

Class Roster Software Design Specification

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User	Student
Username(String); Password(String);	Public class Student { Name(String); ID(Int); Major(String); Year(Int); } ArrayList of students;
addNewStudent(Name, ID, Major, Year) -> Boolean removeStudent(Name, ID, Major, Year) -> Boolean sortID() -> Void sortName() -> Void list() -> sort([ID]/[Name]) -> Array/Table login(Username, Password) -> Boolean lockRoster() -> Boolean unlockRoster() -> Boolean	N/A

Description of classes

User Class: The User will be the main person for this application, which will be a teacher/school administrator. They will have to create a username and password in order to have private access to their roster. The user class will also give the user access to many functions regarding their class roster (add,remove, etc.)

Student Class: The student class is an arraylist of students each containing the following information: Name, ID, Major, and Year. Proper entries into the roster requires the student to have all four fields filled out.

Description of attributes

In the user class we have two attributes which are "username" and "password". Both of these attributes data type is string which will contain the login information of the user in order to grant access.

In the student class we have the attributes "name", "ID", "major", and "year". Name and Major data type is string. ID and Year data type is int. These attributes will be helpful to obtain the student information which will be stored and used in an ArrayList to perform the following listed operations.

Description of operations

addNewStudent : Operation takes in a Name (String) , ID (Integer) , Major (String) , Year(Integer) and returns a boolean if the student was successfully added into the student arrayList.

removeStudent : Operation takes in a Name (String) , ID (Integer) , Major (String) , Year(Integer) and returns a boolean if the student was successfully removed from the student arrayList

sortID: sorts the roster in order of ID in the arrayList, no return

sortName: sorts the roster in order of Names In the arrayList, no return

list: Function takes in no input, calls the Sort method and returns an arrayListof students in sorted order

login: function takes in 2 parameters Username String and Password String . returns true if login was successful and false otherwise

lockRoster(): Returns True if operation was successful. Locks all users from being able to make changes to the student table.

unlockRoster(): Takes no parameters , Returns true if operation was successful. Allows the user to make changes to the student table . Returns true if operation was successful.

Partitioning of tasks

Ivan Stus: ArrayList data structure for student class, sorting functions

Salim Aweys: User Class: Login and Unlock, Lock functions

Hector Prado: Add student/RemoveStudent functions

Team member responsibilities

Developers - Ivan Stus, Salim Aweys, Hector Prado

Testers - Ivan Stus, Salim Aweys, Hector Prado