

TEAM U

**GradSchoolZero
Software Requirements Specification
For Graduate Program Management System**

Version 1.0

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Software Requirements Specification	Date: 25/10/2021
First Phase Report	

Revision History

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20/10/2021	1.0	Edit Specific Requirements Section	Ying, Yue
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Software Requirements Specification

1. Introduction

1.1 Purpose

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.

1.2 Scope

The graduate management system is a web application that provides a simple and easy clean interface for all users. The graduation management system makes sure that all the data is needed to store confidential information with each group away from the outside visitors and ensures that only authorized users can gain access to the pages. There are constraints to the system's run time behavior where the amount of time takes for the system to run successfully. The system should be portable and run on different platforms since it's an online application. This can be tested by running on different web browsers such as Google, Safari and Firefox. The website's availability is required at all times for users, the demand for the system to be available and maintenance for the website is very high. To model the software system requirements, the Use-case model is used to illustrate the system's function requirements. The user model demonstrates the different tasks assigned for different users.

1.3 Definitions, Acronyms, and Abbreviations

Term	Definition
SRS	Software Requirements Specification
GradSchoolZero	Name for the graduate management system
User	Any person who intends to use the graduate management system.
Student	A person enrolled in the graduate program.
Instructor	A person employed to teach students.
Outside visitor	A person using the application who is unregistered.
Registrar	A person responsible for setting up the class information and

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	overall program management.
Taboo	Prohibited or restricted.
Use case model	A graphically depicted model of how different users interact with the system.
GUI	Graphical user interface, a form of user interface which allows users to interact with electronic devices through graphical icons provided.

1.4 References

Use Case Diagram Tool: <http://app.moqups.com>

1.5 Overview

The system provides a GUI that allows users to interact with the system. It will have the layout of pages and the flow of events with how the data will respond to each request. Django is used for building a graduate management system web framework. SQLite is where the users' data are stored. The rest of this SRS covers overall description, specific requirement, and supporting information which explains each part in detail.

2. Overall Description

2.1 Use-Case Model Survey

(1). Introduction

A use-case model is a model of how different types of users interact with the system to solve a problem. As such, it describes the goals of the users, the interactions between the users and the system, and the required behavior of the system in satisfying these goals.

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(2). Brief Descriptions

<i>ACTORS:</i>	<i>DESCRIPTION:</i>
<ol style="list-style-type: none"> 1. Visitors 2. Students 3. Instructors 4. Registers 	<ol style="list-style-type: none"> 1. Visitors are people who don't have the credentials to login in, but they are potential students/instructors. They can only view some contents displayed to the public. 2. Students are people who submitted their applications as a student and assigned CUNY ID and emails. They have limited access permissions to some functionalities on the website, to name a few, class enrollment, class drop, class swap... 3. Instructors are people who applied to be teaching staff through websites and get approved by registers. Similarly, they have limited permission to some functionalities as well, such grading, file complaints 4. Registers are super user/ admin of the website. In other words, they oversee the website. They have all access permission to every functionality.

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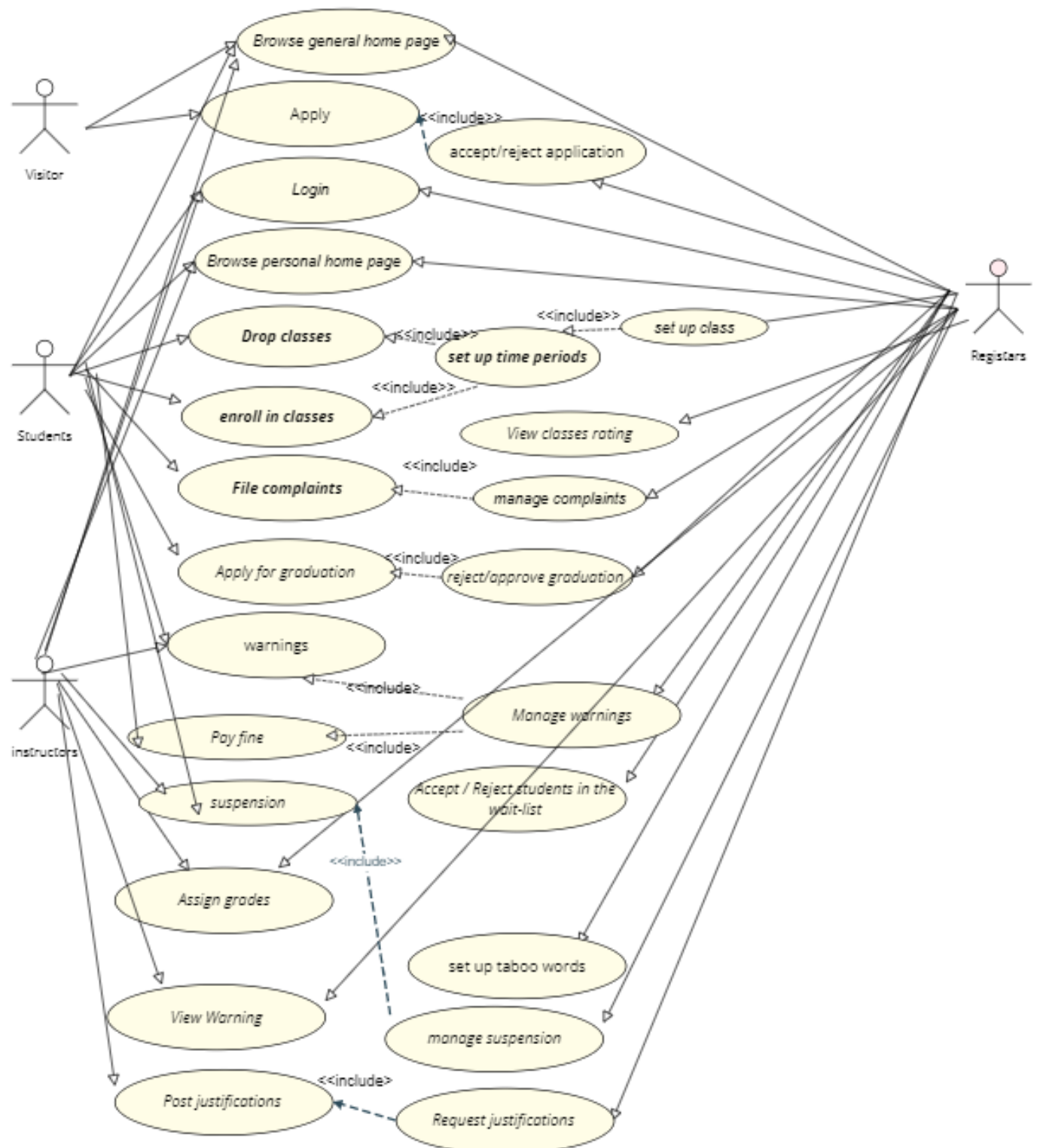
<i>USER CASE:</i>	<i>DESCRIPTION:</i>
<ol style="list-style-type: none"> 1. Browse general home page 2. Sign up 3. Login 4. Register class 5. Drop class 6. Rate class 7. File complaints 8. Apply for graduation 9. Pay fine 10. Access courses class 11. Cancelled warning 12. Manage suspension 13. Assign grades 14. Post justifications 15. Accept /Reject new user applications 16. Accept /Reject graduation applications 17. Manage semester period 18. Set up classes 19. View class rate 20. Set up taboo words 21. Manage complaints 22. Manage suspension 23. Request justifications 	<ol style="list-style-type: none"> 1. Every actor can view homepages 2. Sign up using CUNY emails 3. Login in with to see personal pages 4. Enroll in classes 5. Drop classes 6. Evaluate the classes 7. Submit complaints to the registrars 8. Student can inform the school their application for graduating 9. Payment 10. View details of courses 11. Instructor will be warned if his/her course were cancelled. 12. If all of the instructor's courses get cancelled, he/she will be suspended and cannot teach in the next semester. 13. An instructor can assign and post grades only during the grading period 14. Any instructor whose class GPA is above 3.5 or below 2.5 needs to offer adequate justifications. 15. Reject or accept the application with reasons 16. Approve or deny the graduating requests with reasons 17. set up time period for academic schedule 18. arranges courses that student can enroll in 19. see class rating

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	<p>20. forbidden words</p> <p>21. respond to complaints</p> <p>22. remain or get rid of suspension</p> <p>23. A registrar can question any instructor whose class GPA is above 3.5 or below 2.5</p>
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(3). use case diagram



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2.2 Assumptions and Dependencies

The graduate management system assumes that users know the basic usage of a computer. All users should be either a registered member of the school or an outside visitor who is interested in this particular graduate management system.

3. Specific Requirements

3.1 Use-Case Reports

Outside Visitor Use-Cases

1. *Browse general home page*
A visitor can view the general introduction of the program along with highest and lowest rated classes, and students with the highest GPA.
2. *Sign up*
A visitor can apply to be a student or an instructor of the college.

Students Use-Cases

1. *Browse general home page*
A student can view the general introduction of the program along with highest and lowest rated classes, and students with the highest GPA.
2. *Login*
A student can login to the personal home page and access features that are only limited to students.
3. *Browse personal home page*
A student has his/her own page that can see his/her own records after logging in. A new student will be given a tutorial on how to use the system
4. *Register class*
All matriculated students can register between 2-4 courses during the course registration period if 1) no time conflict among chosen classes; 2) the upper limit of the course is not reached.
If the limit is reached, the student is put in the wait-list that only the course instructor can let in. A student can retake the same class if s/he got F before.
5. *Drop class*
A student can drop a class between registration and grading period with a grade W. A student who dropped all courses will be suspended for one semester automatically unless the registrars take action.
6. *Rate class*
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. Reviews with 1 or 2 taboo words will be shown but those words are changed to * and the author receives one warning; whereas with ≥ 3

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taboo words are not shown in the systems and the author will receive 2 warnings.

7. *File complaints*

A student can complain to another student or the instructor to the registrar.

8. *Apply for graduation*

A student finishing 8 classes can apply for graduation. If the registrars find all required courses are covered, the student will graduate and leave the system with a Master degree. Otherwise the student receives a warning for reckless graduation application.

9. *Pay fine*

Any students receiving up to 3 warnings must pay a fine to the registrars.

10. *View Warning*

A student can view any warnings that he/she received.

Instructors Use-Cases

1. *Browse general home page*

An instructor can view the general introduction of the program along with highest and lowest rated classes, and students with the highest GPA.

2. *Login*

An instructor can login to the personal home page and access features that are only limited to instructors.

3. *Browse personal home page*

An instructor has his/her own page that can see all the basic info and the academic records of the students in his/her current class(es) after logging in.

4. *Access courses*

Instructors can access courses they are assigned by registrars.

5. *Accept / Reject students in the wait-list*

An instructor can either accept or reject students into his/her class while they are in the wait-list.

6. *View Warning*

An instructor can view any warnings that he/she received. Instructor will be warned if his/her course were cancelled. The instructor of any course receiving average rating < 2 will be warned.

7. *File complaints*

An instructor can complain to another student to the registrar to warn or deregister the student.

8. *Assign grades*

An instructor can assign and post grades only during the grading period. If the instructor didn't assign grades for all students after the period ends, he/she will be warned.

9. *Post justifications*

Any instructor whose class GPA is above 3.5 or below 2.5 needs to offer adequate justifications.

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Registrars Use-Cases

1. *Browse general home page*

A registrar can view the general introduction of the program along with highest and lowest rated classes, and students with the highest GPA.

2. *Login*

A registrar can login to the personal home page and access features that are only limited to instructors.

3. *Browse personal home page*

A registrar has his/her own page that can see everything after logging in.

4. *Accept / 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.

5. *Accept / Reject graduation applications*

A 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.

6. *Manage semester period*

A registrar determines when the 4 periods start and end: class set-up period, course registration period, class running period, and grading period.

7. *Set up classes*

A registrar can set up classes, class time, course instructors and class size only during the class set-up period.

8. *View class rate*

A registrar can view which student rated which class.

9. *Set up taboo words*

A registrar can set up a list of taboo words.

10. *Manage complaints*

If the complaint is from a student, the registrar will issue a warning to the student or the instructor based on investigation.

If the complaint is from an instructor, the registrars will punish the student accordingly or punish the instructor by one warning.

11. *Manage suspension*

A student who dropped all courses will be suspended for one semester automatically unless the registrars take action.

12. *Request justifications*

A registrar can question any instructor whose class GPA is above 3.5 or below 2.5.

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3.2 Supplementary Requirements

System Requirement

1. The system provides a home page visible to all users which shows the general introduction of the program along with the highest and lowest rated classes, and students with the highest GPA.
2. The system ensures that only authorized users can gain access to the pages.
3. The system contains a list of taboo words set up by the registrar.
4. All data is stored in SQLite.
5. For new users:
 - a. If the user is a student, the system provides a unique student id and password that should be changed in the first login.
 - b. If the user is an instructor, the system assigns classes.
6. The system behaves as below in each period:
 - a. class set-up period:
 - i. Enable registrar to set up classes
 - b. course registration period:
 - i. Enable students to register for courses.
 - ii. Check for time conflict among chosen classes and upper limit of the course. Put the student in the course wait-list.
 - c. class running period:
 - i. Disable students to register for courses.
 - ii. Cancel courses with less than 5 students.
 - iii. Send warning to students who have less than 2 courses.
 - iv. Send warning to instructors whose courses were cancelled.
 - v. Provide students whose courses were cancelled one more chance to choose other courses.
 - vi. Suspend instructors whose courses were all cancelled.
 - vii. Disable suspended instructors to teach next semester.
 - d. grading period:
 - i. Enable instructors to assign grades
7. When a class rating is submitted by a student, the system will change any taboo words to * and send one warning to the author. If ≥ 3 taboo words are found, then it will not be shown in the system and the author will receive 2 warnings.
8. Send a warning to an instructor if
 - a. any course receiving average rating < 2
 - b. didn't assign grades for all students after grading period ends
9. Suspend an instructor if
 - a. accumulated 3 warnings

Error Processing

Login and Signup Page:

1. The website checks for email format.:
 - a. Every email address must have the '@' character.
 - a. '@' character cannot be either at the start or the end of the email.

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- b. There cannot be more than one '@' character.
- c. There should be a warning if the format doesn't satisfy.

Signup:

1. If the email address is associated with a different account on the website, display an error message: "This email is already registered!".
2. Password :
 - a. A user must create the password and then confirm it.
 - b. If the password is less than six characters, display an error message: "Password must have a minimum of 6 characters ".
 - c. If two passwords are different, display an error message: "Password does not match".
3. Successfully Signup:
 - a. The user information (Email & Password) should be appended to Users.txt file.

Login:

1. Check for incorrect Email or Password :
 - a. If the email isn't associated with any account, display an error message: "This Email hasn't registered yet!"
 - b. If a user enters the email that's registered but with a wrong password, display an error message: "Incorrect password ".

4. Supporting Information

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