

Requirement Analysis

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Project Overview

This is a software system which allows students in programming classes to submit programming work. Additionally, the TAs must be able to collect assignments. Finally, the instructors need to be capable of managing the course, its sections, TAs, and assignments.

Step one:

Identify the different types of Users:

1. Instructor
2. Teaching Assist (TA)
3. Student

Step two:

Identify the activities they will perform with the software (user requirement):

Instructor:

1. Instructor should be able to edit course information. This includes course syllabus, contact information, grading rubric and course calendar.
2. Instructor should be able to add/delete/update sections.
3. Instructor should be able to add a TA.
4. Instructor should be able to manage the assignment information. This includes add an assignment, delete an assignment, and update assignment requirement.
5. Instructor should be able to download students' assignment and change grade.

TA:

1. TA should be able to download students' assignments.

2. TA should be able to grade assignments.
3. TA should be able to write comments for assignments.
4. TA should be able to view course information.

Student:

1. Student should be able to submit assignments by section.
2. Student should be able to view their grades.
3. Student should be able to view course information.
4. Student should be able to get notice if grades, course information, or assignment requirements have changed.

Step 3:

Data entities and attributes:

Instructor: Instructor Name, Instructor ID, Educational Email.

Student: Student name, Pawprint, Email Address.

TA: TA name, TA ID, TA Email.

Section: Section Name, Section Number, Section Description.

Assignment: Submit File Name, Submit File Type, Submit File Size, Submit Time, Grade, Comment.

Requirement: Require File Name, Require File Type, Require File Size, Deadline, Grading Rubric.

Course: Course Name, Course Syllabus, Course Number, Contact Info, Course Calendar.

Identified activities and constraints (non-functional):

Instructor activities:

1. *Instructor should be able to edit course information. This includes course syllabus, contact information, grading rubric and course calendar.*

Access to Course Name, Course Syllabus, Course Number, Contact Info, and Course Calendar in Course table, TA email address and Student email address.

Constraints:

Information can only be edited by instructor.

A response will be displayed to instructor.

Any changes will be sent to students and TA by Email.

Any changes attempt to be made should be reliable.

2. *Instructor should be able to add/delete/update sections.*

Access to Section Name, Section Number, and Section Description in Section table.

Constraints:

Information can only be edited by instructor.

A response will be displayed to instructor.

3. *Instructor should be able to add a TA.*

Access to TA name, TA ID, and TA Email in TA table.

Constraints:

This action can only be made by instructor.

TA information inserted must be secure.

A response will be displayed to instructor.

4. *Instructor should be able to manage the assignment information. This includes add*

an assignment, delete an assignment, and update assignment requirement.

Access to Require File Name, Require File Type, Require File Size, Deadline, and Grading Rubric in Requirement table, Section Name and Section Number in Section table.

Constraints:

This action can only be made by instructor.

A response will be displayed to instructor.

Information inserted must be secure, and the system should perform the action immediately.

A notice will be sent to students and TAs.

5. *Instructor should be able to download students' assignment and change grade.*

Access to Submit File Name, Submit File Type, Submit File Size, Submit Time, Grade, and Comment in Assignment table, Student name, Pawprint, and Email Address in Student table, Section Name and Section Number in Section table.

Constraints:

This action should be secure.

Students will get notice if there is a grade change.

TA activities:

1. *TA should be able to download students' assignments.*

Access to Submit File Name, Submit File Type, Submit File Size, Submit Time, Grade, and Comment in Assignment table, Student name and Pawprint in Student table, Section Name and Section Number in Section table.

Constraints:

Download should be fast enough.

Files should be secure.

2. *TA should be able to grade assignments.*

Access to Submit File Name, Submit File Type, Submit File Size, Submit Time, Grade, and Comment in Assignment table, Student name and Pawprint in Student table, Section Name and Section Number in Section table.

Constraints:

Information inserted must be secure.

3. *TA should be able to write comments for assignments.*

Access to Submit File Name, Submit File Type, Submit File Size, Submit Time, Grade, and Comment in Assignment table, Student name and Pawprint in Student table, Section Name and Section Number in Section table.

Constraints:

Information inserted must be secure.

4. *TA should be able to view course information.*

Access to Course Name, Course Syllabus, Course Number, Contact Info, and Course Calendar in Course table.

Constraints:

TA can download syllabus and Calendar.

Download should be fast enough.

Student activities;

1. *Student should be able to submit assignments by section.*

Access to Submit File Name, Submit File Type, Submit File Size, Submit Time, Grade, and Comment in Assignment table, Student name and Pawprint in Student table, Section Name and Section Number in Section table.

Constraints:

Assignments upload should be secure.

This action can only be made by student.

Upload should be fast enough.

2. *Student should be able to view their grades.*

Access to Submit Name, Grade and Comment in Assignment table, Section Name and Section Number in Section table.

Constraints:

This information should be stable and secure.

3. *Student should be able to view course information.*

Access to Course Name, Course Syllabus, Course Number, Contact Info, and Course Calendar in Course table.

Constraints:

Students can download syllabus and Calendar.

Download should be fast enough.

4. Student should be able to get notice if grades, course information, or assignment requirements have changed.

Access to Grade table, Course table, Assignment table, Student Name and Email

Address in Student table.

Constraints:

All information sent should be secure.

Step 4:

Identify System constraints and requirements:

System hardware should be good enough to shorten time for submitting and editing.

Enough storage space remains for student assignment.

System should make maintenance for database system.

System should have an internet server support.

System should be able to preform in different operate systems (Windows and Mac OS).