

# Assignment 4

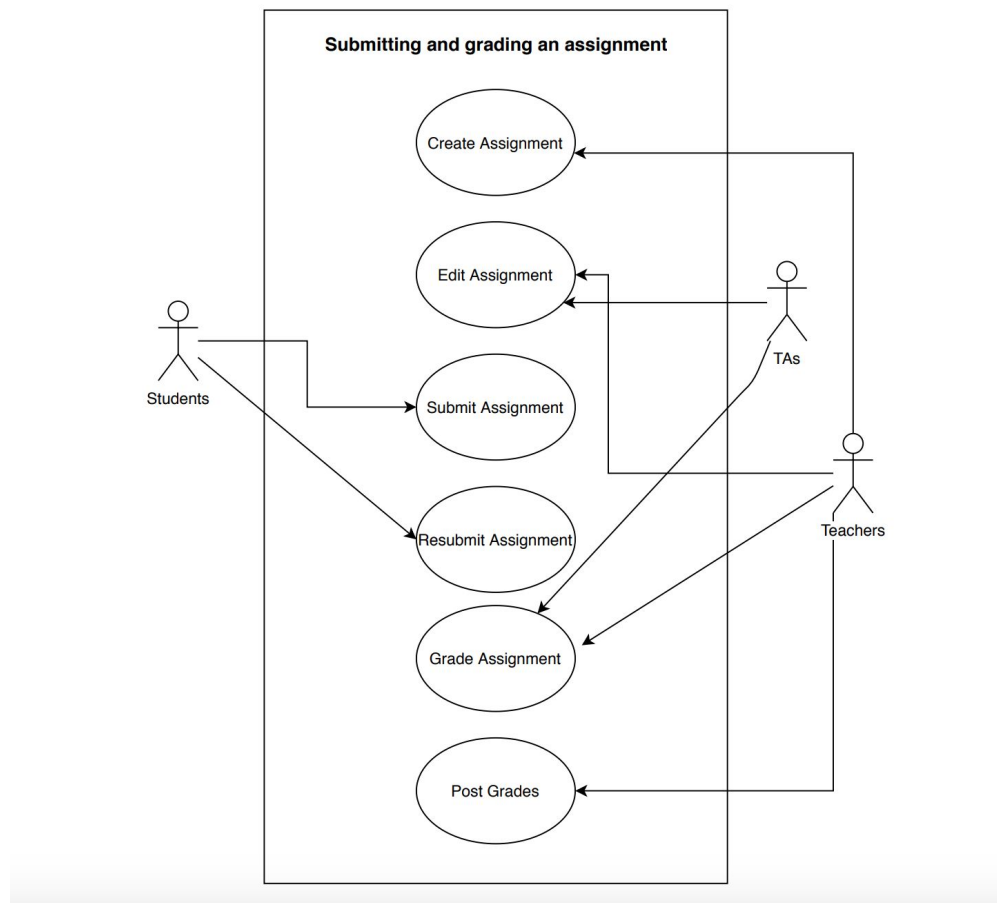
## Design Analysis

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## 1. Use Case Diagram for Submitting and Grading an Assignment



This use case diagram is modeling the case where an assignment is created by the instructor or teacher, and is then showing the student submitting said assignment to then be graded either the TA or the instructor/teacher. The teacher then posts the grade of the student's assignment. This use case diagram successfully meets the following requirements:

### **Students:**

3. Student can select assignment they want to submit
4. Student can upload files

### **TAs:**

2. TA can view course assignments.
3. TA can view student submissions for an assignment.

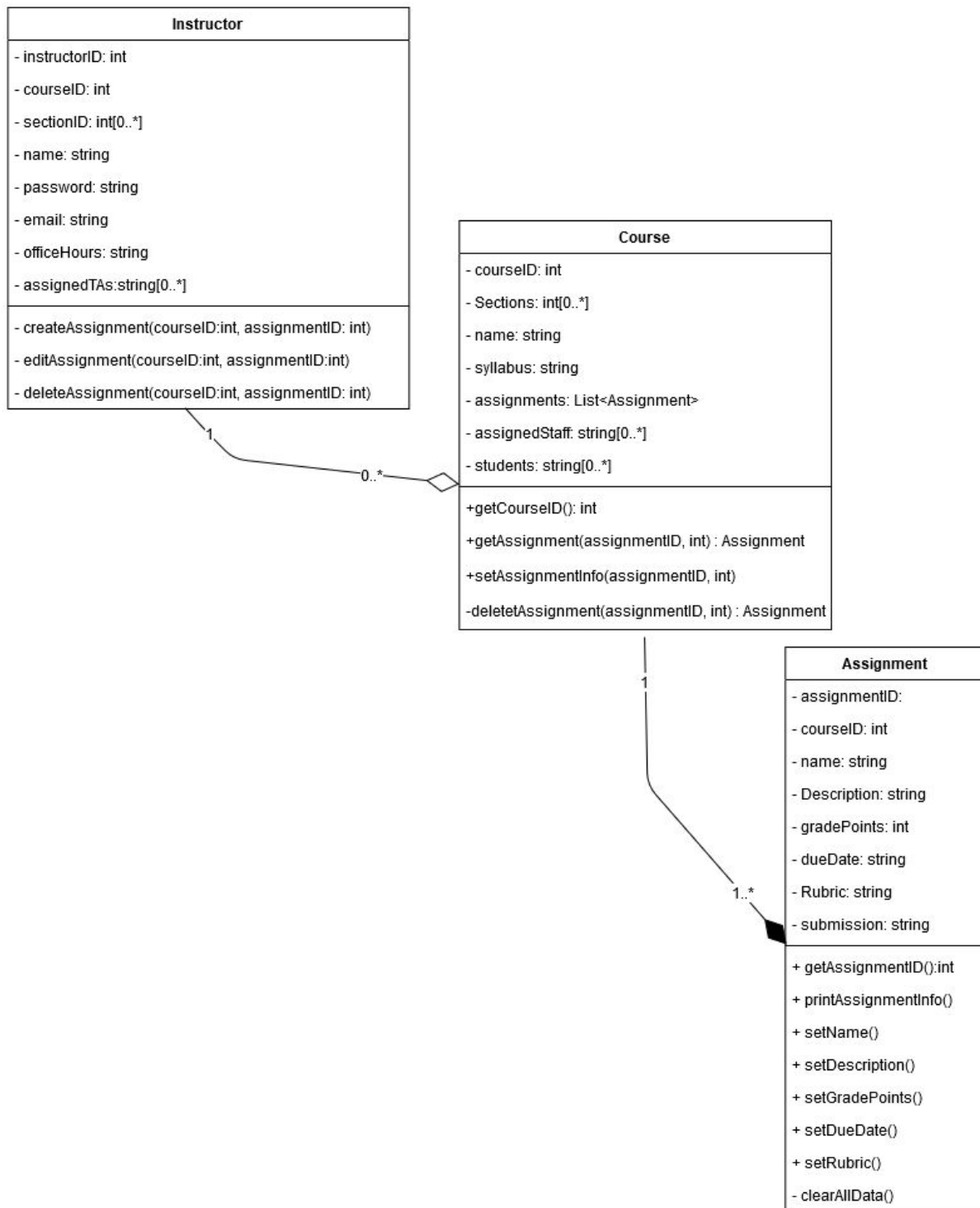
5. TA can collect assignments by downloading students' submission files

**Teacher/Instructor:**

2. Instructors can perform all functions TAs can perform.
6. Instructor can create/edit/remove assignments of each course

**Contributions:** Made by Robert Truesdale. Reviewed by Jeffrey Kerley and Sarah Brooks.

## 2. Class Diagram of Instructor Creating/Editing/Deleting Assignments

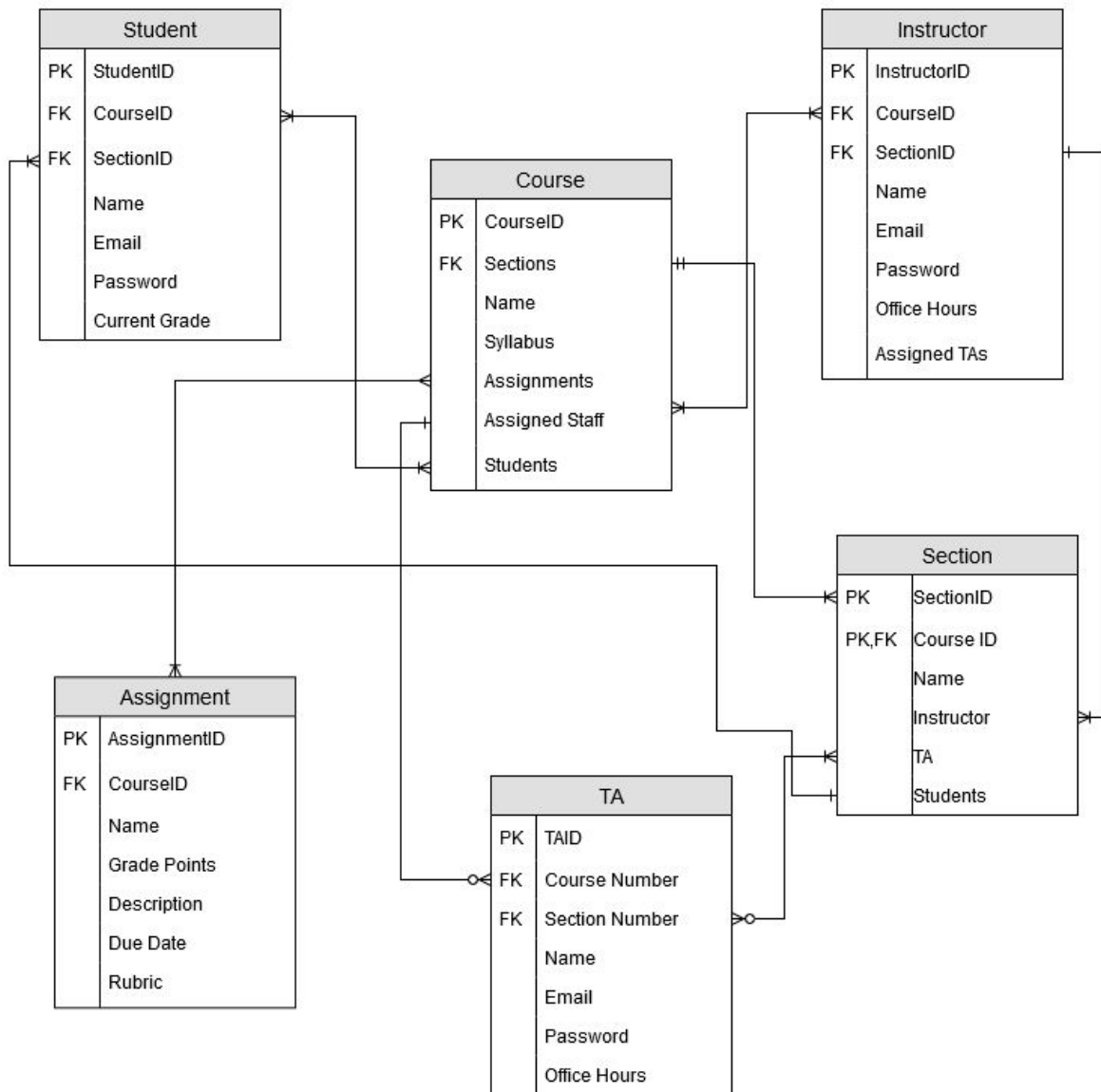


**Caption:** This is a class diagram for a teacher creating, editing or deleting an assignment. This activity shows an instructor requesting to do one of these tasks by giving the ID of both the course and the assignment. Since the assignment class needs to be attached to a course, any editing of the assignment's data will happen through the selected course.

**Contributions:** Made by Sarah Brooks. Reviewed by Jeffrey Kerley and Robert Truesdale.

### 3. Entity Relationship Diagram

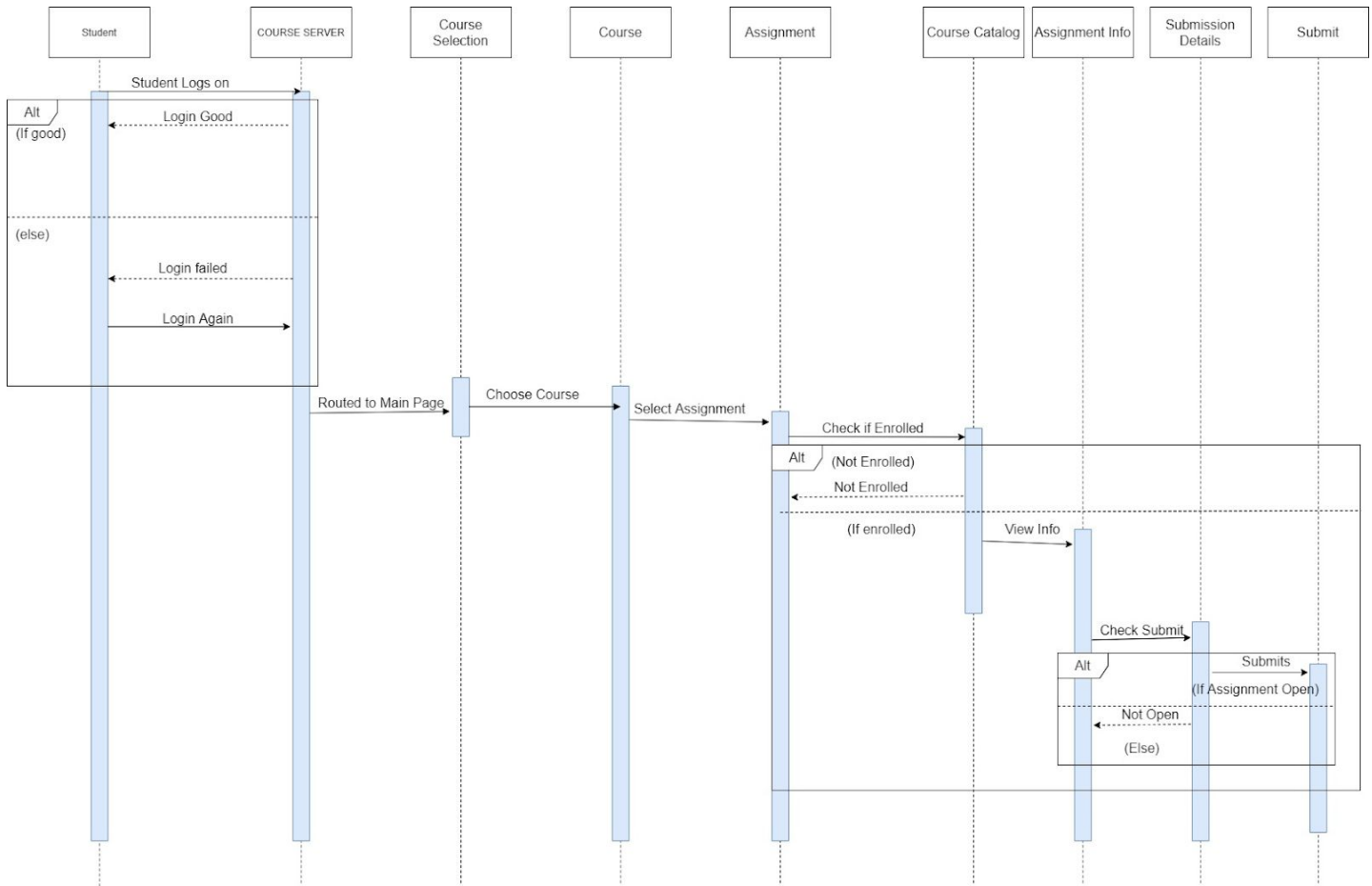
Entity-Relationship Diagram



**Caption:** An entity relationship diagram of the whole system showing how each entity interacts with other entities in the system.

**Contributions:** Made by Sarah Brooks. Reviewed by Jeffrey Kerley and Robert Truesdale.

#### 4. Sequence Diagram of Student Submitting an Assignment

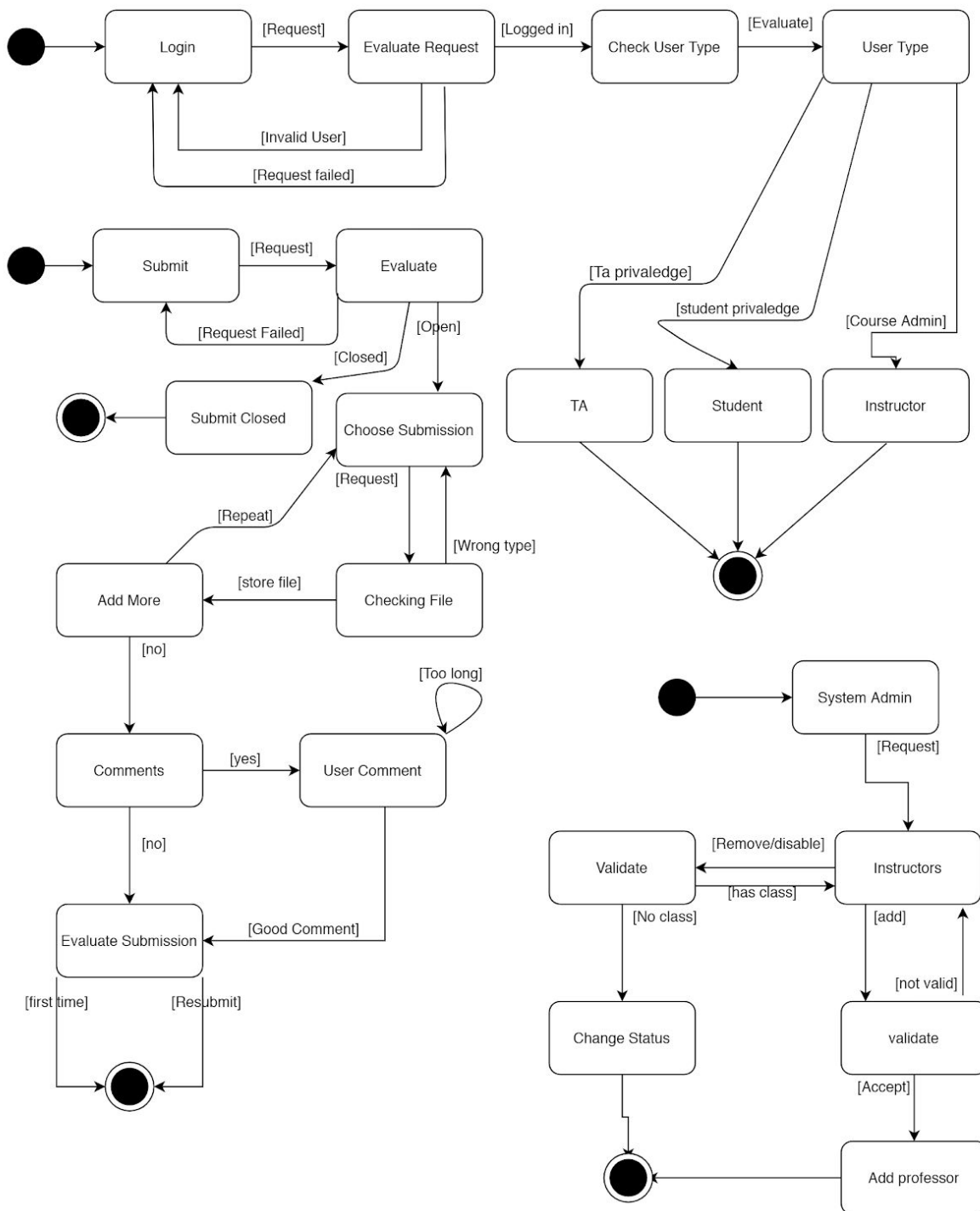


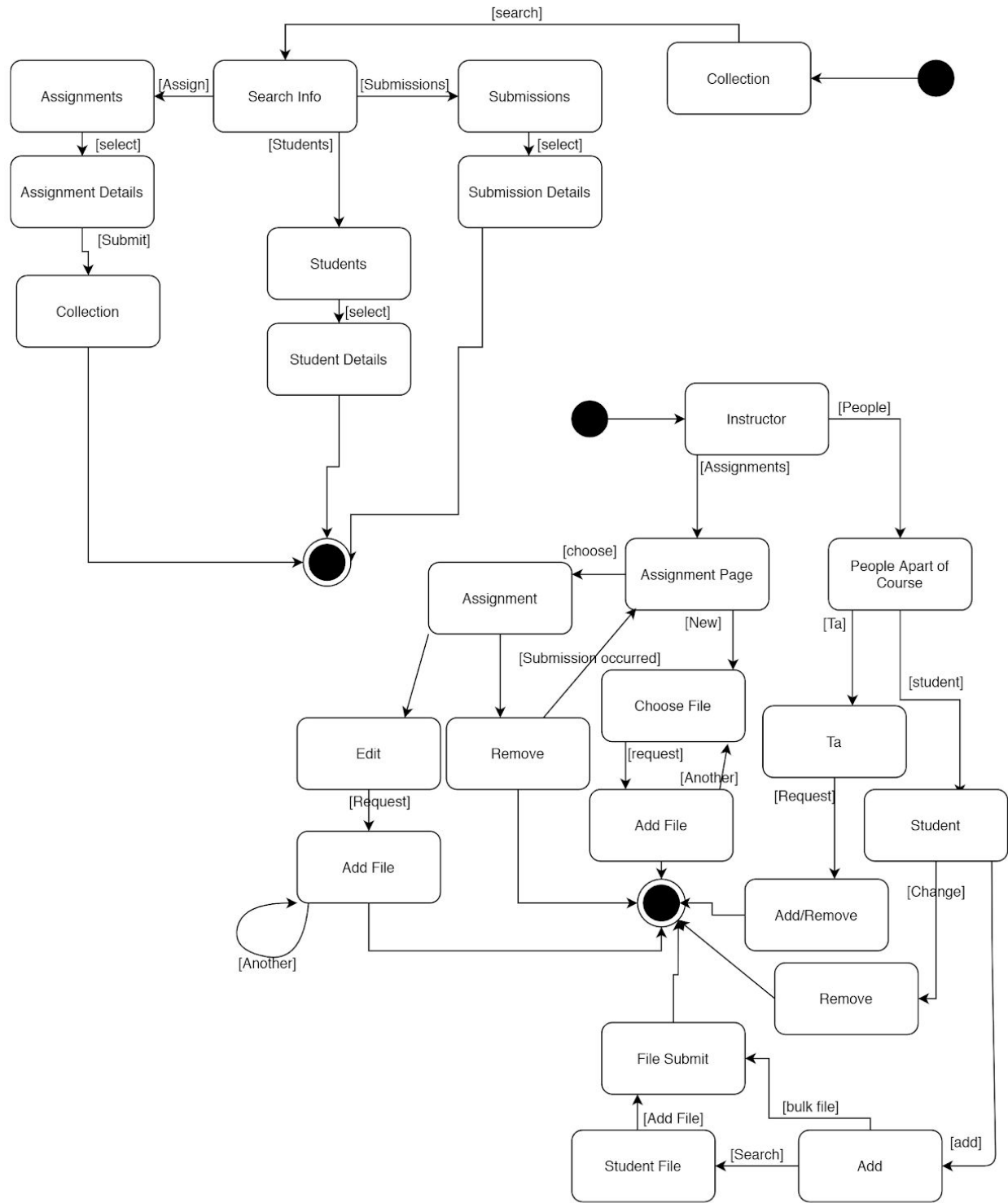
**Caption:** This is a sequence diagram of a student logging in, finding an assignment, and submitting it. The system relies on Web server software, interacts with a server, and uses a database. The databases used in this example would be used to store information about the student, courses, whos enrolled in what, and when a submission is submitted. For logging in there is a catch if the student has an account or failed the login. When the student tries and views an assignment the system checks if they are enrolled in the class first, adhering to the constraint. The system also checks if the submission is open when they try and submit, rejecting them if it is not.

**Contributions:** Made by Jeffrey Kerley. Reviewed by Sarah Brooks and Robert Truesdale.



## 5. State Machine

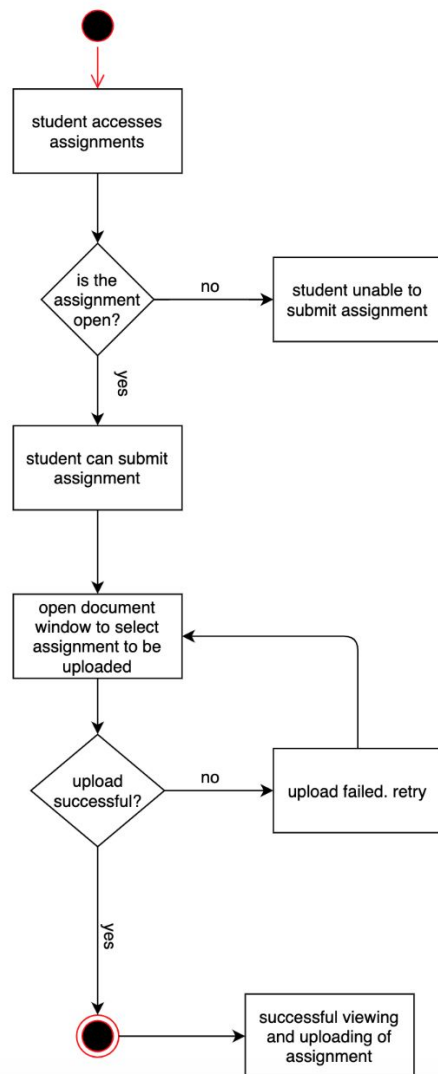




**Caption:** This is a state diagram of our entire system. This includes everything listed in the constraints/requirements for our system, ie - add student bulk files, system admin, resubmits, etc. Each black dot is the start of a state, and each circled black dot is the end of a state. I did not think any of these would really be concurrent, thus it does not operate as such. There are several independent states present, which are confined to their own operations, like logging in, versus adding an assignment.

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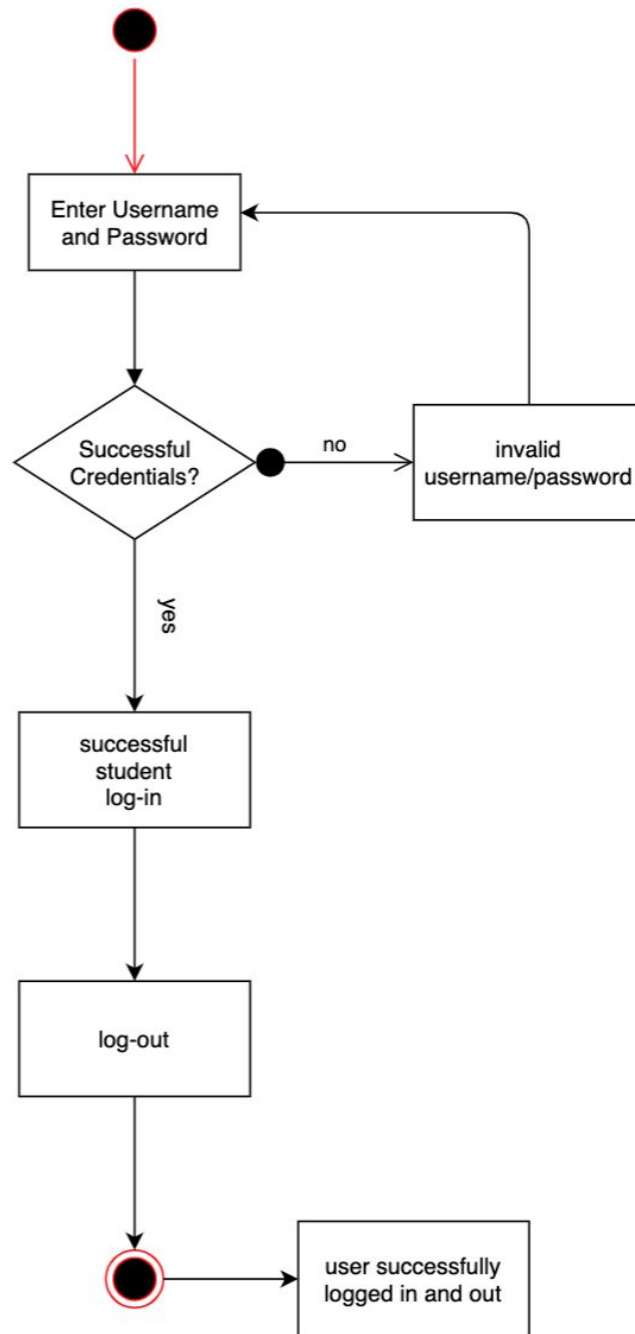
## 6. Activity Diagram One



This Activity Diagram demonstrates the activity for Students number 6: **Student can submit/re-submit uploaded file.**

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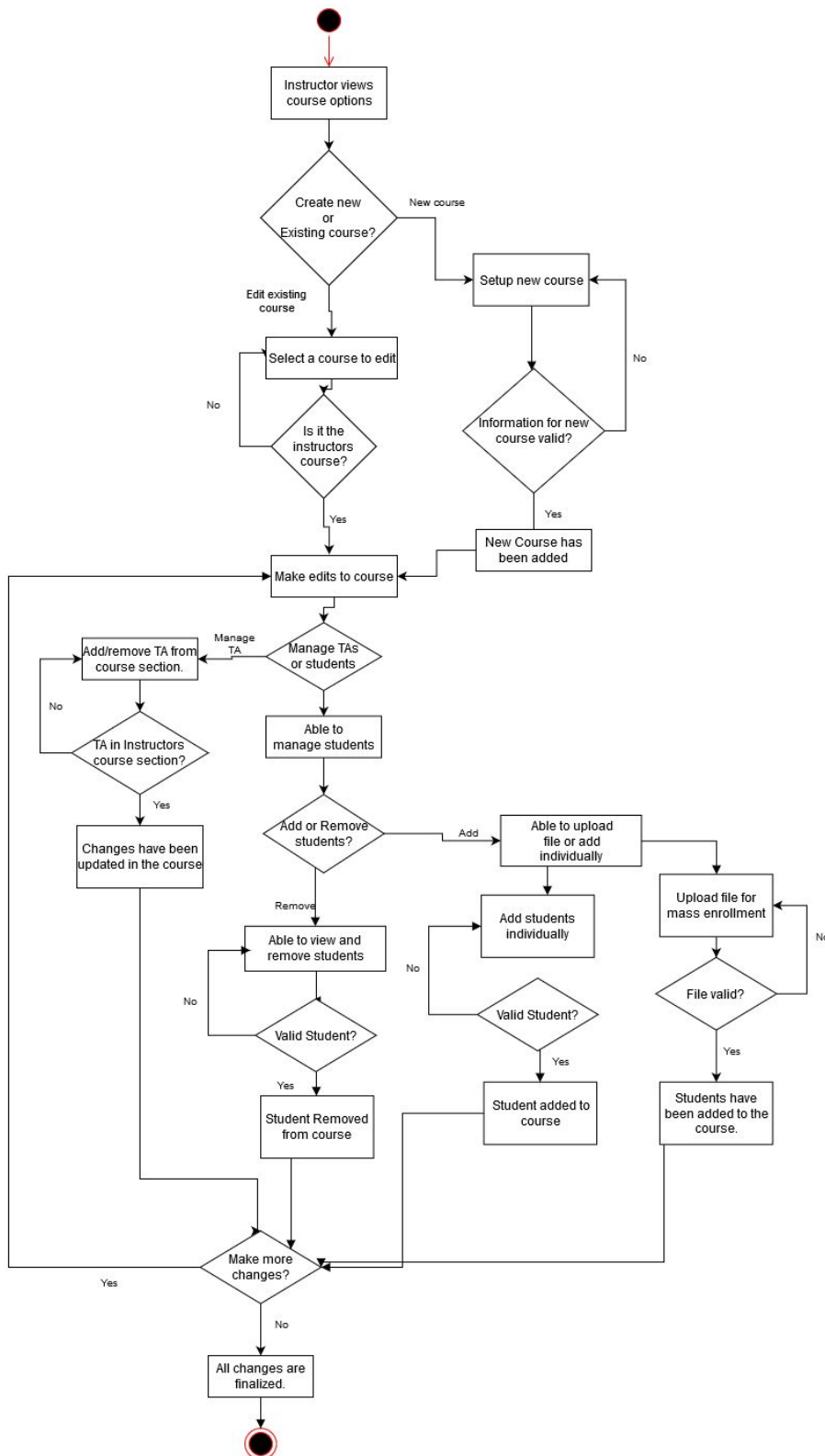
## 7. Activity Diagram Two



This Activity Diagram demonstrates the activity for Students number 1: **Login/Logout**.

**Contributions:** Made by Robert Truesdale. Reviewed by Jeffrey Kerley and Sarah Brooks.

## 8. Activity Diagram Three



**Caption:** Activity Diagram for an Instructor managing their courses. It allows them to edit courses that are theirs or create a new one. They are also able to add or remove TAs that are in their course sections. Instructors can add students singularly or in bulk and remove students from their course.

**Contributions:** Made by Sarah Brooks and Jeffrey Kerley. Reviewed by Robert Truesdale.