

Academic ERP

1. STUDENTS

1.1. Student Admission

Allow the employee of the admin department to login and ask them to register students with details such as name, email address, roll number, domain, specialization, photograph and others. Assign unique roll numbers based on patterns like (MT20xxxxx, MS20xxxxx, IMT20xxxxx). Keep in check the capacity of the domain. An employee of the admin department can view, delete and modify all students based details.

1.2. Student Details Modify and View

Allow the students to login and they can modify their photograph and view their information such as cgpa, specialisation, domain, email address and other attributes. Students can view the opted courses and their grades in each one of them.

1.3. Student Course Selection

Allow the students to login and they can list courses including their professor, credits and prerequisites (if any). Allow a student to select a minimum 4 and maximum 6 courses. Only allow selection of a course if it's prerequisite has already been selected. Keep in check the capacity of the course. Update the total credits accordingly in the students table.

1.4. Student Timetable

Allow the students to login and they can view their timetable on the basis of the courses that particular they have selected. Also display the Course Details including the Faculty and TA (if any), Room Number and Specialisation it belongs to. Allow them to download the timetable for their current term opted courses.

2. COURSES

2.1. Course Specialisation CRUD

Allow the employee of the admin department to login and ask them to create, read, update and delete course specialisations such as (Network Communications, Data Science etc) based on their various attributes. Filter specializations based on year, credits required and number of courses.

2.2. Course Creation

Allow the employee of the admin department to login and ask them for the course details including credits, capacity, domain, schedule, specialisation (Drop Down Selection), prerequisites (selection from already existing courses) etc. Assign a unique code to the course based on year and specialisation (example 2020-CS511, 2020-CS513).

2.3. Course Update/Delete/Retrieve

Allow the employee of the admin department to login and display the list of the courses and details. Allow the user to update/delete a course. If a prerequisite course is updated/deleted then the update should cascade throughout. Sort courses based on the number of students registered for it.

2.4. Course TA Registration

Allow the faculty to login and allow them to register/deregister a student as a TA and then allocate/deallocate him to a particular course among the courses(Drop Down Selection) that the faculty teaches. Allow TA to login and view the allocated course details and list of students and their grades in that course.

2.5. Course Timetable

Allow the employee of the admin department to login and display and download the timetable of the selected domain(MTech CSE 2019, IMTech ECE 2017, etc). The timetable should include schedule, building and room of the courses. Also display the faculty associated with every course. On selection of a particular course display the list of enrolled students and other course details.

2.6. Course and Student Filters

Allow the employee of the admin department to login and display and filter the course based on domain, year, faculty, capacity, specialisation and any combination of all of these. For all the courses, users can see the enrolled students and their grades for that course. Allow users to sort the students based on the grades for the course/s and cgpa.

3. FACULTY

3.1. Faculty Details Modify/Retrieve

Allow a faculty to login and modify details like photograph and display them their other details such as name, title, email, department and other details. The faculty can choose for the courses which they would like to teach. Also while selecting courses do not allow selection of 2 courses if they have the same time slot.

3.2. Faculty Grade Students

Allow a faculty to log in and allow them to select a course among all the courses they teach. Display all students enrolled in that course. Allow the faculty to grade a particular student or a group of students with marks. Allow them to sort the students based on the grades for the selected course. After every update compute the cgpa of the student and update it in the students table. Faculty should be able to update the grades too.

3.3. Faculty Timetable

Allow a faculty to login and display and download the timetable for all the courses(including specialization and room number) they teach for the selected term and year. If a faculty selects a particular course, then display all the students enrolled for that course and other students' details for that course.

4. HUMAN RESOURCES

4.1. Department CRUD

Allow the employee of the human resources department to login and allow them to create, read, update and delete departments such as admin, accounts, etc. in the university. Include the department's capacity while creating it. On selection of a particular department display all the employees and details. Manually include the employee details and human resources department for the first input.

4.2. Employee CRUD

Allow the employee of the human resources department to login and allow them to register an employee based on their details like name, email address, department, photograph etc. Assign them a unique employee id. The user can retrieve, update and delete the employee details. Keep in check the capacity of the department.

4.3. Employee Modify and View Salary History

Allow an employee to log in and allow them to modify their details like photograph and other details. Display the salary, the history of salary disbursements. Here they can view all the various descriptions of salary or their deductions if any for a selected month. Allow them to download the salary slip of a particular month.

4.4. Employee Disburse Salary

Allow an employee of the accounts department to login to add, modify, delete, retrieve salary details of single or a selection of employees, also allow them to disburse the salary of a single employee or a selection of employees except the logged in employee. The user can only modify the salary which is not disbursed yet. Allow users to copy the details of salary from the previous disbursements.

5. ADMINISTRATION

5.1. Student Domain and Grades CRUD

Allow the employee of the admin department to login and add and modify domain(MTech CSE 2019, IMTech ECE 2017, etc). The details include the name of the domain, capacity and qualification required. Also allow him to view students belonging to a particular domain. Allow them to do CRUD operations on Grades.

5.2. Compute Student Specialisation

Allow the employee of the admin department to login. View them the specialisations of all students or filtered students by domain. The student has a specialisation in a particular domain if they have selected courses, passed them, such that the cumulative sum in a certain specialisation of those courses is greater than or equal to the given credits. Update this in the Students table.

6. ACCOUNTS

6.1. Student Fee Payment

Allow the student to login to the portal and display the students bills which are due. Every student may have a different bill amount or even multiple bills. Allow the student to pay the bill in multiple instalments and track all of them towards the total payment. Notify them if the payment for a bill is nearing deadline.

6.2. CRUD Fee Details

Allow the employee of the accounts department to login and create, read, update and delete bills. This includes adding fees bills to students separately as well as to a certain domain (it would be added to all students of that particular domain). Allow the user to view students who have paid and not paid the fees.

6.3. Student View Bill History

Allow the student to login and view the due bill and all the previously paid bills. When the student paid the bills in multiple instalments all separate payments as well as the total must be visible. Also give an option to download the fee receipt for a particular time frame.

7. HOSTEL

7.1. CRUD Hostel Room and Allocation

Allow the employee of estate to login and do CRUD operations on hostel rooms. The list of rooms should display to whom the room is allocated or if it's available. The available rooms can be allocated to a particular student, or a present allocation may be modified. Allow the filtration of rooms by various criteria such as availability, floor etc.

7.2. Student Room Swapping Application Portal

Allow a student to login then request for a room exchange from another student. The other student on login must receive this request along with an option of accept or reject the request. If the request is accepted, swap the room details and cascade accordingly.

8. ALUMNI AND PLACEMENT

8.1. Organisation Registration

Allow the employee of the outreach department to login. Then register a new organisation along with its HR contact details, address etc. Also provide the functionality of viewing, searching, modifying and deleting the details.

8.2. Alumni Registration and Education

Allow the alumni registration via searching for graduation year and name of alumni. Also add further details such as contact information, add further educational qualifications.

8.3. Alumni Registration and Organisation

Allow the alumni registration via searching for graduation year and name of alumni. Also add further details such as contact information, add all organisations(Drop Down Select) worked/working for along with positions.

8.4. Alumni Details Update

Allow alumni to login and update, view, delete their details such as contact information, educational qualification and add/update/delete organisations(Drop Down Select) worked/working for.

8.5. Placement Add Offer

Allow the employee of the outreach department to login and create a new offer by providing information such as organisation, domains(MTech CSE 2019, IMTech ECE 2016), specialisations(Theory & Systems, Data Science), minimum grade and maximum intake. For all constraints give an option to select multiple or no options (eg:- organisation has no minimum grade criteria or accepts multiple domains).

8.6. Placement Student Application

Allow a student to login and view all offers for which they are eligible by checking their domain, specialisation and their cgpa. Ask the student to upload their CV for application and also store other information automatically such as grade and other needed details. Also display the result of the application if the student opted for the placement. Students cannot apply for another application if they are already placed. The student should be able to view the history of applications they applied for.

8.7. Placement Student Selection

Allow the employee of the outreach department to login and view details of all organisation offers along with all students who are eligible and those who have applied. Give an interface to filter and sort students on the basis of grade, specialisation, domain etc and select a student for a particular offer. The user should be able to see all the course grades for an applicant. If accepted, the details should be reflected in the students table.

8.8. Placement History

Allow the employee of the outreach department to login and view the history of all placed/unplaced students. Give an interface to filter the details according to organisation, year, domain etc. On selection of a certain organisation show all placement history along with Alumni presently working there.