

# Project Proposal

Di Zhong

## ***Top Level Description***

This project aims to produce an application that students in a certain online class can use to manage the things they need to get done in the class.

At the beginning of the semester, a list of `todo_tasks` were produced. Students can log in to the database to view the tasks that they need to do for the whole semester, produce a `todo_list` of their own, and move the finished tasks to the `finished_task` table for their own record.

Students are individually labeled by their `studentId`.

The tasks include the unique ids for each task and their due date. When a student creates a `todo` for the task, they can add their own notes to specify details such as what do they need to be careful on, is this a priority task, how long do they expect it to take, etc. Once they have finished the task, they can move it to the list of `finished_tasks`, so that they can keep track of what they have already done for the class, what still needs to be done, and what are the next things they plan to do.

## ***DBMS used***

SQL will be used for the database of this project.

## ***Software, Apps, Languages, Libraries and Hardware***

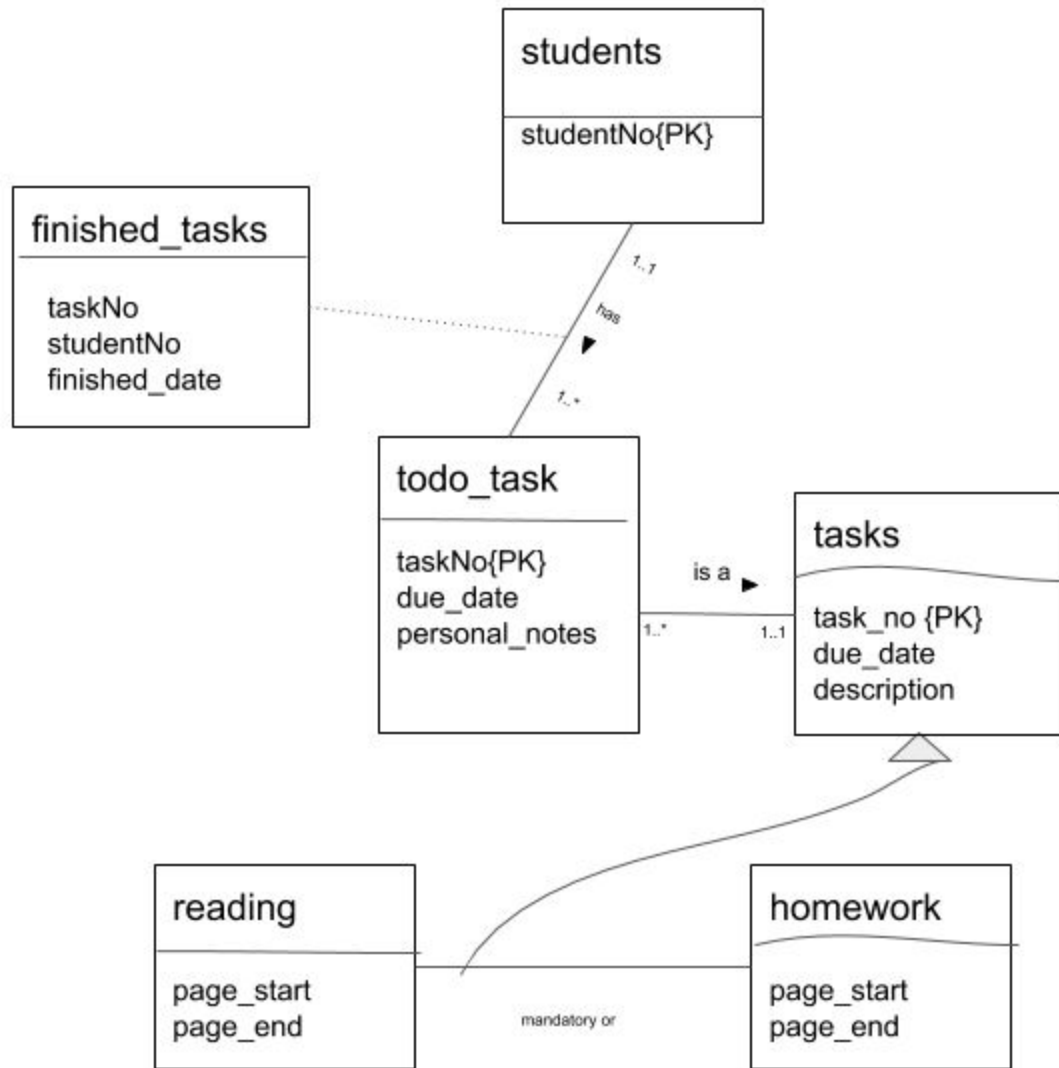
This project will be developed and tested on a Windows machine, using MySQL and Python, with the python library Flask. The resulting application will have a html user interface, where the user will first do the initial login, and then can do the CRUD operations.

## ***Reason of Interest***

This semester all of my classes are online. Some of them display a `todo` list on canvas, some of them don't, and I was wondering how to create one for my own use.

## ***UML diagram***

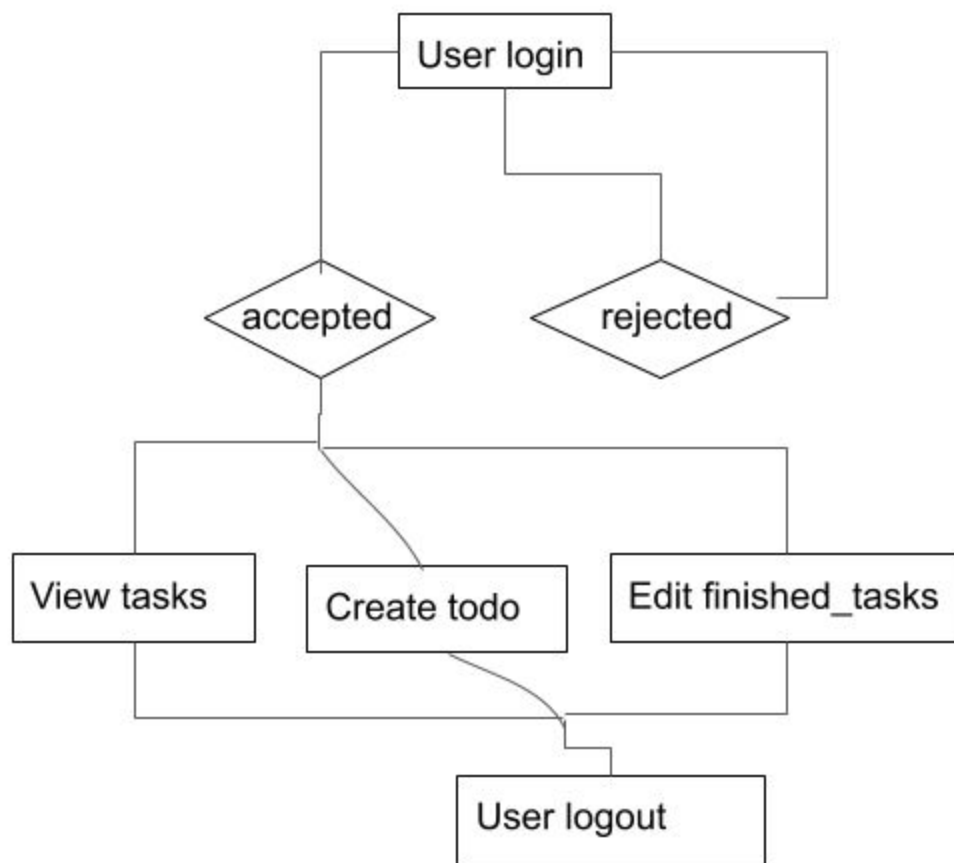
Following is a UML diagram for the database.



### Step-by-Step User Interaction/Activity Diagram

Following is description of user activity diagram for the application.

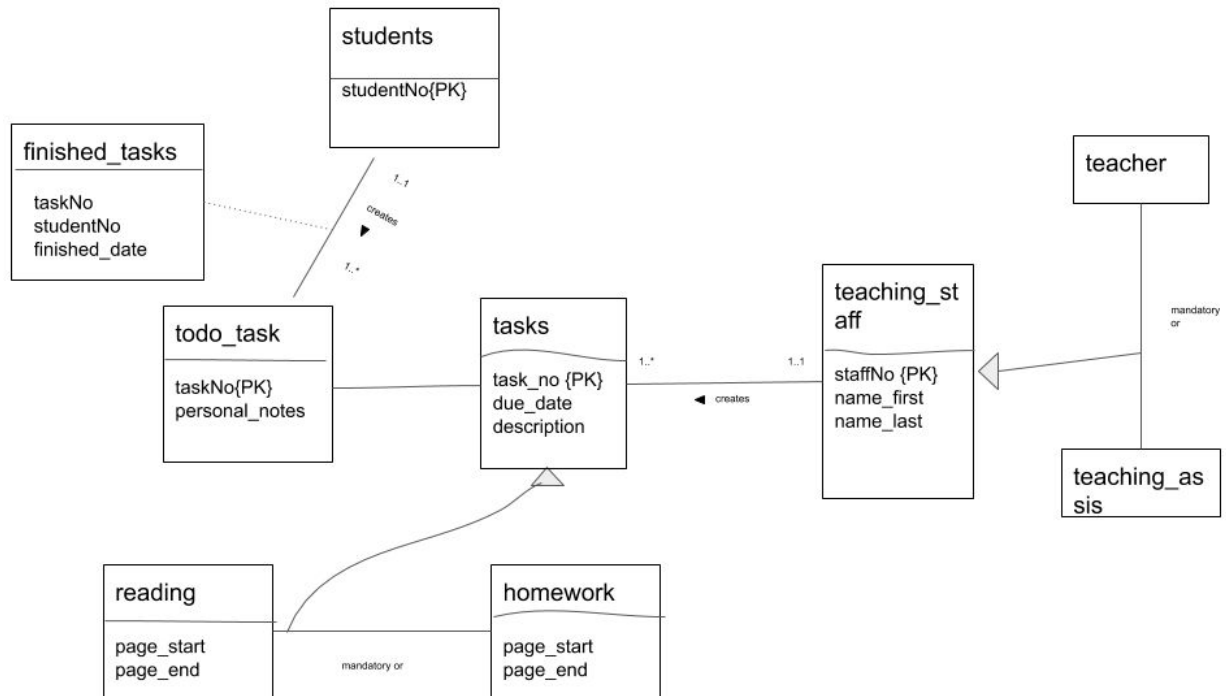
1. User logs into the system. If the username and password is not correct, the login is not successful and the user is back to the login page
2. The user can choose to view available tasks.
3. Or the user can choose to edit their todo-list.
4. Or the user can choose to move item from their todo list to the finished task list.
5. Or the user can delete item from either todo list or finished task list.
6. The user can then choose to logout or continue doing one of 2~5.



### ***Stretch goals***

If there is extra time, I would like to add a `teaching_staff` user group that can add, edit, view and delete tasks. As the semester goes on, the teaching staff team may find that their goal for the semester changes, and the list of tasks that student needs to finish also changes with it. Because of that, the ability to edit the list of tasks that a student needs to do for the class for the semester would be desirable. A member of the `teaching_staff` team can either be the teacher themselves (or multiple teachers, as is often the case for online classes that are big), or one of the teaching assistants, and they share the same editing privilege, since whenever a teaching assistant edit an item, it would've been communicated with the teacher beforehand.

### ***UML diagram for stretch goals***



### User activity diagram for stretch goals

