

Amrita Student Diary Requirements

By GopalaKrishnan P

Description:

A student diary should be able to record, track and also display the information about a particular student / set of students in the campus. This should be an extended version of student profile. The target user of the software will be Amrita faculty, Students and hence the software will be designed in their perspective.

The main requirements of the project are:

- Student Attendance Record
- Student Profile
- Student rap sheet (Details on all activities good/bad done or performed by the students)
- Student Achievements/Honors
- Student Grades/CGPA
- Student Overall Statistics
- Counsellor's Feedback

Structure:

Users of the software could be categorized into 3 categories:

- Student - Who would want to look at his/her profile, GradeBook, and maintain his/her personal record. Like achievements and participation in cultural activities..etc
- Counsellor- Who would be able to update Grades , Attendance and also add to the achievement list of each student.
- Administrator - The sole purpose is to be able to register new users and faculty for the software.

Detailed Functionality:

Student :-

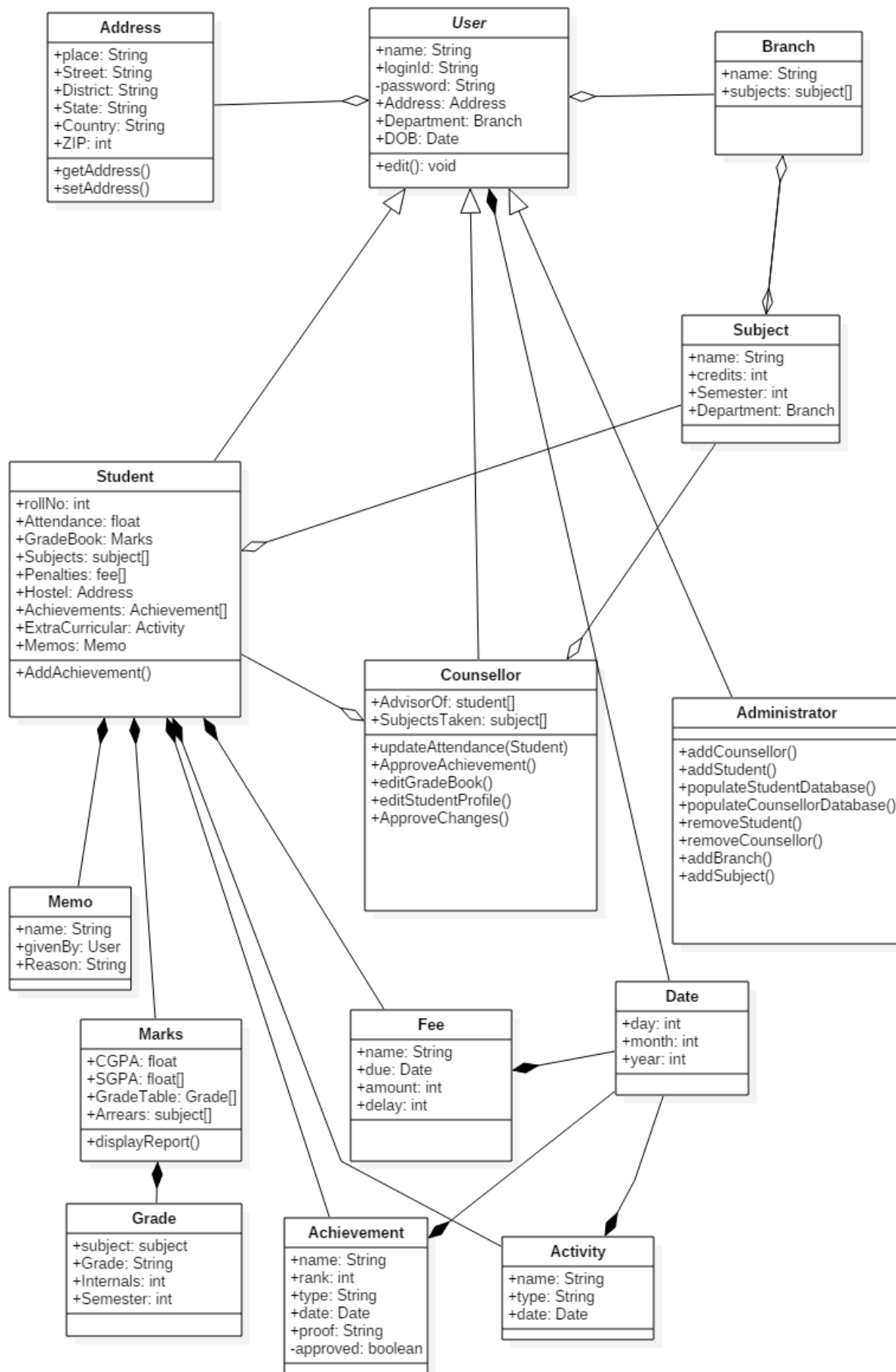
- View Course, Register existing Course
- Edit profile (Name, Address, password... etc)
- View GradeBook
- Add new Activity record
- Apply for new Achievement record (should be approved by counsellor to be displayed in achievements list)

Counsellor:-

- Assign a Student to themselves (can edit grades, and view profile of the currently assigned students)
- Approve/Reject pending achievements record requests of the Students
- Edit GradeBook (Add Grade, edit Grade, Add arrear subjects..)

Administrator:-

- View list of Users
- Create new Users
- Create new Subjects(Students can only register if the subjects are created)
- Create new Department/ Branches)



Some important Classes:

Session.java(Main class) - Contains information about authentication and the User who is currently accessing the software.

Inside Session.java, there is a static method `init()`, which is invoked at the beginning of the program, in order to fetch all details(total Users, total Subjects, total branches ..etc) from the file during the start of the program.

User (Abstract class) - A common class from which all 3 types of users are inherited, contains abstract methods such as `displayMenu()`, `edit()` .. etc. each User will have different function definitions for these methods. When a successful authentication is done, the `displayMenu()` of the current User would be called.

Inside the User class, a `save()` function is defined(Storeable Interface) to save the details of the User to the respective files. It is called whenever a change is made to the attributes of the User.

Storeable(Interface) - This interface contains the declaration of a method `save()`, the interface is implemented to the classes which need to have independent files for their storage. (Eg: Subjects, Branches implement storeable since they need to be stored separately whereas things like Achievement and Activities won't require this, since they would be stored together with the objects which contain these classes (Student) so we don't need a separate file to store them)

The classes which implement storeable also contain a `get()` function which fetches the details from the file.

Function classes - An example of these are StudentGradeBook - this class would contain functions related to the gradebook of a Student. Eg: `addGrade()`, `editGrade()`, `viewGradeBook()` etc.. Similarly there are several classes for Students and Administrator.