

# Assignment 3: Requirements Analysis for Programming-Assignment-Submitting System

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Users for this system and their requirements:

- CS department faculties
  1. Faculty members should be able to view all programming courses in the department.
    - i. Faculties(ID, name, password)
    - ii. Faculty members need to be logged in in order to view the courses.
  2. Faculty members should be able to add new programming courses with multiple sections to the system and assign instructors to the course.
    - i. Courses(title, year)
    - ii. Sections(ID, time)
    - iii. Instructor(ID, name, password)
    - iv. Faculty members should be logged in.
  3. Faculty members should be able to add students to each section of programming courses.
    - i. Courses(title, year)
    - ii. Sections(ID, time)
    - iii. Students(ID, name, password)
    - iv. Faculty members should be logged in.
    - v. A student can only be added to one section of a single programming course.
- Instructors of programming courses
  1. Instructors should be able to assign TA's to different sections of the course.
    - i. Courses(title, year)
    - ii. Sections(ID, time)
    - iii. TA(ID, name, password)
    - iv. The instructor must be logged in.
    - v. A TA can be assigned to multiple sections, and a section can have multiple TA's
  2. Instructors should be able to create new programming assignments for each section of the course.
    - i. Sections(ID, time)
    - ii. Assignments(title, description, deadline, submission, grade)
    - iii. The instructor must be logged in.
  3. Instructors should be able to view student submissions from all sections.
    - i. Assignments(title, description, deadline)
    - ii. Submissions(assignment, student, submission, grade)
    - iii. The instructor must be logged in.

4. Instructors should be able to grade each student's submission and be able to regrade the assignment after a TA has graded it.
  - i. Assignments(title, description, deadline)
  - ii. Submissions(assignment, student, submission, grade)
  - iii. The instructor must be logged in.
- TA's of programming courses
  1. TA's will be able to view all assignments available for their assigned sections.
    - i. Assignments(title, description, deadline)
    - ii. TA's must be logged in.
    - iii. TA's cannot see assignments from the sections that they were not in.
  2. TA's will be able to view all students' submissions from their assigned sections.
    - i. Assignments(title, description, deadline)
    - ii. Submissions(assignment, student, submission, grade)
    - iii. TA's must be logged in.
  3. TA's will be able to grade the assignments for their assigned sections.
    - i. Assignments(title, description, deadline)
    - ii. Submissions(assignment, student, submission, grade)
    - iii. TA's must be logged in.
    - iv. TA's can not regrade an assignment once it has been graded.
- Students in programming courses
  1. Students should be able to see all assignments from their sections of the programming courses.
    - i. Assignments(title, description, deadline)
    - ii. Students must be logged in.
    - iii. Students can only see assignments from sections that they were in.
  2. Students should be able to submit their programming assignments if the assignments were not submitted.
    - i. Assignments(title, description, deadline)
    - ii. Submissions(assignment, student, submission, grade)
    - iii. Students must be logged in.
    - iv. Students can only submit their own work and cannot submit any work for other students.
  3. Students should be able to see the grades they received for each of their assignments.
    - i. Assignments(title, description, deadline)
    - ii. Submissions(assignment, student, submission, grade)
    - iii. Students must be logged in.
    - iv. Students can only see their own grades.

#### System Requirements:

- A server running in the cloud to serve the application and handling the login functionality.
- A database running in the cloud to store all the data for this application.
- All users must have access to a computer that is connected to the internet in order to use the application.