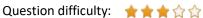# Assignment Student System Part 2

The assignment covers the following learning goals:

- You can apply polymorphism when applicable;
- You can apply the key-word abstract when applicable;
- You can recommend an application design and implementation by making use of multiple classes.

Question difficulty: ★★★☆☆

Case description

This assignment consists of several parts, which will be implemented till week 3. Open the project you created last week with for Programming Assignment 2.

Refactor the project so it makes use of polymorphism. This will require you to change the Administration class. Determine which methods can be removed and what code of your application should be changed.

When done, make sure a user can only create a Student or Teacher. This will require you to decide what should become abstract. To give you some hints a new GUI is shown below.

As a final step, change the code of your form to match the user interaction. *Show person* and *Search persons via partial name* will require you to update your Administration class.

User interaction

It should be possible for a user of the application to (note that person is in this case a student or a teacher):

- Add person to administration:
    - The user provides the required information and confirms;
        - If a student is selected the TextBox for the ECs should be enables, but the TextBox for the salary should be disabled;
        - If a teacher is selected the TextBox for the salary should be enables, but the TextBox for ECs the should be disabled;
    - The system adds the person;
        - This should only be possible if no other person, student or teacher has the same PCN
- Show persons:
    - The system displays either all students and teacher, all students or all teachers sorted by name;
- Search persons via partial name:
    - The system displays either all students and teacher, all students or all teachers sorted by name;
- Show info:
    - The user provides a PCN and confirms;
    - The system displays all info of the found person;
        - When no person is found a message should be shown.
- Start a new school year for a person

- The user provides a PCN and confirms;
- The system increases the found person's school year by one;
  - When no student is found a message should be shown.
- Add EC's to a student:
  - The user provides a PCN & ECs and confirms;
  - The system increases the found student's ECs;
    - When no student is found a message should be shown.
- Promote the teacher:
  - The user provides a PCN and confirms;
  - The system promotes the found teacher's;
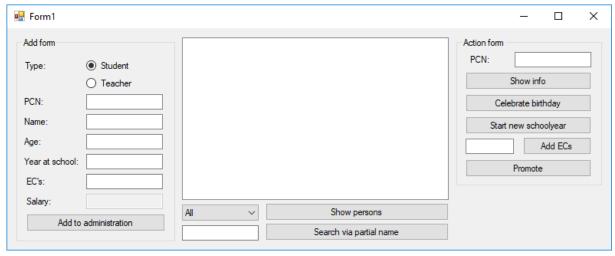   - When no teacher is found a message should be shown.

UML & Screenshots

FIGURE: NEW ADMINISTRATION GUI