Course Vault

ITWS 4500 Project Proposal
Section 1 Team 2 (CourseVault)
Adam Kaplan, Christian Marinkovich, Joshua Collins, Mius Thomas

Project Summary

Course Vault is a free platform designed to provide students at selected universities, beginning with Rensselaer Polytechnic Institute (RPI), access to a suite of tools aimed at enhancing their academic experience. The primary focus of the site is to help students effectively navigate the wide array of courses offered at RPI. Inspired by resources like the schedule-building platform QuACS, the professor rating system RateMyProfessor, and the archival backwork stored by Alpha Phi Omega in the RPI Union along with many other organizations and clubs, Course Vault seeks to centralize and expand these capabilities into a single, accessible website.

Currently, there is no online centralized repository for viewing backwork from RPI courses. Course Vault aims to address this gap by offering students comprehensive tools and resources to deepen their understanding of advanced concepts and problem-solving techniques. By providing access to relevant examples and backwork, the site empowers students to overcome confusion without resorting to unauthorized resources such as Chegg or ChatGPT. For instance, if students encounter challenging assignments, they can refer to similar problems within Course Vault's database to understand the steps required, allowing them to arrive at solutions independently and truly grasp the material. We aim to have the work stored in Course Vault be similar to current assignments and questions, but not the same questions so students still have to apply techniques and skills that are highlighted in our stored assignments and exams.

In addition to supporting academic success, Course Vault provides insights into the teaching history of professors for various courses. This feature enables students to make informed decisions when planning their schedules, particularly for electives where flexibility is possible. By reviewing past teaching assignments, students can strategically choose courses that align with their preferences and goals. This is advantageous for RPI students taking electives who can afford to shift classes between semesters in order to meet graduation requirements.

In an effort to foster a safe and secure learning environment, Course Vault requires users to make accounts using their school-issued emails as their RCSIDs help us verify legitimate users. We also plan to implement a reporting system for users who make an account under someone else's email & RCSID. Verified users are granted the ability to add to our pool of knowledge by adding their backward and the grade received from this work. By empowering students to share knowledge and experiences, we aim to create a platform that enables them to succeed both in the classroom and beyond.

Users

- John Henry:

  John is an 18-year-old Mechanical Engineer who is a first-generation college student. He has never been on his own before and he is having a hard time with this IEA class. He has been to office hours numerous times but he is still stuck. His friends are just as lost as he is. John refuses to give up, he uses Course Vault to find an example problem from last year that is somewhat similar to his current assignment. He came to the realization that the notes he took in class had an additional symbol where a minus symbol was. With this newfound knowledge and confidence, John was able to complete his homework and score highly on the next exam.

- Cam Thomas:

  Cam is a 21-year-old, second-semester junior at Rensselaer Polytechnic Institute who is making her schedule for the last three semesters of her college experience. She doesn't like one of the professors who teaches her Foundations of Computer Science class and wants to drop the course. She sees another professor teaching the later section and considers switching rather than dropping the course. Luckily, she pulls up Course Vault on her phone and sees that another professor is teaching the section, pulling up his reviews she thinks he would help her understand the course better. She ends up switching and is much happier, and ends up with an A- in the course (she still can't make a Turing Machine).

Stakeholders

Our Stakeholders are primarily Academic Institutions, Professors, and Students. The students use our site to conduct research regarding possible future class schedules as well as old backwork for a better understanding of current concepts in their classes. The professors use our website to gain more insight into how their students perceive them and their lectures. This aspect of our site also benefits our student users as they can also develop a basic understanding of how other students perform under professors in desired classes. There are also several ways to increase revenue if needed. We can have tutoring companies as sponsors by adding a page for recommended tutors and there is always a possibility of ads if needed.

Required Technologies

Node.js
Express.js
React
MongoDB
HTML
CSS
JavaScript

Functional and Non-Functional Requirements:

Functional:

Our main functionality comes from each of our three services. These include logging and maintaining a record of backwork, providing reviews of professors cumulative in an average score of how well-liked the professor is, and the ability to see class times from this year as well as previous years. We will also prioritize the validation of current RPI students so users are from the school. This leads into the ability to add content if you are an active student so work can be collected into a single shared space.

Non-Functional:

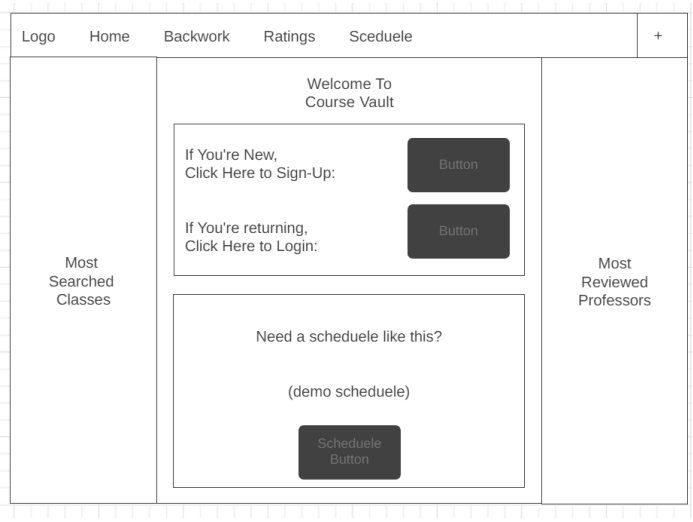
These requirements may include features such as dark mode, reporting systems for bad data and much more. These would be ideal to have in a final product without these additions, the product can still be considered complete.

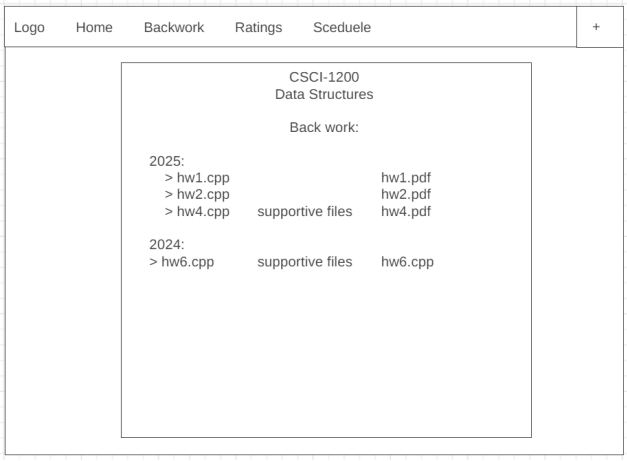
Projected Timeline

Objective	**Duration**	**Completion Date**
Main Landing Page	~2 weeks	February 7th
Login Page	~2 weeks	February 7th

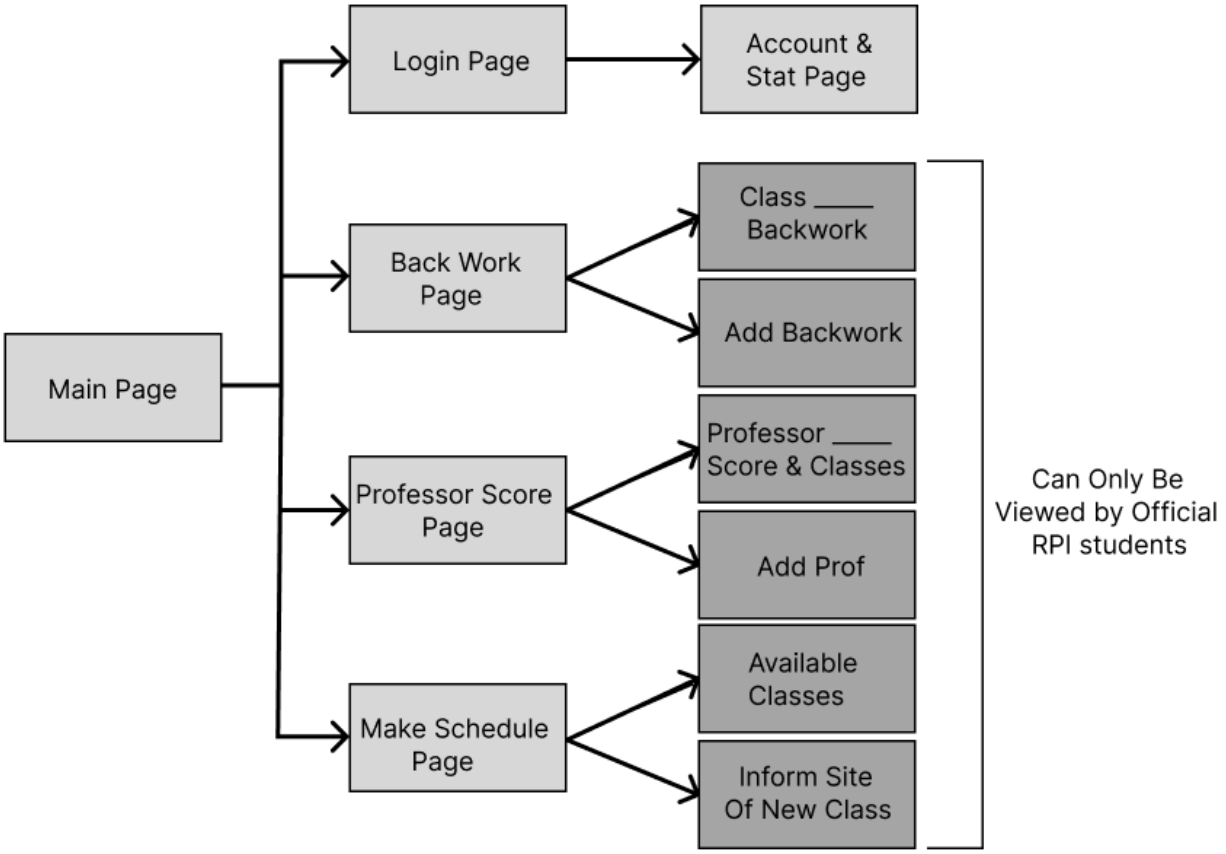
END SPRINT 1		
BackWork Page Functional	~2 weeks	February 24th
Professor Score Page Functional	~1 week	February 14th <3
Schedule Maker	~2 weeks	February 24th
END SPRINT 2		
Finish functionality for all pages	Until Project Due Date	April 8th
Bug fixes and testing	Until Project Due Date	April 8th
END SPRINT 3		

Wireframes





Draft Site Design



Video URL

https://youtu.be/qG7XYyQbUTg