



Course Name:	Web Programming Laboratory (216U01L405)	Semester:	IV
Date of Performance:	01/02/2026	DIV/ Batch No:	B2
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Experiment No: 1

Title: Design web Portal using CSS3.

Aim of the Experiment: To apply CSS3 style sheets to an existing HTML5-based Web Portal in order to enhance layout, responsiveness, visual aesthetics, and user interaction using modern CSS3 features.

Objectives for the Experiment:

1. Implement different CSS3 styling techniques
2. Design responsive layouts using Flexbox and media queries
3. Enhance user interaction using animations
4. Maintain separation of content and presentation

COs to be achieved:

CO1: Use CSS to prepare the layout of web pages.

Books/ Journals/ Websites references:

1. Students should write

Theory:

Students should write about CSS3 (citation needed for content taken (IEEE or APA7 style))

Problem statement: “College Event & Student Services Web Portal” A college wants to develop a basic HTML5-based web portal to showcase events, registrations, information, and services for students. Each task contributes one page or feature of this portal. Enhanced the portal using CSS3.

Task 1: Home Page Styling – CSS Selectors & Properties

Use Case:

Improve the **Home Page appearance** of the portal.

CSS Requirements:

Apply element, class, and ID selectors



Style headings, paragraphs, and navigation links

Use background color, font-family, and text alignment

Add hover effect to navigation links

Deliverable: style.css linked to index.html

CSS Concepts: Selectors, basic properties

Task 2: Event Page – Text Styling & Fonts

Use Case:

Enhance readability of the **TechFest Event Details** page.

CSS Requirements:

Use different fonts for headings and content

Apply text properties (color, letter-spacing, line-height)

Style highlighted text (<mark>,)

Use Google Fonts (optional)

Deliverable: event.css linked to event-details.html

CSS Concepts: Fonts, text formatting

Task 3: Department Page – Box Model

Use Case:

Visually organize the **About Department** sections.

CSS Requirements:

Apply margin, padding, and border to each section

Add box-shadow to HoD message block

Demonstrate content-box or border-box

Deliverable: boxmodel.css linked to about-dept.html

CSS Concepts: Box model

Task 4: Clubs Page – Lists & Pseudo-Classes

Use Case:

Make **Student Clubs list** visually attractive.

CSS Requirements:

Remove default bullets and numbers

Add custom list styling

Use :hover, :first-child, :last-child

Highlight nested lists differently

Deliverable: clubs.css linked to clubs.html

CSS Concepts: List styling, pseudo-classes

Task 5: Navigation – CSS Layout (Flexbox)

Use Case:

Design a **horizontal navigation bar**.

CSS Requirements:

Use Flexbox for layout
 Align menu items horizontally
 Add spacing and hover effects
 Make navigation bar sticky
Deliverable: nav.css linked to navigation.html
CSS Concepts: Flexbox, positioning

Task 6: Campus Map – Image Styling & Positioning

Use Case:
 Improve visual presentation of **Campus Map page**.
CSS Requirements:
 Make image responsive
 Center image on page
 Add border and shadow
 Style captions using CSS
Deliverable: map.css
CSS Concepts: Images, positioning, responsiveness

Task 7: Results Page – Table Styling

Use Case:
 Enhance **Event Results Table** readability.
CSS Requirements:
 Add border-collapse
 Alternate row colors (zebra striping)
 Style table header and footer
 Highlight row on hover
Deliverable: table.css
CSS Concepts: Table styling

Task 8: Registration Form – Form Styling

Use Case:
 Improve user experience of **Event Registration Form**.
CSS Requirements:
 Align labels and inputs
 Style text fields, buttons, dropdowns
 Use focus effects on inputs
 Style submit and reset buttons differently
Deliverable: form.css
CSS Concepts: Forms, pseudo-classes

Task 10: Responsive Design – Media Queries

Use Case:

Make portal usable on **mobile devices**.

CSS Requirements:

Use media queries for mobile view

Stack navigation items vertically on small screens

Resize images and text for mobile

Hide non-essential content on small screens

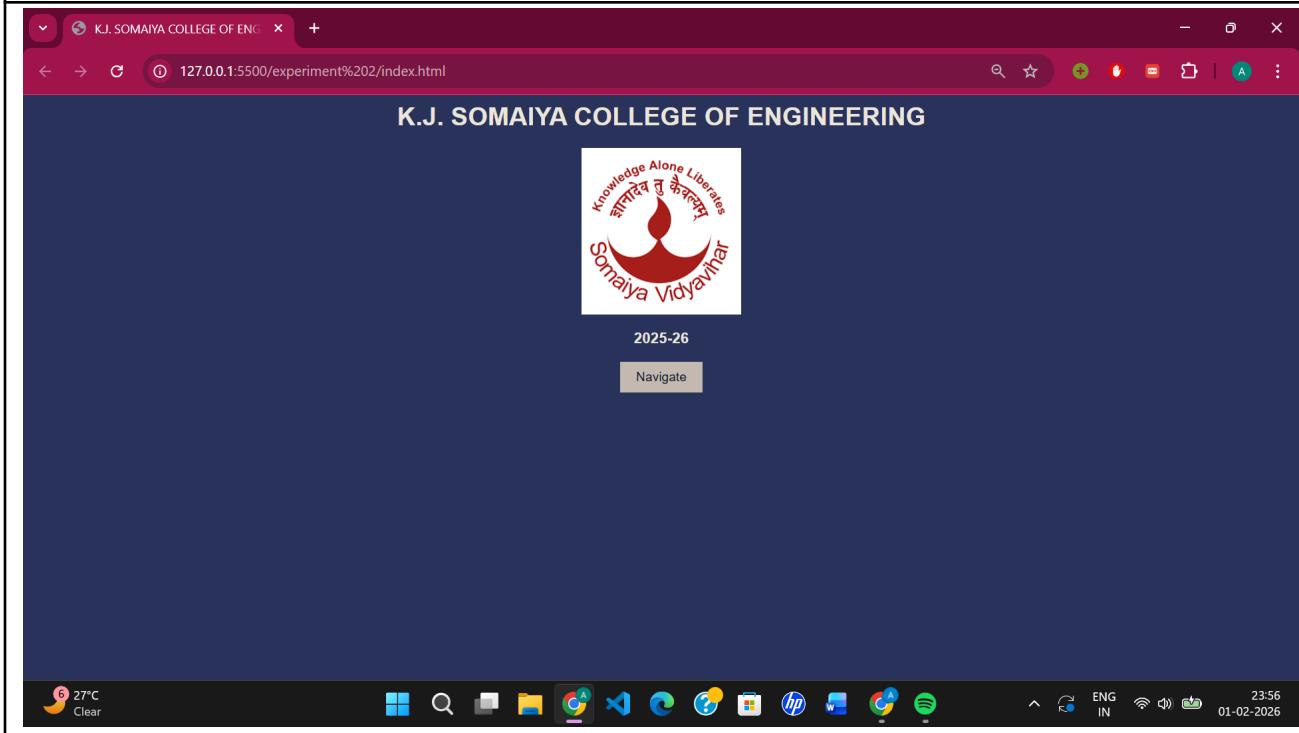
Deliverable: responsive.css

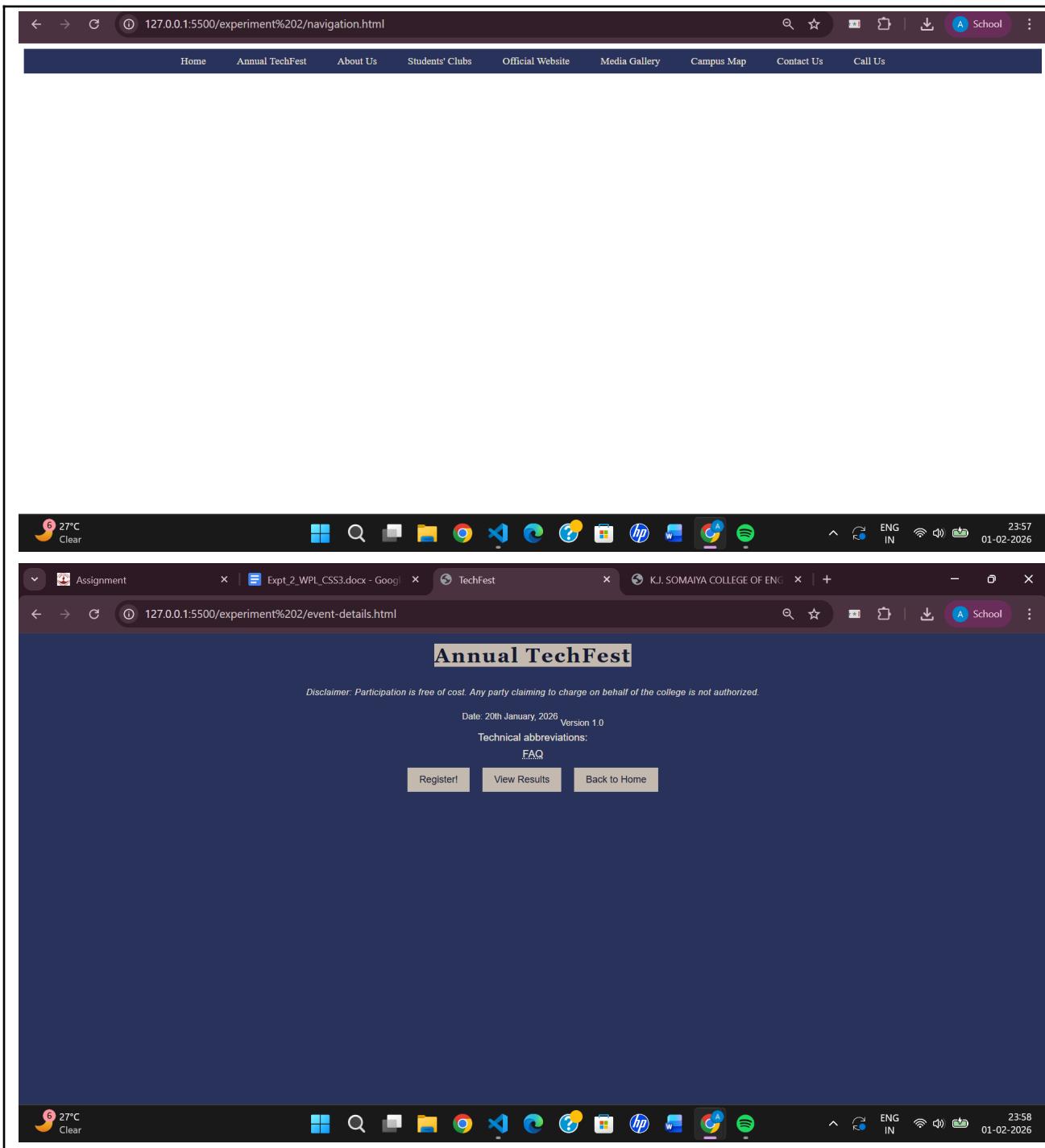
CSS Concepts: Responsive design, media queries

Code:

<http://github.com/ashwera/webProgrammingLab> *private repo

Output / Screenshot:





The screenshot shows a Microsoft Edge browser window with the URL 127.0.0.1:5500/experiment%202/navigation.html. The page header includes a navigation menu with links: Home, Annual TechFest, About Us, Students' Clubs, Official Website, Media Gallery, Campus Map, Contact Us, and Call Us. Below the menu, there is a large, mostly blank white area.

At the bottom of the browser window, the taskbar displays several open tabs: Assignment, Expt_2_WPL_CSS3.docx - Google Docs, TechFest, and KJ. SOMAIYA COLLEGE OF ENG. The system tray shows the date as 01-02-2026 and the time as 23:57. The desktop background is dark blue.



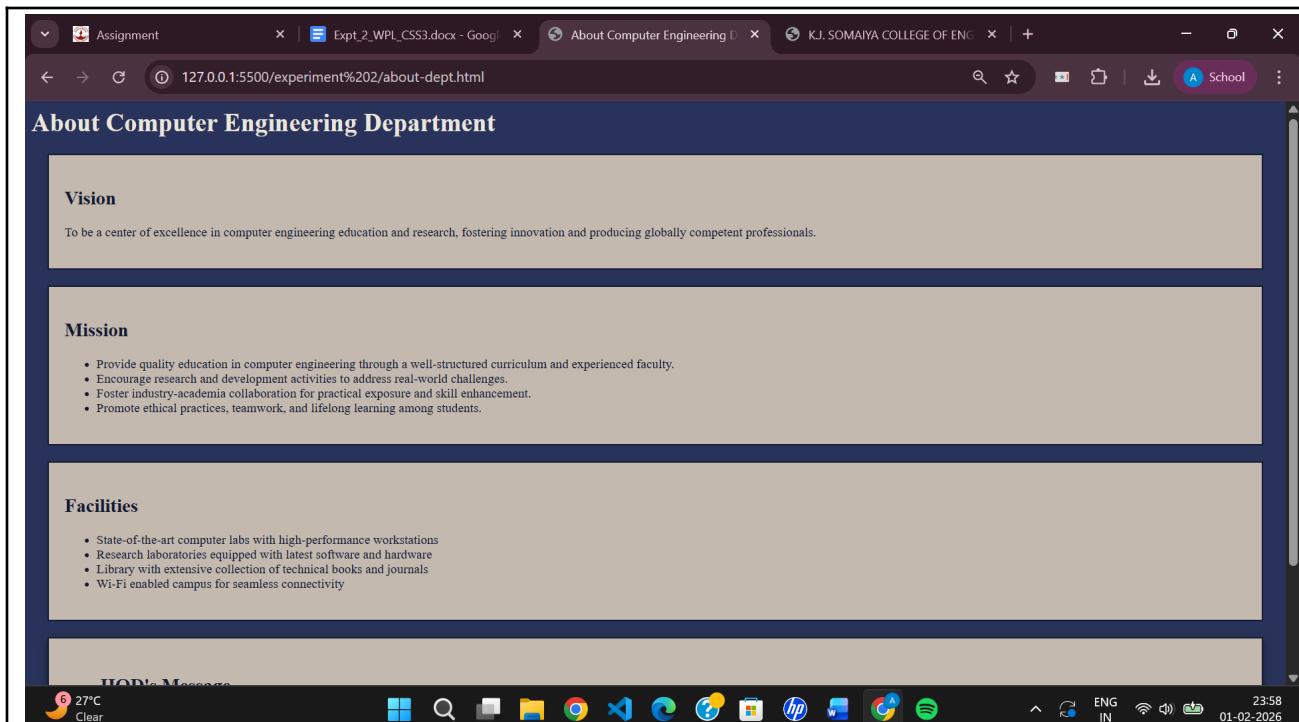
The screenshot shows two consecutive pages from a web application, likely a competition management system.

Registration Page: The first window displays a registration form with fields for Student Name, Email, Roll Number, Select Event (dropdown menu), Gender (dropdown menu), and Skills (optional) (multiple choice dropdown). The skills listed are Programming, Public Speaking, Teamwork, and Sportsmanship. Below the form are three buttons: Register, Reset, and Back.

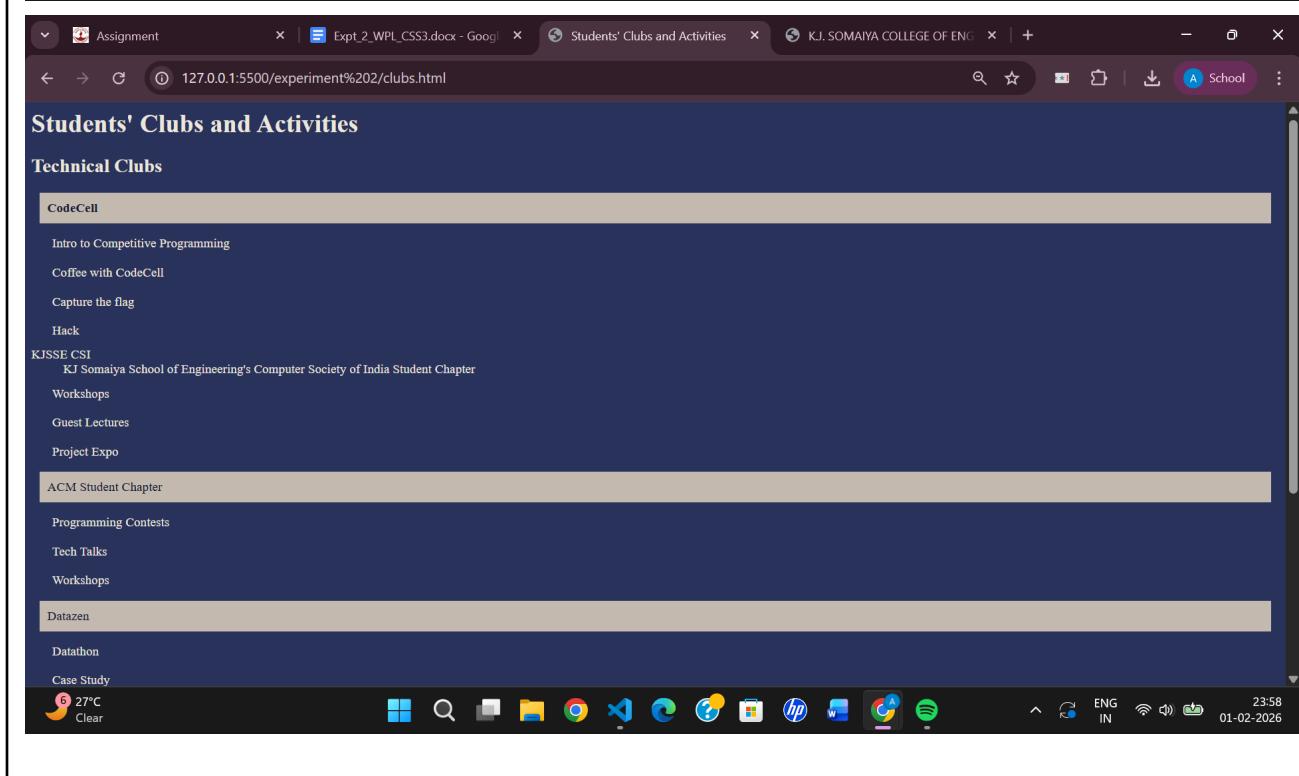
Results Page: The second window displays the results of a competition. A table lists the team names and their corresponding results:

Team Name	Result
Robo Warriors	1st Place - Robotics Competition
Code Masters	2nd Place - Coding Challenge
Design Gurus	3rd Place - Design Contest

A message at the bottom of the results page reads: "Congratulations to all teams for their outstanding performance!"



The screenshot shows a Microsoft Edge browser window with the URL 127.0.0.1:5500/experiment%202/about-dept.html. The page title is "About Computer Engineering Department". It contains three main sections: "Vision" (To be a center of excellence in computer engineering education and research, fostering innovation and producing globally competent professionals.), "Mission" (Provide quality education in computer engineering through a well-structured curriculum and experienced faculty. Encourage research and development activities to address real-world challenges. Foster industry-academia collaboration for practical exposure and skill enhancement. Promote ethical practices, teamwork, and lifelong learning among students.), and "Facilities" (State-of-the-art computer labs with high-performance workstations. Research laboratories equipped with latest software and hardware. Library with extensive collection of technical books and journals. Wi-Fi enabled campus for seamless connectivity). The browser toolbar at the bottom includes icons for search, file operations, and system status.



The screenshot shows a Microsoft Edge browser window with the URL 127.0.0.1:5500/experiment%202/clubs.html. The page title is "Students' Clubs and Activities". It lists several clubs under "Technical Clubs": CodeCell (Intro to Competitive Programming, Coffee with CodeCell, Capture the flag, Hack), KJSSE CSI (KJ Somaiya School of Engineering's Computer Society of India Student Chapter, Workshops, Guest Lectures, Project Expo), ACM Student Chapter (Programming Contests, Tech Talks, Workshops), and Datazen (Datathon, Case Study). The browser toolbar at the bottom includes icons for search, file operations, and system status.

Post Lab Subjective/Objective type Questions:

1. Write CSS code to create a responsive layout using Flexbox.



```
.container {  
    display: flex;  
    flex-wrap: wrap;  
    gap: 16px;  
    padding: 16px;  
}  
  
.item {  
    flex: 1 1 300px; /* grow, shrink, base width */  
    padding: 20px;  
    background: #eaeaea;  
    text-align: center;  
}  
  
@media (max-width: 600px) {  
    .container {  
        flex-direction: column;  
    }  
}
```

2. Write a media query for screens smaller than 768px.

```
@media (max-width: 768px) {  
}
```

3. Justify the use of CSS animations in user interfaces.

CSS animations enhance user interfaces by improving clarity and engagement. They provide visual feedback for user actions, making interactions feel responsive and intuitive. Animations help guide user attention to important changes without confusion. They also create smooth transitions that reduce cognitive load. Overall, animations make interfaces more usable and visually appealing.

4. Design a CSS animation for a call-to-action button.

```
.cta-btn {  
    padding: 14px 28px;  
    font-size: 16px;
```

```

color: #fff;
background: #ff5722;
border: none;
border-radius: 6px;
cursor: pointer;
animation: pulse 2s infinite;
}

.cta-btn:hover {
background: #e64a19;
}

@keyframes pulse {
0% {
transform: scale(1);
box-shadow: 0 0 0 0 rgba(255, 87, 34, 0.7);
}
70% {
transform: scale(1.05);
box-shadow: 0 0 0 12px rgba(255, 87, 34, 0);
}
100% {
transform: scale(1);
}
}
}

```

5. Create a responsive navigation menu using Flexbox and media queries.

```

</html>

<nav class="nav">

<div class="logo">MySite</div>

<ul class="menu">

<li><a href="#">Home</a></li>

```

```

<li><a href="#">About</a></li>

<li><a href="#">Services</a></li>

<li><a href="#">Contact</a></li>

</ul>

</nav>

```

Css:

```

.nav {
    display: flex;
    justify-content: space-between;
    align-items: center;
    padding: 14px 20px;
    background: #222;
}

```

```

.logo {
    color: #fff;
    font-size: 20px;
}

```

```

.menu {
    display: flex;
    list-style: none;
}

```

```

gap: 20px;

}

.menu a {
    color: #fff;
    text-decoration: none;
}

@media (max-width: 768px) {
    .nav {
        flex-direction: column;
    }

    .menu {
        flex-direction: column;
        gap: 10px;
        margin-top: 10px;
    }
}

```

Conclusion and Discussion:



SOMAIYA

VIDYAVIHAR UNIVERSITY

K J Somaiya School of Engineering
(formerly K J Somaiya College of Engineering)

K. J. Somaiya School of Engineering, Mumbai-77

(Somaiya Vidyavihar University)

Department of Computer Engineering



The experiment was successful in helping understand the workaround behind multiple styles and cascading style sheet effects. Additionally, it helped learning how the formatting and aligning can help change the visuals of the site greatly.

Feedback:

Krish: The website looks good and professional, but the fonts could be better.

Riya: The dark blue background colour could be better masked or changed since it makes the site a little dark.

Navjyot: The website looks good and aligned.