Project Team 6 - Milestone #4

Andrew Wang, Keyu Lin, Lexie King, Shrey Bahadur

Project Overview

Repository: https://github.com/lhking1122/326_Course_Recommendation_System.git

Issues: https://github.com/lhking1122/326_Course_Recommendation_System/issues

Milestones: https://github.com/lhking1122/326_Course_Recommendation_System/milestone/2

Description: The user will input the courses they have already taken, and optionally any academic or career interests they have, and the app will recommend future courses they might be interested in. The recommendations will also consider prerequisite/eligibility requirements to ensure only available courses are suggested. A visual CS major course progress map will show completed courses, current courses, and suggested future courses to help students plan their academic path.

Key Features:

- User Input: Students can enter courses taken, interests, and career goals.
- Course Recommendation: The system recommends appropriate courses based on inputs and provides course details (e.g., prerequisites, credits, schedule, etc.).
- Course Schedule Builder: Students can select courses and generate schedules, the system will indicate time conflicts and provide suggestions for adjustments.
- Course description search up: Students can search up interested courses through the course details tab.
- Course Reviews: Students can look at and leave reviews for courses

Roles

Lexie King:

- Role: Project Manager
- Issues: General UI Design, Past Course Storage, Course Details, Course Recommendation Home Page

Shrey Bahadur:

Role: Note Taker

Issues: Course Review Page, User login data,

Andrew Wang:
Role: Integration Manager
Issues: Ensuring UI, data structures, and the various pages are compatible with each other. Course Progress Chart page.

Keyu Lin:

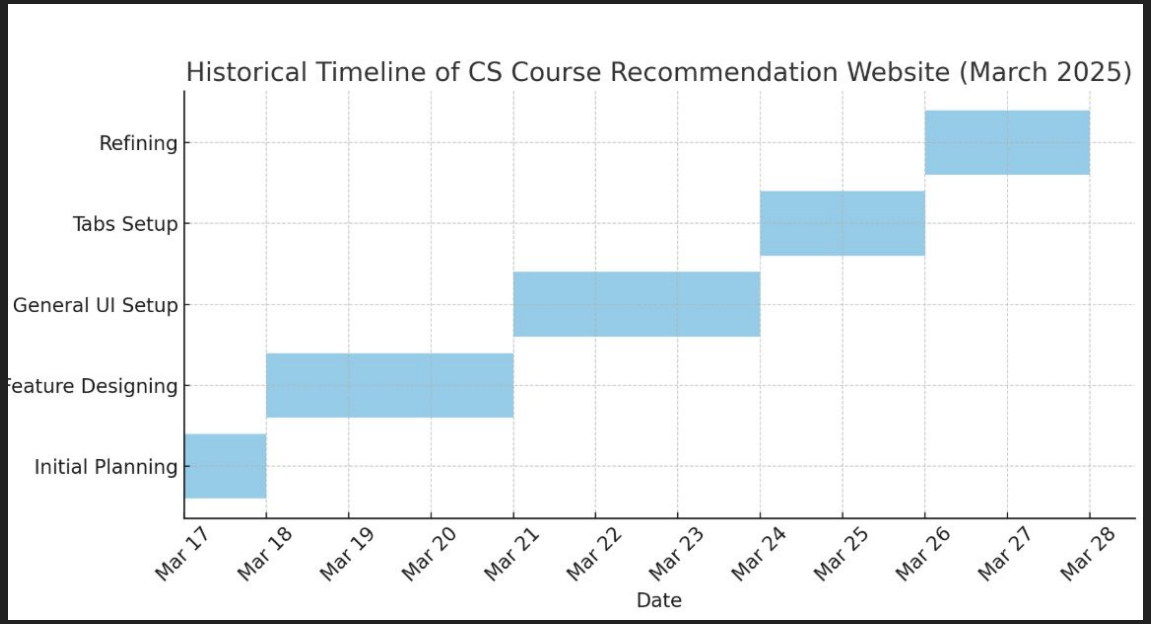
Role: User Experience Tester

Issues: User Data Structure, Course Recommendation Home Page, User Experience Tester

Historical Timeline

Issues:

- #5: March 28
- #7: March 24
- #8: March 24
- #10: March 24
- #19: March 28



Lexie - Assigned tasks & Pull Request

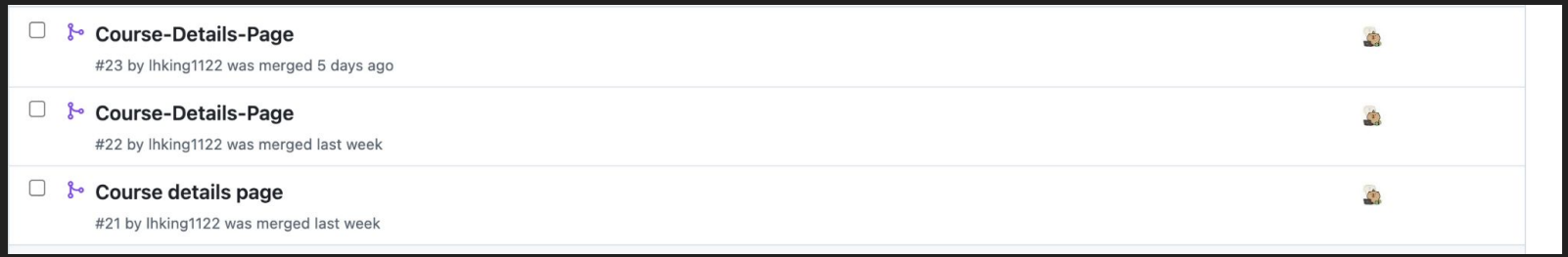
- Project manager
- General UI Design
- Course Recommendation Home Page UI
- Course Details Page UI
  - Course Data Structure
  - Course search within Course Details Page
- User Data Structure
- Past Course Storage

Pull Request Links

https://github.com/lhking1122/326_Course_Recommendation_System/pull/21

https://github.com/lhking1122/326_Course_Recommendation_System/pull/22

https://github.com/lhking1122/326_Course_Recommendation_System/pull/23



Lexie - Completed Task Description

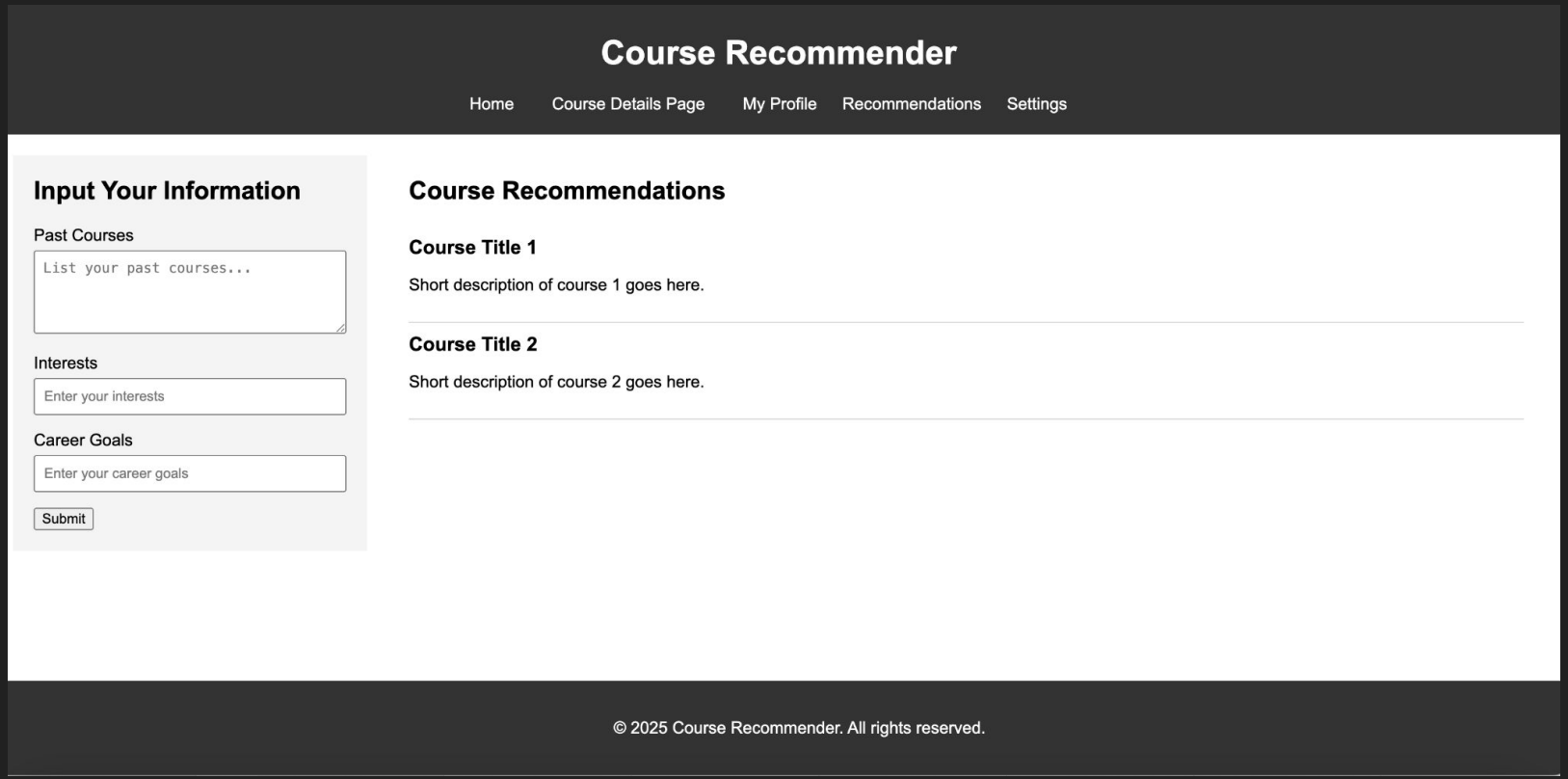
- General UI Design
  - Made the first version of UI design for course recommendation webpage.
- Course Recommendation Home Page UI
  - Set up an temporary home page UI, including headers, tabs, search bar, buttons, and temporary course description box.
- Course Details Page UI
  - Course details page shows full course list by default. After course number or title/keyword is inputted into the search box and search button is pressed, course details page will show list of courses based on search result.
  - Course Data Structure
    - Json files created, extracted Fall and Spring 2025 courses from umass course description website, as well as course offering website, merged all data into a single json file called complete_course_list.json.
  - Course search within Course Details Page (For next milestone)
    - When user input course number (ex: 326), full course title, or keyword (ex: algorithm) and clicks search button, all matched courses will display on the course details page.

Lexie Work Summary - commits

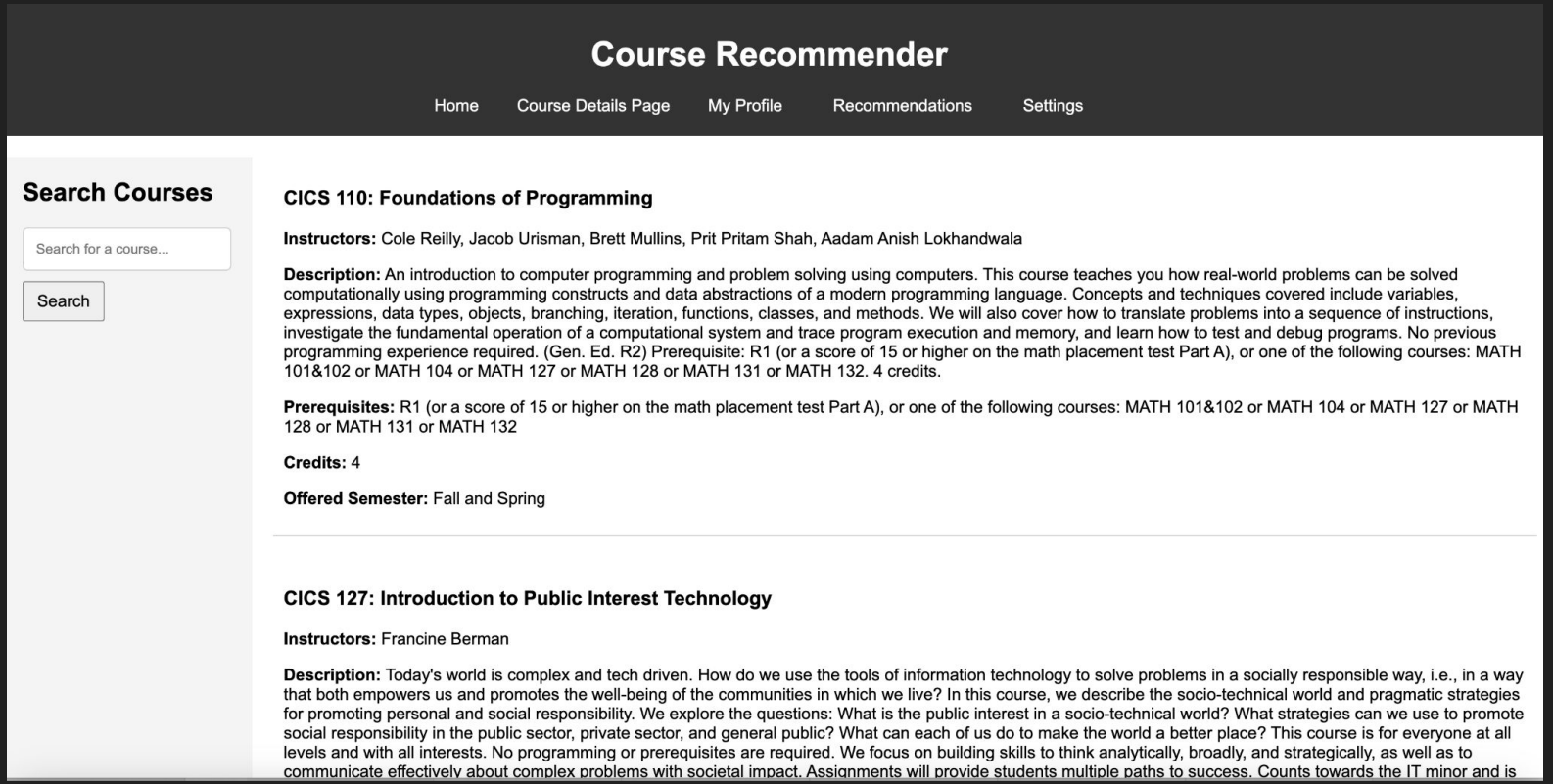
```
commit 55e56b268872720b0b8d9335d6b5652bcf7d164f
Author: lexie <lhking@umass.edu>
Date:   Mon Mar 17 14:58:39 2025 -0400

    created course_details_pages.js

commit 84e0bebf0699dbbec28446446c57c88263732acb
Author: lexie <lhking@umass.edu>
Date:   Mon Mar 17 14:43:19 2025 -0400

    added search box on course details page.

commit 3fa41d0ed06a2151c1a46e8d67d8bd0a4c5effb8
Author: lexie <lhking@umass.edu>
Date:   Mon Mar 17 14:28:54 2025 -0400

    edited gap between button and course list

commit f17ca51203d8ff045ba2f5bdb929db6fbcdeb1bd
Author: lexie <lhking@umass.edu>
Date:   Mon Mar 17 14:24:19 2025 -0400

    temp course details page created.

commit f0d50bf4772ad95b98b5ab4ef8b848710eb8ff5d
Author: lhking1122 <lexiek1122@gmail.com>
Date:   Wed Mar 12 10:32:20 2025 -0400

    Update README.md

    added Lexie to group memebers
```

```
commit 2d809a020e48fc665f085fc41b4e43d837f5754e
Author: lexie <lhking@umass.edu>
Date:   Tue Mar 25 14:43:45 2025 -0400

    Edited course description. Added Fall and Spring 2025 course list,
merge_course_list.js to merge and filter duplicate courses from Fall and Spring
2025 courses. Added course_add_semester.js to add course offering semester to
the full course list. Refined search course algorithm.

commit 0ca8fe15df2a0e0c152397e217665a89075b4ebb
Author: lexie <lhking@umass.edu>
Date:   Thu Mar 20 11:17:14 2025 -0400

    Changed course details page layout, added course descriptions to details
page, edited course descriptions dataset.

commit 6437191ee31db5a3b47d1a47a77abf3e618dfb24
Author: lexie <lhking@umass.edu>
Date:   Mon Mar 17 21:11:18 2025 -0400

    Added course description list

commit 54c5757c3ee7cc22698f4b3c8fdd297fac3f7418
Author: lexie <lhking@umass.edu>
Date:   Mon Mar 17 20:32:27 2025 -0400

    added cs_course list, including course number, course title, credits and
offered semester. Added course description list

commit a9f7acab7f89b298cb53449383fae51c847b90a5
Author: lexie <lhking@umass.edu>
Date:   Mon Mar 17 15:44:13 2025 -0400

    edited course detail page header, home page header, course details page css
file
```

Lexie - Screen Shots of UI Implementation #1



Lexie - Screen Shots of UI Implementation #2



Lexie - Screenshots of Code Snippet and Explanation

- The part in the first picture sets the overall format for our Course Details page, with search box and button on the left sidebar, and course description on the right.
- The second picture is a snippet of our course recommendation homepage. Where we keep all our available tabs of our website.

```
<main>
  <!-- Sidebar for search -->
  <div class="sidebar">
    <h2>Search Courses</h2>
    <input type="text" id="searchBox" placeholder="Search for a course...">
    <button id="searchBtn">Search</button>
  </div>
  <div id="courseList"></div>
  <div id="courseDetails"></div>

  <!-- Temp course description, will be replaced by js and json -->

  <div class ="decription">
    <h2>COMPSCI 326: Web Programming</h2>

    <p><strong>Instructor:</strong> Meng-Chieh Chiu</p>
    <p><strong>Credits:</strong> 4</p>
    <p><strong>Frequency:</strong> Fall and Spring</p>
    <p><strong>Prerequisites:</strong> COMPSCI 220 (or COMPSCI 230) with a grade of C or better</p>
```

```
<header>
    <h1>Course Recommender</h1>
    <nav>
        <ul>
            <li>Home</li>
            <li><a href="course_details_page.html?id=1">Course Details Page</a></li> <!-- New Tab -->
            <li>My Course Progress</li>
            <li>My Profile</li>
            <li>Settings</li>
        </ul>
    </nav>
</header>
```

Lexie - Challenges and Insights

I haven’t encountered any challenge for this milestone. But something I found challenging for future milestones is the data collecting progress for courses (course list, description, and all the details including instructors, credits and offered semesters), I had to go on Umass CS course description website to gather all the basic information, and write a small program that automatically convert everything I need into a json file. Then I had to go to the CS course offering website to gather the semester each course if offered (which I wrote another small program to grab data), then write another program to merge everything into a final json file.

Lexie - Future Improvements & Next Steps

Next I’m going to refine the UI of the webpages as we add more features. And I’m going to add the search feature of the course details page where users can search up courses by course number, course title and keywords. I’m also going to work on user data structure and past course storage.

Lexie - Links to Issues

https://github.com/lhking1122/326_Course_Recommendation_System/issues/13

https://github.com/lhking1122/326_Course_Recommendation_System/issues/12

https://github.com/lhking1122/326_Course_Recommendation_System/issues/10

https://github.com/lhking1122/326_Course_Recommendation_System/issues/9

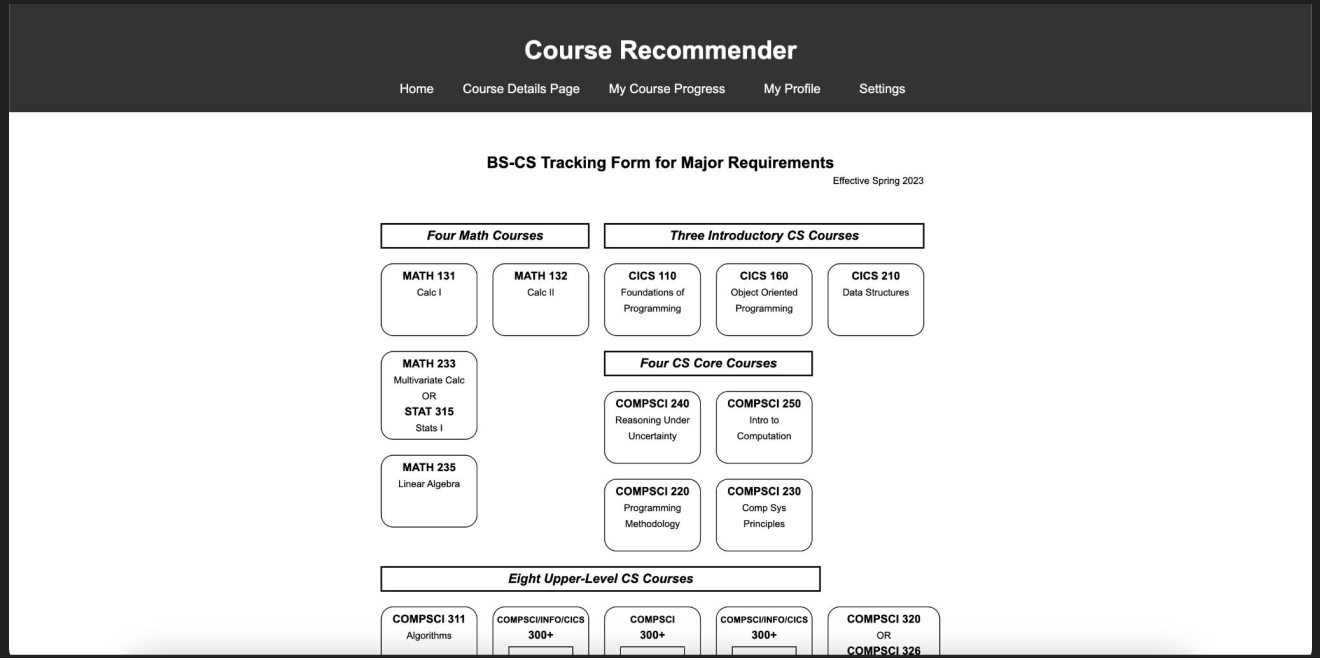
https://github.com/lhking1122/326_Course_Recommendation_System/issues/8

https://github.com/lhking1122/326_Course_Recommendation_System/issues/7

https://github.com/lhking1122/326_Course_Recommendation_System/issues/6

Andrew Work Summary

Worked on the course selection page UI. Implemented the previous flowchart mockup into a separate page/tab of our website.



Andrew Work Summary

This page is designed for a user to be able to select the courses they've taken in an intuitive manner, with the website saving their selections for future visits. This provides a very easy and pleasant user experience.

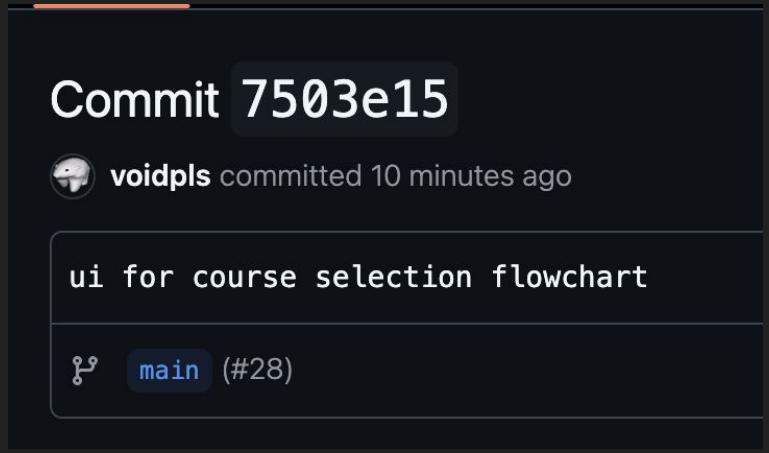
The flowchart is made with SVG code, for a design that will scale on any size screen, while being able to be edited easily in SVG/graphic editors. HTML text boxes were overlaid onto the flowchart text boxes, to provide an operable input field within the flowchart. Non-text box fields will be clickable.

Andrew Work Code Snippet

```
    <!-- Overlay input fields positioned absolutely -->
    <input type="text" id="CS_300_1_input" class="text-input" style="left: 210px; top: 630px;">
    <input type="text" id="CS_300_2_input" class="text-input" style="left: 350px; top: 630px;">
    <input type="text" id="CS_300_3_input" class="text-input" style="left: 490px; top: 630px;">
    <input type="text" id="CS_300_4_input" class="text-input" style="left: 70px; top: 740px;">
    <input type="text" id="CS_400_1_input" class="text-input" style="left: 210px; top: 740px;">
    <input type="text" id="CS_400_2_input" class="text-input" style="left: 350px; top: 740px;">
    <input type="text" id="CS_400_3_input" class="text-input" style="left: 490px; top: 740px;">
  </div>
</div>

<button id="submitBtn">Submit Selected Courses</button>
```

This part of the code overlays the text boxes on top of the SVG graphic, while allows for the flowchart to be designed in SVG instead of HTML, while still being interactive on our HTML website. This is achieved by using absolute positioning. Since SVGs also use absolute positioning, it can be overlaid exactly without guesswork.

Andrew Work Commits



src/course_progress_chart.html +219

```
@@ -0,0 +1,219 @@
+ <!DOCTYPE html>
+ <html lang="en">
+ <head>
+     <meta charset="UTF-8">
```

Andrew Work Relevant Issues/PRs

https://github.com/lhking1122/326_Course_Recommendation_System/issues/5#issue-2901573094

https://github.com/lhking1122/326_Course_Recommendation_System/pull/28

Andrew Work Challenges and Insights

Overlaying the input boxes on the SVGs required doing some pixel math, but overall it wasn’t too tedious. I had some issues with styling/CSS as well, specifically positioning and centering. Choosing to use SVG I believe is kind of intuitive, as SVG code is not only similar to HTML syntactically, you can also use CSS to directly style SVG elements.

Andrew Work Next Steps

The next steps would be to make the course selection flowchart interactive, being able to capture a list of courses the user has selected/inputted. Also implementing the pre-2023 flowchart.

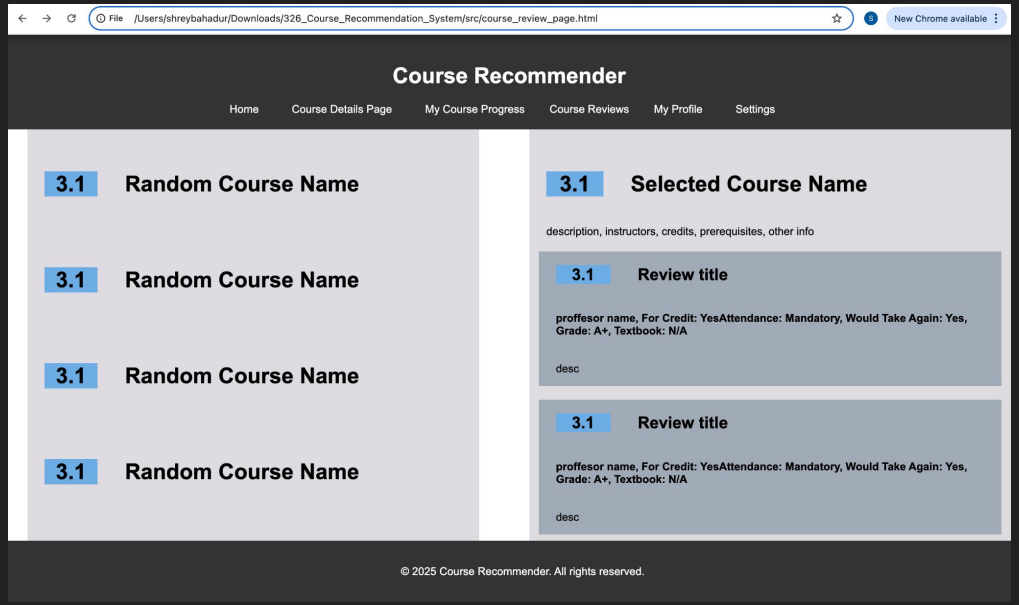
https://github.com/lhking1122/326_Course_Recommendation_System/issues/29

https://github.com/lhking1122/326_Course_Recommendation_System/issues/30

Shrey Work Summary

I worked on the course review UI.

Here the user can look at reviews of all of the courses.

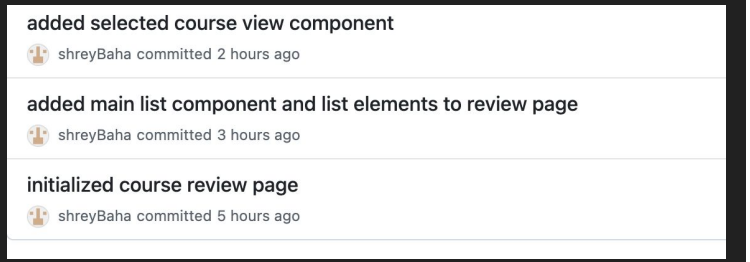


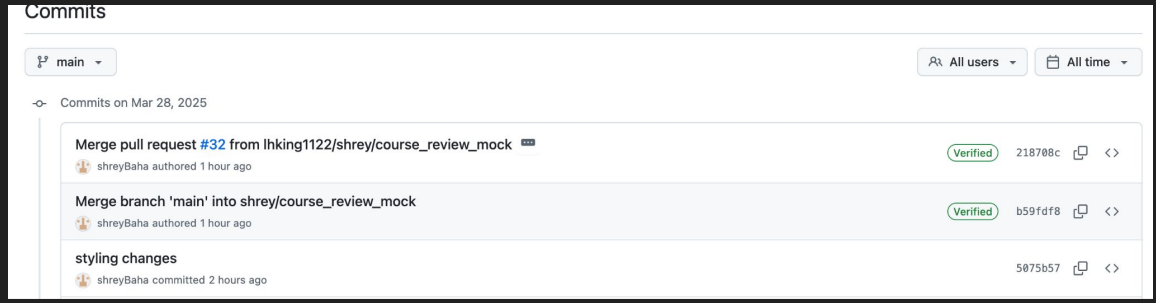
Shrey - Commits and PRs and Issues

PR link:
https://github.com/lhking1122/326_Course_Recommendation_System/pull/32

Issue link:
https://github.com/lhking1122/326_Course_Recommendation_System/issues/19

Commits:





Shrey - Code snippet

The snippet on the top corresponds to list on the left of the screen displaying all the courses with their ratings

```
<main>
    <ul class="course-list">
        <li class="course-item">
            <div class="rating-box">
                <h1 class="rating-text">3.1</h1>
            </div>
            <div class="name-box">
                <h1 class="name-text">Random Course Name</h1>
            </div>
        </li>
```

The snippet on the bottom corresponds to the list of reviews of the selected course on the left side of the screen

```
<ul class="review-list">
    <li class="review-item">
        <div class="line">
            <div class="rating-box">
                <h2 class="rating-text">3.1</h2>
            </div>
            <div class="review-title-box">
                <h2 class="review-title-text">Review title</h2>
            </div>
        </div>
        <div class="line">
            <h4 class="additional-info">proffesor name, For Credit: YesAttendance: Mandatory, Would Take Agair
        </div>
        <div class="line">
            <p class="paragraph">desc</p>
        </div>
    </li>
```

Shrey - Challenges

The biggest challenge in creating this page was doing the css to have everything aligned how I wanted as well as implementing scrolling within the container I wanted to scroll. This required some revising of my html to create some extra divs.

Shrey - Future improvements

I still need to make it so the user can add a review for a course on that page. I should also meet with my teammates so we can have a cohesive UI where we have similar component designs and color schemes.

Keyu Work Summary

I found that the text box on the home page was not convenient enough as a past course input, and a large number of courses were easy for users to enter incorrectly in the same text box. Therefore, I changed the text box to a button so that every time the user clicks on the button a new text box is generated for the user to enter the past course.