, each year 2500 USD is to be paid, so the function calculates the remaining tuition fee depending on the semester.

✓ Triggers
   1. Student_ID_Sem_Generating_Trigger
      - Generates ID & Semester
      - Each time some data has been inserted to Student table, it works
   2. Student_Result_Generating_Trigger
      - Each time marks for a student in a course is inserted, the Trigger call InputMarks function
      - The function calculates the grade of that course and stores temporarily as the current GPA
      - When marks are inserted for all the courses of a semester then the semester's GPA is calculated
      - Then depending on the semester of the student the CGPA is also updated.

✓ Cursors
   1. C_Course
      - Resided into the last-mentioned function
      - Takes input for each course
      - Exits when there's no course left for a student in a semester

❖ Conclusion

We tried our level best to develop some features of Result Processing System, but there are some lacking and shortcomings. Like - we have not implemented anything for checking error & sending error message. Storing data for course teachers have not been implemented here, the entire faculty part is missing. Due to shortage of time, we could not implement that.

But ultimately, it works and gives the expected result as output. Further, we will be working on this project and try to deal with the shortcomings that we have in our current system.

Thank You Very Much!!!