

University Result Portal

Functional Specification

Team 3

Overview

This portal will let students check their aggregate and semester wise results. The result will include details like subject name, credits, grade obtained, grade point, CGPA and SGPA. Portal also allows admins to insert records into the university database.

Scenarios

Scenario 1: Nikhil

Nikhil is a engineering student, he is in his final year and continuously needs to upload his result details to apply for jobs and internships but everytime he needs to refer to his marksheets and calculate aggregates and subject wise grade points grade points. This portal will allow him to see results, subject-wise marks, etc. on the go.

He can login to the system using his enrollment number and password. By this we respect his privacy and no one can easily see his details, after logging in he can see his aggregate result in the system and then can further navigate to a particular semester result where he can see subject wise marks.

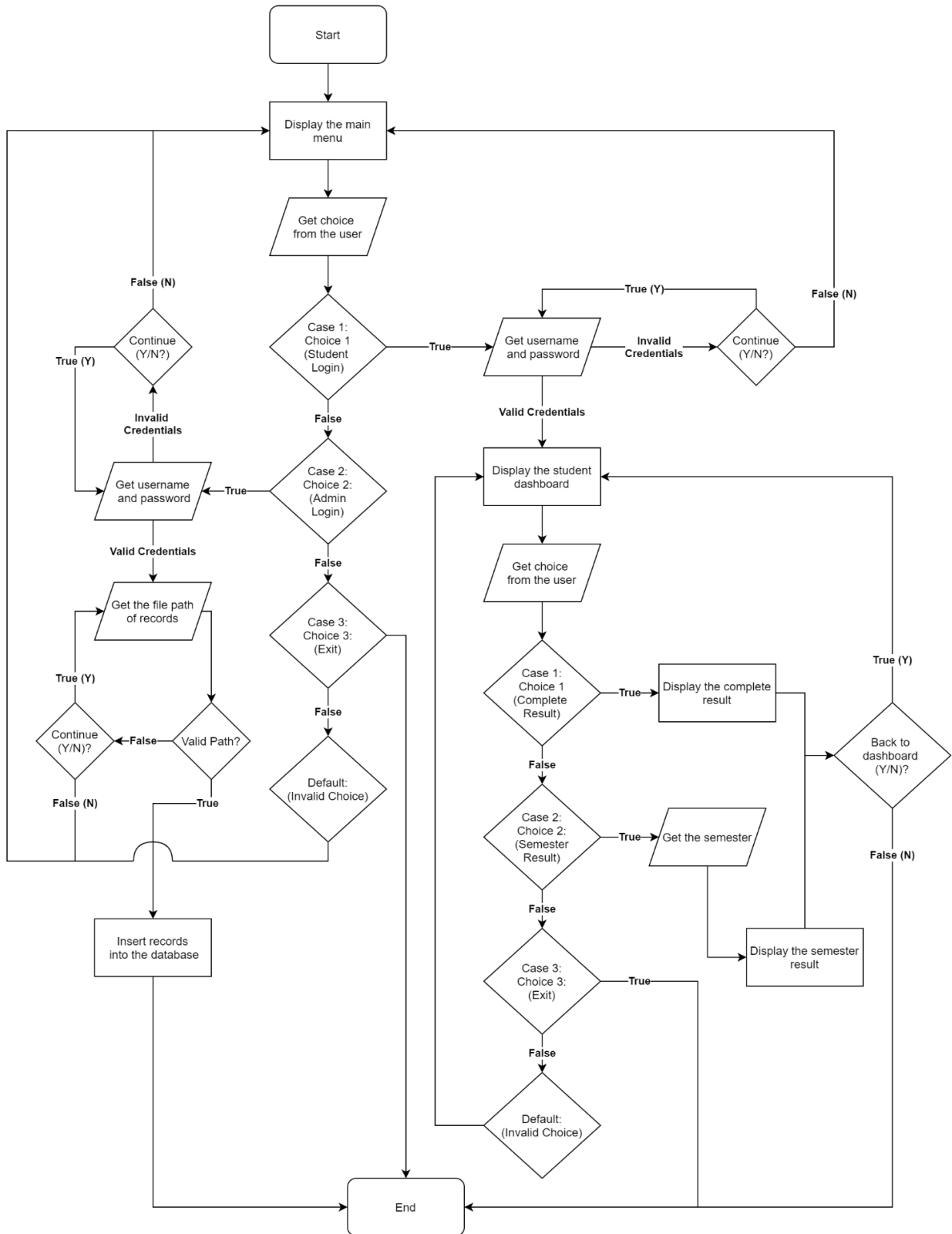
Scenario 2: Mr. Karan

Mr. Karan is the examination department head who is responsible for publishing the results of the students in the college, currently he publishes the result by attaching the list on the notice board. Using the portal he can insert details for all the students by just entering data to the file and students will instantly be able to see their results.

Non Goal

1. No update/delete functionality for admin.
2. No cumulative CGPA for the student.

Flow Chart



Technology Stack

Java 8 (Programming Language), Maven (Project Management Tool)

Screen by Screen Specification

Welcome Screen

Here the user will be presented with a welcome message with the college name. The user will be able to select whether he is a student or admin.

ABC College of Engineering
Welcome!

Select the appropriate option:

1. Student
2. Administrator
3. Exit

—

Technical Note: The user can select one of the three provided options, if the user selects an invalid option, then an error message “Invalid option, please select an appropriate option” is displayed and the user is redirected to the menu.

Student Login Screen

Here the user will have to enter username and password for students username will be enrollment number and for administrator it will be their employee id.

ABC College of Engineering
Student Login!

Enter username:

—

Enter Password:

—

Technical Note: If the login credentials are invalid, the user is given the option to either continue or exit the program.

Student Menu Screen

Here the students will choose the result they need to see, either the complete result or semester wise result.

<p style="text-align: center;">ABC College of Engineering</p> <p>Select the appropriate option:</p> <ol style="list-style-type: none">1. Check Complete Result2. Check Semester Wise Result3. Exit <p>—</p>

Technical Note: The student can select one of the three provided options, if the student selects an invalid option, then an error message “**Invalid option, please select an appropriate option**” is displayed and the student is redirected to the student dashboard.

Student Semester Wise Result Screen

Here the students will be able to see the semester wise result, after viewing the student can return back to the dashboard or quit.

ABC College of Engineering Result		
Semester 6:		
Marks: 747 / 1000		
Percentage: 74.700 %		
SGPA: 8.704		
Credits Obtained: 27 / 27		
Subject (Credits)	Marks	Grade Point
COMPILER DESIGN (4)	79 (A)	8
OPERATING SYSTEMS (4)	77 (A)	8
COMPUTER NETWORKS (4)	84 (A+)	9
WEB TECHNOLOGY (3)	73 (A)	8
ARTIFICIAL INTELLIGENCE (4)	86 (O)	10
MICROPROCESSORS (4)	75 (A)	8

Student Complete Result Screen

Here the students will be able to see the aggregate available result for all the semesters, after viewing the student can return back to the dashboard or quit.

ABC College of Engineering Result			
Enrollment Number: 02696402717			
Student Name: Nikhil			
Programme: Bachelor of Technology (B. Tech.)			
Branch: Computer Science and Engineering			
Marks: 5948 / 8000			
Percentage: 74.350 %			
CGPA: 7.920			
Credits Obtained: 188 / 188			
Sem	Marks	Percentage	SGPA
Semester 1	924 / 1300	71.077 %	7.519
Semester 2	842 / 1200	70.167 %	7.074
Semester 3	751 / 1000	75.100 %	7.857
Semester 4	857 / 1200	71.417 %	7.172
Semester 5	921 / 1200	76.750 %	8.154
Semester 6	747 / 1000	74.700 %	8.704
Semester 7	906 / 1100	82.364 %	9.167
Semester 8	Not Announced		

Result Calculation Formulae:

SGPA: (Grade points * credits)/Sum of all credits

CGPA: (Sum of SGPA)/ Number of semesters

Grade	Grade Points	Range
O	10	85-100
A+	9	80-84
A	8	65-79
B+	7	60-64
B	6	50-59
C	5	45-49
P	4	40-44
F	0	<40
Ab	0	-

Admin Login Screen

Here the administrator will have to enter their employee id and password to access the admin dashboard.

ABC College of Engineering
Admin Login

Enter username:
—

Enter Password:
—

Technical Note: If the login credentials are invalid, the admin is given the option to either continue or exit the program.

Admin Insert Record Screen

Here the admin will enter the file name to add the data from the file to the university database.

ABC College of Engineering
Insert Data!

Enter path of the file to enter data from:
—

Technical Note:

- If the file path is invalid, the admin is given the option to either continue or exit the program.
- If the path is valid, the data will be read from a local csv file.
- All the read records will be validated to check whether they are in the correct format or not.

File Format

The file format for the marks record is given as follows:

Marks_id, Student_id, semester, subject_id, marks

1, 06714802717, 1, ETCS-101, 78

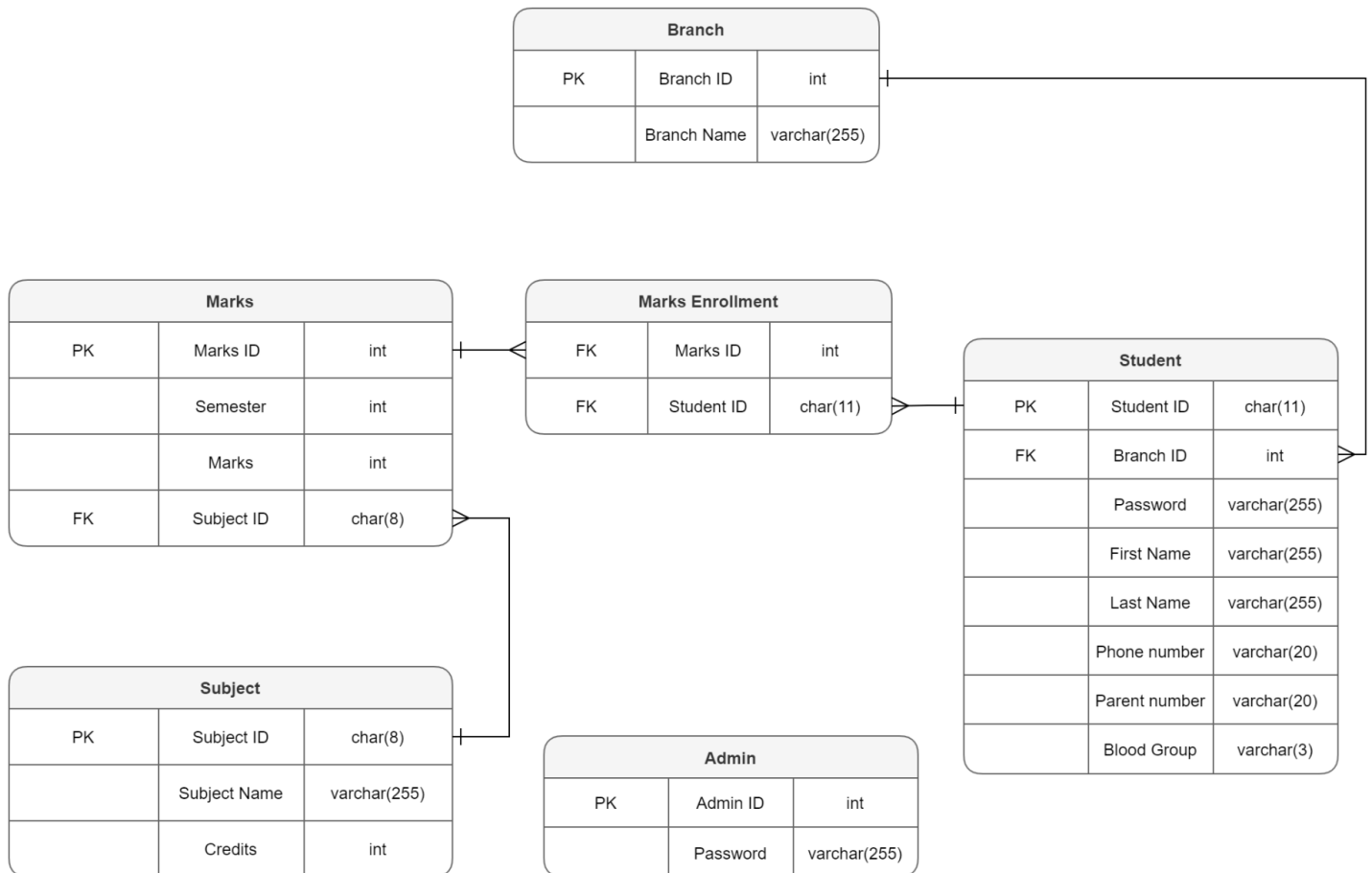
2, 06714802717, 2, ETCS-201, 81

3, 06814802717, 1, ETCS-101, 89

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Database Specification

ERD For University Result Application



Technical Note:

- The database is based on only a single university.
 - The database is based only on a single course - Bachelors of Technology (B.Tech.).
 - The database has only 3 branches, additional branches may be added in the future.
 - The subject table consists of subjects from semester 1 to 8.
 - The tables Branch, Student, Admin, Subject will be pre-populated, since this is only a result uploading and checking application it is assumed that the admin has the responsibility to only maintain the marks records.
 - The database consists of the following tables:
 1. **Student:** The main student table consists of student id to uniquely identify each student and attributes such as name, contact numbers, blood group and password. Branch Id is used to determine which branch the student is in
 2. **Branch:** Consists of a branch Id and name, this will consist of 3 branches namely
 - a. Computer Science and Engineering
 - b. Information Technology
 - c. Electrical Engineering
 3. **Admin:** Consists of admin id and password to verify the admin user.
 4. **Subject:** The subject table consists of a list of all the subjects with their credits.
 5. **Marks:** The table where marks of all the students for each subject are stored, it uses marks Id to give an Id corresponding to a student Id and subject Id. It consists of the marks and the semester the subject is in.
 6. **Marks Enrollment:** Table used to convert the many-to-many relationship between student and marks, to one-to-many relationship.
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