# Front-End UI/UX Mini Project

SYNAPSE

Your AI learning Companion

**• Course: *UI/UX Design Fundamentals*  
• Instructor: *Narendra Kumar*• Institution: *Christ University, Kengeri*  
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### Abstract

This project focuses on the design and development of a modern, responsive landing page for a conceptual AI learning platform called Synapse. The core goal was to create a visually appealing and user-friendly front-end that showcases the product's key features and encourages user engagement. The project utilized **HTML5, CSS3, and Bootstrap 5** for structure and responsiveness, with JavaScript enabling a functional dark mode/light mode theme toggle. The final outcome is a clean and professional single-page website that effectively communicates the product's value proposition.

### Objectives

* Design a user-friendly and aesthetically pleasing interface using modern UI principles.
* Develop a fully responsive layout using Bootstrap to ensure seamless viewing on all devices.
* Implement a dark mode/light mode toggle for enhanced user experience and accessibility.
* Create a clean, well-structured codebase using semantic HTML5 and organized CSS.
* Ensure readability and visual hierarchy through appropriate use of typography, colors, and spacing.

### Scope of the Project

This project was focused exclusively on front-end design and functionality. The following were the primary boundaries:

* The project is a single-page landing site, not a multi-page application.
* User data is not stored in a database; all functionality is client-side.
* The interactive features, such as the contact form, are for visual representation and do not have a functional backend.
* The project's primary goal was to demonstrate proficiency in responsive design and front-end development principles.

### Tools & Technologies Used

|  |  |
| --- | --- |
| **Tool/Technology** | **Purpose** |
| HTML5 | Markup and content structure |
| CSS3 | Custom styling and layout adjustments |
| Bootstrap 5 | Responsive grids, components, and utility classes |
| JavaScript | Handling interactive features like the theme toggle |
| VS Code | Code editor |
| Chrome DevTools | Testing and debugging responsiveness |

### HTML Structure Overview

* The webpage is structured using semantic tags such as <header>, <nav>, <section>, and <footer>.
* The content is divided into distinct, reusable sections for the hero, features, testimonials, and call-to-action.
* A responsive navigation menu is included at the top, allowing for smooth scrolling to different sections of the page.

### CSS Styling Strategy

* The styling strategy combined a minimal amount of custom CSS with the extensive use of **Bootstrap 5 utility classes**.
* **CSS variables** were implemented to manage a cohesive color palette for both light and dark modes, allowing for easy theme customization.
* **Media queries**, handled by Bootstrap's responsive system, were used to ensure the layout adapted seamlessly to various screen sizes.
* Subtle **CSS animations and transitions** were added to buttons and feature cards to enhance user engagement and provide a more dynamic feel.

### Key Features

|  |  |
| --- | --- |
| **Feature** | **Description** |
| **Responsive Design** | The website's layout fluidly adapts to different screen sizes and devices. |
| **Smooth Navigation** | The fixed top navigation bar provides quick access to all key sections. |
| **Theme Toggle** | A functional light/dark mode switch allows users to customize their viewing experience. |
| **Visually Engaging UI** | The design uses modern color palettes, gradients, and animations to create a professional look. |
| **Testimonials Section** | Customer quotes are included to build trust and social proof. |

### Challenges Faced & Solutions

|  |  |
| --- | --- |
| **Challenge** | **Solution** |
| **Ensuring Consistent Responsiveness** | Used Bootstrap's robust grid system and responsive breakpoints to build a flexible layout. |
| **Implementing a Theme Toggle** | Utilized JavaScript and localStorage to remember the user's theme preference and apply it on page load. |
| **Creating Visual Interest** | Incorporated subtle CSS animations and transitions, as well as gradients, to move the design beyond a plain, static look. |

### Outcome

The project successfully delivered a clean, modern, and visually engaging front-end for the Synapse product. All key components, including the hero section, feature cards, and theme toggle, are fully functional and responsive. The outcome serves as an excellent demonstration of front-end development skills and an understanding of UI/UX principles.

### Future Enhancements

* Add a functional backend to the contact form to capture user inquiries.
* Implement a full-fledged user authentication system for login and registration.
* Integrate the Gemini API to provide interactive, AI-powered demos of the product.
* Create a blog and other content pages to expand the website.

### Sample Code

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Synapse - Your AI Learning Companion</title>

    <!-- Bootstrap CSS -->

    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/css/bootstrap.min.css" rel="stylesheet">

    <!-- Google Fonts -->

    <link rel="preconnect" href="https://fonts.googleapis.com">

    <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>

    <link href="https://fonts.googleapis.com/css2?family=Inter:wght@400;500;600;700&display=swap" rel="stylesheet">

    <link href="https://fonts.googleapis.com/css2?family=Montserrat:wght@700&display=swap" rel="stylesheet">

    <!-- Custom Styles -->

    <style>

        :root {

            --bg-light: #f0f4f8;

            --bg-dark: #121212;

            --text-light: #212529;

            --text-dark: #e0e0e0;

            --card-bg-light: #ffffff;

            --card-bg-dark: #1e1e1e;

            --primary-color: #6a11cb;

            --secondary-color: #2575fc;

            --primary-light: #7a31dc;

            --secondary-light: #3585ff;

        }

        body {

            font-family: 'Inter', sans-serif;

            color: var(--text-light);

            background: var(--bg-light);

            transition: background-color 0.5s, color 0.5s;

        }

        .dark-mode {

            color: var(--text-dark);

            background: var(--bg-dark);

        }

        .section-padding {

            padding: 100px 0;

        }

        .hero-section {

            background: linear-gradient(rgba(0, 0, 0, 0.7), rgba(0, 0, 0, 0.7)), url('https://images.unsplash.com/photo-1517430816045-df4b7de18b13?q=80&w=2670&auto=format&fit=crop') no-repeat center center/cover;

            color: white;

            padding: 150px 0;

            text-align: center;

        }

        .hero-section h1 {

            font-family: 'Montserrat', sans-serif;

            font-weight: 700;

            animation: fadeInTop 1s ease-in-out;

        }

        .hero-section p {

            animation: fadeInBottom 1.2s ease-in-out;

        }

        .btn-cta {

            background: linear-gradient(45deg, var(--primary-color), var(--secondary-color));

            border: none;

            color: white;

            font-weight: 600;

            padding: 12px 30px;

            border-radius: 50px;

            transition: all 0.3s ease;

            box-shadow: 0 4px 15px rgba(0, 0, 0, 0.2);

        }

        .btn-cta:hover {

            transform: scale(1.05);

            box-shadow: 0 8px 20px rgba(0, 0, 0, 0.3);

            background: linear-gradient(45deg, var(--primary-light), var(--secondary-light));

        }

        .feature-card, .testimonial-card, .card {

            background-color: var(--card-bg-light);

            transition: background-color 0.5s, box-shadow 0.3s, transform 0.3s;

            border-radius: 15px;

            box-shadow: 0 10px 30px rgba(0, 0, 0, 0.08);

            border: none;

        }

        .dark-mode .feature-card, .dark-mode .testimonial-card, .dark-mode .card {

            background-color: var(--card-bg-dark);

            box-shadow: 0 10px 30px rgba(0, 0, 0, 0.2);

        }

        .feature-card {

            padding: 40px;

            transition: all 0.3s ease;

            text-align: center;

            height: 100%;

        }

        .feature-card:hover {

            transform: translateY(-10px) rotate(-1deg);

            box-shadow: 0 15px 40px rgba(0, 0, 0, 0.15);

        }

        .feature-icon {

            background: linear-gradient(45deg, var(--primary-color), var(--secondary-color));

            -webkit-background-clip: text;

            -webkit-text-fill-color: transparent;

            font-size: 3.5rem;

            margin-bottom: 20px;

        }

        .testimonial-card {

            padding: 30px;

            font-style: italic;

            border-left: 5px solid var(--primary-color);

        }

        .testimonial-img {

            width: 80px;

            height: 80px;

            border-radius: 50%;

            margin-bottom: 15px;

            border: 3px solid var(--primary-color);

        }

        .cta-section {

            background: linear-gradient(90deg, var(--primary-color), var(--secondary-color));

            color: white;

            text-align: center;

        }

        .btn-secondary-cta {

            background-color: white;

            color: var(--primary-color);

            border: none;

            font-weight: 600;

            padding: 12px 30px;

            border-radius: 50px;

            transition: all 0.3s ease;

            box-shadow: 0 4px 15px rgba(0, 0, 0, 0.2);

        }

        .btn-secondary-cta:hover {

            transform: scale(1.05);

            background-color: #f0f0f0;

            box-shadow: 0 8px 20px rgba(0, 0, 0, 0.3);

        }

        .navbar-light {

            background-color: var(--card-bg-light) !important;

            transition: background-color 0.5s;

        }

        .dark-mode .navbar-light {

            background-color: var(--card-bg-dark) !important;

        }

        .navbar-light .navbar-nav .nav-link {

            color: rgba(0,0,0,.5);

        }

        .dark-mode .navbar-light .navbar-brand, .dark-mode .navbar-toggler-icon, .dark-mode .nav-link {

            color: var(--text-dark) !important;

        }

        .dark-mode .navbar-light .navbar-nav .nav-link {

            color: rgba(255, 255, 255, .7) !important;

        }

        .navbar-light .navbar-nav .nav-link.active, .navbar-light .navbar-nav .nav-link:hover {

            color: var(--primary-color);

        }

        .dark-mode .navbar-light .navbar-nav .nav-link:hover {

            color: var(--secondary-color) !important;

        }

        .loading-spinner {

            display: none;

        }

        .theme-toggle-btn {

            background: none;

            border: none;

            padding: 0;

            margin-left: 10px;

            cursor: pointer;

        }

        .theme-toggle-btn svg {

            width: 24px;

            height: 24px;

            fill: var(--text-light);

            transition: fill 0.5s;

        }

        .dark-mode .theme-toggle-btn svg {

            fill: var(--text-dark);

        }

        .input-feedback {

            color: red;

            font-size: 0.875em;

            display: none;

            margin-top: 5px;

        }

        .quiz-container {

            display: none;

        }

        .quiz-option {

            cursor: pointer;

            padding: 10px;

            border: 1px solid #ccc;

            border-radius: 8px;

            margin-bottom: 8px;

            transition: background-color 0.3s;

        }

        .quiz-option:hover {

            background-color: #f0f0f0;

        }

        .quiz-option.correct {

            background-color: #d4edda;

            border-color: #c3e6cb;

            color: #155724;

        }

        .quiz-option.incorrect {

            background-color: #f8d7da;

            border-color: #f5c6cb;

            color: #721c24;

        }

        .dark-mode .quiz-option:hover {

            background-color: #333;

        }

        .dark-mode .quiz-option.correct {

            background-color: #155724;

            border-color: #c3e6cb;

            color: #d4edda;

        }

        .dark-mode .quiz-option.incorrect {

            background-color: #721c24;

            border-color: #f5c6cb;

            color: #f8d7da;

        }

        @keyframes fadeInTop {

            from { opacity: 0; transform: translateY(-20px); }

            to { opacity: 1; transform: translateY(0); }

        }

        @keyframes fadeInBottom {

            from { opacity: 0; transform: translateY(20px); }

            to { opacity: 1; transform: translateY(0); }

        }

    </style>

</head>

<body>

    <!-- Navigation Bar -->

    <nav class="navbar navbar-expand-sm navbar-light bg-white fixed-top shadow-sm">

        <div class="container">

            <a class="navbar-brand fw-bold" href="#">Synapse</a>

            <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-target="#navbarNav" aria-controls="navbarNav" aria-expanded="false" aria-label="Toggle navigation">

                <span class="navbar-toggler-icon"></span>

            </button>

            <div class="collapse navbar-collapse" id="navbarNav">

                <ul class="navbar-nav ms-auto align-items-center">

                    <li class="nav-item">

                        <a class="nav-link" href="#">Home</a>

                    </li>

                    <li class="nav-item">

                        <a class="nav-link" href="#features">Key Features</a>

                    </li>

                    <li class="nav-item">

                        <a class="nav-link" href="#testimonials">Hear From Our Learners</a>

                    </li>

                    <li class="nav-item">

                        <a class="nav-link" href="#cta">Ready to Transform</a>

                    </li>

                    <li class="nav-item">

                        <button id="theme-toggle" class="theme-toggle-btn">

                            <svg xmlns="http://www.w3.org/2000/svg" viewBox="0 0 24 24" fill="none" stroke="currentColor" stroke-width="2" stroke-linecap="round" stroke-linejoin="round" class="lucide lucide-moon">

                                <path d="M12 3a6 6 0 0 0 9 9 9 9 0 1 1-9-9Z"/>

                            </svg>

                        </button>

                    </li>

                </ul>

            </div>

        </div>

    </nav>

    <!-- Hero Section -->

    <header class="hero-section d-flex align-items-center justify-content-center">

        <div class="container">

            <h1 class="display-3 mb-3">Learn Your Way.</h1>

            <p class="lead mb-4">Synapse uses AI to create a personalized learning path tailored just for you.</p>

            <a href="#cta" class="btn btn-cta btn-lg">Start Learning Today</a>

        </div>

    </header>

    <!-- Features Section -->

    <section id="features" class="section-padding">

        <div class="container">

            <h2 class="text-center fw-bold mb-5">Key Features of Synapse</h2>

            <div class="row g-4">

                <!-- Feature 1 -->

                <div class="col-md-4">

                    <div class="feature-card">

                        <svg class="feature-icon" xmlns="http://www.w3.org/2000/svg" width="24" height="24" viewBox="0 0 24 24" fill="none" stroke="currentColor" stroke-width="2" stroke-linecap="round" stroke-linejoin="round" class="lucide lucide-route"><circle cx="6" cy="19" r="3"/><path d="M10.85 17.52L19 12l-3.2-5.59L10.85 17.52zM15 7.5l-2 3.5"/><path d="M2 19h2"/><path d="M10 19h2"/><path d="M18 19h2"/><path d="M12 11h2"/><path d="M12 3h2"/><path d="M12 15h2"/></svg>

                        <h5>Personalized Paths</h5>

                        <p class="text-secondary">Our AI analyzes your progress and builds a dynamic curriculum that fits your needs.</p>

                    </div>

                </div>

                <!-- Feature 2 -->

                <div class="col-md-4">

                    <div class="feature-card">

                        <svg class="feature-icon" xmlns="http://www.w3.org/2000/svg" width="24" height="24" viewBox="0 0 24 24" fill="none" stroke="currentColor" stroke-width="2" stroke-linecap="round" stroke-linejoin="round" class="lucide lucide-message-square-more"><path d="M21 15a2 2 0 0 1-2 2H7l-4 4V5a2 2 0 0 1 2-2h14a2 2 0 0 1 2 2z"/><path d="M8 10h.01"/><path d="M12 10h.01"/><path d="M16 10h.01"/></svg>

                        <h5>Real-time Feedback</h5>

                        <p class="text-secondary">Get instant, actionable insights on your work to understand concepts faster.</p>

                    </div>

                </div>

                <!-- Feature 3 -->

                <div class="col-md-4">

                    <div class="feature-card">

                        <svg class="feature-icon" xmlns="http://www.w3.org/2000/svg" width="24" height="24" viewBox="0 0 24 24" fill="none" stroke="currentColor" stroke-width="2" stroke-linecap="round" stroke-linejoin="round" class="lucide lucide-graduation-cap"><path d="M21.43 21.43a2 2 0 0 1-2.86-.01l-1.92-1.89a2 2 0 0 0-2.86-.01L9.27 19.34a2 2 0 0 1-2.86-.01L5.19 17.2a2 2 0 0 0-2.86-.01L.43 15.07A2 2 0 0 1 .42 12.2l6.23-6.15a2 2 0 0 0 2.84-.01l1.9-1.88a2 2 0 0 1 2.86-.01l1.91 1.88a2 2 0 0 0 2.86-.01l1.92-1.89a2 2 0 0 1 2.86-.01L23.57 12.2a2 2 0 0 1-.01 2.86l-6.19 6.22a2 2 0 0 0-.01 2.86z"/><path d="M11 2v4a2 2 0 0 0 2 2h3"/></svg>

                        <h5>Master Any Subject</h5>

                        <p class="text-secondary">From coding to literature, Synapse covers a wide range of topics to help you achieve your goals.</p>

                    </div>

                </div>

            </div>

        </div>

    </section>

    <!-- Testimonials Section -->

    <section id="testimonials" class="section-padding bg-light">

        <div class="container">

            <h2 class="text-center fw-bold mb-5">Hear From Our Learners</h2>

            <div class="row justify-content-center g-4">

                <div class="col-md-6">

                    <div class="testimonial-card text-center">

                        <img src="https://placehold.co/80x80/28282B/FFFFFF?text=P" alt="Profile of learner" class="testimonial-img">

                        <p>"Synapse made studying for my exams a breeze. The personalized lessons saved me so much time!"</p>

                        <footer class="blockquote-footer mt-2">Sarah L., <cite title="Source Title">Student</cite></footer>

                    </div>

                </div>

                <div class="col-md-6">

                    <div class="testimonial-card text-center">

                         <img src="https://placehold.co/80x80/28282B/FFFFFF?text=A" alt="Profile of learner" class="testimonial-img">

                        <p>"I've tried many platforms, but Synapse is the first one that truly understands my learning style. Highly recommended."</p>

                        <footer class="blockquote-footer mt-2">David R., <cite title="Source Title">Software Engineer</cite></footer>

                    </div>

                </div>

            </div>

        </div>

    </section>

    <!-- Final CTA Section -->

    <section id="cta" class="section-padding cta-section">

        <div class="container">

            <h2 class="fw-bold mb-3">Ready to Transform Your Learning?</h2>

            <p class="lead mb-4">Start your free trial today and discover a smarter way to learn.</p>

            <a href="#" class="btn btn-lg btn-secondary-cta">Start Learning Today</a>

        </div>

    </section>

    <!-- Footer -->

    <footer class="py-4 text-center bg-dark text-white">

        <div class="container">

            <p class="mb-0">&copy; 2025 Synapse. All Rights Reserved.</p>

        </div>

    </footer>

    <!-- Bootstrap JS with Popper -->

    <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/js/bootstrap.bundle.min.js"></script>

    <script>

        document.addEventListener('DOMContentLoaded', () => {

            const themeToggleBtn = document.getElementById('theme-toggle');

            // Theme Toggle Logic

            const currentTheme = localStorage.getItem('theme');

            if (currentTheme === 'dark') {

                document.body.classList.add('dark-mode');

                themeToggleBtn.innerHTML = '<svg xmlns="http://www.w3.org/2000/svg" viewBox="0 0 24 24" fill="none" stroke="currentColor" stroke-width="2" stroke-linecap="round" stroke-linejoin="round" class="lucide lucide-sun"><circle cx="12" cy="12" r="4"/><path d="M12 2v2"/><path d="M12 20v2"/><path d="m4.93 4.93 1.41 1.41"/><path d="m17.66 17.66 1.41 1.41"/><path d="M2 12h2"/><path d="M20 12h2"/><path d="m6.34 17.66-1.41 1.41"/><path d="m19.07 4.93-1.41 1.41"/></svg>';

            } else {

                themeToggleBtn.innerHTML = '<svg xmlns="http://www.w3.org/2000/svg" viewBox="0 0 24 24" fill="none" stroke="currentColor" stroke-width="2" stroke-linecap="round" stroke-linejoin="round" class="lucide lucide-moon"><path d="M12 3a6 6 0 0 0 9 9 9 9 0 1 1-9-9Z"/></svg>';

            }

            themeToggleBtn.addEventListener('click', () => {

                if (document.body.classList.contains('dark-mode')) {

                    document.body.classList.remove('dark-mode');

                    localStorage.setItem('theme', 'light');

                    themeToggleBtn.innerHTML = '<svg xmlns="http://www.w3.org/2000/svg" viewBox="0 0 24 24" fill="none" stroke="currentColor" stroke-width="2" stroke-linecap="round" stroke-linejoin="round" class="lucide lucide-moon"><path d="M12 3a6 6 0 0 0 9 9 9 9 0 1 1-9-9Z"/></svg>';

                } else {

                    document.body.classList.add('dark-mode');

                    localStorage.setItem('theme', 'dark');

                    themeToggleBtn.innerHTML = '<svg xmlns="http://www.w3.org/2000/svg" viewBox="0 0 24 24" fill="none" stroke="currentColor" stroke-width="2" stroke-linecap="round" stroke-linejoin="round" class="lucide lucide-sun"><circle cx="12" cy="12" r="4"/><path d="M12 2v2"/><path d="M12 20v2"/><path d="m4.93 4.93 1.41 1.41"/><path d="m17.66 17.66 1.41 1.41"/><path d="M2 12h2"/><path d="M20 12h2"/><path d="m6.34 17.66-1.41 1.41"/><path d="m19.07 4.93-1.41 1.41"/></svg>';

                }

            });

        });

    </script>

</body>

</html>

### Screenshots of Final Output

A screenshot of a computer

AI-generated content may be incorrect.

A screenshot of a computer

AI-generated content may be incorrect.A screenshot of a computer

AI-generated content may be incorrect.

A screenshot of a computer

AI-generated content may be incorrect.

### Conclusion

This project successfully showcases the design and development of a modern landing page for an AI learning platform. This mini-project helped me strengthen my front-end development skills using a combination of a powerful framework like Bootstrap and custom styling. I gained practical insights into responsive design, theme management, and the importance of a user-centric approach in web development.

### References

L&T LMS : https://learn.lntedutech.com/Landing/MyCour