POLITECNICO
MILANO 1863

SCUOLA DI INGEGNERIA INDUSTRIALE
E DELL'INFORMAZIONE

Technology Report

WO CIAO YOGA - https://yoga-782.pages.dev/

GitHub - https://github.com/Simon0619/WO_CIAO_YOGA

FIGMA - https://www.figma.com/design/qViwUYLbGd10alGRBpevzO/WO-CIAO-YOGA?node-id=0-1&t=xthWQL3tL6IeU4ds-1

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Abstract

WO CIAO Yoga is a responsive, modular website for yoga learning and activities, developed as part of the Hypermedia Summer School project. It showcases yoga teachers, class events, daily schedules, and spotlights key courses, aiming to promote yoga as an activity theme. The platform demonstrates the powerful capabilities of frontend frameworks and modern backend solutions in building meaningful digital platforms.

Contents

1 | Introduction

1.1. Group Information

Group name: **WO CIAO**

Group Components

Name Surname	Person Code
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Table 1.1: Tea Green's components

1.2. Project Information

Link to our website: **https://yoga-782.pages.dev/**

Link to our GitHub repository: **https://github.com/Simon0619/WO_CIAO_YOGA**

1.3. Work Breakdown

We have tried the best we could to keep the work balance among all members as equal and as widespread as possible, in order to let everyone learn the most while doing this project. However, to speed up our work, we had to split the workload at some point: specifically, Every person has contributed to the overall design and development of all aspects of the website. For the pages,we have divided the workload as follows SHINUO YAN: Home Page,About Page, TIANQI HU:Teachers Page,Contact page, JIANWEI DENG:Activities Page,Schedule Page. We advanced the project by defining common development guidelines, allowing each member to touch all aspects of website development, from design to the implementation of backend components. The specific division of tasks is as follows: TIANQI HU:Focused on component development and CSS styling and writing parts of the report. JIANWEI DENG: Focused on page

implementation and database queries and writing parts of the report. SHINUO YAN: Focused on page and component implementation and integration and writing parts of the report.

2 | Documentation

2.1. Chosen Theme

We have decided to create a website for a company called "**WO CIAO Yoga**", based in Shanghai, CHINA. We believe in the power of yoga to help people lead happier, healthier and more balanced lives. With a community of dedicated and passionate teachers across Asia and North America, Hydrogen Yoga offers exceptional teaching, facilities and environment that inspires people of all ages and abilities to make yoga part of their lives.

2.2. Technological Choices

- Server-side Development: Nuxt 3 Server Engine (Nitro). We utilized Nitro's capabilities to create server API endpoints directly within our Nuxt project. This integrated approach simplified development, allowing us to manage both frontend and backend logic in a unified codebase.

- Application Hosting: Cloudflare Pages. Chosen for its seamless integration with Git, automatic deployments, and global CDN, which ensures fast delivery of our statically generated site to users worldwide.

- Database Hosting: Cloudflare D1. As a serverless, SQLite-based database, D1 was the perfect fit for our project's needs. Its lightweight nature and ease of use are ideal for structured, small-to-medium scale applications, avoiding the complexity of larger database systems.

- Rendering Mode: Static Site Generation (SSG). We opted for SSG to pre-render all pages at build time. This strategy provides superior performance with near-instant page loads and enhances SEO by serving fully-formed HTML to web crawlers.

- CI/CD and Build: Nuxthub. We used Nuxthub to automate the deployment process and simplify versioned builds, streamlining the path from development to production on Cloudflare.

- Scripting Language: TypeScript. We used TypeScript to enforce type safety throughout the application. This was particularly beneficial when defining data structures for our database entities with Drizzle ORM and component props, leading to more robust, bug-free, and maintainable code.

2.3. Project Structure

2.3.1. Links/Pages Structure

Links/Pages

Page	URL	Description
Home	/	The main landing page, featuring a welcome message and a highlighted section for important classes or events.
Teachers	/teacher	Displays profiles for all yoga teachers, showcasing their résumés and experience.
Person	/Teachers/[id]	Detailed information about the teacher, when they joined, and the types of yoga classes they are responsible for
Activities	/activities	Lists detailed information for all available yoga classes and courses offered by the studio.
events	/activities/[id]	Detailed explanation of the course schedule, location, and which teachers are responsible for these courses
Schedule	/schedule	Presents the daily and weekly timetable for all yoga classes, allowing users to plan their attendance.
About	/about	A static page providing information about the WO CIAO Yoga project and its mission.
Contact	/contact	Provides contact information for the yoga studio.

Table 2.1: WO CIAO YOGA's links/pages

2.3.2. Available Server Endpoints

Server Endpoints

API call	Parameters	Description
/api/teachers	none	Returns data for all teachers stored in the database.
/api/events	none	Returns data for all courses and recommended activities from the database.
/api/chatbot	message: string	Returns all the data about a person given their ID.

Table 2.2: WO CIAO YOGA's server endpoints

2.4. Custom Types

The database is designed to manage information about teachers, events (courses and special activities), and the relationship between them.

The core relationship is many-to-many: a teacher can teach multiple events, and an event can be taught by multiple teachers. This is managed through a junction table event_teachers.

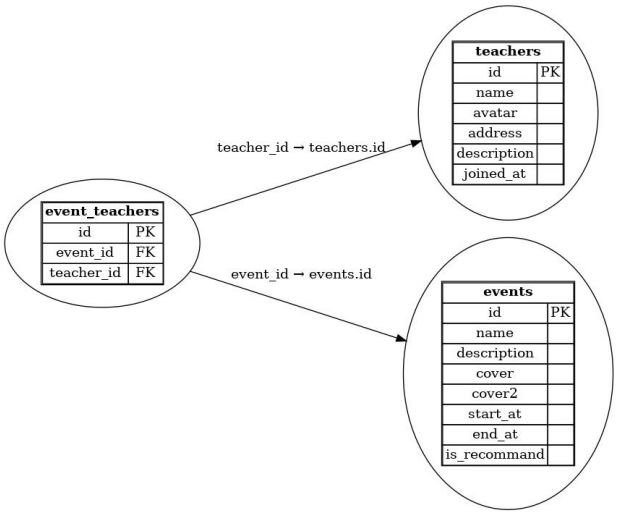

Figure 2.1: Database ER Diagram

Teachers

Stores the basic information for each yoga teacher.

Field Name	Parameters	Description
id	INT	Primary Key, auto-incrementing teacher ID.
name	VARCHAR	Teacher's name.
avatar	VARCHAR	URL for the teacher's profile picture.
address	VARCHAR	Location where the teacher primarily instructs.
description	TEXT	Teacher's personal biography and courses taught.
joined_at	DATETIME	The date the teacher joined the platform.

Table 2.3: teachers table details

Events

Stores information about all courses and recommended activities. A boolean flag distinguishes between regular courses and highlighted events.

Field Name	Parameters	Description
id	INT	Primary Key, auto-incrementing event/course ID.
name	VARCHAR	Name of the event or course.
description	TEXT	Detailed description of the event or course.
cover	VARCHAR	URL for the primary cover image (small)
cover2	VARCHAR	URL for the secondary display image (large).
start_at	DATETIME	Start time of the event/activity.

end_at	DATETIME	End time of the event/activity.
is_recommand	BOOLEAN	Flag to identify a recommended highlight (1=Recommended, 0=Course).

Table 2.4: events table details

Event_teachers

Field Name	Parameters	Description
id	INT	Primary Key, auto-incrementing.
event_id	INT	Foreign Key, references events(id).
teacher_id	INT	Foreign Key, references teachers(id).

Table 2.5: event_teachers table detail

2.5. Custom Components

The UI is built from a set of modular and reusable Vue components, styled using Nuxt/UI.

Component	Description
TeacherCard	A card component to display a teacher's summary: avatar, name, and a short bio. Used on the /teacher page.
EventCard	A card to display a course or activity's summary: cover image, name, and description. Used on the /activities page.
HighlightSection	A component on the homepage (index.vue) that specifically fetches and displays events where is_recommand is true.
ScheduleTable	A component on the /schedule page that fetches event and teacher data to render a daily timetable.

Table 2.6: Custom Components Overview

2.5.1. Cards

TeacherCard

This component displays a summary of a yoga teacher, including their photo, name, and primary specialty. It is used on the /teacher page.

TeacherCard

Prop	Type	Required	Short Description
teacher	Object	Yes	An object containing the teacher's data (name, photoUrl, specialty).

Table 2.7: TeacherCard detail

ClassCard

A card component used to display a brief overview of a yoga class or event, including an image, title, and a short description. It is used on the /activities page.

ClassCard

Prop	Type	Required	Short Description
event	Object	Yes	An object with class details (name, imageUrl, summary).
linkTo	String	Yes	The URL path to the detailed page for the class.

Table 2.8: ClassCard detail

2.5.2. Carousels

These are larger components that structure the layout of a page or a significant section of it.

ScheduleView

This component is responsible for fetching and rendering the daily yoga schedule in a clear, tabular format. It is the main component on the /schedule page.

ScheduleView

Prop	Type	Required	Short Description
date	String	Yes	The date for which to display the schedule

Table 2.9: ScheduleView details

PageHeader

A container used at the top of most pages to display a consistent title and an optional introductory text.

PageHeader

Prop	Type	Required	Short Description
title	String	Yes	The main title of the page.
subtitle	String	No	An optional subtitle or introductory sentence.

Table 2.10: PageHeader details

2.5.3. Other Components

This section covers essential components that don't fit into the previous categories. They require no props.

NavBar

This is the main navigation bar for WO CIAO Yoga, present on every page. It includes links to all primary sections of the site and is fully responsive, adapting its layout for mobile and desktop screens.

Footer

The site-wide footer, containing links to social media, contact information, and copyright details.

Chatbot

This component integrates the Tidio chatbot service. It renders a floating button that, when clicked, opens a chat interface, allowing users to interact with a conversational agent.

2.6. Extra Modules

We integrated several external Nuxt modules and libraries to enhance functionality and streamline development.

Extra Modules

Module Name	Usage Description
@nuxt/ui	Provides a comprehensive set of pre-styled, accessible, and themeable UI components that formed the foundation of our site's design system.
drizzle-orm	A type-safe ORM used to interact with our Cloudflare D1 database. It allowed us to write SQL queries in TypeScript, ensuring data consistency.
@cloudflare/d1	The official Cloudflare package to bind the D1 database to the Nuxt server environment.
nuxthub	Used for CI/CD and automatic deployment of the Nuxt project to Cloudflare Pages.
csv-parser (dev)	A development-only utility used to parse CSV files for seeding the local database with initial teacher and class data.
tidio	A third-party library for integrating a feature-rich chatbot.

Table 2.11: Extra Modules usage description

2.7. External Libraries

Our project relied almost exclusively on the @nuxt/ui module for styling and components. We did not find the need to import large external CSS libraries like Bootstrap, as Nuxt UI provided sufficient flexibility and a consistent design language out-of-the-box.

3 | Extras

The following accessibility good practices have been implemented:

3.1. Accessibility Compliance

The following accessibility good practices have been implemented:

- Alternative text: All meaningful images (<img> tags) for teachers and events include descriptive alt attributes.
- High contrast: The color scheme (primarily greens, whites, and dark grays) was chosen to ensure high contrast between text and background, making content readable for all users.
- Clear structure: The website uses semantic HTML5 tags (<header>, <main>, <nav>, <footer>, <section>) and a logical heading hierarchy (<h1>, <h2>, etc.) to structure content, which aids screen readers.
- Simple language: Content is written in clear, straightforward language to be easily understood by a broad audience.

3.2. SEO Guidelines Compliance

The following Search Engine Optimization (SEO) good practices have been implemented:

- Unique title tags: Each page (/, /teacher, /activities, /schedule) has a unique and descriptive <title> tag that summarizes its content (e.g., "WO CIAO Yoga - Teachers").
- Effective meta descriptions: Each page includes a short but informative meta description that represents what to expect when navigating to the page.
- Clear URLs: The URLs are clean, readable, and contain keywords that refer to the content of the page (e.g., /teacher for the teachers page).
- Mobile friendliness: The website is fully responsive and adapts its layout for different screen sizes, from mobile phones to desktops, thanks to the responsive utilities provided by Nuxt/UI and custom CSS media queries.
- Fast Load Times: By using Server-Side Rendering (SSR) and hosting on Cloudflare's global CDN, the website achieves fast initial load times, a key factor for both user experience and search engine ranking