

TEAM U

**GradSchoolZero
Design Report
For Graduate Program Management System**

Version <1.0>

GradSchoolZero	Version: 1.0
Design Report	Date: 26/11/2021

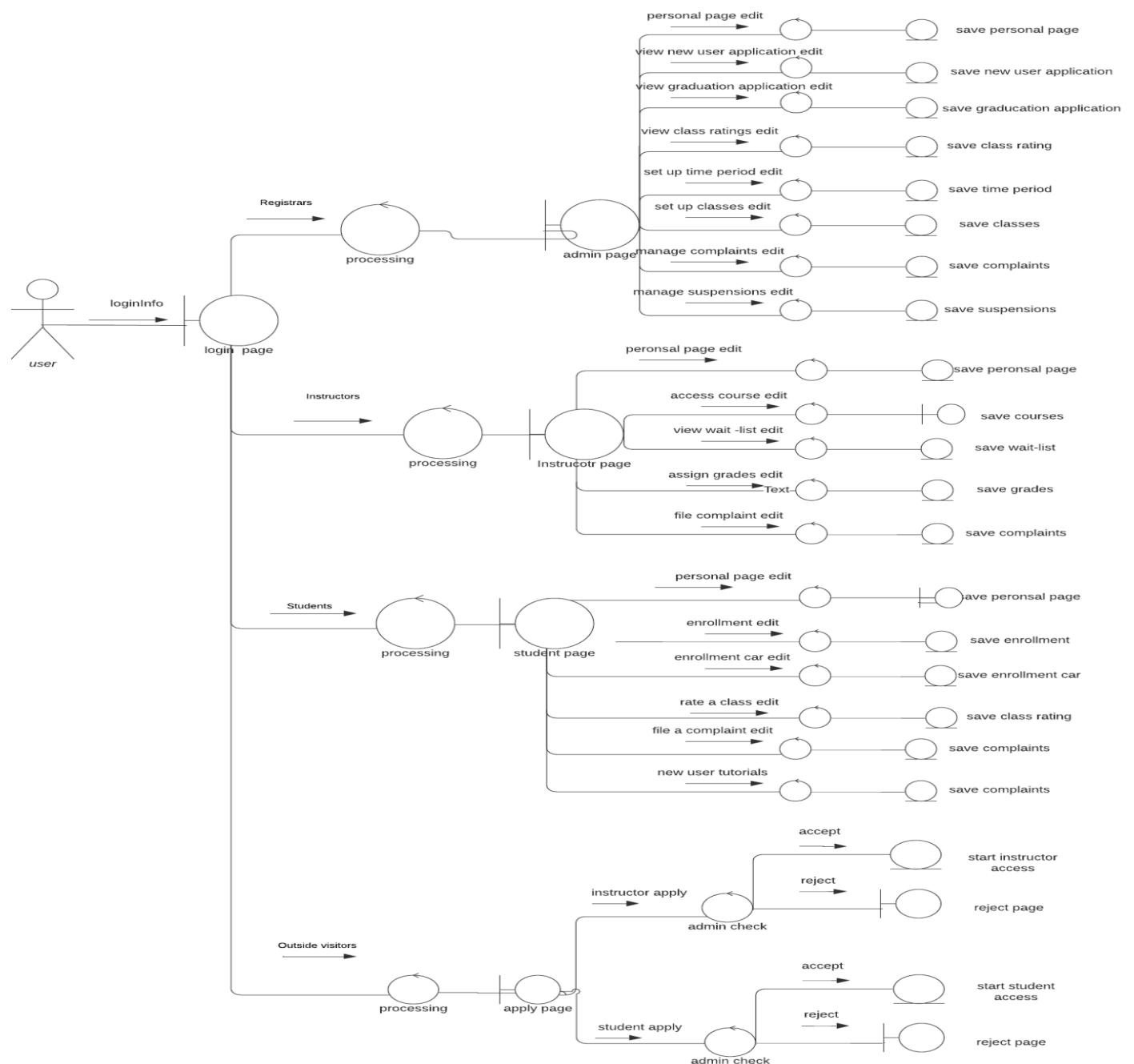
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1. Introduction

This project is to build a graduate management system called GradSchoolZero for multiple users such as registrars, instructors, students, and outside visitors. This system allows the registrars to monitor the flow of requests for students with their degree requirements. The accessibility for different users is ranked hierarchically from registrars to instructors, students, and finally outside visitors. There are four periods associated with the most registrars which are class set-up period, course registration period, class running period, and grading period.

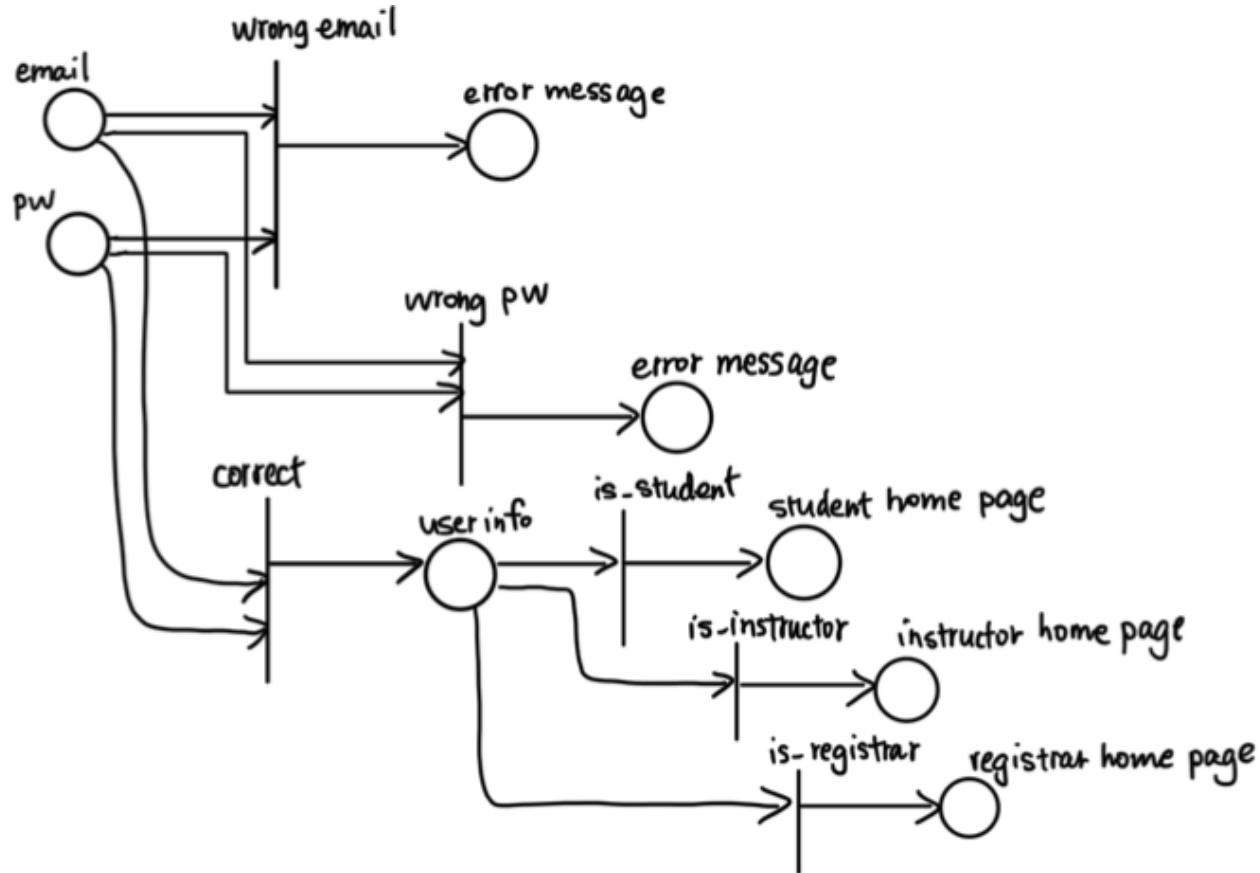


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2. All use cases

Login

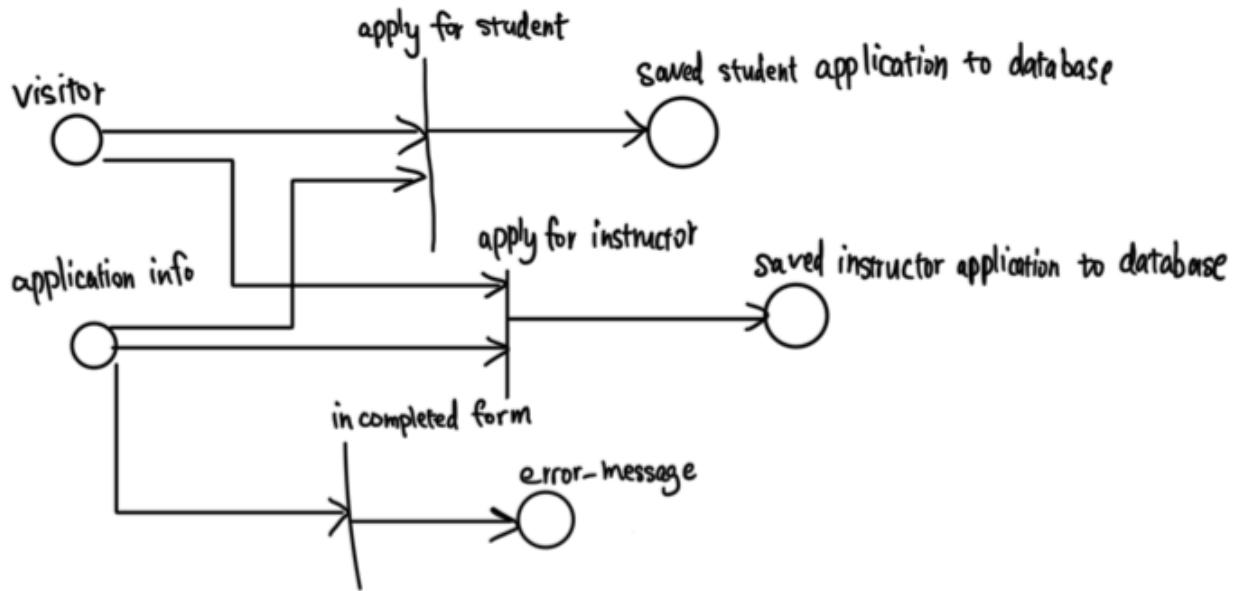
- **Normal:** All registered users can login by using the correct email and password.
- **Exceptional:** Users cannot login if either the email does not exist or the password is wrong, in which case an error is shown.



Signup

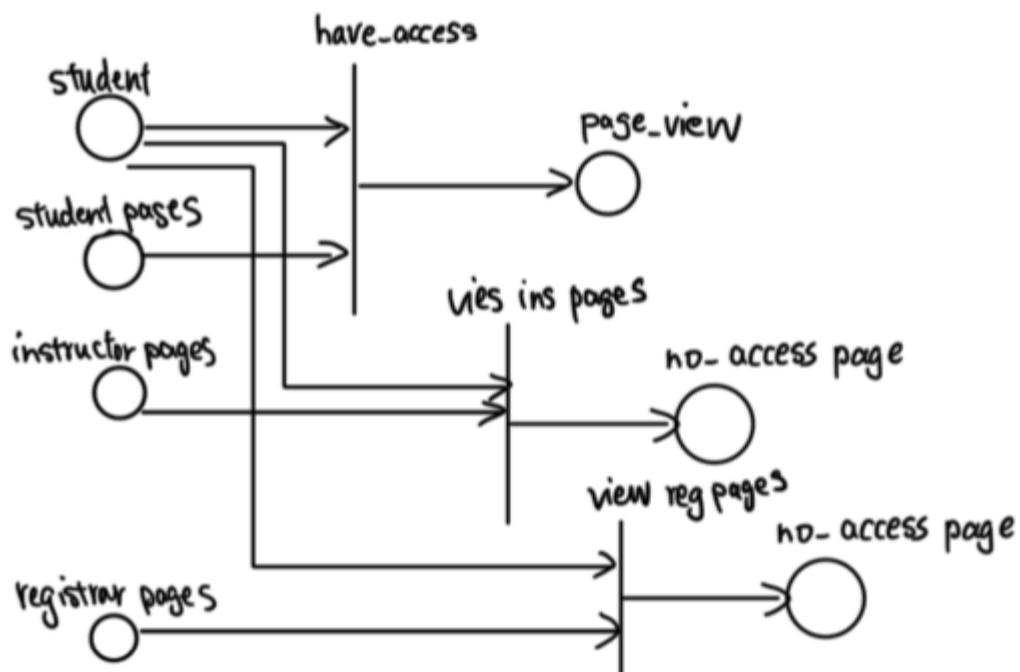
- **Normal:** A visitor can apply to be a student or an instructor of the school.
- **Exceptional:** The application will not be submitted if it is not complete.

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Browse personal home page

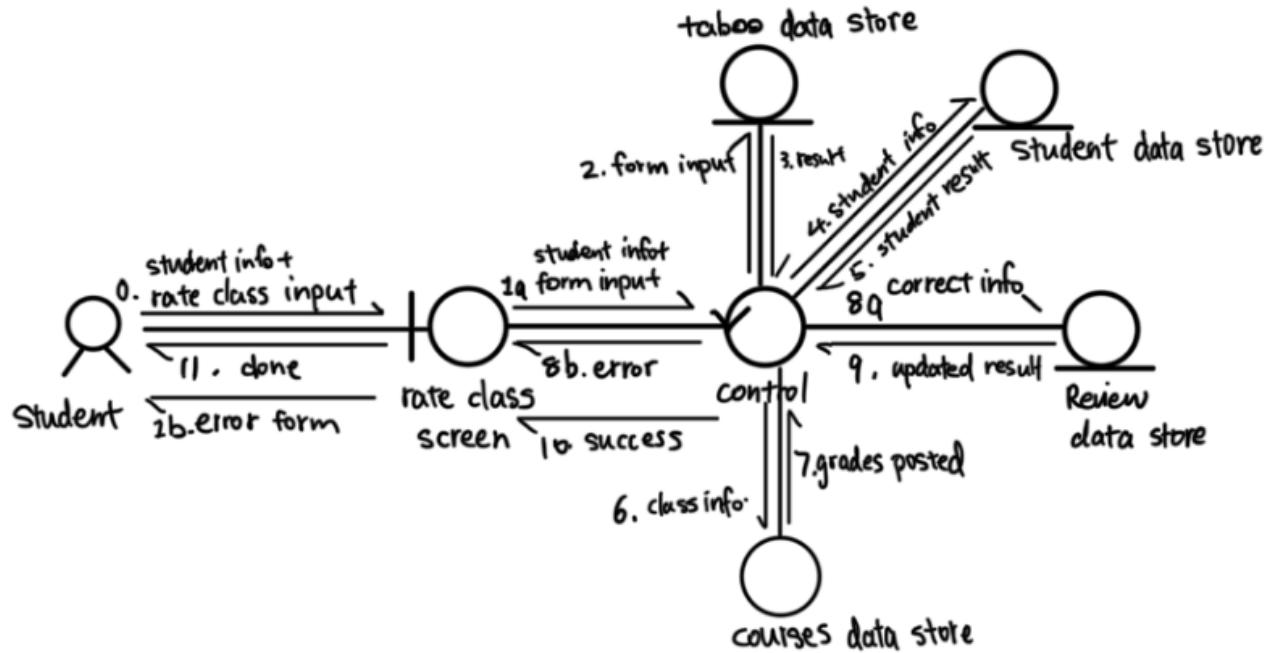
- **Normal:** A registered user can browse only the personal home page
- **Exceptional:** If a user try to access a page that she/he does not have permission, a 'no access' page will be shown



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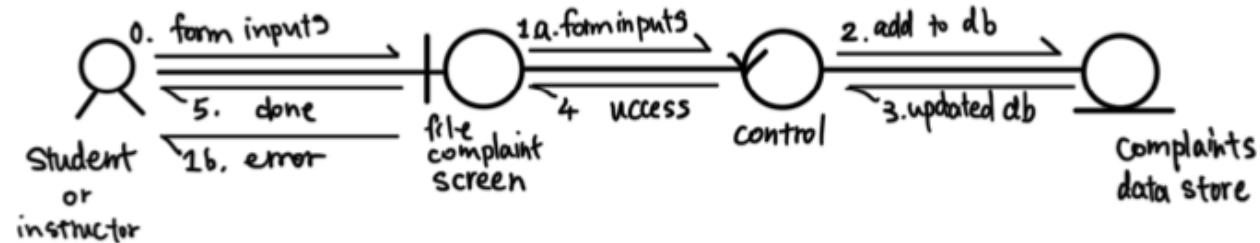
Rate class

- **Normal:** A student can write reviews of the class he/she is in and assign stars (1 worst to 5 best) before the instructor posts the grade.
- **Exceptional:** Review will not be submitted if the form is not complete or contains ≥ 3 taboo words. Author receives one warning if the review contains 1 or 2 taboo words and 2 warnings if it contains ≥ 3 taboo words. Taboo words are replaced by * in the system.



File complaints

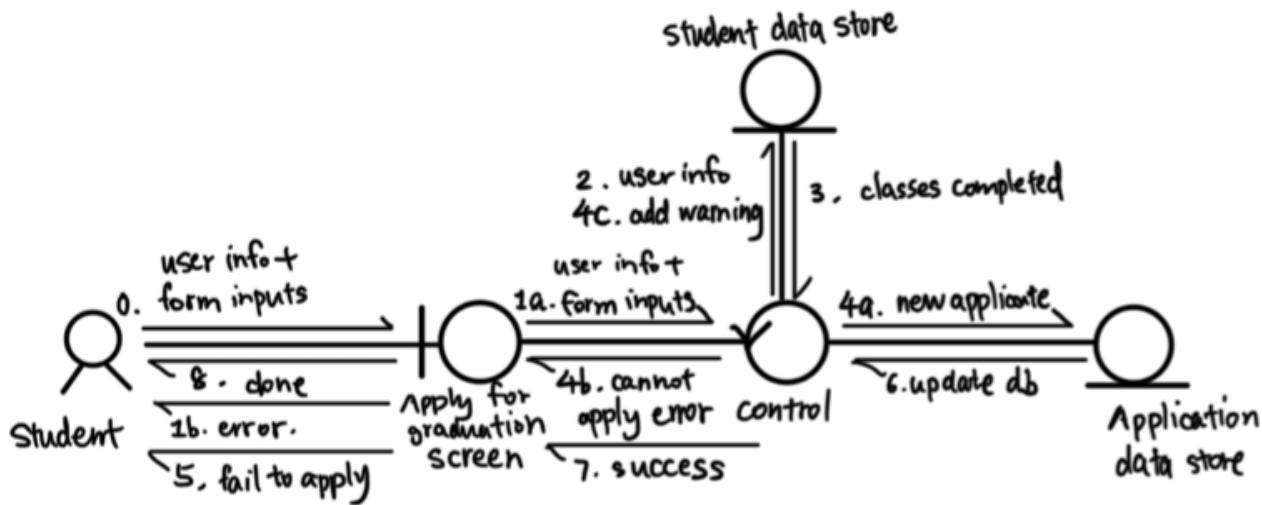
- **Normal:** A student or an instructor can file a complaint to the registrar.
- **Exceptional:** The complaint will not be submitted if it is not complete.



Apply for graduation

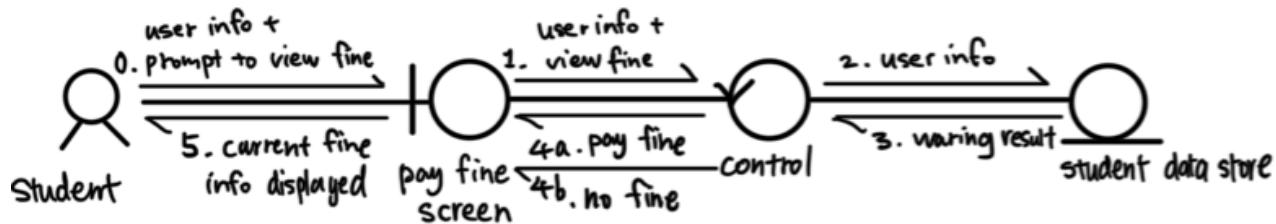
- **Normal:** A student finishing 8 classes can apply for graduation.
- **Exceptional:** A student who does not finish 8 classes and tries to apply for graduation will get a message 'You cannot apply for graduation.'

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Pay fine

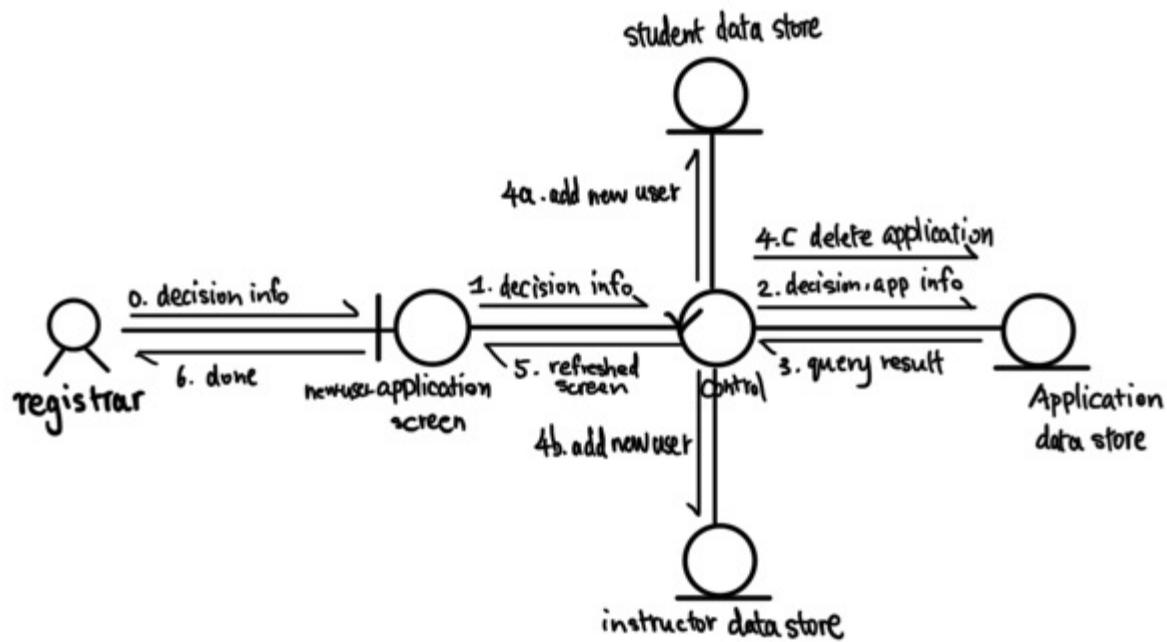
- **Normal:** Any students receiving up to 3 warnings must pay a fine to the registrars.
- **Exceptional:** No fine information will be shown if less than 3 warnings.



Accept / Reject new user applications

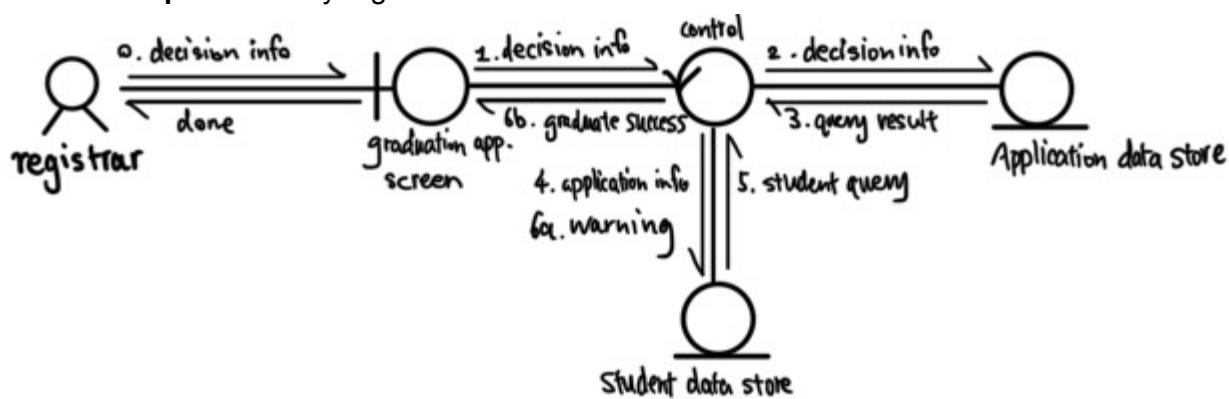
- **Normal:** The registrar can accept or reject new user applications. If it is a student application, then it will be accepted if the student's GPA is > 3.0, and rejected otherwise. If the registrar made a decision against this rule, a justification must be provided to the applicant. If it is an instructor application, then it will be decided by the registrar for approval or rejection without the need of justification.
- **Exceptional:** Only registrar can do this.

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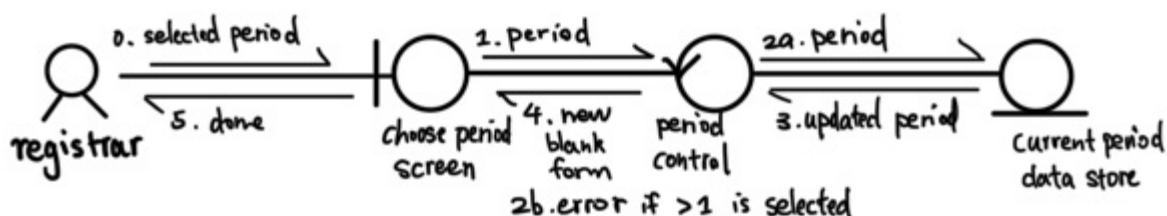
Accept / Reject graduation applications

- **Normal:** The registrar can approve a student's graduation if all required courses are covered. Otherwise, the application is rejected and the student will receive one warning.
- **Exceptional:** Only registrar can do this.



Manage semester period

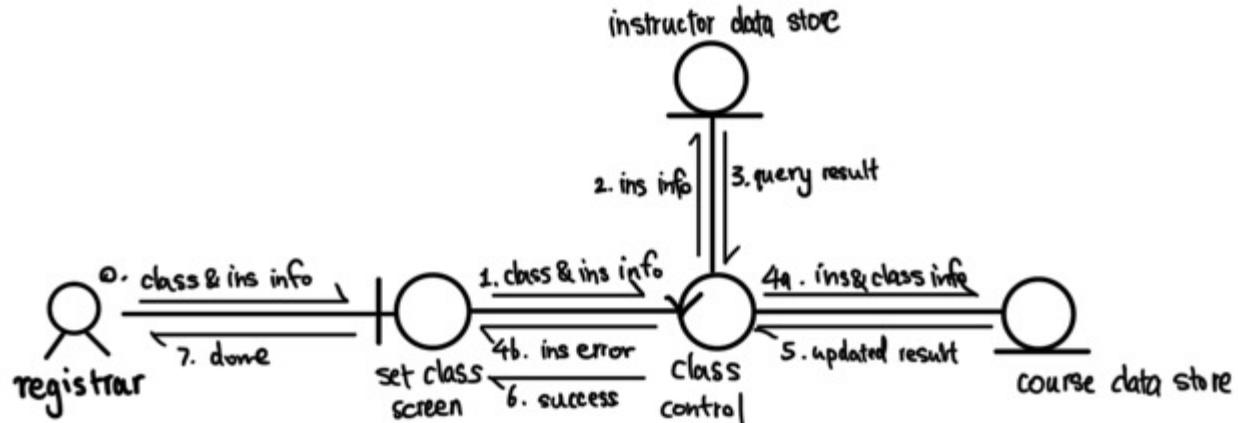
- **Normal:** The registrar determines when the 4 periods start and end: class set-up period, course registration period, class running period, and grading period
- **Exceptional:** If the registrar chooses one than 1 period, an error message is shown.



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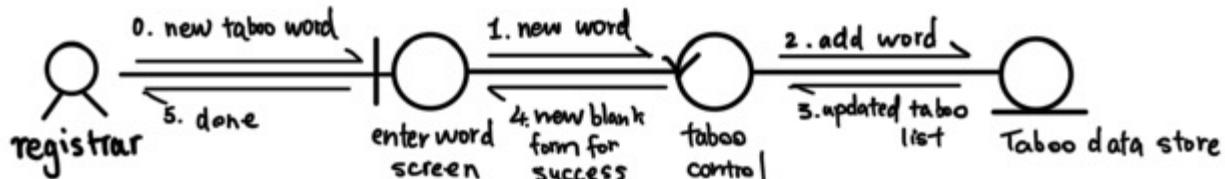
Set up classes

- **Normal:** The registrar sets up classes, class time, course instructors and class size during class set up period.
- **Exceptional:** If the instructor or class does not exist, return an error message.



Set up taboo words

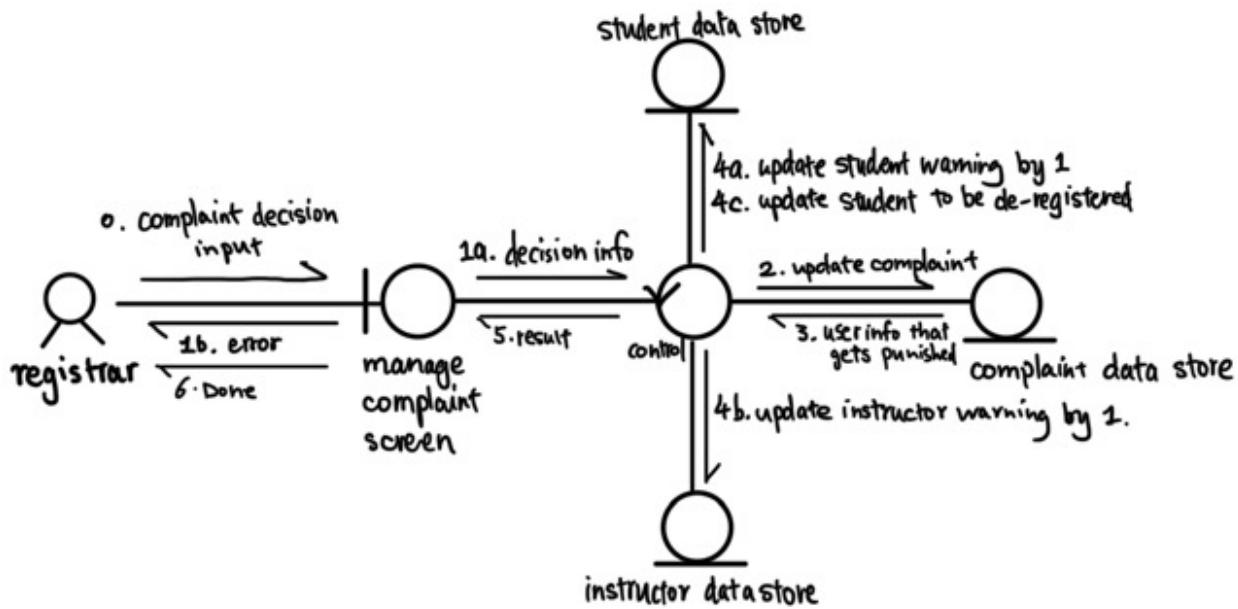
- **Normal:** The registrar can view the taboo list and add a new word into the list.
- **Exceptional:** If the word to be added already exists in the Taboo database, then it will not be added and the list remains the same.



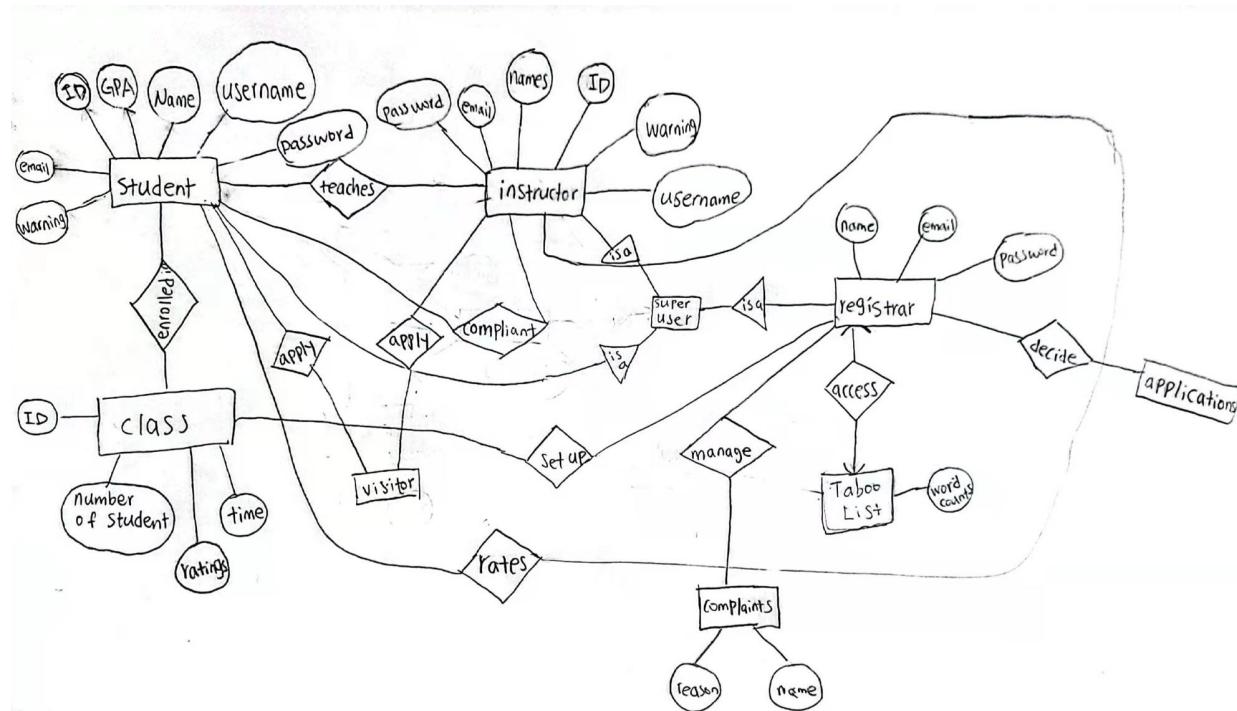
Manage complaints

- **Normal:** The registrar makes a decision for the complaints. If the registrar chooses to warn the student, then the student's warning will be increased by 1. If the registrar chooses to warn the instructor, then the instructor's warning will be increased by 1. If the registrar chooses to de-register the student, then the student will be suspended for one semester.
- **Exceptional:** If the student or instructor that the registrar chooses to punish does not exist in the database, then an error message will be displayed.

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3. E-R diagram for the entire system



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4. Detailed design:

Signup :

Input: any user

```
/*
If user is on signup page
Call this function on button click
User must enter email, username and password
*/
```

Function signup():

```
    Get firstname from text field
    Get lastname from text field
    Get email from text field
    Get password from text field
    Choose options for student | instructor
    Get database object
    Index database for email
    IF email exists THEN
        Throw error
    ELSE
        IF isValidPassword() AND isValidUsername() THEN
            Create new table in database with password, email
        ELSE
            Throw error
        ENDIF
    ENDIF
    Close database
END
```

Login :

Input: any registered user

```
/*
After user sign up, login page will pop up automatically
*/
```

Function Login_view():

```
    Get use email from text field
    Get password from text field
```

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Get user database object

```

IF user email exists THEN
    Retrieve email table
    Check table for password in the data base
    IF password == password from the database THEN
        Check if you are registrar | student | instructor
        Go to relative page
    ELSE
        Throw error
    ENDIF
ELSE
    Throw error
Close database
ENDIF

```

View student personal page

Input: logged in user

Code:

IF logged in user is a student THEN:

```

    Get the student object s
    If s has 3 warning:
        Set s to suspended
    Show student info and records

```

ELSE:

 Show 'no permission' page

END IF

Output: display personal page or no permission page

View instructor personal page

Input: logged in user

Code:

if logged in user is an instructor:

```

    Get the instructor object i
    If i has 3 warning:
        Set i to suspended
    Show instructor info and student records in his/her classes

```

Else:

 Show 'no permission' page

Output: display personal page or no permission page

File complaints

Input: Complainant name and reason from a student or instructor

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Code:

A new object will be created based on user input along with the complainant information.
Add the object to the corresponding database.

Output: The StudentComplaint or InstructorComplaint is updated with the new object.

Edit taboo list

Input: a new word to be added by a registrar

Code:

Create a new object based on the input word

Get the corresponding database which will be set to contain only unique taboo words

Add new object to the database only if it's unique

Output: The Taboo database is updated.

Manage Complaints

Input: StudentComplaint and InstructorComplaint databases

Code:

Get the complaint object that is incomplete

To resolve the complaint:

- Mark the object as investigated
- Set the object action to either 'warn student', 'warn instructor', 'de-register student'
- Set the ID of the person to punish

Form submission will trigger complaint object to complete

Output: StudentComplaint and InstructorComplaint databases are updated

Rate class

Input: Student, class, stars, review, taboo list

Code:

An object will be created based on input

Count number of taboo words n in the review

If $n \geq 3$:

- Do not add object to database
- Add 2 warnings to the student
- return

Elif $n==1$ or $n==2$:

- Add 1 warning to the student
- Replace taboo words in review with *

Save the updated object

Output: The RateClass database is updated

Access class

Input: Instructor, Course database

Code:

Filter all course objects with the instructor email

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Output: All the courses that the instructor is in are returned.

Assign Grades

Input: Instructor, Student, Course databases

Code:

Instructor can access the course that he/she is in from the course, get a list of enrolled students

assign grades: A,B,C,D,E, or F

Output: grade field is updated.

Accept / Reject Application

Input: Application database

Code:

if application is accepted:

create a new user

else:

delete the application

Output: Application database is updated.

Set up class

Input: Course database

Code:

For each course:

set to open

set class size

set instructor

set start and end time

Output: Course database is updated.

Set up period

Input: Period database

Code:

select one period to be true and set all the others to false

Output: Period database is updated.

5. System screens:

Main UI for each user for visitor, login page, student, instructor, register and accordingly.

Home page for every user (to be finished)

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Welcome

login page for all users:

Log In

Username*

- O→ bob@citymail.cuny.edu
From this website
- O→ clin006@citymail.cuny.edu
From this website
- O→ clin06@citymail.cuny.edu
From this website
- O→ yue@citymail.cuny.edu
From this website

[View Saved Logins](#)

Need an Account? [Create an Account](#)
Lost your passwords? [Reset passwords](#)

After login the the personal pages for instructor,registrar and student:

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The screenshot shows a web browser window titled "Student-dashboards". The address bar shows the URL "127.0.0.1:8000/instructorView/". The page header includes the "GradSchoolZero" logo and navigation links for "Home", "Log in", "Sign up", and "Admission". The main content area features the CUNY logo ("THE GREATEST URBAN UNIVERSITY IN THE WORLD") and a "Welcome Bob Smith!" message. A sidebar on the left is titled "Self Services" and lists links: "Personal Page", "Access courses", "View wait-list", "Assign grades", and "File a complaint". Below the welcome message, it says "Warning Total: 0" and "Current Status (Active / Inactive): Inactive (Reason: You have been suspended by the registrar for one semester)".

The screenshot shows a web browser window titled "Student-dashboards". The address bar shows the URL "127.0.0.1:8000/registrarView/". The page header includes the "GradSchoolZero" logo and navigation links for "Home", "Log in", "Sign up", and "Admission". The main content area features the CUNY logo ("THE GREATEST URBAN UNIVERSITY IN THE WORLD") and a "Good evening Brandon Lin!" message. A sidebar on the left is titled "Personal Page" and lists links: "View new user applications", "View graduation applications", "View class ratings", "Set up time period", "Set up classes", "Manage complaints", and "Manage suspensions". Below the welcome message, there is a "News & Events" section with several news items:

- CUNY Salutes and Congratulates Devashish Basnet on His Selection as a Rhodes Scholar, the Nation's Top Student Academic Award
- ICYMI: In amNY Op-Ed, Chancellor Matos Rodríguez Calls on CUNY Community and NYC to Stand Behind CUNY Students this 'CUNYTuesday'
- Governor Hochul Announces CUNY and SUNY Scholarship Program to Cover Tuition for 1,000 New Registered Nurses
- CUNY Selected to Host 2022 National Public Interest Technology University Network Convening
- CUNY Students Push Through the Pandemic's Challenges to Earn a Record Number of Degrees in 2021
- CUNY Expands Programs that Serve Student-Veterans
- Statement by Chancellor Matos Rodríguez on the Departure of Assistant Vice Chancellor Christopher Rosa
- Six CUNY Community Colleges Among 150 Selected Nationally to Vie for Prestigious Aspen Prize
- Statement by Chancellor Matos Rodríguez on the NYC General Election Results
- CUNY Leads Inaugural List of 'Fulbright HSI Leaders' with Seven Colleges Among 35 Recognized Nationwide

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The screenshot shows a web browser window titled "Student-dashboard". The address bar indicates the URL is 127.0.0.1:8000/studentView/. The main content area displays the "GradSchoolZero" logo and the text "THE GREATEST URBAN UNIVERSITY IN THE WORLD". A sidebar on the left lists "Self Services" with links to "Personal Page", "Enrollment", "Enrollment Cart", "Rate a class", "File a complaint", and "New User Tutorials". The main content area shows a welcome message "Welcome yue yue!", user ID "ID: 2000006", email "Email: yue@citymail.cuny.edu", GPA "0", Credit "0", Warning Total "0", and Current Status "Active / Inactive: Active". The bottom of the screen shows a Windows taskbar with various icons and the system tray.

Simple demonstration for enrollment system:

During the set up class period, the registrar sets up class. Pictures below demonstrate all classes on the system and how registrars assign instructors for each class, and set up schedules for each class.

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Student-dashboard CUNY Salutes and Congratulate Python BeautifulSoup extract te 127.0.0.1:8000/setClass/ IN THE WORLD

All classes

ID	Course	Time	Size	Instructor	Open	Action
1	Programming Languages	11.2 - 13.3	8	bob@citymail.cuny.edu	True	set up
2	Advanced Data Structures	11.00 - 15.00	10	bob@citymail.cuny.edu	True	set up
3	Advanced Algorithms	11.00 - 15.00	8	bob@citymail.cuny.edu	True	set up
4	Software Engineering	12.20 - 13.30	8	bob@citymail.cuny.edu	True	set up
5	Operating Systems	11.00 - 12.30	8	None	True	set up
6	Computer Systems	8.00 - 10.00	3	None	True	set up
7	Computer Security	17.30 - 19.30	8	None	True	set up
8	Machine Learning	11.20 - 12.20	8	None	True	set up
9	dunmmy courses	None - None	8	bob@citymail.cuny.edu	False	set up

Personal Page
View new user applications
View graduation applications
View class ratings
Set up time period
Set up classes
Manage complaints
Manage suspensions

Type here to search 11:12 PM 11/24/2021

Student-dashboard CUNY Salutes and Congratulate Python BeautifulSoup extract te 127.0.0.1:8000/processClass/1 IN THE WORLD

Set up this class

Instructor:

Max size*:

Is open

Start time:

End time:

Personal Page
View new user applications
View graduation applications
View class ratings
Set up time period
Set up classes
Manage complaints
Manage suspensions

Type here to search 11:13 PM 11/24/2021

On the student page he is available to see all the open class:

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The screenshot shows a web browser window titled "Student-dashboard". The main content area is titled "Available Classes" and displays a table of course offerings. The table has columns for Course #, Name, Capacity, Enrolled Numbers, Start Time, Endtime, Meeting Date, and Instructor. Each row contains an "Add" button in the last column. To the left of the main content is a sidebar titled "Self Services" with links to "Personal Page", "Enrollment", "Enrollment Cart", "Rate a class", "File a complaint", and "New User Tutorials". The bottom of the screen shows a Windows taskbar with various icons and the system clock indicating 11:14 PM on 11/24/2021.

#	Course Name	Capacity	Enrolled Numbers	Start Time	Endtime	Meeting Date	Instructor	
1	Programming Languages	8	10	11.2	13.3	Friday	bob@citymail.cuny.edu	<button>Add</button>
2	Advanced Data Structures	10	3	11.00	15.00	Tuesday	bob@citymail.cuny.edu	<button>Add</button>
3	Advanced Algorithms	8	8	11.00	15.00	Monday	bob@citymail.cuny.edu	<button>Add</button>
4	Software Engineering	8	2	12.20	13.30	Tuesday,Thursday	bob@citymail.cuny.edu	<button>Add</button>
5	Operating Systems	8	5	11.00	12.30	Monday,Wednesday	None	<button>Add</button>
6	Computer	3	10	8.00	10.00	Monday	None	<button>Add</button>

After students click on add button, the selected classes will be in the enrollment cart. And students can delete unwanted classes from the cart , delete all unwanted class in the enrollment cart or just enroll the courses

The screenshot shows a web browser window titled "Student-dashboard". The main content area is titled "Enrollment Cart" and displays a table of course offerings. The table has columns for Course #, Name, Capacity, Enrolled Numbers, Start Time, Endtime, Meeting Date, and Instructor. Each row contains a blue trash can icon in the last column. To the left of the main content is a sidebar titled "Self Services" with links to "Personal Page", "Enrollment", "Enrollment Cart", "Rate a class", "File a complaint", and "New User Tutorials". At the bottom of the page are two buttons: "Clear" and "Enroll". The bottom of the screen shows a Windows taskbar with various icons and the system clock indicating 11:14 PM on 11/24/2021.

#	Course Name	Capacity	Enrolled Numbers	Start Time	Endtime	Meeting Date	Instructor	
1	Programming Languages	8	10	11.2	13.3	Friday	bob@citymail.cuny.edu	
2	Software Engineering	8	2	12.20	13.30	Tuesday,Thursday	bob@citymail.cuny.edu	

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After click enroll, if every requirement met, all the chosen courses will be added in the student course recore and all the classes on the enrollment cart will be cleared otherwise error messages will pop up

Student-dashboard × Problem loading page × Python BeautifulSoup extract te × Student-dashboard × +

← → ⌂ 127.0.0.1:8000/enrollmentcart/ ☆ ⌂ ⌂ ⌂

GradSchoolZero Home Log in Sign up Admission

CUNY THE GREATEST URBAN UNIVERSITY IN THE WORLD

Enrollment Cart

You've sucessfully enrolled in the classes

#	Course Name	Capacity	Enrolled Numbers	Start Time	Endtime	Meeting Date	Instructor

Self Services

- Personal Page
- Enrollment
- Enrollment Cart
- Rate a class
- File a complaint
- New User Tutorials

Clear **Enroll**

Windows Type here to search

11:27 PM 11/24/2021

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Student-dashboard x ① Problem loading page x Python BeautifulSoup extract te x Student-dashboard x +

← → ⌂ ⌂ 127.0.0.1:8000/enrollmentcart/ HOME Log in Sign up Admission

CUNY THE GREATEST URBAN UNIVERSITY IN THE WORLD

Enrollment Cart

Schedule conflicts founded in Monday, enroll failed

#	Course Name	Capacity	Enrolled Numbers	Start Time	Endtime	Meeting Date	Instructor	Action
1	Machine Learning	8	8	11.20	12.20	Monday,Tuesday	None	
2	Software Engineering	8	2	12.20	13.30	Tuesday,Thursday	bob@citymail.cuny.edu	

Type here to search 11:20 PM
11/24/2021

Student-dashboard x CUNY Salutes and Congratulate x Python BeautifulSoup extract te x +

← → ⌂ ⌂ 127.0.0.1:8000/enrollmentcart/ HOME Log in Sign up Admission

CUNY THE GREATEST URBAN UNIVERSITY IN THE WORLD

Enrollment Cart

Enroll failed, you tried to enroll same classes

#	Course Name	Capacity	Enrolled Numbers	Start Time	Endtime	Meeting Date	Instructor	Action
1	Programming Languages	8	10	11.2	13.3	Friday	bob@citymail.cuny.edu	
2	Software Engineering	8	2	12.20	13.30	Tuesday,Thursday	bob@citymail.cuny.edu	

Clear **Enroll** Type here to search 11:15 PM
11/24/2021

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GradSchoolZero

Home Log in Sign up Admission

CUNY THE GREATEST URBAN UNIVERSITY IN THE WORLD

Enrollment Cart

Computer Systemshas been put in waiting list

#	Course Name	Capacity	Enrolled Numbers	Start Time	Endtime	Meeting Date	Instructor
1	Computer Systems	3	10	8.00	10.00	Monday	None

Self Services

- Personal Page
- Enrollment
- Enrollment Cart
- Rate a class
- File a complaint
- New User Tutorials

Enroll

Type here to search

GradSchoolZero

Home Log in Sign up Admission

CUNY THE GREATEST URBAN UNIVERSITY IN THE WORLD

Enrollment Cart

Enroll Failed,according to CUNY policy, students can't retake the courses if they got D or higer before

#	Course Name	Capacity	Enrolled Numbers	Start Time	Endtime	Meeting Date	Instructor
1	Software Engineering	8	12	12.20	13.30	Tuseday.Thursday	bob@citymail.cuny.edu

Self Services

- Personal Page
- Enrollment
- Enrollment Cart
- Rate a class
- File a complaint
- New User Tutorials

Enroll

Type here to search

From the instructor view, they can see all the waiting list of courses that are assigned to and they can either approve or reject the enrollment request

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GradSchoolZero

Home Log in Sign up Admission

Pending waiting list for students

course name	student_email	semster	instructor	approve	reject
Computer Systems	clin06@citymail.cuny.edu		bob@citymail.cuny.edu		

Self Services

- Personal Page
- Access courses
- View wait-list
- Assign grades
- File a complaint

11:30 PM 11/24/2021

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Pending waiting list for students

Successfully add students to the class

course name	student_email	semster	instructor	approve	reject

Pending waiting list for students

Reject the enrollment for students in Computer Systems

course name	student_email	semster	instructor	approve	reject

Pending waiting list for students

Successfully add students to the class

course name	student_email	semster	instructor	approve	reject

6. Memos of group meetings and possible concerns of team work

* All meetings are held via ZOOM

Date	Attendee	Content	Duration (mins)

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10/26	all	<ul style="list-style-type: none"> - Downloaded Django and other related tools - Set up project in GitHub - Divided work among group members 	120
11/02	all	<ul style="list-style-type: none"> - Completed first phase report - Planned implementation details for each feature and entire system design - Created basic django template for the system and uploaded to Github - Created system home page - Created all types of users 	60
11/09	all	<ul style="list-style-type: none"> - Shared project progress so far - Completed user login, sign up, and admission 	60
11/16	all	<ul style="list-style-type: none"> - Shared project progress so far - Divided work for the second phase report - Discussed 	60
11/23	all	<ul style="list-style-type: none"> - Shared project progress so far 	60

7. Address of the git repo

<https://github.com/yqian000/GradSchoolZero>