Assignment 4: Design Focus

Architecture and System Design Process

Andrew Cox

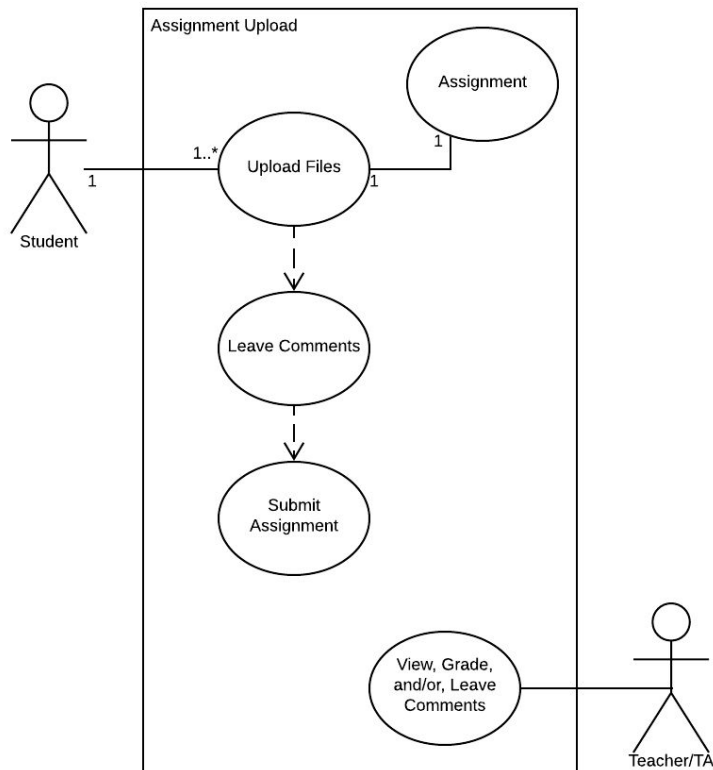Ben Frailey

Brandon Greer

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Use Case

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Use Case 1 : Submit Assignment

Primary Actor: Student

Success Guarantee:

Confirmation Screen

Student Ability to Review Own Submissions

Preconditions:

Student is in Class

Assignment exists

Assignment expects file upload

File matches expected file type

Success Scenario:

1.Student views assignment and creates submission

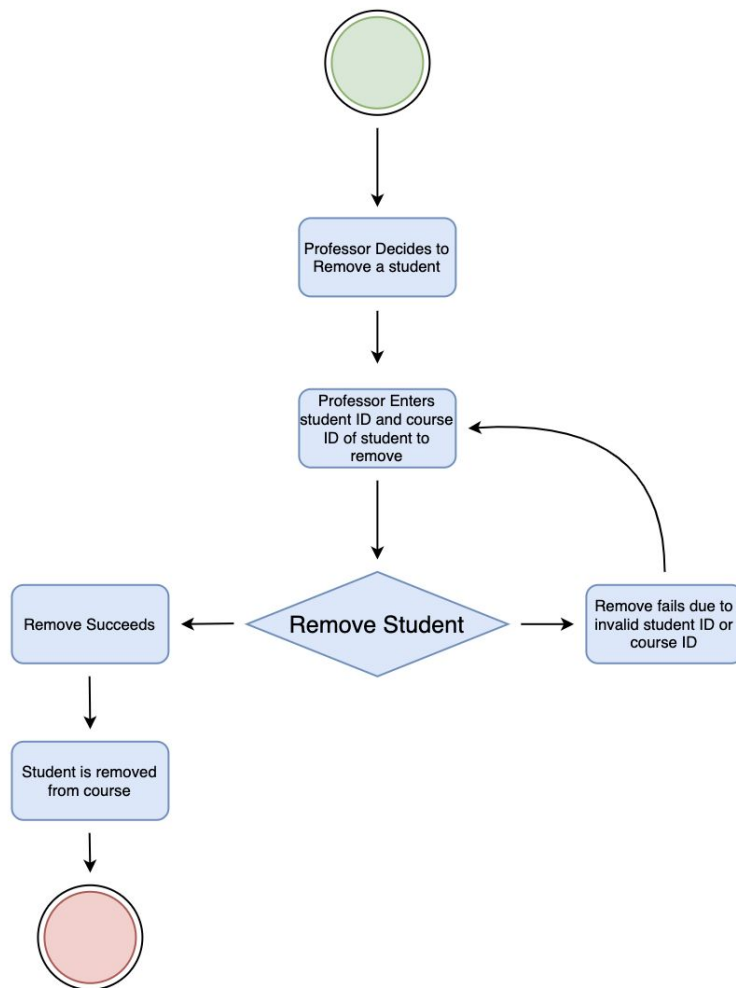2.Student clicks upload button and selects applicable file(s)

3.Student is Given Opportunity to Leave Comments

4.Student Clicks Submit

5.Student is Presented with success screen

6.Student is given ability to download their own submissions or overwrite prior submissions

Failed End Conditions:

Wrong File Type : Student will get an error message on submit button click instead of success screen

Activity Diagram - Remove student

Ben Frailey

```
          ( ● )
            │
            ▼
   ┌──────────────────┐
   │ Professor Decides to │
   │  Remove a student │
   └──────────────────┘
            │
            ▼
   ┌──────────────────┐
   │ Professor Enters │◄────────────┐
   │ student ID and course │          │
   │  ID of student to │              │
   │      remove       │             │
   └──────────────────┘             │
            │                        │
            ▼                        │
┌────────────┐    ◆              ┌──────────────┐
│ Remove     │◄── Remove Student ──►│ Remove fails due to │
│ Succeeds   │    ◆              │ invalid student ID or │
└────────────┘                   │   course ID     │
      │                          └──────────────┘
      ▼
┌────────────┐
│ Student is removed │
│  from course │
└────────────┘
      │
      ▼
    ( ● )
```
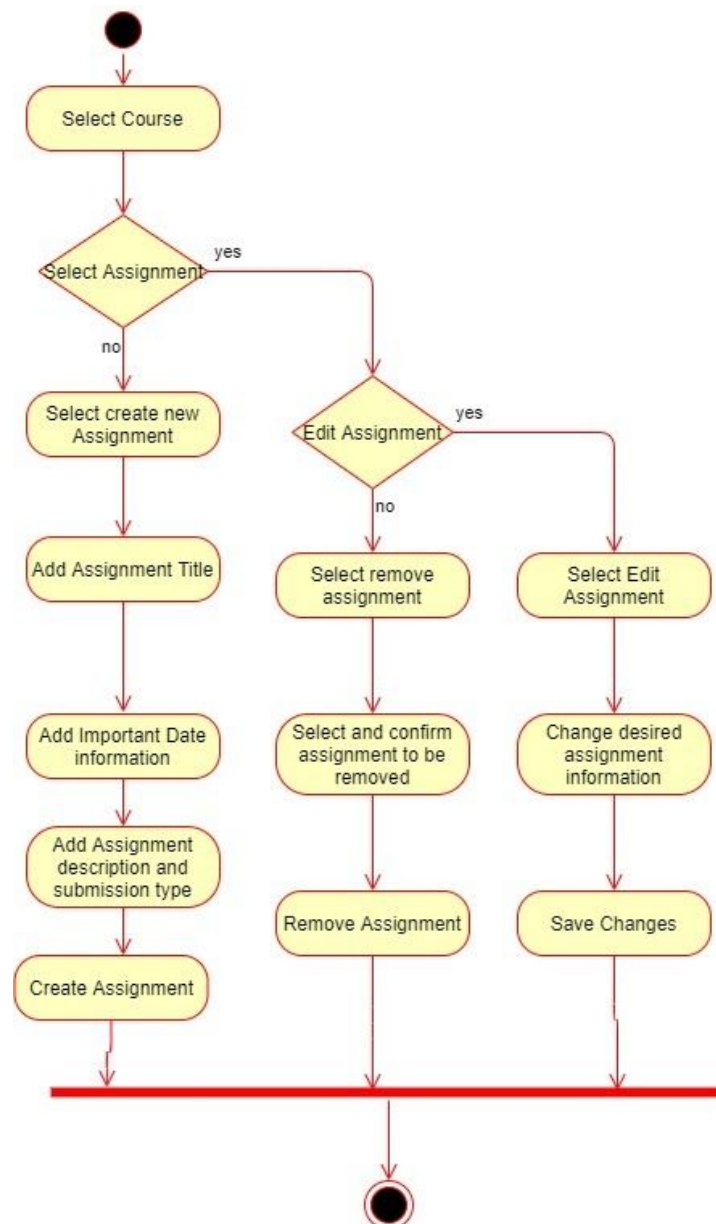
A professor removes a student from a course. The removal will succeed as long as the courseID is a course taught by the professor, and the studentID is a student in the course.

Activity Diagram - Instructor Add/Remove/Edit Assignment

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Select Course

Select Assignment

yes

no

Select create new Assignment

Edit Assignment

yes

Add Assignment Title

no

Select remove assignment

Select Edit Assignment

Add Important Date information

Select and confirm assignment to be removed

Change desired assignment information

Add Assignment description and submission type

Remove Assignment

Save Changes

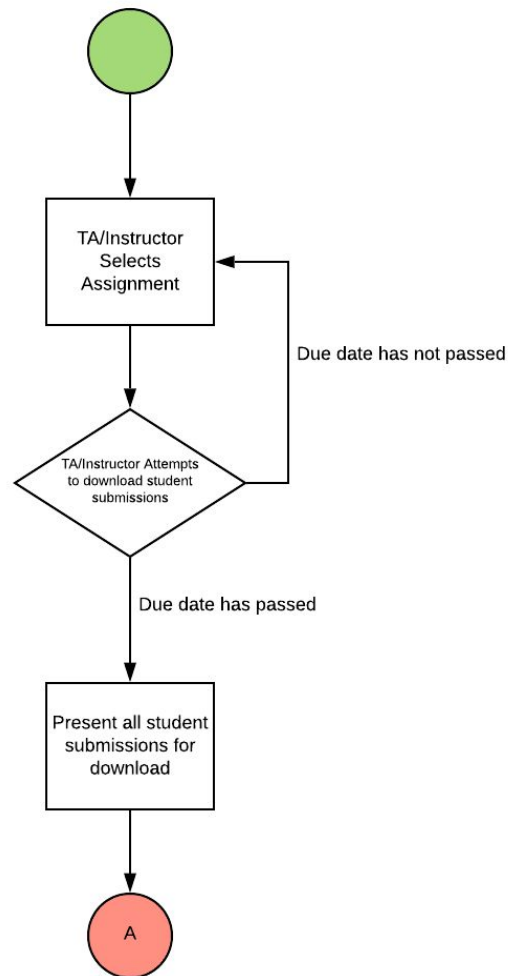Create Assignment

Activity Diagram
Instructor
Add/Remove/Edit Assignments
The Instructor chooses the course, and can then
choose to create an assignment or select and assignment
to modify. If the Instructor chooses to create an assignment
 they enter in the assignment details and create it. The
Instructor can choose to edit or remove the selected assignment.

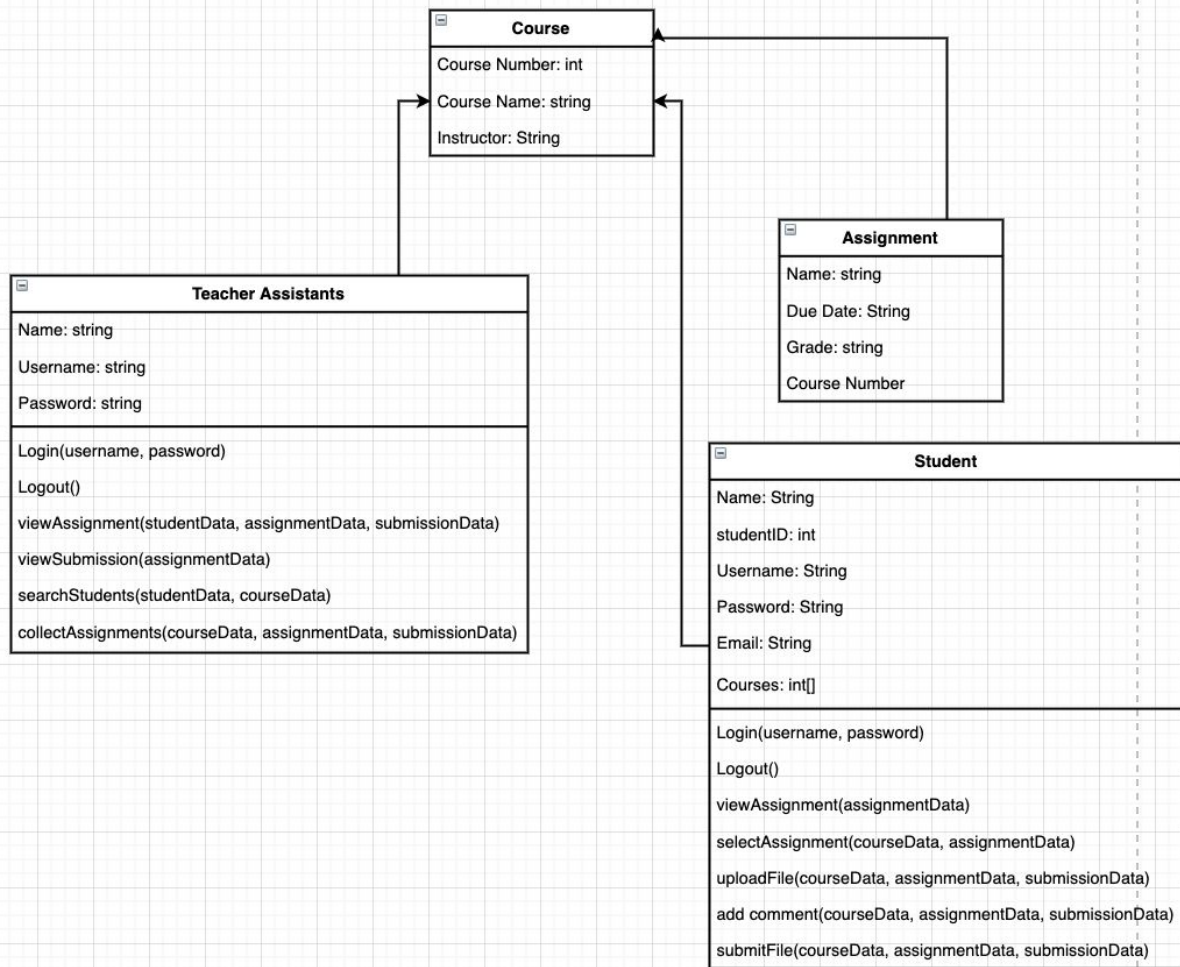# Activity Diagram - TA/Instructor Downloads Student Submissions

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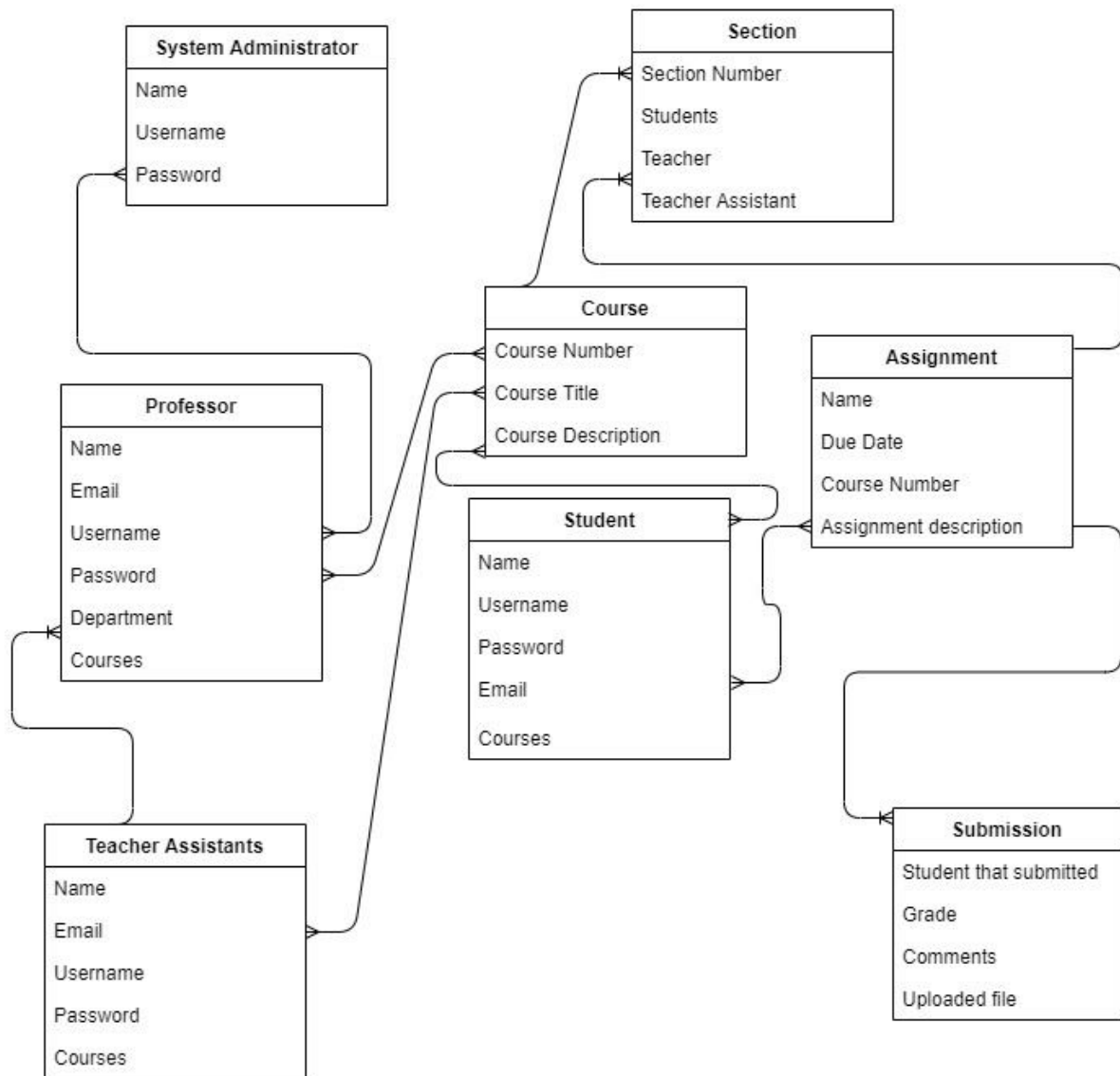TA can collect assignments by downloading students' submission files

Class Diagram

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Group 10

Course

Course Number: int

Course Name: string

Instructor: String

Teacher Assistants

Name: string

Username: string

Password: string

Login(username, password)

Logout()

viewAssignment(studentData, assignmentData, submissionData)

viewSubmission(assignmentData)

searchStudents(studentData, courseData)

collectAssignments(courseData, assignmentData, submissionData)

Assignment

Name: string

Due Date: String

Grade: string

Course Number

Student

Name: String

studentID: int

Username: String

Password: String

Email: String

Courses: int[]

Login(username, password)

Logout()

viewAssignment(assignmentData)

selectAssignment(courseData, assignmentData)

uploadFile(courseData, assignmentData, submissionData)

add comment(courseData, assignmentData, submissionData)

submitFile(courseData, assignmentData, submissionData)

Entity Relationship Diagram

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Group 10

System Administrator
- Name
- Username
- Password

Section
- Section Number
- Students
- Teacher
- Teacher Assistant

Course
- Course Number
- Course Title
- Course Description

Professor
- Name
- Email
- Username
- Password
- Department
- Courses

Assignment
- Name
- Due Date
- Course Number
- Assignment description

Student
- Name
- Username
- Password
- Email
- Courses

Teacher Assistants
- Name
- Email
- Username
- Password
- Courses

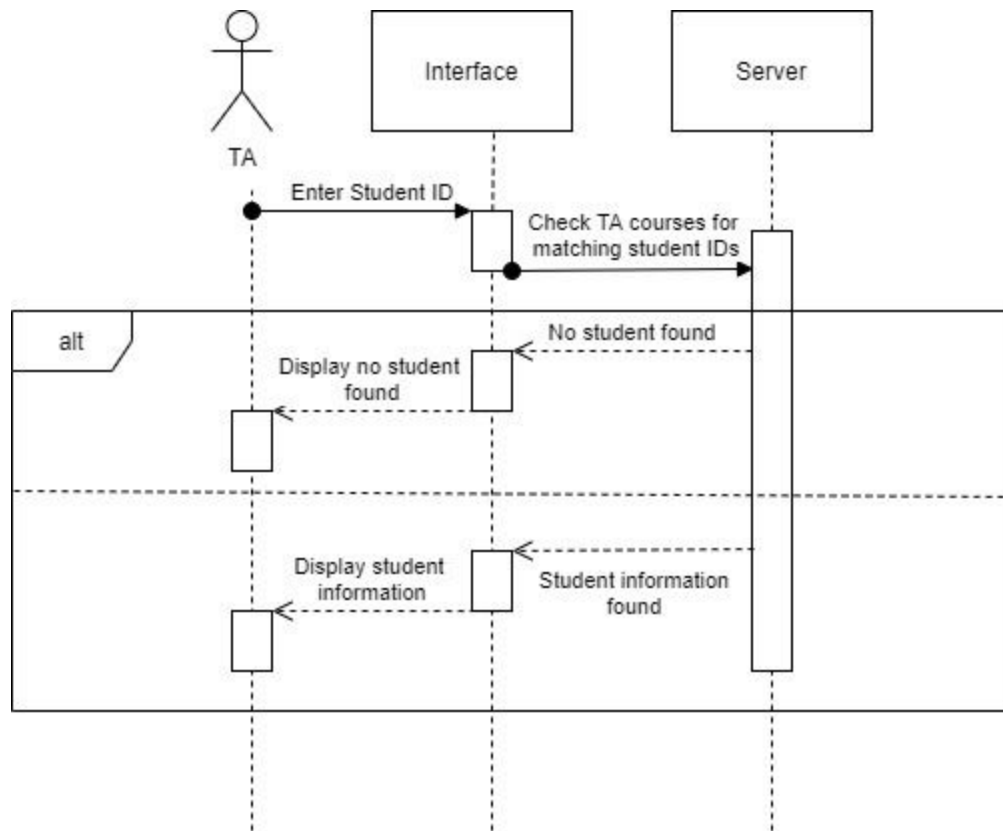**Submission**
- Student that submitted
- Grade
- Comments
- Uploaded file

Entity Relationship Diagram for Student Submissions System

Sequence Diagram

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Sequence Diagram
TA
Search for a student
The TA enters the student ID of a desired student, the server checks the students in the TA's courses and sends the results to the interface.

State Machine Diagram

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Lifecycle of an assignment