Team CS 411114

Course Explorer++

February 07, 2024

Project Summary

Our website will combine data from the UIUC course explorer along with Professor Wade's GPA datasets to provide an enhanced course selection experience. We are able to use data from the gpa datasets, along with a crowdsourced course rating feature to allow students to make more informed decisions about which courses to select. We will also provide suggestions based on users' search history and course GPA and ratings.

Description

Course registration is often a troublesome issue for students, with challenges in navigating course information, prerequisites and teaching styles. Besides, students may not get fully informed of the advantages and drawbacks of taking one course, which often results in unnecessary problems during the courses.

As students, we find these problems difficult to tackle. Drawing from our own experiences with existing course registration systems, as users, we genuinely understand the users' needs. Therefore, we aim to build this new innovative web application based on our experience using the old course registration systems.

The web application we will design, Course Explorer++, tackles these issues head-on by integrating the following features. First, various registration and course information are integrated into one web application, making it particularly easy for students to get the overall picture of different courses. Second, the web application also allows rating and commenting on courses. This makes the application more interactive and engaging and directly addresses the

need for a more connected and informed course selection process. Last but not least, customized course suggestions are provided based on the user's search history and profile. These innovations not only streamline the course selection experience but also ensure students make decisions on comprehensive data and peer feedback, significantly impacting their academic journey in a positive way.

Key Features of Course Explorer++ include:

- Comprehensive course search and detailed information view (including GPA, course descriptions, etc)
- Ability to comment and rate courses
- User authentication system for verifying authentic feedback
- Personalized course suggestions based on search history

To summarize, course explorer++ simplifies course selection by integrating creative features, thereby facilitating informed and efficient academic decisions.

Usefulness

As students ourselves, we personally resonate with the motivation behind this project. Although there are websites like Course Explorer and UIUC Grade Disparity, it can get overwhelming when you have to then check reddit for ratings, and then another planning tool added on top of that. So we wanted to introduce Course Explorer++, an application that aggregates your course info, the GPA disparity of those individual classes, comments/ratings, and course suggestions based on search history.

Our website's main functionality include: searching for courses and clicking into them to see more (GPA, course description, etc), comment and rate courses, and logging in as a user (to make sure you are authentic). In short, we stand out from other websites because we provide an all-in-one solution to the issue of there being simply too many websites to handle at once when it comes to courses and the lack of a dedicated website to leave comments specifically for UIUC courses.

Datasets

1. [UIUC Course Schedule API]

   This API shows available courses and their sections for a given year and semester along with course descriptions (same information that UIUC course explorer provides). This will be the basis of our website.

   Link to already scraped data:
   https://github.com/wadefagen/datasets/tree/master/course-catalog

This is the information that this dataset provides; it is in csv format.

Year	Term	YearTerm	Subject	Number	Name	Description	Credit Hours	Section Info	Degree Attributes	Schedule Information	CRN	Section

Status Code	Part of Term	Section Title	Section Credit Hours	Section Status	Enrollment Status	Type	Type Code	Start Time	End Time	Days of Week	Room	Building	Instructors

- Approximately 150000 rows from Spring 2016 to Spring 2023

2. [University of Illinois' GPA Dataset]

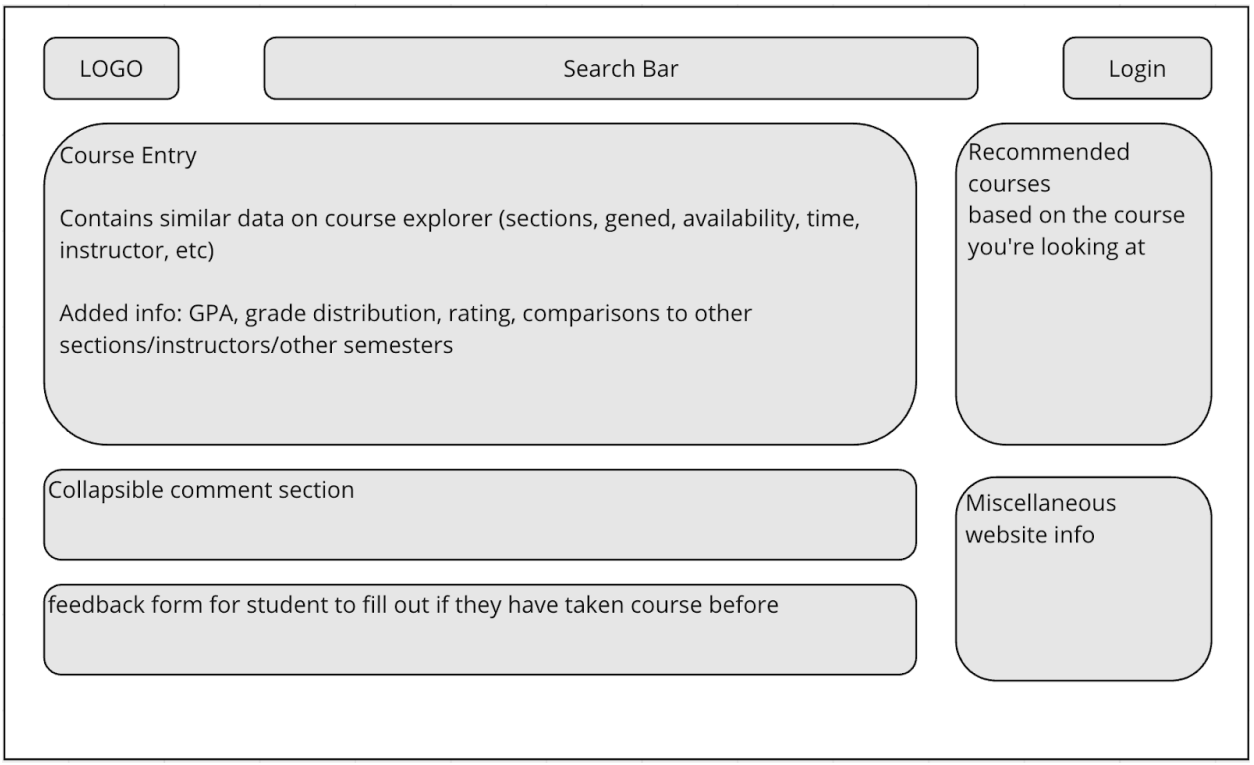
   This is Professor Wade Fagen-Ulmschneider's GPA Dataset used for his GPA visualizations. We will use this to show course difficulty for different sections.

This is the information that this dataset provides; it is in csv format.

Year, Term, YearTerm, Subject, Number, Course Title, Sched Type, A+, A, A-, … , D-, F, W, Primary Instructor

- Courses with 20 or less students excluded
- 22 columns, 69000 rows including grade data for all courses from Summer 2010 to Spring 2023

UI Mockup



The image shows a sample UI mockup for a course-specific page. It is organized into two primary sections: the header and the main content area. The header consists of essential elements like the logo, a search bar and a login button. In the main content area, users can find detailed course information, comments from students who took the course before, a feedback fill-out component, suggestions for recommended courses and other pieces of website information.

Functionality

Course Explorer++ will be a full stack web application. Our main feature is a course catalog with different options to search and filter through courses by categories such as subject, general education requirements, semester, whether there are open seats, etc.

Once the user selects their desired course, they will be shown the description, the sections with their respective instructors, grade distributions in the past, prerequisites, and requirement fulfillments. They will also be shown user-aggregated ratings for each section, and

a list of recommendations for other courses based on search history. Users can create an account to submit their own ratings and also input some information such as major, courses taken, etc. to make recommendations better.

Project Work Distribution

- Shuo will work on the React Frontend
- Brad will work on implementing Flask API endpoints in the backend
- Benjamin and Michael will work on supporting the backend and sql integration