

EECS 2311 - ITR3: Refactoring Document

3 Design-level Refactorings:

1. Simplified Student Classroom tracker.
2. Changed the tracking of grades for Assignments
3. Changed the relationship between students/teachers & classroom + course.

Refactor #1) Simplified Student Classroom tracker

Bug Report	
Problem Summary	The code smells when programming the relationship between the student & their dashboard. After all, in django you can directly get the unique values & instances of a class directly by implementing a few lines of code. As such, it's redundant to create a class to hold the specific values that are easily obtained within a few lines of code.
Report Type	Code Smells
Can Reproduce	Yes
Severity	Small
Suggested Fix	To fix this, we simply filtered the entire list of those specific classes using the unique class they hold, which gives the list of classes in that list with that specified class. After all, Django works using the reverse idea of how Java implementation works. For example, Django does not allow the Classroom that holds a list of Assignment classes, but Assignment holds a Classroom class (foreignkey), which allows the user to filter for all the assignments that have that specific classroom.

Refactor #2) Changed the tracking of grades for Assignments

Bug Report	
Problem Summary	There was a design issue with the submissions initially holding a blank grades variable. After all, it's better to have a class called "Grades" to hold other values aside from the numerical value, but also its comments and other variables.
Report Type	Design issue
Can Reproduce	Yes
Severity	Small
Suggested Fix	To fix this, we simply created a class called "Grades" & implemented it in the backend and reconfigured the project to include it where it's needed for both the backend and frontend. As such, it made the project more efficient and simpler to provide more features to the project.

Refactor #3) Changed the relationship of students/teachers & classroom + course

Bug Report	
Problem Summary	After modifying how each class stores each other (as stated in Refactor #1), we discovered a design issue with the relationship between the classrooms and courses. After all, students and teachers always have access to a classroom, not a course, so reconfiguration of the code was necessary.
Report Type	Design issue
Can Reproduce	Yes
Severity	Medium
Suggested Fix	To fix this, we simply changed our code to have students and the teachers be connected to the classroom. At the same time, we changed the courses to still have a relationship for the classroom, but it's the administration who adjusts the courses with the classroom it has. Moreover, we had to adjust the frontend and backend as well, so there were not any issues.