CityDevs

GradSchoolZero

**Software Requirements Specification
For Web Application**

Version 1.0

Revision History

Date	Version	Description	Author
26/Oct/2021	1.0	Phase 1 Report of GradSchoolZero Project	Anil Bhusal Anthony Liang David Jimenez Moshahid Kallol Nafis Khan

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Software Requirements Specification

1. Introduction

1.1 Purpose

The purpose of this Software Requirements Specification is to provide a description of the behavior of the application using use-case diagrams. This will also describe the features, functionality, and constraints of the system design.

1.2 Scope

The software application that this Software Requirements Specification applies to would be a web graduate school management system that provides clients with a clean interface that is easy to use for outside visitors, students, instructors, and the registrar.

All users will be able to see information about the program including classes, reviews, and students. Outside Users will be allowed to apply to the program as a student or instructor. Students will be able to apply to classes in the program and write reviews for those classes. Instructors should be able to manage their classes. The Registrar are the ones who manage the whole system and have access to all reasonable features (they can't register for classes for example).

1.3 Definitions, Acronyms, and Abbreviations

Acronyms/Abbreviations	Definition
Bootstrap	A library that GSZ will be using to provide styling for the webpage. This is a library for CSS.
CUNY	The City University of New York; An acronym for the University in which this project's design is foundational.
Class Running Period	No students will be able to register for classes during this period.
Class Set-Up Period	During this period the registrar set up class time, size, and instructors for each class
Course Registration Period	Students will be able to register for classes during this period if all the requirements are met
Express	A web framework that will help connect the database with our web application.
GPA	Grade Point Average – an acronym for the average overall grade
Grading Period	Instructors will be able to assign grades for each student during the grading period. They will also be notified about the class performance and the students will be notified about their performance.
GSZ	GradSchoolZero – an acronym for the project
Instructors	User type for people who will be teaching courses in the program.
MongoDB	The choice of database that GSZ will be using.
Outside Users	User type for people not involved with the graduate program. People involved include Students, Instructors, and the Registrar.
React	A library that GSZ will be using to help with building user interfaces. This is a library for JavaScript.
Registrar	User type for people who manage the graduate program.
Student	User type for people who can take classes in the program to work their way towards graduation.

1.4 References

Project Specifications: projc_spec.docx

https://www.dropbox.com/s/8uudhe6x021thug/proj_spec.docx?dl=0

1.5   Overview

Following this section, the information will be organized in the following way:

1. Overall Description:

Here, we provide an overview of the program's users through a use-case diagram for GSZ and some prerequisites for using this program.

2. Specification Requirements:

Here, we go more in-depth on the users through a more detailed explanation of each user in the use-case diagram provided in Section 2.
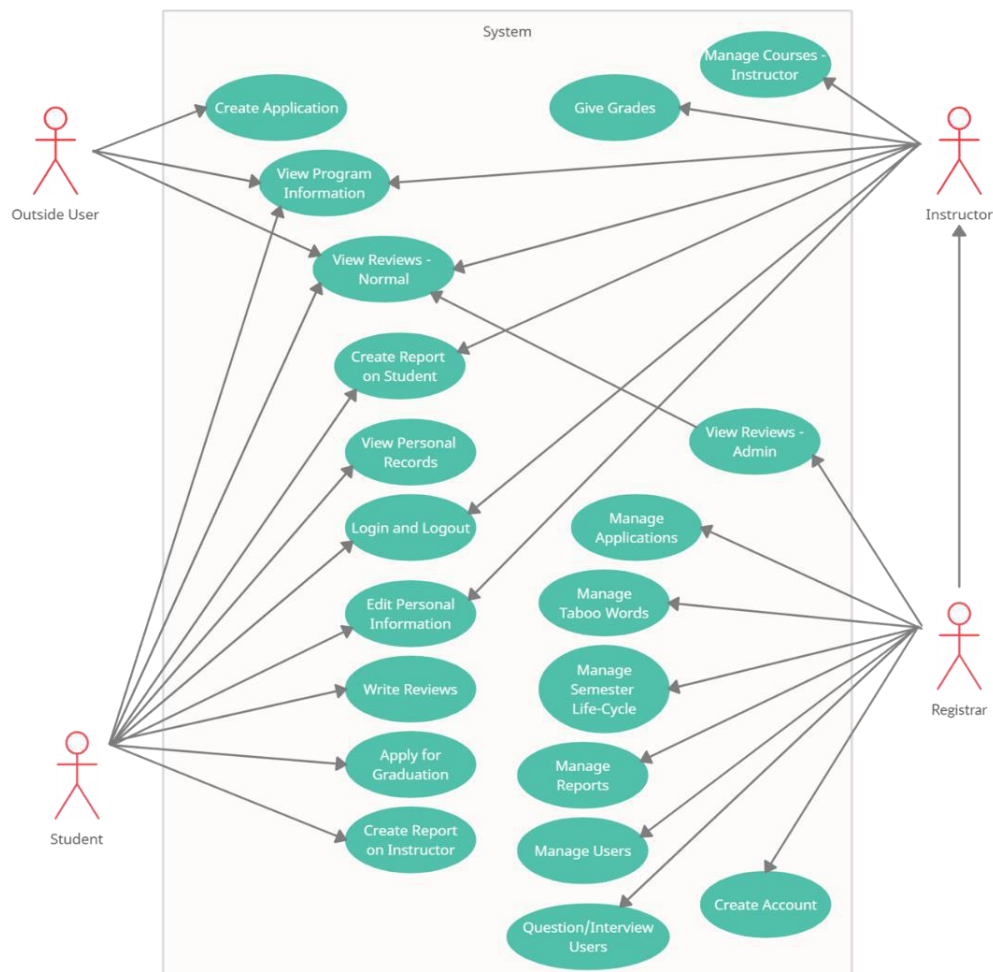
3. Supplementary Requirements:

Here, we provide some information not mentioned in our use-case diagrams along with some constraints imposed on the users.

2.   Overall Description

In this section, we present a use-case model for GSZ consisting of all possible user types – Outside Users, Students, Instructors, and Registrar. The arrow between users will symbolize inheritance – the features available to the user that the arrowhead is pointing to will be available to the other user.

2.1   Use-Case Model Survey

User Types:

Outside User

Student

Instructor

Registrar

2.2 Assumptions and Dependencies

- An internet connection is required to use the application
- We assume our system can handle large amounts of requests from users
- We assume and its information is protected from unexpected cyberattacks such as cross-site request forgery (CSRF)

3. Specific Requirements

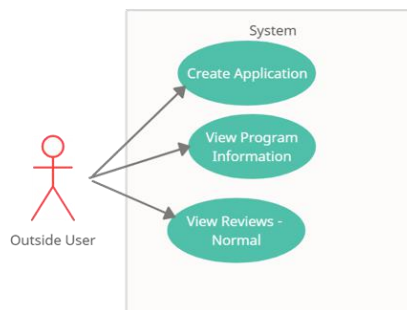## 3.1 Use-Case Reports

3.1.1 All Users

Use-Case: View Program Information

Description: Allows for users to view general information on the program such as the highest & lowest rated classes, students with the highest GPA, courses offered, and students enrolled.

Use-Case: View Reviews

Description: Allows for users to view reviews on courses made by students.

3.1.2 Outside Users

Use-Case: Create Application

Description: Allow outside users to create an application for becoming a student or instructor for this program.

3.1.3 Students

Use-Case: Write Reviews

Description: Allow students to write and submit reviews on a course accompanied by a 1 to 5 star rating. Reviews using taboo words will have the words replaced with * marks and the author will receive a warning.

Use-Case: Apply for Graduation

Description: Allow students to submit an application to the registrar for graduation if they have met graduation requirements.
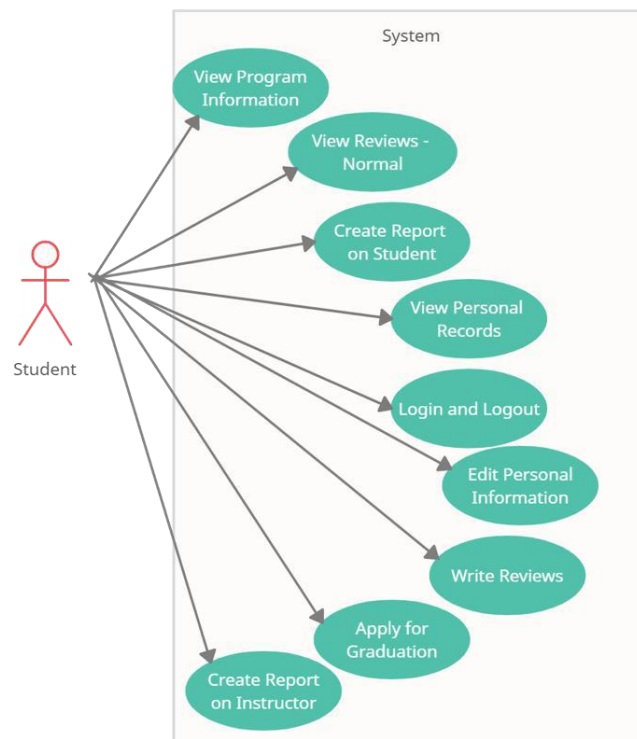
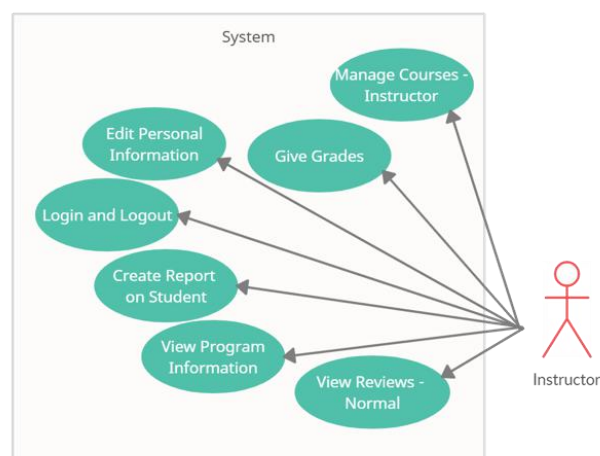Use-Case: Create Report on Instructor

Description: Allow students to submit a complaint about an instructor which will be processed by the registrar.

Use-Case: View Personal Records

Description: Allow students to access a page in which they can view their basic information and academic records.

3.1.4 Instructors

Use-Case: Manage Courses - Instructor

Description: Allows the instructor to view the basic information and academic records of the students in

their courses they're currently teaching along with the courses they've previously taught.

Use-Case: Give Grades

Description: Instructors can give grades to students that take their course.
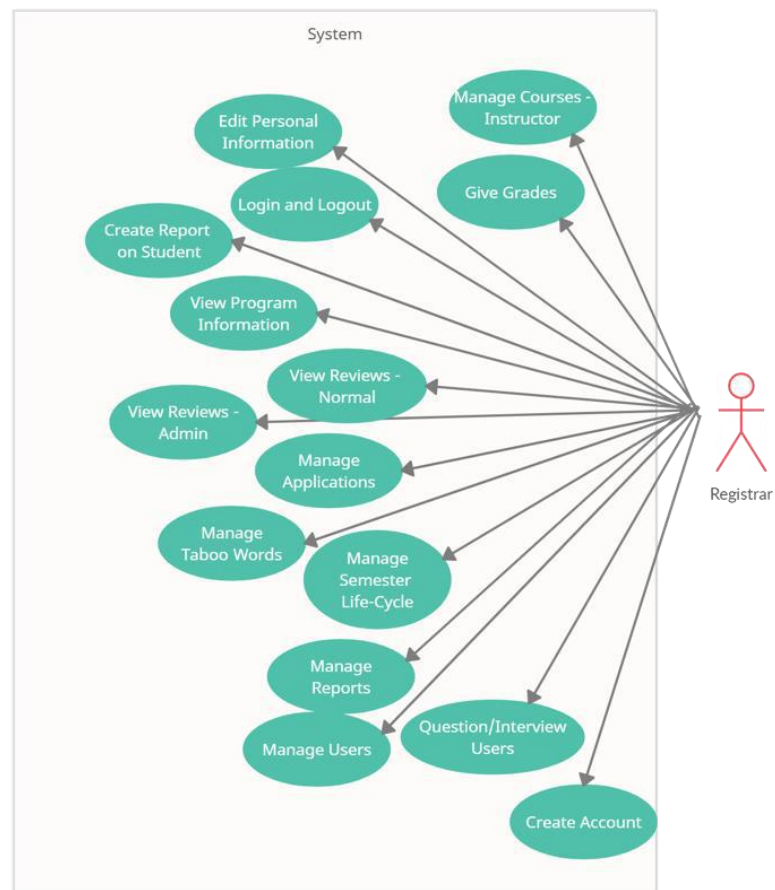
3.1.5 Students & Instructors

Use-Case: Create Report on Student

Description: Allows for students and instructors to submit a complaint about a student which will be processed by the registrar

Use-Case: Edit Personal Information

Description: Allow students and instructors to edit their basic information including the password for their account.

3.1.6 Registrar

Use-Case: View Reviews - Admin

Description: Allows the registrar to see who wrote each review.

Use-Case: Manage Applications

Description: Allows the registrar to accept or reject applications for becoming a student or instructor for this program.

Use-Case: Manage Taboo Words

Description: Allows the registrar to view, add, and remove taboo words from a list of taboo words.

Use-Case: Manage Semester Life-Cycle

Description: Allows the registrar to manage the periods of the semester such as the class set-up period, course registration period, class running-time period, and grading period.

Use-Case: Manage Reports

Description: Allows the registrar to approve or reject reports made by students and instructors.

Use-Case: Manage Users

Description: Allows the registrar to give and manage warnings and punishments of students and instructors. They can also fire instructors.

Use-Case: Question/Interview Users

Description: Allows the registrar to question users on suspicious behavior or actions.

Use-Case: Create Accounts

Description: Allows the registrar to create accounts for new students or instructors

3.1.7 Students & Instructors & Registrar

Use-Case: Login and Logout

Description: Allows for students, instructors, and the registrar to login and logout of a personal account.

3.2   Supplementary Requirements

- Password must meet specific requirement
- Incorrect combination of password and username should be returned with some error messages.
- Each account can access only their criteria. (For e.g.: register cannot log in as student and vice versa)
- A course is canceled if less than 5 students register for that class. The students who registered for this canceled class can register for a new class and the instructor with the course cancelled will receive a warning
- An instructor where all their courses have been canceled is suspended and can't teach in the next semester
- The instructor of a course receiving an average rating < 2 is warned
- A student can't rate a class after the instructor posts their grade
- The student who wrote a review with 1 or 2 taboo words will be warned and those words censored, if they write a review with more than 2 taboo words, they will receive 2 warnings and that review will not be shown
- An instructor who didn't assign all grades after the grading period has ended will receive a warning
- An instructor who class GPA is over 3.5 or below 2.5 will be questioned by the registrar
- A student with a GPA <2 or failed the same course twice will be expelled
- A student with a GPA between 2 and 2.25 will receive a warning and will be interviewed by the registrar
- A student with a GPA > 3.75 during the semester or GPA > 3.5 overall will be an honor student in which one of their warnings will be removed
- If a student applies for graduation while not satisfying the requirements, they will receive a warning
- An instructor with 3 warnings will be suspended
- Students who receive 3 warnings will be suspended for 1 semester and will pay a fine to the registrar
- New students will be shown how to use the web application and must change their password
- A student can drop a class between the registration and grading periods for a grade of W

- A student who dropped all courses will be suspended for 1 semester

4. Supporting Information

4.1 Index