# CSCB20 Course Website Redesign Report

Joseph Chang, Haochen Li, Shaun Danny

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## Introduction

To improve student involvement and expedite access to course materials, the CSCB20 course, *Introduction to Databases and Web Applications*, needed its own website. The prior course material, which was housed on the website of the University of Toronto Scarborough's Computer Science department (UTSC Computer Science Website), was a component of a larger departmental framework that did not specifically address the demands of CSCB20. To establish a customized and user-friendly platform, our team revamped the website. The shortcomings of the prior website, the enhancements made to our redesign, and the difficulties encountered throughout creation are all covered in this report.

## Problems with Websites for Past Courses

The previous website, which was part of the UTSC Computer Science department domain, had a number of drawbacks:

- **Generalized Content**: While the department website included broad information on instructors and courses, it failed to gather CSCB20-specific resources like labs, homework, or a syllabus in one convenient location.
- **Ineffective Navigation**: Students were forced to sort through irrelevant material or rely on external links (like Markus and Piazza) that were dispersed throughout sites or sent to them via email in the absence of a specialized course navigation system.
- **Static Design**: The former website likely had a simple, non-responsive layout common for institutional pages; it lacked contemporary design elements and mobile device compatibility.
- **Limited Functionality**: Students had to use different platforms without a single interface since features like embedded discussion boards and anonymous comments were missing.
- **Accessibility Gaps**: The earlier website did not emphasize responsive design or semantic HTML, potentially excluding users with diverse needs.

These issues resulted in a disjointed experience, hindering students' ability to efficiently access course materials.

## Improvements in the Redesigned Site

Our redesigned CSCB20 website addresses these flaws with a modern, course-specific approach:

- **Centralized Resources**: All CSCB20 content (e.g., "Syllabus," "Assignments," "Labs," "Lecture Notes," and "Tests") is organized into distinct pages. The "Assignments" page uses a grid layout to detail topics, weights, due dates, and handouts, linking directly to Markus for submissions.
- **Intuitive Navigation**: A fixed sidebar with a hover-activated dropdown menu (styled in `style.css` with `--nav-bg` and transitions) ensures consistent, quick access to all sections across pages, reducing navigation time.
- **Responsive Design**: The `style.css` file incorporates media queries (e.g., `@media (max-width: 768px)`) and a viewport meta tag, making the site adaptable to desktops, tablets, and phones. The grid layouts (e.g., `.grid-assignment`, `.grid-lab`) stack cleanly on smaller screens.

- **Enhanced Features**: The "Anon Feedback" page includes a `<textarea>` form for anonymous input, while the "Piazza" page embeds the discussion platform (`<embed src="https://piazza.com/class/m5fmz9kz` integrating key tools seamlessly.
- **Visual Appeal and Accessibility**: The CSS uses a cohesive color scheme (e.g., `--header-bg`, `--link-color`) with hover effects and shadows (e.g., `box-shadow: var(--shadow)`), improving aesthetics. Semantic HTML (e.g., `<h1>`, `<nav>`) and readable fonts (`font-family: 'Poppins'`) enhance accessibility.

These improvements create a streamlined, visually appealing, and functional hub for CSCB20 students.

## Challenges Faced and Solutions

Developing the site posed several challenges, which we tackled collaboratively:

- **Dropdown Navigation**: Implementing a hover-based dropdown (`.navigation:hover .dropdown`) was tricky due to CSS specificity issues. We refined the `.nav-content` and `.dropdown` styles, testing across browsers to ensure smooth display.
- **Responsive Grids**: The `.grid-assignment` and `.grid-lab` layouts initially broke on mobile devices. We adjusted column ratios (e.g., `grid-template-columns: repeat(3, 1fr)` to `1fr` on small screens) and added `flex-wrap` to `.labitem` for better text flow.
- **Embedded Content**: Integrating Piazza and PDFs (e.g., `<iframe src="Lecture Notes.pdf">`) caused sizing issues. We set `.piazza` to `min-width: 100%; height: 100vh` and tested load times, opting for links where embeds lagged.
- **Team Coordination**: Dividing tasks among three members risked inconsistencies. Joseph managed navigation and structure, Haochen handled content integration, and Shaun refined styling. We used shared folders and regular check-ins to align efforts.
- **Dark Mode Support**: Adding `@media (prefers-color-scheme: dark)` to `style.css` required redefining variables (e.g., `--bg-color: #1a1a1a`). We tested both light and dark modes to ensure readability and contrast.

Through iterative debugging and peer reviews, we overcame these hurdles, delivering a robust final site.

## Conclusion

By substituting a unified, responsive, and feature-rich platform for the old site's disjointed approach, the updated CSCB20 website significantly enhances the student experience. We've fixed navigation, design, and functionality issues to better align with CSCB20's hands-on web development approach. Teamwork and responsive design challenges put our abilities to the test while strengthening our knowledge. Future improvements might involve an accessibility audit to improve the user experience even further or dynamic updates using PHP.