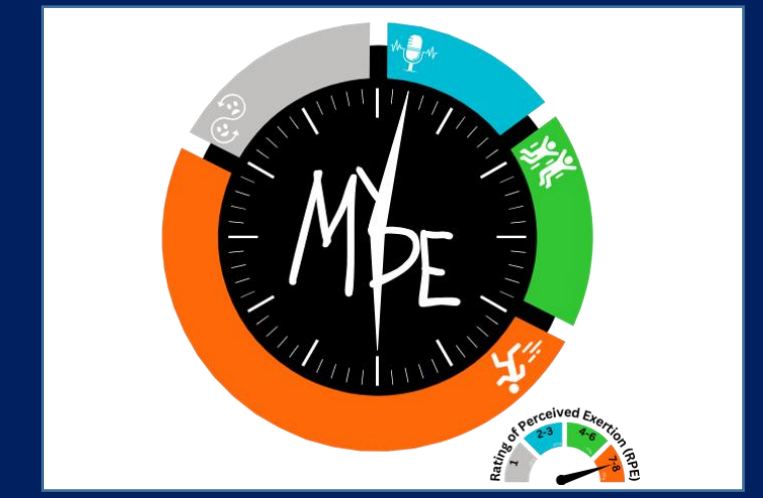




# MyPE Web Platform

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## Introduction

This project was created with the vision of providing middle school students with a proper physical education. The method created for this was an online classroom system, which allows teachers to assign materials to students that join their classrooms. The success of this project is proven by the implemented account, classroom, material, and assignment related features.

## Requirements

### Functional requirements:

- User accounts – Student/teacher login
- Dashboards- role based views
- Classroom management- Create/join classes
- Lesson library – Browse various PE content
- Material assignment – Assign lessons
- Lesson preview- view in browser
- Student submission – upload work
- Assignment completion – track progress
- Video Implementation – attach videos
- Survey system – assign & record survey
- Teacher feedback – comment on work

### Non-functional requirements:

- Usability – clean consistent interface
- Scalability – supports more users/classes
- Security- protects user data

## Lesson Library

This is the page that holds all the assignable materials. There are 33 topics total split into 6 different units.

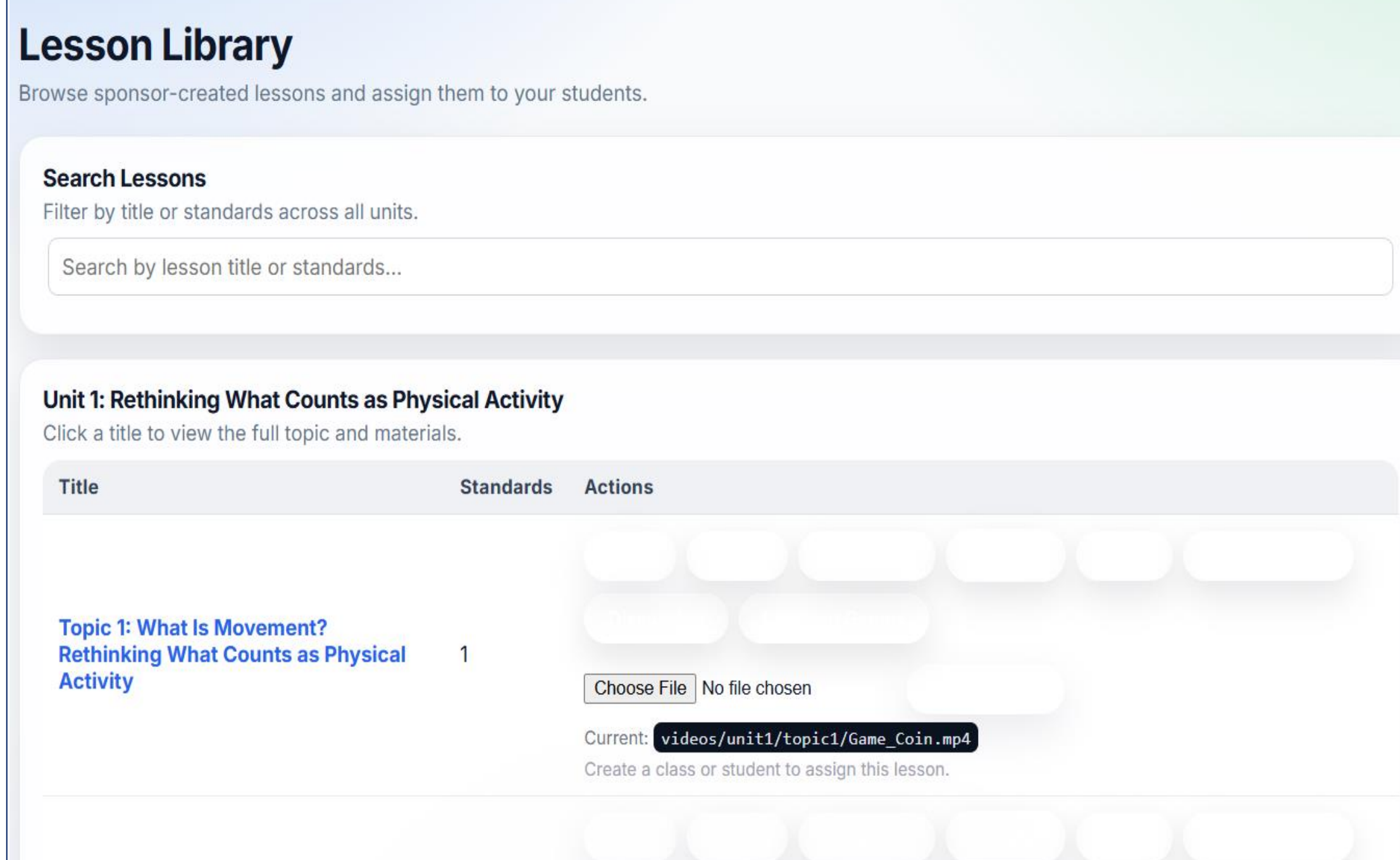


Figure 3: The Lesson Library page of the MyPE Platform

## System Architecture

- Users interact with the platform through a web browser; Flask handles routing, authentication, and template rendering
- The backend communicates with an SQLite database to store and retrieve users, classes, enrollments, and assignments
- A preview engine converts lesson files into PDF format for in-browser viewing

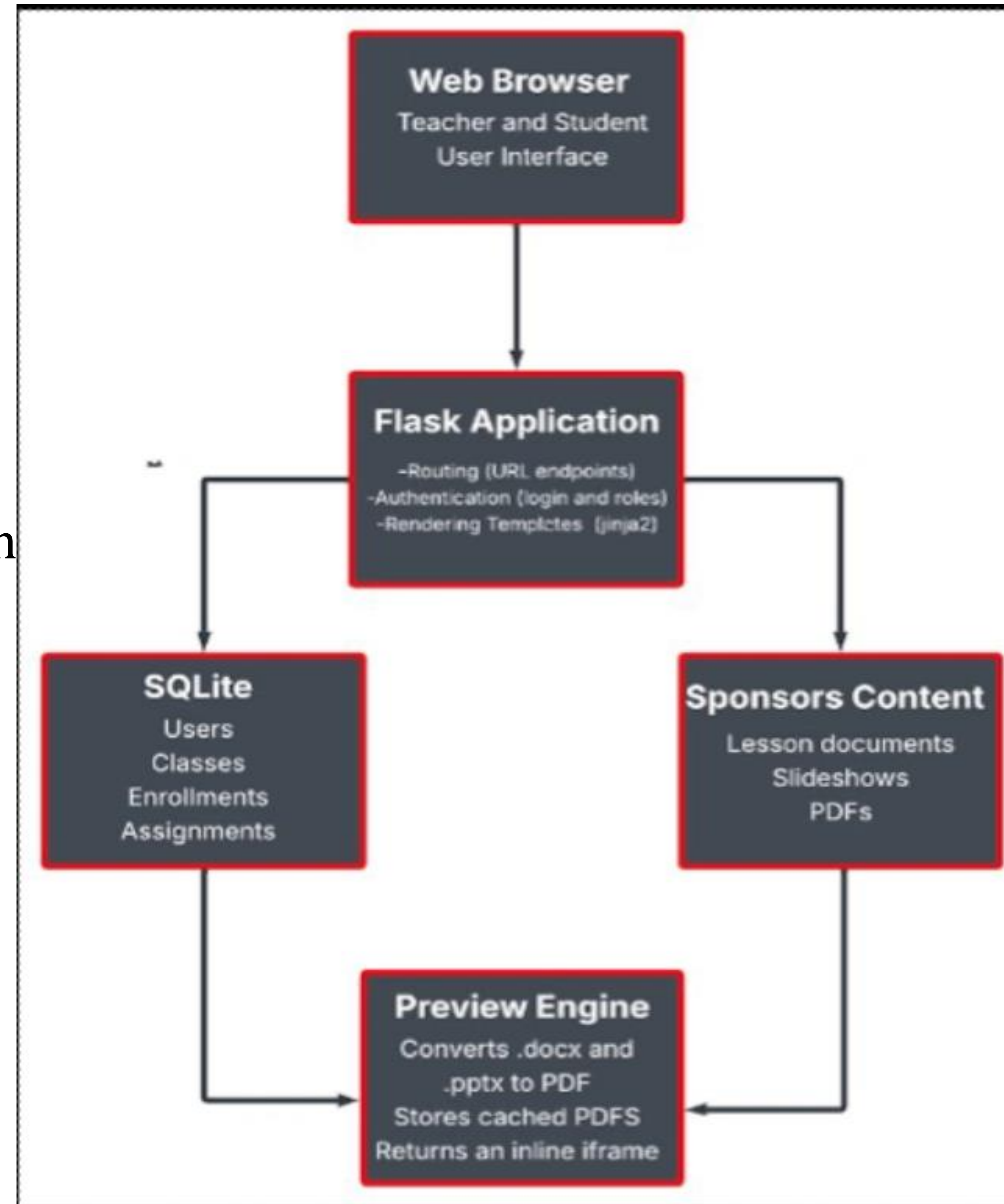


Figure 1: High level system architecture diagram of MyPE Platform

## Database Design

- Uses a relational database design with SQLite. The database has several tables that support the primary functions such as user management, enrollment in class, as well as lesson assignments, and functionality
- User table stores the account information for both teachers and students, the class table is the classroom that is created by a teacher and includes a unique code that students can use to join the classroom.
- Enrollment table links students to specific classes and allows for multiple students to be enrolled in the same class
- Assignment table links the lesson materials to a certain teacher, class, or student.

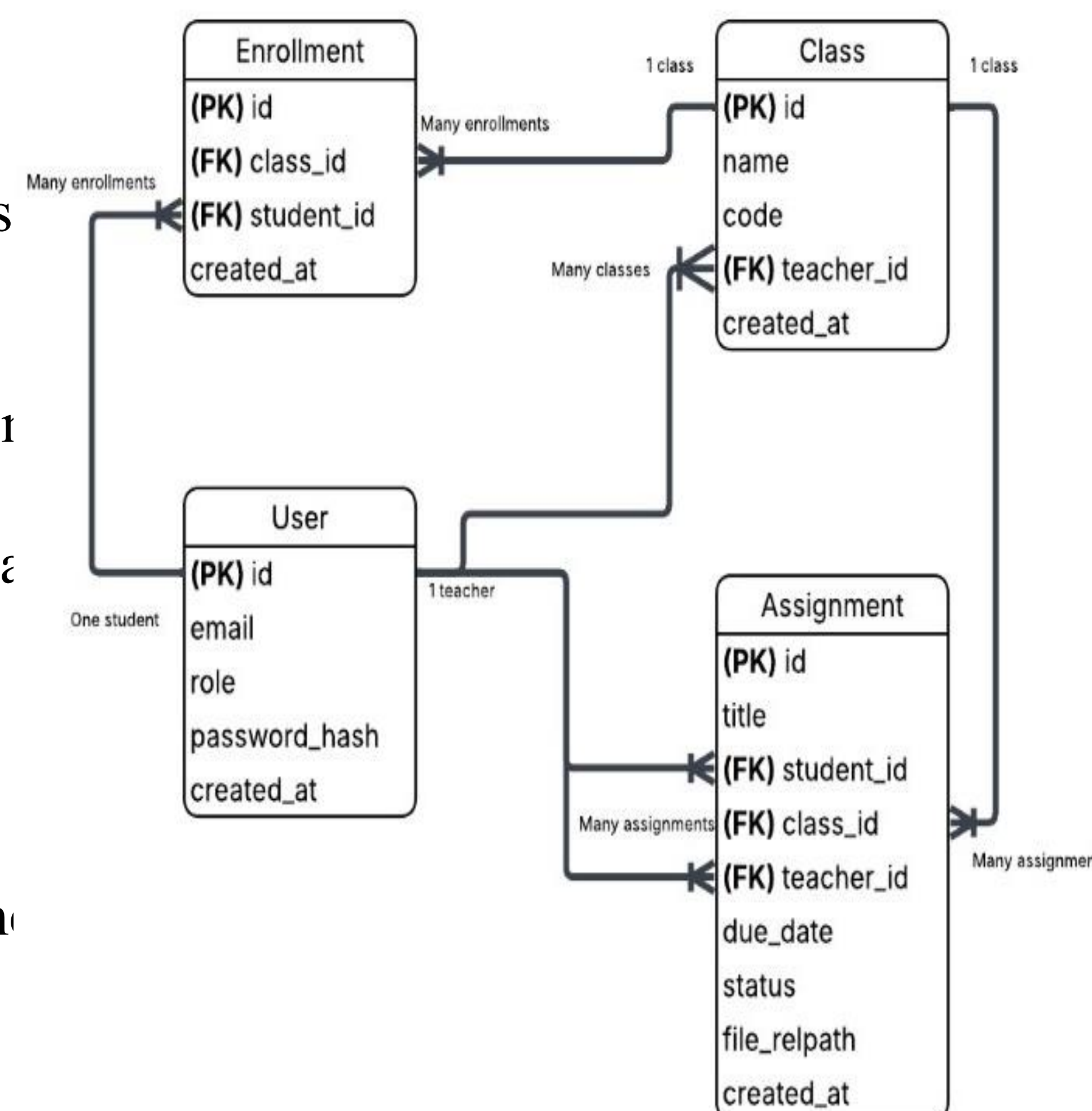


Figure 2: Database schema for users, classes enrollments and assignments

## Results

This is the teacher dashboard page, where teachers can create classrooms and assign materials.

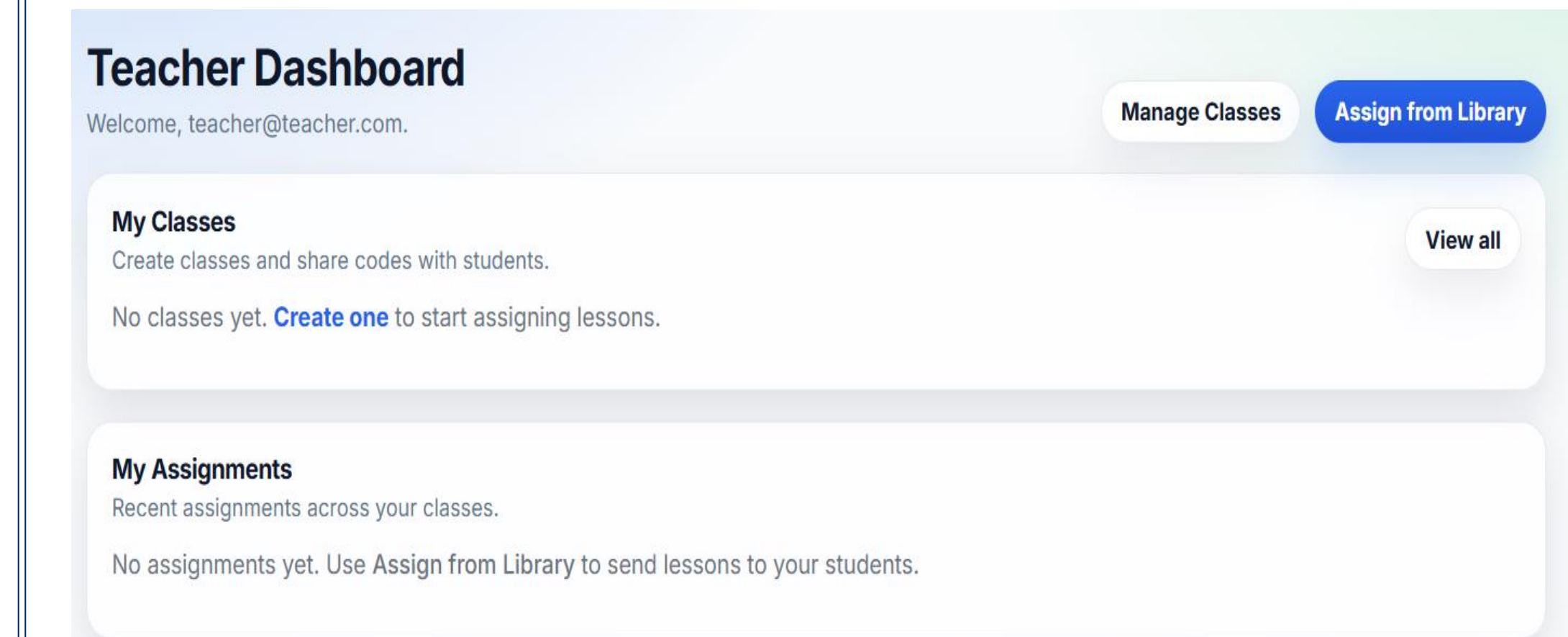


Figure 4: The teacher dashboard page of the MyPE Platform

## Implementation & Testing

### Implementation:

- Flask used for routing, authentication and role-based access
- SQLite used to store users, classes and assignments
- Jinja2 templates used to render dynamic pages
- Preview system converts lesson files to PDF for in-browser viewing
- Video feature allows teachers to upload and assign videos

### Testing:

- Manual testing of teacher and student workflows
- Automated testing using pytest
- Tested login, class creation/joining, assignment submission and lesson previewing
- All core features worked as expected with no major issues

## Team

### Development Team:

Gabriel Burt, Nathaniel Kloza, Jacob Mitchell

Project Sponsor: Chad Killian

## Evaluations & Conclusions

This project was a success since all of the core features of the website were implemented. These features include the abilities to register and sign in to both student and teacher accounts, creating and joining classrooms, assigning materials, and marking assignments as complete. Additional features such as student submissions, video integration, surveys and teacher feedback were also implemented, expanding the platform beyond its initial scope. There is also the lesson library implemented which hold all the materials that can be assigned. This is a fully functional, working website that can be easily learned and used by both students and teachers.