Slashing Pow Ski School

Team Potato (Team 15)
James Wollenburg
Melissa Johnson
http://flip3.engr.oregonstate.edu:22998/index

Executive Summary

The initial product remained largely consistent with the final product, with only minor variations based on the feedback we received through each review. Early on, the changes consisted primarily of addressing issues such as ensuring all entities were plural and attributes were singular and consistent casing and style was used for all naming conventions.

During the project, we made some changes to improve the readability and consistency of our code. Specifically, we modified the names of certain attributes for students and instructors. The attribute "waiver_signed" for students and "first_aid_certified" for instructors were initially set as TINYINT, but we later changed them to BOOLEAN after discussing which data type would be more appropriate for our application.

We received some feedback suggesting that we should establish a many-to-many relationship between Lessons and Instructors, but we ultimately decided against this since the brief duration of a ski lesson does not typically require multiple instructors.

Additionally, another piece of feedback related to the “student_phone_number” attribute. Some suggested that we remove the UNIQUE constraint, as some students at Slashing Pow Ski School may be children who are using their parents’ phone numbers. After considering this feedback, we adjusted the attribute accordingly and removed the UNIQUE constraint.

During the front-end development phase of our project, we received feedback from multiple students regarding the unintuitive naming of columns, which we addressed by renaming the columns using aliases to improve readability. This made it much easier for users to understand the purpose and function of each column, which in turn helped them to more effectively navigate our site.

Project Outline

In a given ski season, Slashing Pow Ski School provides courses to nearly 500 students of all skill levels of which there are currently 9 divisions. The school currently offers 20 different lessons which cater to different skill levels and taught by one of the 8 instructors. As part of their information collection and recordkeeping, the school would like to gather some basic liability information.

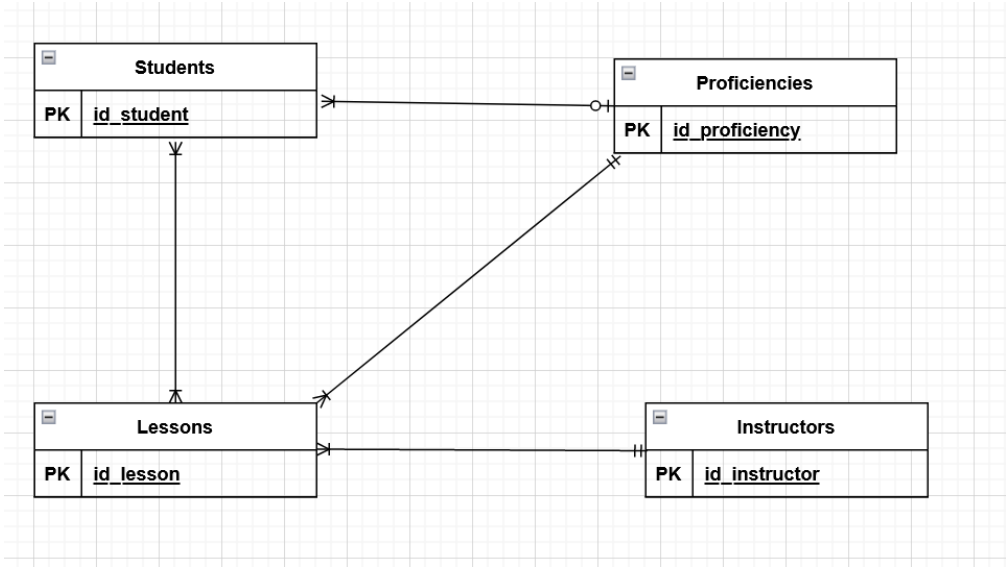
The ski school wants to electronically record emergency contacts for each student when they are registered. Additionally, the school is assigning a recommended proficiency level to each of their lessons (all are group lessons), tracking the years of experience of their instructors, and tracking if an instructor is first aid certified. New students are allowed to self-evaluate their skill levels, get evaluated by instructors at a later date, or, while not recommended by the school, can leave it off (i.e. proficiency is optional for students). They are not restricted to courses at their skill level but do so at their own risk as per the waiver they'll sign. Lastly, students may sign up for as many lessons as they'd like.

Database Outline

- Students - records the details of students at Slashing Pow Ski School
    - id_student: INT, Not NULL, Unique, Auto-increment, PK
    - id_proficiency: INT, FK
    - student_fname: VARCHAR(45), Not NULL
    - student_lname: VARCHAR(45), Not NULL
    - student_phone_number: VARCHAR(15)
    - emergency_fname: VARCHAR(45), Not NULL
    - emergency_lname: VARCHAR(45), Not NULL
    - emergency_phone: VARCHAR(45), Not NULL
    - waiver_signed: BOOLEAN, Not NULL, Default 0
    - Relationship:
        - M:N relationship between students and lessons - implemented with an intersection table 'student_has_course'
        - M:1 between Student and Proficiency
- Proficiencies - captures proficiency of each student
    - id_proficiency: VARCHAR(2), Not NULL, Unique, PK
    - proficiency_name: VARCHAR(45), Not NULL, Unique
    - Relationship:
        - 1:M between Student and Proficiency
        - 1:M between Proficiency and Lesson
- Lessons - information about each lesson offered
    - id_lesson: INT, Not NULL, Unique, Auto-increment, PK
    - lesson_name: VARCHAR(45), Not NULL
    - id_instructor: VARCHAR(45), Not NULL, FK
    - id_proficiency: VARCHAR(45), Not NULL, FK
    - Relationship:

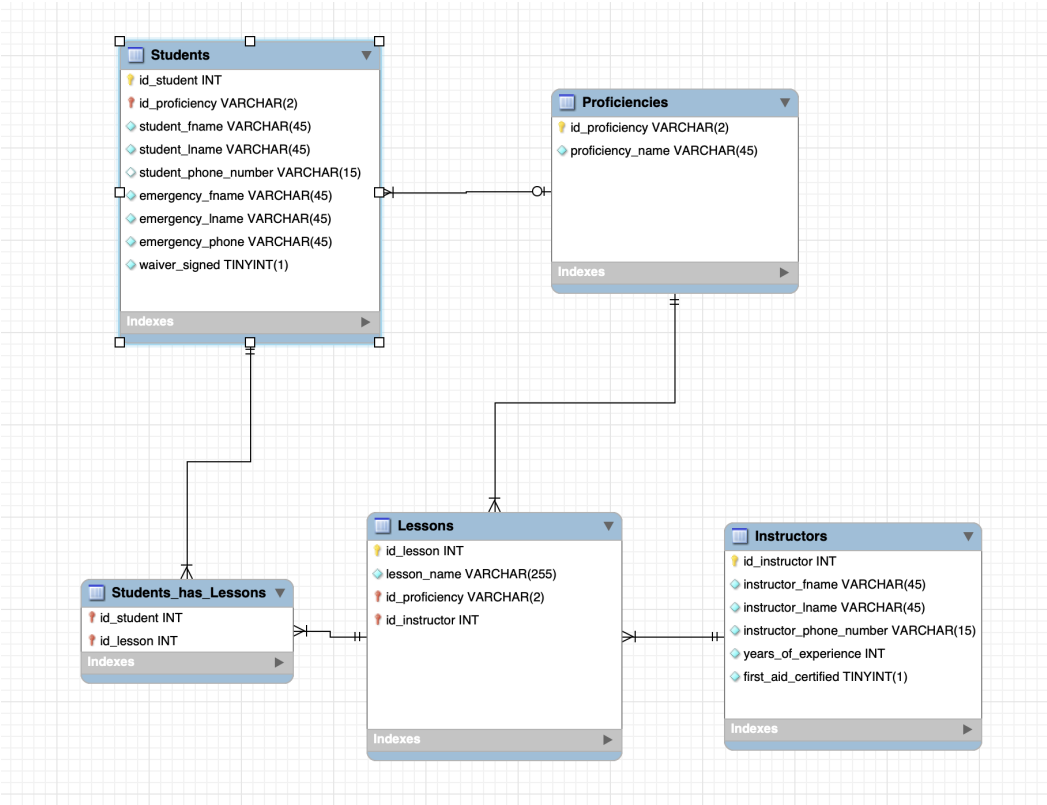
        - N:M between Lesson and Student - implemented with an intersection table, ‘Student_has_course’
        - M:1 between Lesson and Proficiency
        - M:1 relationship between Lesson and Instructor
- Instructors - information about each instructor
    - id_instructor: INT, Not NULL, Unique, Auto-increment, PK
    - instructor_fname: VARCHAR(45), Not NULL
    - instructor_lname: VARCHAR(45), Not NULL
    - instructor_phone_number: VARCHAR(15), Not NULL, Unique
    - years_of_experience: INT, Not NULL
    - first_aid_certified: BOOLEAN, Not NULL
    - Relationship:
        - 1:M relationship between Instructor and Lesson

ER Diagram



Schema

Note: MySQL Workbench converts BOOLEAN Data Types to TINYINT automatically. They're effectively the same thing.



Sample Data

Instructors Table:

	id_instructor	instructor_fname	instructor_lname	instructor_phone_number	years_of_experience	first_aid_certified
Edit Copy Delete	1	Jason	Wood	440-652-7456	5	1
Edit Copy Delete	2	Jerold	Wehmeyer	207-490-5451	4	1
Edit Copy Delete	3	Adrienne	Sweitzer	843-226-9311	3	1
Edit Copy Delete	4	Janita	Steele	907-340-8998	2	0
Edit Copy Delete	5	Maxine	Smalls	509-528-3827	1	0

Students Table:

	id_student	id_proficiency	student_fname	student_lname	student_phone_number	emergency_fname	emergency_lname	emergency_phone	waiver_signed
Edit Copy Delete	1	1A	Aaron	Miller	646-620-2601	Araceli	Barfield	415-606-0643	0
Edit Copy Delete	2	1B	Anette	Adams	361-484-7727	Sara	Carrera	920-702-7461	0
Edit Copy Delete	3	1C	Gary	Hollingsworth	573-300-3971	Lavonne	Jordan	916-862-9093	1
Edit Copy Delete	4	2B	Robert	Thompson	678-914-6782	Camelia	Sullivan	971-506-9292	0
Edit Copy Delete	5	*NULL*	Linda	Durant	603-866-4438	Robert	Mason	318-914-1704	1

Lessons Table:

	id_lesson	lesson_name	id_proficiency	id_instructor
Edit Copy Delete	1	Ski Gear Essentials	1A	5
Edit Copy Delete	2	French fries and pizza and other beginning movemen...	1B	4
Edit Copy Delete	3	Keeping Skis Parallel and Being Mindful of Arm and...	2A	3
Edit Copy Delete	4	Your First Ski Lesson	1A	1
Edit Copy Delete	5	Your Second Ski Lesson	1B	1

Student_has_Lessons Intersection Table:

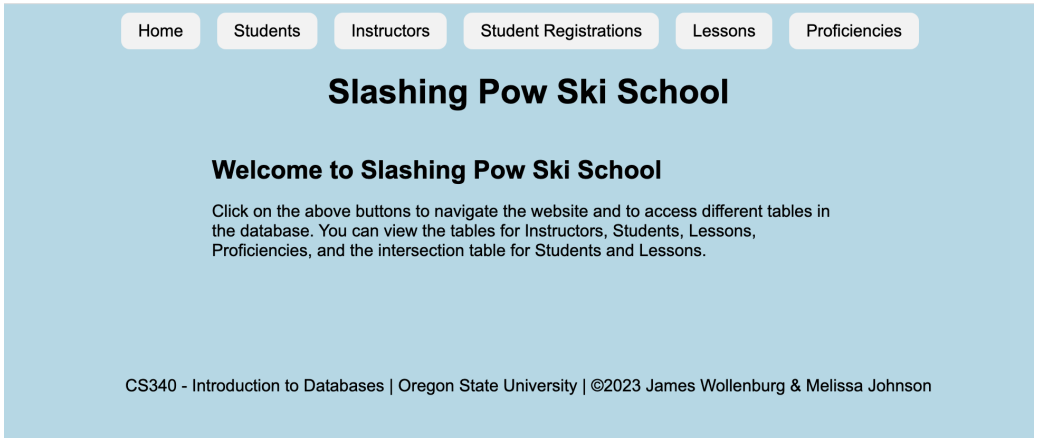
	id_student	id_lesson
Edit Copy Delete	1	1
Edit Copy Delete	2	1
Edit Copy Delete	2	2

Proficiencies Table:

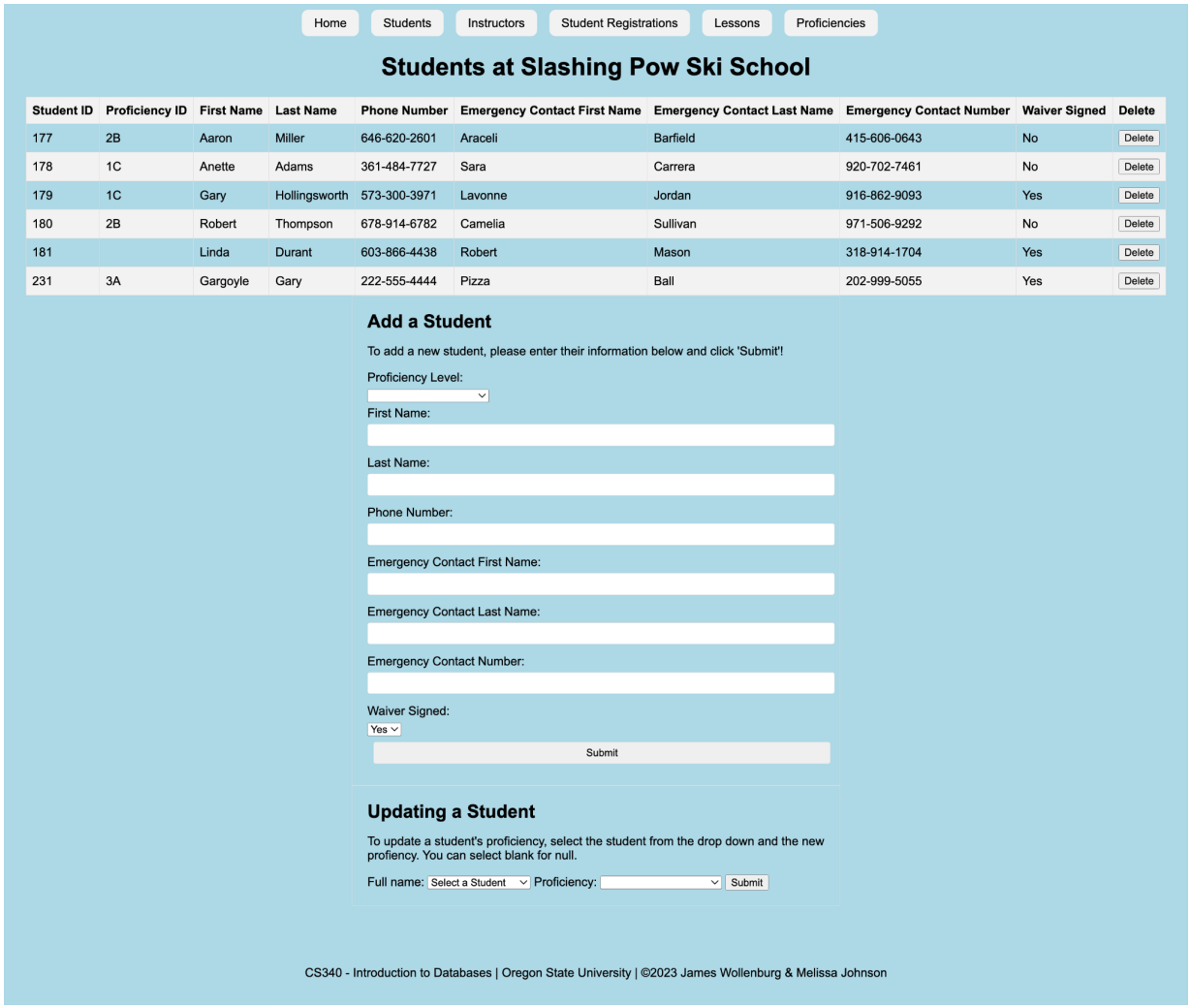
	id_proficiency	proficiency_name
Edit Copy Delete	3C	Advanced
Edit Copy Delete	1C	Advanced Beginner
Edit Copy Delete	2C	Advanced Intermediate
Edit Copy Delete	3A	Early Advanced
Edit Copy Delete	1A	Early Beginner
Edit Copy Delete	2A	Early Intermediate
Edit Copy Delete	3B	Mid Advanced
Edit Copy Delete	1B	Mid Beginner
Edit Copy Delete	2B	Mid Intermediate

Screen Captures

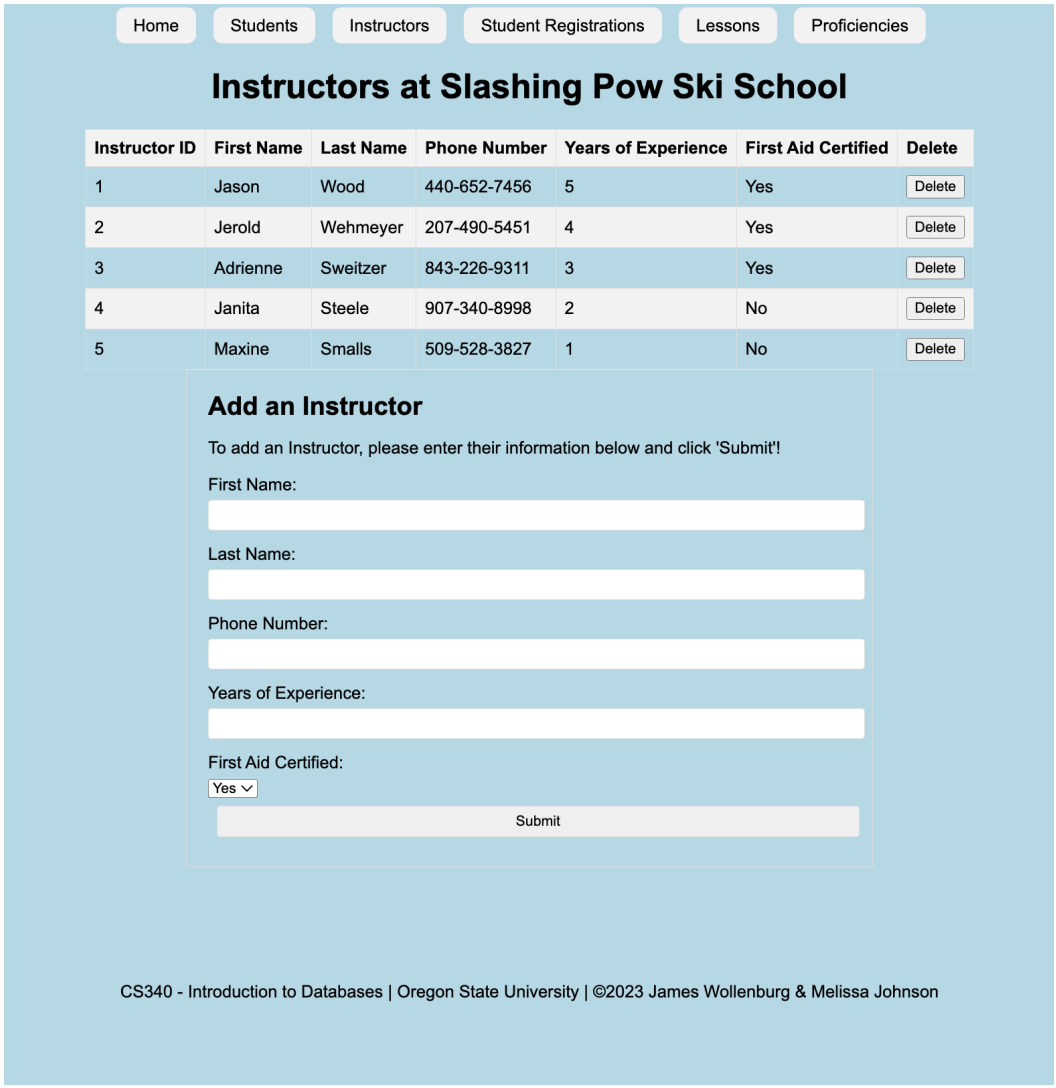
Home Page (No CRUD, BROWSE other pages)



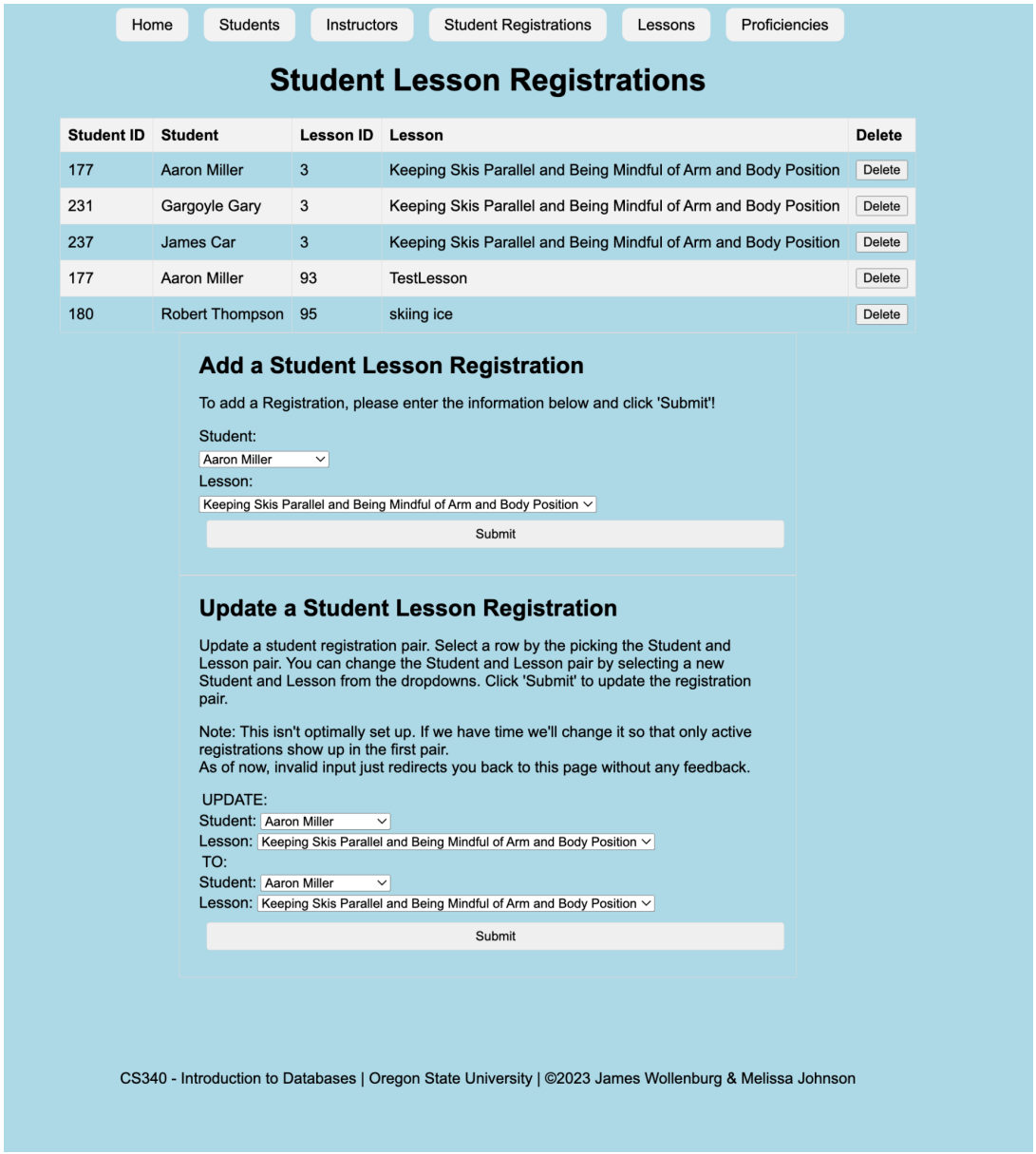
Students (CREATE/READ/UPDATE/DELETE)



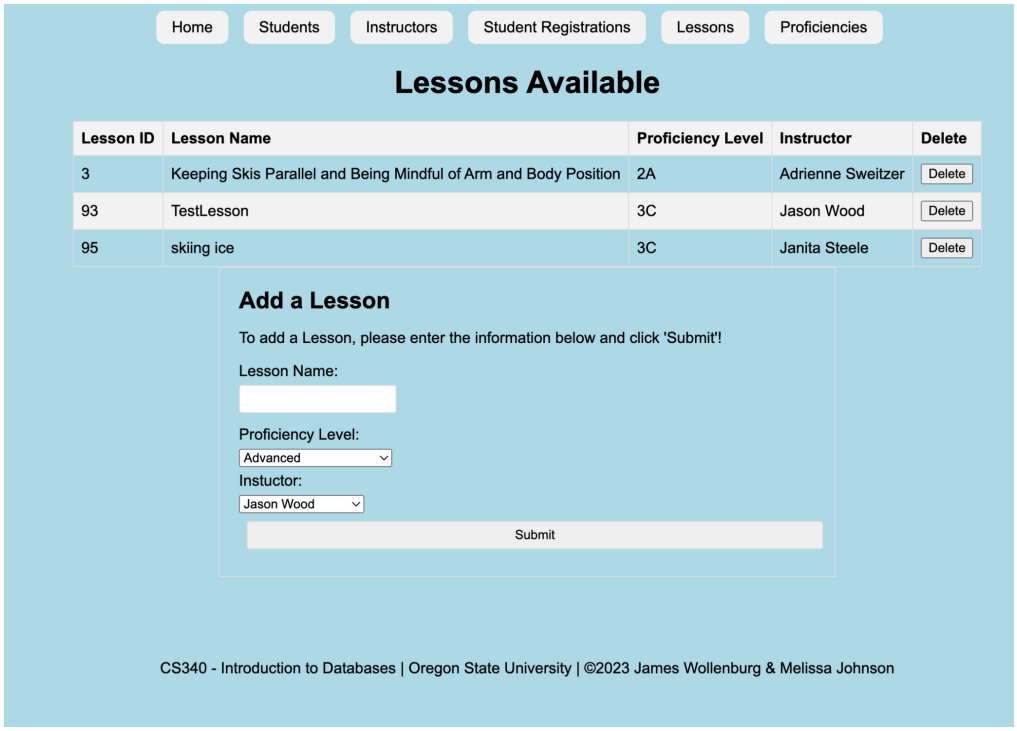
Instructors (CREATE/READ/DELETE)



Student Lesson Registrations (CREATE/READ/UPDATE/DELETE)



Lessons (CREATE/READ/DELETE)



Proficiencies (CREATE/READ)