

Student Portal

A student portal is an online service used by educational institutions to set up their programs. This system is generally the interface between the student and the institution to which he's assigned, moreover we can include relatives such as parent's students.

It is generally part of a broader system called LMS(Learning Management System), the student portal is at the heart of a school. Indeed, students thanks to their Student ID, or school-provided email, are able to login to the system and manage their academic life. But are we saying by academic life ?

To answer to the previous question, we must be in the context of the student portal solution, it is a solution that allows teacher to organize their courses, to keep track of student attendances easily, to easily store students grades, to submit the necessary documentation for a course(PDF, word, datasheet, syllabus). Basically the student portal allows us to centralize the tasks that should be done within the organization. It has a lot of benefits such as:

- **The elimination of redundant informations:** Since everything is centralized within a platform, it is easy to have the good information at the right place at the right moment.
- **The reduction of costs:** Some procedures such as those necessitating papers are not really effective. Indeed we lose a lot of money by printing things like attendance list, or syllabus. It will be easier for us to just use a system that allow us to reduce the dependency to such system.
- **The centralization of user informations:** It centralizes all school related materials such as assignments, course materials, grades and announcements. This allows student to keep track of all school-related needs from a single location, allowing students to focus on one thing at a time.
- **Easy access to academic resources:** SP give access to a wide range of ressources. Those can greatly ameliorate the learning experience of a student.
- **Tracking Academic Progress:** Student portals allow students to track their academic progress by providing access to their grades, transcripts, and degree requirements. This empowers students to monitor their performance, identify areas of improvement, and ensure they are on track to meet their educational goals.

We'll be focused on two particular tasks inside of our STUDENT PORTAL: The Attendance module, The grade module (this one implies that we should take a look at a Course module)

Description of different modules:

- **Course Module:** This module is used to manage the courses of a student within a system. It serves as a digital space where students can access all the relevant information and resources related to that particular course. Such module is composed of parts such as:
 - **Course Overview:** The module provides an overview of the course, including the course title, instructor's name, course description, and learning objectives. It gives students a clear understanding of what the course entails and its purpose, it also shows the current progression of the course so that the student can easily keep track of the performance and behavior within a defined timeframe.
 - **Course Materials:** This section includes all the course materials needed for studying and completing assignments. It may include lecture notes, slides, textbooks, supplementary readings, or links to external resources. Students can access these materials online, eliminating the need for physical copies.
 - **Assignments and Assessments*:** The module provides details about assignments, projects, quizzes, exams, or any other form of assessment related to the course. It includes submission deadlines, instructions, grading criteria, and any supporting documents or rubrics. Students can track their progress, submit assignments electronically, and receive feedback through the portal.
 - **Announcements and Notifications*:** Course modules may have an announcements section where instructors can post important updates, reminders, or changes to the course schedule. Students can receive notifications through the portal, ensuring they stay informed about any course-related news or announcements.

The course module is somewhat intermediary in term of implementation, but it can be subdivided into two supplementary modules: **GRADE** and **ATTENDANCE**.

- **Attendance Module:** It provides a digital platform for recording, monitoring, and analyzing student attendance data. Those are the details about this module:
 - **Attendance Recording:** The attendance management module allows instructors to record student attendance electronically. They can mark students as present, absent, or late for each class session using the portal.
 - **Real-time Attendance Tracking:** The module provides real-time tracking of student attendance, allowing both instructors and students to view attendance records instantly
 - **Attendance Reports:** The attendance management module generates attendance reports that provide comprehensive information about individual student attendance
 - **Automated Notifications and Reminders:** The module can send automated notifications and reminders to students regarding upcoming classes, attendance requirements, or any attendance-related policies. This is particularly interesting for teacher wanting to implement things such as automatic point deduction, this allows students to be aware of those possibilities so that they can maximize their academic performances
 - **Student Self-Service:** Some attendance management modules allow students to access their own attendance records through the student portal. This promotes transparency and empowers students to monitor their attendance performance, identify any discrepancies, and take necessary actions. This helps the student to justify some absences directly within the system.
- **Grade Module:** Grade management within a student portal is a feature or module that enables colleges and universities to manage and communicate student grades electronically. It provides a centralized platform for instructors to input, calculate, and share grades with students. Those are the details about this module:
 - **Grade Input:** Instructors can input student grades directly into the grade management module through the student portal. They can assign grades for assignments, exams, projects, participation, or any other assessments according to the grading criteria established for the course

- **Grade Calculation:** The module automatically calculates grades based on the grading criteria and weightage defined by the instructor
- **Gradebook:** The grade management module maintains a gradebook that displays individual student grades for each assessment and the overall course grade. It provides a comprehensive view of students' performance and progress throughout the semester or academic year.
- **Grade Notifications:** The module can generate automated notifications to inform students when grades are updated or when new assignments are graded
- **Grade Reports:** The grade management module generates grade reports that summarize the performance of students in a course. These reports may include individual student grades, class averages, distribution of grades

USER STORIES:

AS STUDENT

1. As a student, I want to log in with my unique credentials to access my profile and information.
2. As a student, I want to view my personal information, including my name, student ID, contact details, and current courses as well as details concerning those courses.
3. As a student, I want to see my current attendance records for each course.
4. As a student, I want to view my current grades for each course.
5. As a student, I want to request a review or clarification on my grades for specific assignments or exams.
6. As a student, I want to request leave or provide a reason for any missed classes.
7. As a student, I want to request and receive approval for excused absences and make-up assignments.
8. As a student, I want to track my academic progress over multiple semesters.
9. As a student, I want to see my overall GPA and CGPA (Cumulative Grade Point Average).

10. As a student, I want to be able to know what grade I am supposed to score to validate the course*.

STUDENTS SUPPLEMENTARY:

1. As a student, I want to access course materials, including lecture notes, presentations, and study resources.
2. As a student, I want to receive notifications about upcoming assignments, exams, or important college events.
3. As a student, I want to be able to know which courses I am authorized to take, the prerequisite and in which context it is going to help me (in which career)
4. As a student, I want to receive automated reminders for upcoming classes and events

AS INSTRUCTOR

1. As an instructor, I want to log in with my unique credentials to access the teaching portal.
2. As an instructor, I want to manage attendance records for each of my courses.
3. As an instructor, I want to enter and update students' grades for assignments, exams, and coursework.
4. As a faculty member, I want to define grading criteria and weightage for different assessment components (e.g., assignments, quizzes, exams) for each course.
5. As an instructor, I want to view and analyze attendance and grade reports for my courses*.

INSTRUCTOR SUPPLEMENTARY/

1. As an instructor, I want to communicate with students and provide announcements for my courses*.
2. As an instructor, I want to access a course repository to upload and share course materials*.

AS ADMIN

1. As an administrator, I want to manage user accounts and permissions for students and faculty.

2. As an administrator, I want to generate and export reports for attendance and grading data.
3. As an administrator, I want to configure and customize the portal's settings and appearance *.

AS PARENT

1. As a parent or guardian, I want to view my child's attendance and grades, with their consent.

CONCERNING COURSES MANAGEMENT/(Mostly supplementary)

1. As a faculty member, I want to create a new course, specifying its title, code, and description. *
2. As an administrator, I want to approve and activate new courses for the upcoming semester. *
3. As a faculty member, I want to assign a course to myself and other faculty members.
4. As an administrator, I want to assign a classroom or virtual meeting space to each course. *
5. As a faculty member, I want to upload the *course syllabus, outlining the course objectives, topics*, and assignments.
6. *As a faculty member, I want to set the maximum number of students allowed in my course.*
7. As an administrator, I want to archive or close courses that have been completed or are no longer offered.
8. As a faculty member, I want to designate course prerequisites or co-requisites for enrollment.
9. As a faculty member, I want to schedule class sessions for the entire semester, including dates, times, and locations.
10. As an administrator, I want to configure and manage course categories or departments for easy organization.

Defining Passing Grade:

1. As a faculty member, I want to set the passing grade or minimum score for my course.
2. As a faculty member, I want to specify the grading scale or criteria for determining letter grades.
3. As a faculty member, I want to differentiate between pass/fail and letter grade courses.
4. As an administrator, I want to review and approve the passing grade and grading scale for each course.
5. As a student, I want to view the passing grade requirements for each course before registration.

BUSINESS RULES:

- The students represent the greatest category of users concerning this system, therefore they have a lot of actions that are associated to them.
- A user can login within the system by the use of an email or his/her student ID and a password encrypted within the database.
- A student is registered to many courses and each courses has at least one student. Otherwise this course is considered as cancelled for the ongoing semester. Each course generates many classes and a class is associated with one and only one course. Each course is taught by one and only one teacher and one teacher can give many courses. A student may attend many classes and each class is attended to by many students. A student has the opportunity to justify an absence and the teacher is the one accepting or refusing the justification. The teacher should be notified of any appeal of a student and the student must receive a notification about the approval or the refusal of his request.
- A course is composed of sub evaluations such as quizzes, exams and a unique final. Each of those evaluation is assigned a given mark by the teacher. A student can make many request about his or her grades and a request is associated to a unique student. The request can either be accepted or rejected by the teacher.
- The GPA of a student allows us to mesure to measure the academic performance of a student it's calculated based on the grade acquired for a particular course as well as the coefficient associated to this course.

- There's an administrator at the head of the system and he's the one ruling everything, he manages every user accounts as well as the different permissions. He can by the way delete, add or update users within the system.
- A course has some material associated to it, such as external links, lecture notes, recommended textbooks, presentations, study resources.
- The teacher of a course is the one that is supposed to record attendances of each students for each class. He's also deciding of the weightage of the different mean of assessment concerning a given course.
- The administrator is the one creating the courses. For each course, he assigns a unique teacher as well as a predefined location for the semester. It's the role of the assigned teacher to provide all the necessary documentation required for a given course.

ASSUMPTIONS

- We consider that each student that is added within the system by the administrator has already chosen his or her courses. So the system is used only for management purposes.
- The password cannot be modified by the user.
- A particular teacher is expected to record the presence each student registered to his course at the end of the class
- The sum of the percentages assigned to each mean of assessment for a given course must be strictly equal to 100%.

BACKEND:

- **User**
 - A user can login with email and password
 - A route to get the personal informations of a user
- **ADMIN:**
 - Whenever a student signup within the system, he is directly added to the DB with a user_activated attribute of false. And it's the role of the admin to accept or reject the registration.

- The admin has the ability to create, update and delete courses
- A route to accept or refuse the registration of a student
- **Instructor**
 - A route to retrieve all the classes records associated to a his course. Might also try to filter out per date.
 - A route to retrieve the students associated to a particular course
 - A route to mark a student as present for a specific class
 - A route to define the classroom for the upcoming class
 - A route to create a new evaluation with the assigned weight
 - A route to mark the evaluation of a particular student
- **Student**
 - A route to get the attendance record of a student for a particular course
 - A route to get the list of evaluations of a student for a particular course
 - A route to get a single evaluation for a particular course
 - A route to send a request to a teacher for a particular mark
 - A route to send a request to a teacher for a particular attendance
 - A route to get the current GPA of a student
 - A route to register to a particular course