



POLITECNICO
MILANO 1863



Design Report

Hypermedia Applications

A.Y. 2024-2025

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SCUOLA DI INGEGNERIA INDUSTRIALE E DELL'INFORMAZIONE

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Contents

1 Abstract	4
2 Introduction	4
2.1 Group information	4
2.2 Project information	4
2.3 Work Breakdown	5
3 G-IDM Schema	5
4 Content in the Small - Tables	6
4.1 The Center	6
4.2 Contact	7
4.3 Prices	7
4.4 Activity	7
4.5 Teacher	8
4.6 All Activities	8
4.7 All Teachers	8
4.8 Highlights	8
5 Final Commented Screenshots	8
5.1 Homepage	8
5.2 The Center	11
5.3 Activities	13
5.4 Single Activity	14
5.5 Teachers	15
5.6 Single Teacher	16
5.7 Prices	17
5.8 Contact	18
6 Interaction Scenarios	20
6.1 Use Case 1	21
6.1.1 Textual Narrative	21
6.1.2 Interactive Flow	22
6.2 Use Case 2	25
6.2.1 Textual Narrative	25
6.2.2 Interactive Flow	26
6.3 Use Case 3	28
6.3.1 Textual Narrative	28
6.3.2 Interactive Flow	29
7 Database Design	30
7.1 Entity-Relationship Schema	31
8 Annex	33
8.1 Abstract Pages	33
8.2 Low Fidelity Wireframes	37
8.3 User testing	44

8.3.1	General Methodology	44
8.3.2	Design of the Study	45
8.3.3	User Selection	45
8.3.4	Evaluation Criteria	45
8.3.5	Tasks	46
8.4	User Test Results	46
8.4.1	Success Rate (SR)	46
8.4.2	Time Thresholds	47
8.4.3	Weighted Success Rate (WSR)	47

1 Abstract

This design report presents the **comprehensive exploration and development** of a yoga center website, focusing on the theme of *promoting holistic wellness and fostering inner balance*.

The report covers key components such as:

- the **C-IDM diagram**,
- content organization in *small tables*,
- final wireframes with detailed comments,
- interaction scenarios,
- the **database design**.

The **C-IDM diagram** showcases the relationships between different entities, while the *content-in-the-small tables* ensure efficient data representation. The final wireframes capture the visual aspects of the website, and the *interaction scenarios* outline user journeys. The DB design section highlights the **ER schema** and **relational tables**. The report concludes with abstract pages and optional wireframes, providing an overview of the website's structure and design.

2 Introduction

2.1 Group information

Group name: Bada Bastu

Team members:

Matteo Civitillo	matteo.civitillo@mail.polimi.it
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2.2 Project information

- Link to our website:
<https://hypermedia-applications-rho.vercel.app/>
- Link to our GitHub repository:
https://github.com/yexin01/hypermedia_applications

2.3 Work Breakdown

Due to the high number and complexity of tasks involved, we successfully managed to distribute the workload evenly. This allowed each team member to actively contribute to all areas of the project, including implementation, database modeling, technical documentation, and the final report. This balanced approach ensured full engagement and comprehensive learning across all dimensions of the development process.

3 C-IDM Schema

This section of the design report examines the **C-IDM (Content-Information-Data Model)** schema that forms the structural basis of our project. The C-IDM schema acts as the core framework for systematically organizing and managing content and information within the system. It establishes the relationships and structural framework between **topics**, **entities**, and **groups**, facilitating efficient data management and seamless user navigation across the platform. By analyzing the C-IDM schema, we clarify how the project's content is strategically structured and interconnected, ensuring a unified and intuitive experience for users.

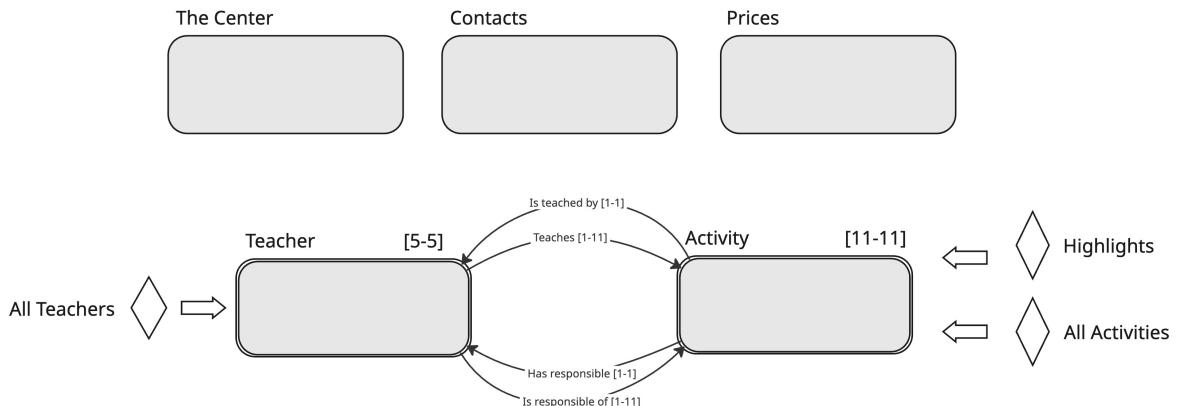


Figure 1: C-IDM Schema

In the *C-IDM schema* of the project, there are three main topics: The Center, Contacts and Prices. Additionally, there are two primary entities, or kinds of topics: Teacher and Activity. Here's a breakdown of their relationships:

Teacher:

- There are 5 teachers in total.
- Each teacher can teach multiple activities (*1:N relationship*).
- Each teacher can be responsible for multiple activities (*1:N relationship*).

Activity:

- There are 11 activities in total.

- Each activity is taught by one teacher (*1:1 relationship*).
- Each activity is the responsibility of one teacher (*1:1 relationship*).

In addition to the above, there are the following groups:

- “*All Teachers*”: contains all individuals in the Teacher category.
- “*All Activities*”: contains all the activities the center offers.
- “*Highlights*”: contains a selection of highlighted activities.

4 Content in the Small - Tables

4.1 The Center

Field and Description

Title: ”Transforming lives through the practice of yoga and meditation.”

Short description: text (max 80 words)

Center description: text

Center image: image

Rooms preview: list of [room name, description, features, activities, image]

Areas preview: list of [image, name, description]

Table 1: Fields and description for the topic ”The Center”

4.2 Contact

Field and Description
Title: "About us"
Phone Number: text (11 characters)
Email Address: Email
Location: interactive map
Working Hours: Table
FAQ: list of [question, answer]
Contact form: form

Table 2: Fields and description for the topic "Contact"

4.3 Prices

Field and Description
Title: "Our Membership Plans"
Description: text
Prices tables: list of [subscription plan's name, price table]
Plans comparison: table

Table 3: Fields and description for the topic "Prices"

4.4 Activity

Field and Description
Name of the activity: text
Activity image: image
Difficulty level: text
Short summary: text
Schedule: text
Related teacher profile photo: image
Related teacher name and surname: text
Description of the activity: text
Details of the activity: text
Room photo where the lesson takes place: image
Room description where the lesson takes place: text
Other activities you might like: list of activities [name of the activity, difficulty level, short summary]

Table 4: Fields and description for the topic "Activity"

4.5 Teacher

Field and Description
Name: text
Surname: text
Profile picture: image
Role: text
Main expertise: text
About description: text
Activity he/she teaches: list of activities [name of the activity, difficulty level, schedule, short summary]

Table 5: Fields and description for the topic "Teacher"

4.6 All Activities

Field and Description
Title: "Our Activities"
Description: text
Activities: list of activities [difficulty level, name of the activity, short summary]

Table 6: Fields and description for the topic "All Activities"

4.7 All Teachers

Field and Description
Title: "Our Teachers"
Description: text
Teachers: list of teachers [name, surname, role, main expertise]

Table 7: Fields and description for the topic "All Teachers"

4.8 Highlights

Field and Description
Title: "Highlighted Activities"
Activities Preview: List of activities [photo, title]

Table 8: Fields and description for the topic "Highlights"

5 Final Commented Screenshots

5.1 Homepage

The Homepage of **Serendipity Yoga** introduces visitors to the studio's peaceful and welcoming atmosphere. With a calming background and the prominent headline "*Discover*

Your Inner Peace Through Yoga," the page communicates the studio's core mission of personal transformation through yoga, meditation, and mindful living.

Visitors are immediately presented with key areas of interest, including a carousel of highlighted activities such as **Ashtanga Yoga**, **Gentle Water Yoga**, and **Sunset Yoga**, giving a dynamic preview of what the studio offers.

The homepage also features an overview of available yoga classes, each clearly labeled by:

- difficulty level (beginner, intermediate, advanced),
- instructor name,
- and a brief description.

This allows users to quickly assess which practice suits their level and interest.

At the bottom of the page, the "*About Us*" section provides contact information, a map of the studio's location in Milan, and weekly opening hours, making it easy for new visitors to get in touch or plan their visit.

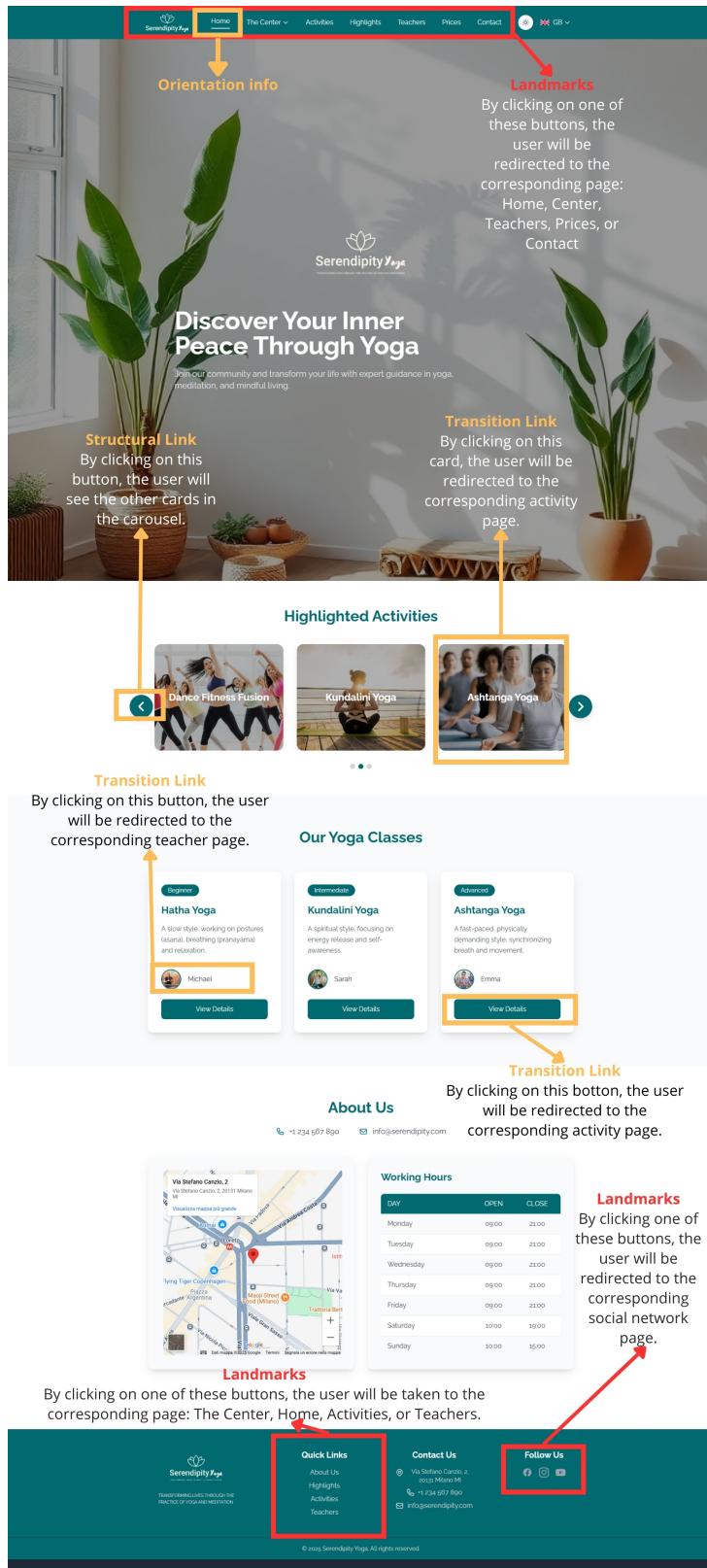


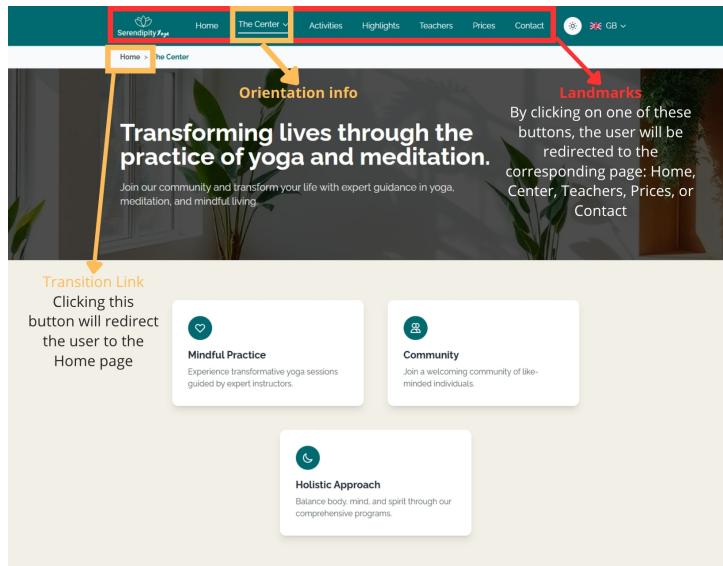
Figure 2: Final screenshot for Homepage

5.2 The Center

The Center page opens with an introductory section presenting **Serendipity Yoga's mission** to promote transformation through yoga, meditation, and mindful living.

The page is divided into three main sections:

- **Our Philosophy:** highlights the studio's core values: *Mindful Practice*, *Community*, and *Holistic Approach*, emphasizing personal growth and overall wellbeing.
- **Yoga Rooms:** a carousel showcases the different practice rooms within the center. Each slide includes a room description, a list of distinctive features, and the types of yoga activities held in that space.
- **Areas:** introduces complementary spaces available at the center, including a wellness bar, a supervised play area for children, and a relaxation-focused SPA.



Serendipity Yoga Center

At Serendipity Yoga Center, we believe true wellness begins with daily choices.

Our holistic approach blends dynamic yoga, meditation, and rejuvenating activities to guide your full transformation: a stronger body, a clearer mind, a lighter spirit.

From energizing classes to immersive retreats, sunset yoga socials to spa relaxation, every experience is a step toward your best self.

Because lifestyle change isn't about revolution, but conscious evolution.

Start your journey today.

Structural Link
By clicking on this button, the user will see the other cards in the carousel.

Our Yoga Rooms

Oriental Room
A serene haven infused with Eastern tranquility. Practice amidst elegant Asian-inspired decor where harmony flows through every detail. Where ancient wisdom meets mindful movement.

Features:

- Warm teak floors & silk drapery
- Soft lantern lighting & incense scents
- Traditional singing bowls & chimes

Activities:

Hatha Yoga, Kundalini Yoga

Landmarks
By clicking on one of these buttons, the user will be taken to the corresponding page: The Center, Home, Activities, or Teachers.

Serendipity Yoga Center - Areas

bar
Our elegant bar serves fresh juices, smoothies, and healthy snacks. The perfect place to recharge after your yoga session or socialize with fellow practitioners in a peaceful atmosphere.

play area
A colorful and safe space where children can play and practice yoga. Equipped with toys and games, supervised by trained staff, allowing you to focus on your yoga practice.

SPA
Indulge in our tranquil spa offering massage therapy and relaxation treatments that complement your yoga practice. The perfect way to enhance your wellness journey and promote deeper healing.

Landmarks
By clicking one of these buttons, the user will be redirected to the corresponding social network page.

Quick Links

- About Us
- Highlights
- Activities
- Teachers

Contact Us

Via Stefano Canzo, 2,
20131 Milano MI
+39 02 1234 5678
info@serendipity.com

Follow Us

Figure 3: Final screenshot for The Center

5.3 Activities

The Activities page begins with an introductory section inviting users to explore a variety of practices aimed at nurturing body, mind, and spirit.

The page is divided into two main sections:

- **Yoga Classes:** presents the core yoga offerings, including practices of varying levels and styles. Each activity is displayed with a short description and difficulty tag.
- **Other Activities:** a grid layout showcases additional wellness and creative experiences beyond traditional yoga, including workshops, retreats, meditation, dance, and mindful art.

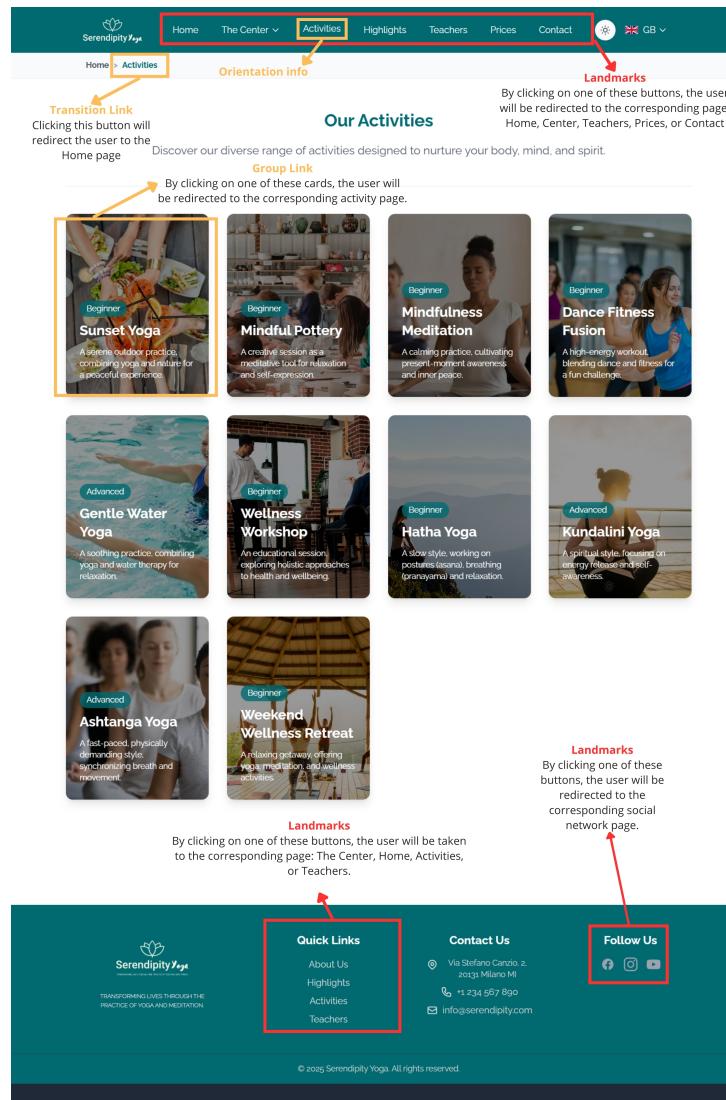


Figure 4: Final screenshot for Activities

5.4 Single Activity

The single activity page provides an in-depth overview of a specific class offered at Serendipity Yoga. The page is structured to give users all the essential information at a glance.

It includes the:

- activity's title,
- level,
- teacher,
- description,
- and schedule.

A detailed section outlines ideal participants and key benefits. Further down, a featured yoga room is presented with an image, a short description, a list of room features, and the activities hosted there.

At the bottom, the page suggests related activities that users might also be interested in, enhancing navigation and discovery within the site.

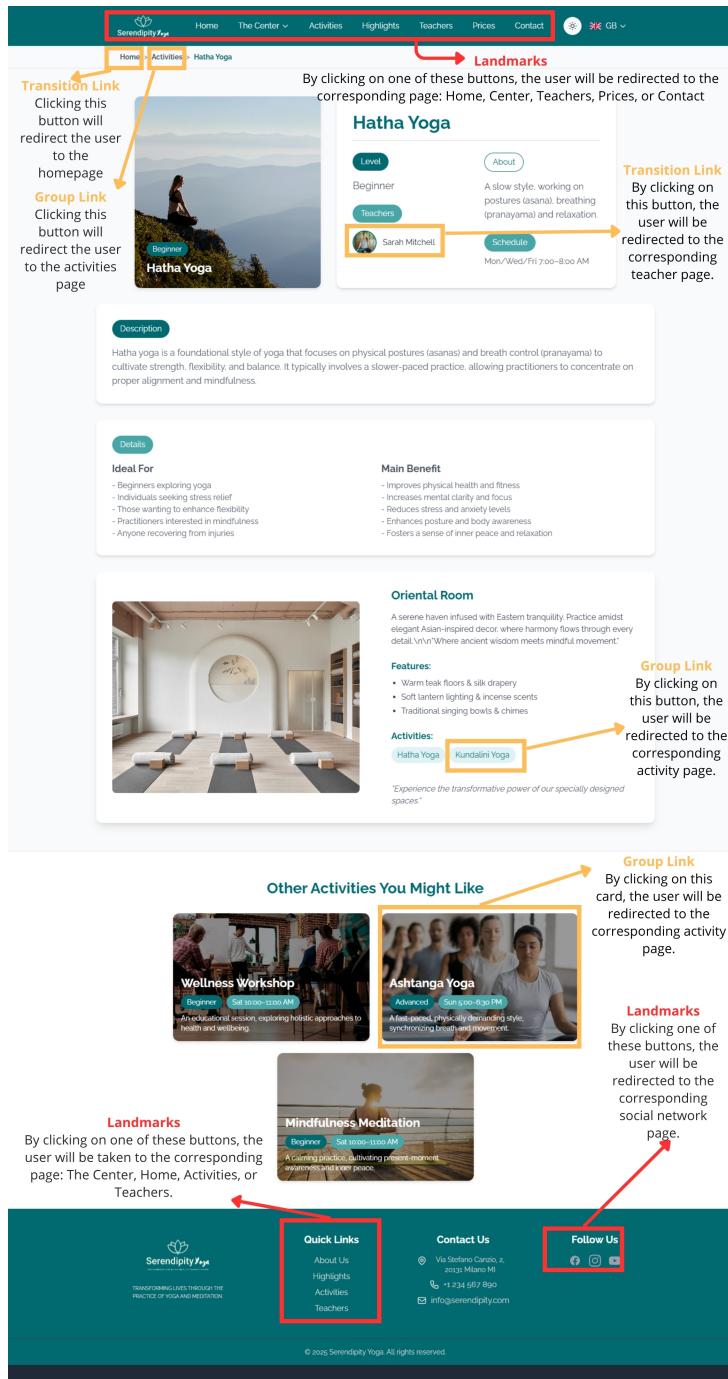


Figure 5: Final screenshot for Single Activity

5.5 Teachers

The Teachers page introduces the team of instructors at Serendipity Yoga, emphasizing their diverse expertise and dedication to guiding students on their wellness journey.

Each teacher is presented in a *card format* with:

- name,
- title,

- portrait,
- and areas of specialization.

This layout allows visitors to quickly identify instructors and get a sense of their background and focus. The page highlights the studio's commitment to offering a rich and varied teaching experience.

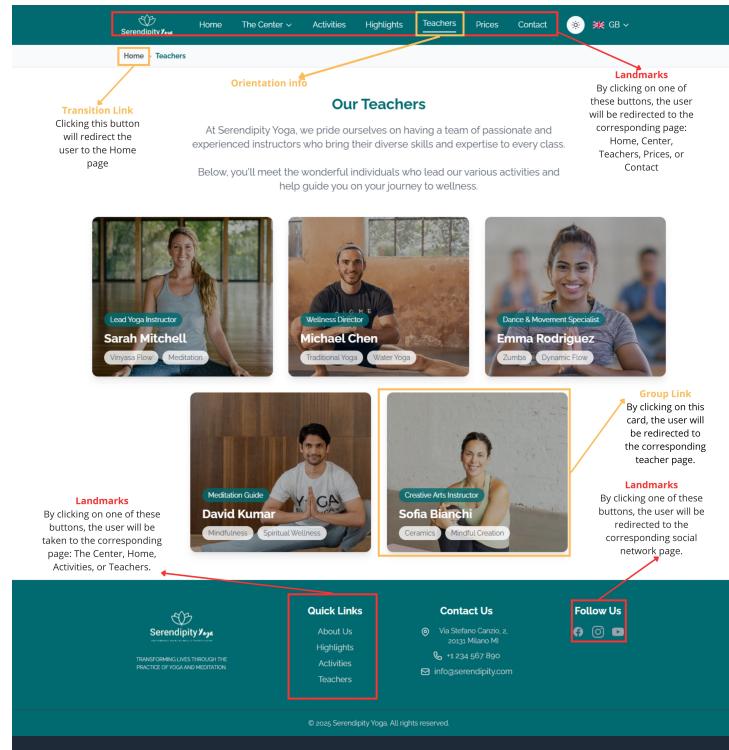


Figure 6: Final screenshot for Teachers

5.6 Single Teacher

The single teacher page offers a focused profile of an individual instructor at Serendipity Yoga. It includes:

- name,
- role,
- areas of expertise,
- and a short biography describing their background and teaching style.

A dedicated section displays the activities led by the teacher, allowing visitors to explore their classes and understand their unique contributions to the studio's programs.



Figure 7: Final screenshot for Single Teacher

5.7 Prices

The Prices page presents the membership plans available at Serendipity Yoga, helping visitors choose the subscription that best fits their needs.

The page is divided into three main plan sections:

- **Yoga4You**
- **Standard**
- **Premium**

Each section includes:

- a summary of features,
- available durations (monthly, 6 months, yearly),
- pricing details, including savings for long-term options.

At the bottom, a comparison table highlights differences in benefits (e.g., spa access, activity reservations, bar discounts).

Transition Link
Clicking this button will redirect the user to the Home page

Orientation info

Our Membership Plans

To activate any of our subscription plans, please visit our reception desk at our center. Below you'll find all our available pricing options to suit your needs.

Yoga4You

Standard

Plan Duration	Total Price	Monthly Equivalent	Savings
Monthly	25€	25€/month	-
6 Months	140€	23.33€/month	Save 10€
Yearly	270€	22.50€/month	Save 30€

Unlock your yoga journey with our essential experience

Premium

Plan Duration	Total Price	Monthly Equivalent	Savings
Monthly	35€	35€/month	-
6 Months	200€	33.33€/month	Save 10€
Yearly	380€	31.67€/month	Save 40€

Elevate your practice with comprehensive access

Compare Plans

Below is a table that highlights the main feature differences for each type of membership.

Features	Yoga4You	Standard	Premium
Unlimited access to all classes	✓	✓	✓
Access to meditation room	✓	✓	✓
Use of shower facilities	✓	✓	✓
Access to all activities under reservation	✗	✓	✓
Access to all areas	✗	✓	✓
Spa access	✗	✓	✓
Privileged access to meditation room	✗	✗	✓
Access to all activities without reservation	✗	✗	✓
Discounts and free drinks at the bar	✗	✗	✓

Landmarks
By clicking on one of these buttons, the user will be redirected to the corresponding page: The Center, Home, Activities, or Teachers.

Landmarks
By clicking on one of these buttons, the user will be redirected to the corresponding page: Home, Center, Teachers, Prices, or Contact

Quick Links

- About Us
- Highlights
- Activities
- Teachers

Contact Us

Via Stefano Carozzo, 2,
20131 Milano MI
+39 02 000 000
info@serendipity.com

Follow Us

Figure 8: Final screenshot for Prices

5.8 Contact

The Contact page provides all the essential information for reaching out to Serendipity Yoga.

It includes:

- the studio's address,
- contact number,

- email,
- and a Google Maps embed.

A table clearly lists the weekly opening hours. The page also features:

- a FAQ section for common questions,
- and a contact form for direct inquiries (name, email, message).

Transition Link
By clicking this button will redirect the user to the Home page

Orientation info

About Us

By clicking on one of these buttons, the user will be redirected to the corresponding page: Home, Center, Teachers, Prices, or Contact

Landmarks

Working Hours

DAY	OPEN	CLOSE
Monday	09:00	21:00
Tuesday	09:00	21:00
Wednesday	09:00	21:00
Thursday	09:00	21:00
Friday	09:00	21:00
Saturday	10:00	19:00
Sunday	10:00	15:00

Structural Links
By clicking on this button, the cell related to the question will open.

Frequently Asked Questions

What makes Serendipity different from other yoga studios? ▼

Do I need to be experienced to join your classes? ▼

Is the swimming pool included with membership? ▼

Do you have childcare during morning classes? ▼

Landmarks
By clicking on one of these buttons, the user will be taken to the corresponding page: The Center, Home, Activities, or Teachers.

FAQs not enough? Write to us!

Your Name: John Doe Your Email: john@example.com

Message: How can we help you?

Send Message

Landmarks
By clicking one of these buttons, the user will be redirected to the corresponding social network page.

Quick Links

- About Us
- Highlights
- Activities
- Teachers

Contact Us

Via Stefano Carbo, 2, 20131 Milano MI
+1 234 567 890
info@serendipity.com

Follow Us

Figure 9: Final screenshot for Contact

6 Interaction Scenarios

This section presents a set of interaction scenarios that exemplify how users with different profiles will engage with the system to accomplish specific goals. Each scenario provides a concrete example of how users interact with the platform, detailing the sequence of actions required to access relevant content and features. The scenarios are based on realistic use cases and aim to illustrate actual and meaningful interactions with the system.

Every scenario consists of a concise textual narrative that outlines the user's role, objective, and the primary steps needed to achieve the goal. This is complemented by a visual flow of miniaturized interface screenshots, where key interactive elements are highlighted to emphasize user decisions and system responses.

Together, these representations provide a comprehensive view of the user journey and support the evaluation of the application's usability and task effectiveness.

6.1 Use Case 1

6.1.1 Textual Narrative

Name	Discovering Yoga Classes and Teachers as a Beginner
Profile	Anna, 32 years old, working professional, has little experience with yoga and is considering joining a center nearby.
Goal	Learn about the types of yoga classes available and get familiar with the instructors before visiting.
Context	Anna recently moved to the area and is exploring wellness options to improve her physical and mental health. She has heard of the center and wants to understand if it offers beginner-friendly classes and trustworthy instructors.
Tasks	<ol style="list-style-type: none">1. The user visits the homepage of the yoga center website.2. Clicks on the “Activities” section from the navigation bar, and sees immediately there are yoga courses for beginners.3. She reads through the class descriptions, focusing on benefits.4. Navigates to the “Teachers” section to explore the instructors.5. She reads the teacher’s bios to understand their specialties and teaching style.

Table 9: Textual narrative for Use Case 1

6.1.2 Interactive Flow

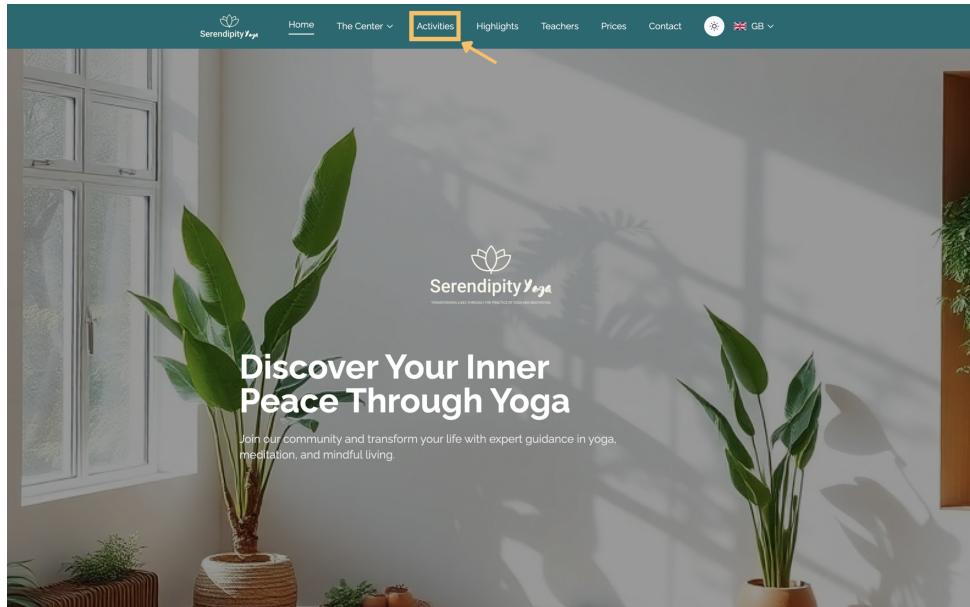


Figure 10: The user visits the homepage of the yoga center website.

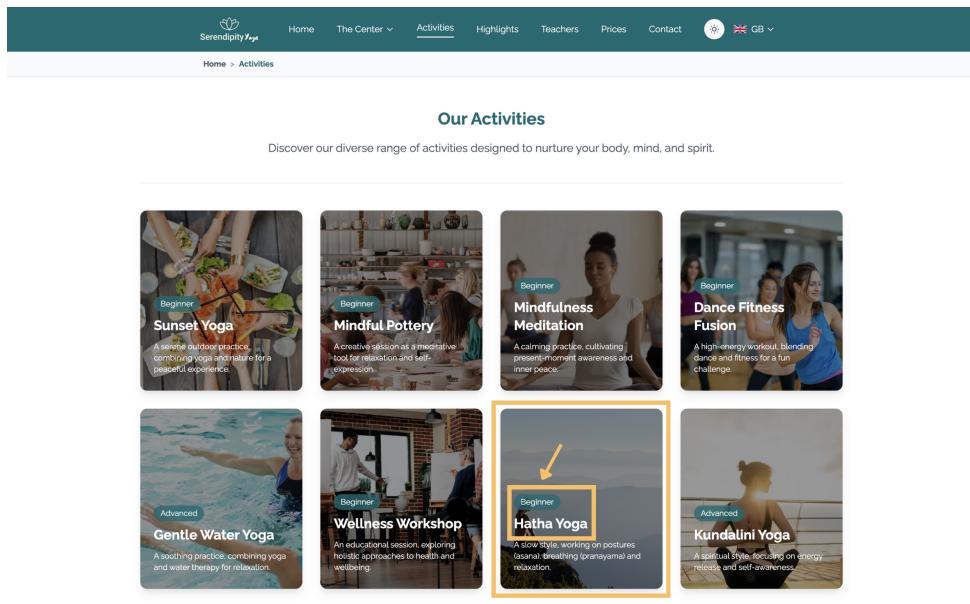


Figure 11: The user clicks on the “Activities” section from the navigation bar and sees that there are yoga courses for beginners.

Serendipity Yoga

Home The Center Activities Highlights Teachers Prices Contact ☰ GB

Home > Activities > Hatha Yoga



Hatha Yoga

Level Beginner

Teachers Sarah Mitchell

About A slow style, working on postures (asana), breathing (pranayama) and relaxation.

Schedule Mon/Wed/Fri 7:00–8:00 AM

Description

Hatha yoga is a foundational style of yoga that focuses on physical postures (asanas) and breath control (pranayama) to cultivate strength, flexibility, and balance. It typically involves a slower-paced practice, allowing practitioners to concentrate on proper alignment and mindfulness.

Details

Ideal For

- Beginners exploring yoga
- Individuals seeking stress relief
- Those wanting to enhance flexibility
- Practitioners interested in mindfulness
- Anyone recovering from injuries

Main Benefit

- Improves physical health and fitness
- Increases mental clarity and focus
- Reduces stress and anxiety levels
- Enhances posture and body awareness
- Fosters a sense of inner peace and relaxation

Oriental Room

A serene haven infused with Eastern tranquility. Practice amidst elegant Asian-inspired decor, where harmony flows through every detail. "Where ancient wisdom meets mindful movement."

Features:

- Warm teak floors & silk drapery
- Soft lantern lighting & incense scents
- Traditional singing bowls & chimes

Activities:

Hatha Yoga Kundalini Yoga

"Experience the transformative power of our specially designed spaces."

Figure 12: The user reads through the class descriptions, focusing on the benefits.

The screenshot shows the Serendipity Yoga website. At the top, there's a dark header bar with the logo 'Serendipity Yoga' and navigation links: Home, The Center, Activities, Highlights, Teachers (which is highlighted with a yellow box and has an orange arrow pointing to it), Prices, Contact, and language/region settings (GB). Below the header, the breadcrumb navigation shows 'Home > Activities > Hatha Yoga'. The main content area features a large image of a person meditating on a mountain peak, labeled 'Beginner Hatha Yoga'. To the right of the image, there's a summary box for 'Hatha Yoga' with sections for 'Level' (Beginner), 'About' (describing it as a slow style focused on postures, breathing, and relaxation), 'Teachers' (Sarah Mitchell), and 'Schedule' (Mon/Wed/Fri 7:00-8:00 AM). Below this, there's a 'Description' section with a detailed paragraph about Hatha yoga's focus on physical postures and breath control. Further down, there's a 'Details' section with 'Ideal For' (beginners, stress relief, flexibility, practitioners interested in mindfulness, recovering from injuries) and 'Main Benefit' (improved physical health, mental clarity, reduced stress, enhanced posture, inner peace).

Figure 13: The user navigates to the “Teachers” section to explore the instructors.

This screenshot shows the teacher profile for Sarah Mitchell. The top navigation bar is identical to Figure 13. The breadcrumb navigation shows 'Home > Teachers > Sarah Mitchell'. The main content area features a large image of Sarah Mitchell sitting in a yoga pose. To the right, there's a summary box for 'Sarah Mitchell' with sections for 'Role' (Lead Yoga Instructor), 'About' (describing her over 15 years of experience and wealth of knowledge in Vinyasa Flow and meditation), 'Expertise' (Vinyasa Flow & Meditation), and a detailed paragraph about her focus on mindful movement and breath awareness. Below this, there's a section titled 'Activities' featuring a thumbnail for 'Hatha Yoga' with its details: Beginner level, Mon/Wed/Fri 7:00-8:00 AM, and a brief description of the slow style focusing on postures, breathing, and relaxation.

Figure 14: The user reads the teachers’ bios to understand their specialties and teaching styles.

6.2 Use Case 2

6.2.1 Textual Narrative

Name	Evaluating the Venue and Reaching Out for Workshop Collaboration
Profile	Marco, 45 years old, freelance event coordinator specialized in wellness and creative experiences.
Goal	Assess whether the center could host a small wellness workshop, and reach out for more information.
Context	Marco has heard about the center's relaxed atmosphere and is looking for a venue for an event. He visits the site to evaluate the available rooms and determine whether the space fits his needs before contacting the center directly.
Tasks	<ol style="list-style-type: none">1. The user visits the homepage of the yoga center website.2. Hovers over the “The Center” menu in the navigation bar and opens the dropdown menu. He selects the “Rooms” to explore the available rooms.3. Browses through the different room descriptions and photos to assess space, features, and ambiance.4. Finds the physical address and general contact details (phone and email) and discovers with pleasant surprise the presence of a dedicated contact form embedded on the page.

Table 10: Textual narrative for Use Case 2

6.2.2 Interactive Flow

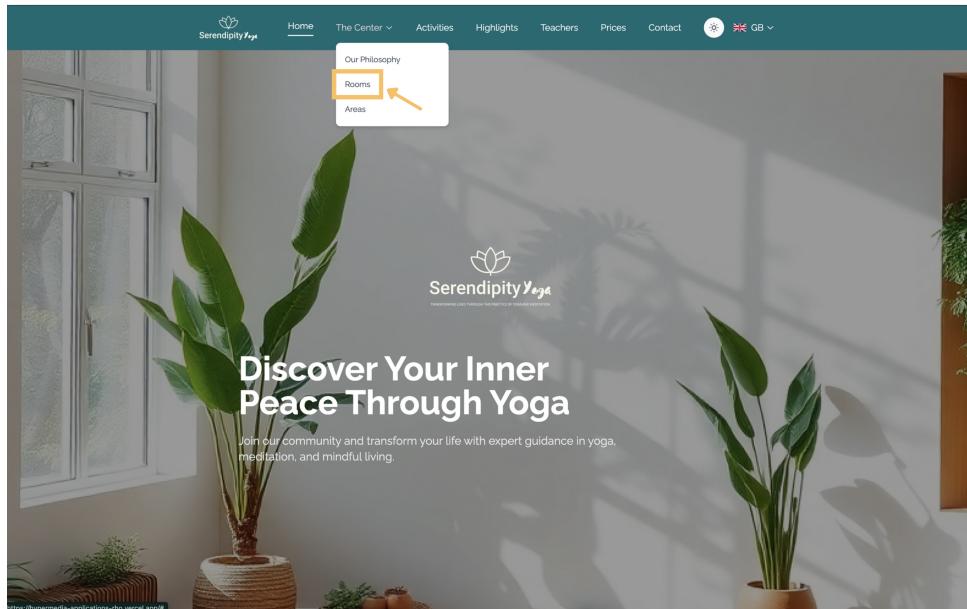
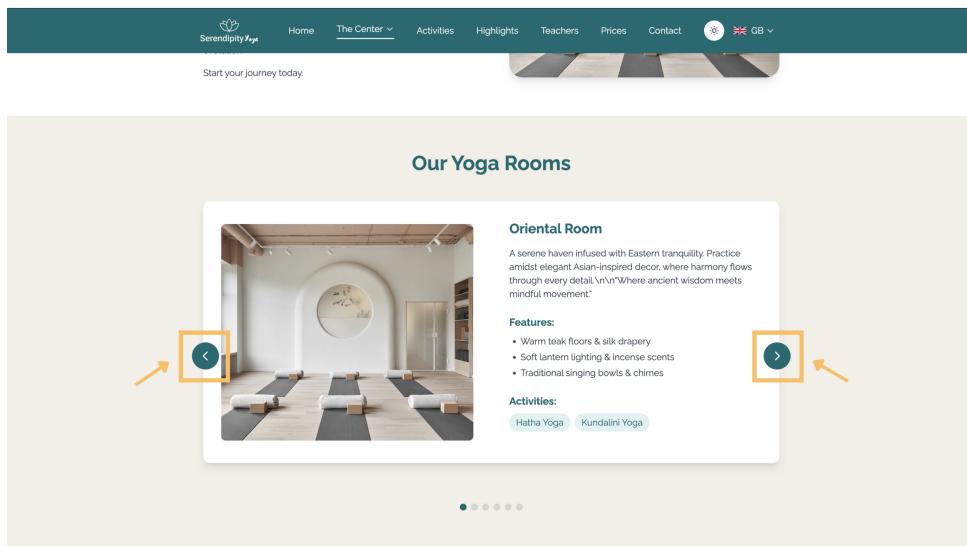


Figure 15: Hovers over the “The Center” menu in the navigation bar and opens the dropdown menu. He selects the “Rooms” to explore the available rooms.



Serendipity Yoga Center - Areas

Figure 16: Browses through the different room descriptions and photos to assess space, features, and ambiance.

About Us

+1 234 567 890 info@serendipity.com



Working Hours

DAY	OPEN	CLOSE
Monday	09:00	21:00
Tuesday	09:00	21:00
Wednesday	09:00	21:00
Thursday	09:00	21:00
Friday	09:00	21:00
Saturday	10:00	19:00
Sunday	10:00	15:00

Frequently Asked Questions

What makes Serendipity different from other yoga studios?

Do I need to be experienced to join your classes?

Is the swimming pool included with membership?

Do you have childcare during morning classes?

FAQs not enough? Write to us!

Figure 17: Finds the physical address and general contact details (phone and email) and discovers with pleasant surprise the presence of a dedicated contact form embedded on the page.

6.3 Use Case 3

6.3.1 Textual Narrative

Name	Discovering “Mindful Pottery” as a Gift Idea
Profile	Luca, 26 years old, young professional, looking for an original activity to do with his girlfriend.
Goal	Find a unique, mindful activity to enjoy together, possibly something creative and wellness-oriented.
Context	Luca recently heard from a friend about a special workshop called “Mindful Pottery”, offered at the yoga center. Intrigued by the idea of combining creativity and relaxation, he visits the website to learn more and evaluate whether it could be a good surprise.
Tasks	<ol style="list-style-type: none">1. The user visits the homepage of the yoga center website.2. Uses the navigation bar to access the “Activities” and sees the “Mindful Pottery” among the offerings.3. Read the detailed description, including the schedule that is important for the gift to be successful.4. Decides to visit the prices page, using the navigation bar to see the prices to access this activity for a month.

Table 11: Textual narrative for Use Case 3

6.3.2 Interactive Flow

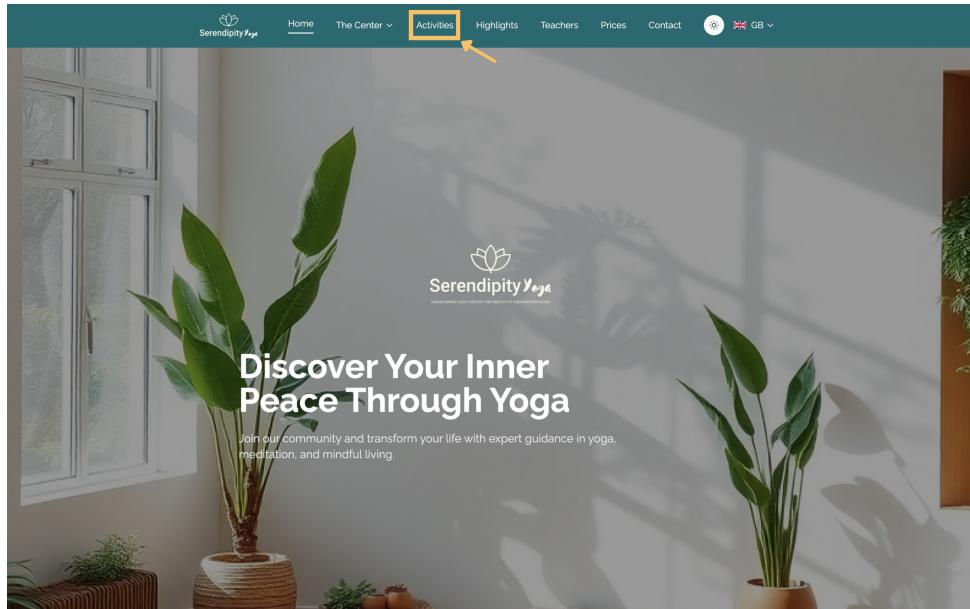


Figure 18: The user visits the homepage of the yoga center website.

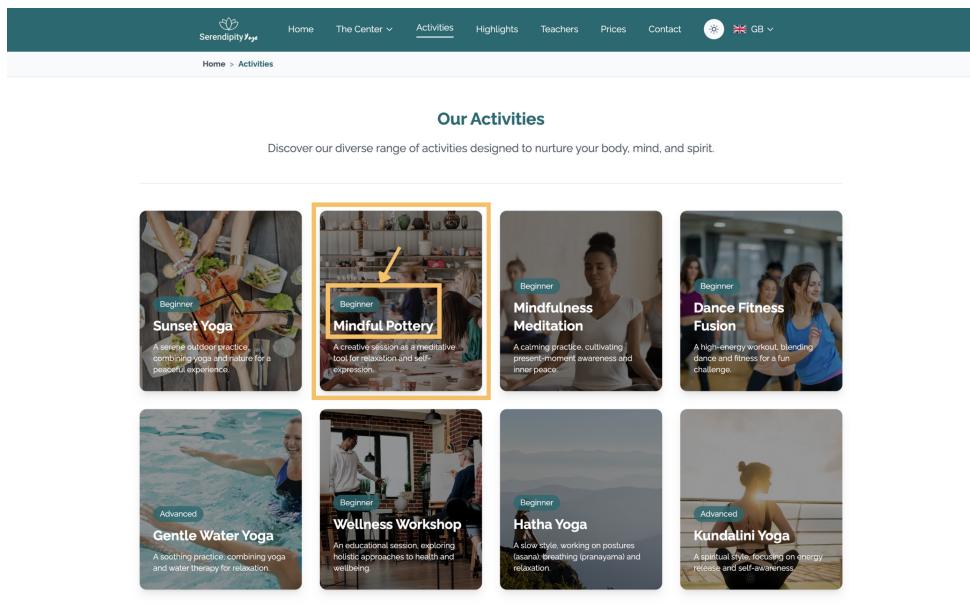


Figure 19: Uses the navigation bar to access the “Activities” and sees the “Mindful Pottery” among the offerings.

The screenshot shows the Serendipity website's activity page for 'Mindful Pottery'. At the top, there's a navigation bar with links for Home, The Center, Activities, Highlights, Teachers, Prices, Contact, and a language switcher (GB). Below the navigation, a breadcrumb trail shows 'Home > Activities > Mindful Pottery'. The main content area features a large image of people working on pottery wheels. To the right of the image is a box titled 'Mindful Pottery' containing information about the level (Beginner), teacher (David Kumar), and a brief description: 'A creative session as a meditative tool for relaxation and self-expression.' Below this is a 'Schedule' section showing 'Sat 10:00-11:00 AM'. Further down, there are sections for 'Description' (a detailed paragraph about the activity) and 'Details' (sub-sections for 'Ideal For' and 'Main Benefit').

Figure 20: Read the detailed description, including the schedule that is important for the gift to be successful.

The screenshot shows the Yoga4You website's membership plans page. The top navigation bar includes links for Home, Prices, and a language switcher (GB). The main content area is titled 'Our Membership Plans' with a sub-instruction: 'To activate any of our subscription plans, please visit our reception desk at our center.' Below this, it says 'Below you'll find all our available pricing options to suit your needs.' The page features a section titled 'Yoga4You' with a table for 'Standard' membership plans. The table has columns for 'Plan Duration', 'Total Price', 'Monthly Equivalent', and 'Savings'. It lists three options: Monthly (25€), 6 Months (140€, saving 10€), and Yearly (270€, saving 30€). A note at the bottom reads 'Unlock your yoga journey with our essential experience'.

Figure 21: Decides to visit the prices page, using the navigation bar to see the prices to access this activity for a month.

7 Database Design

The database underpins the operational and analytical functions of the yoga center's platform. It is designed to systematically store and manage data about members, instructors, class sessions, session types, payment plans, and attendance records. This section outlines the database architecture, including the entity-relationship (ER) schema and relational table definitions.

7.1 Entity-Relationship Schema

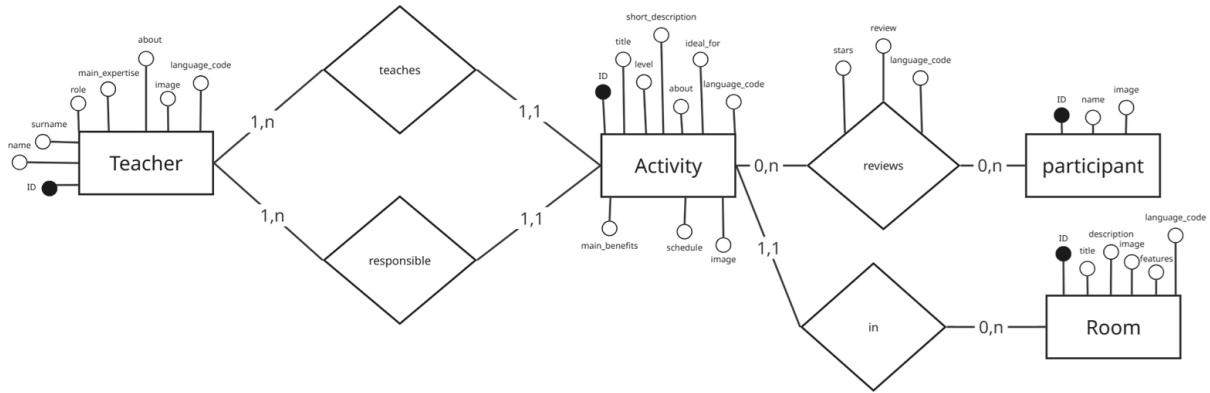


Figure 22: Entity-Relationship Schema

Teacher

Represents a teacher of the yoga center.

- **id** (Primary Key, Integer): Unique identifier for the instructor
- **name** (VARCHAR): First name of the teacher
- **surname** (VARCHAR): Surname of the teacher
- **role** (VARCHAR): Instructor's role (e.g., "Lead Yoga Instructor", "Dance and Movement Specialist")
- **main_expertise** (VARCHAR): Primary yoga disciplines (e.g., "Hatha Yoga", "Water Yoga")
- **about** (VARCHAR): General description of the teacher
- **image** (TEXT): URL to the teacher's profile photo
- **language_code** (VARCHAR): Language of the teacher's information (e.g., "it", "fr")

Activity

Represents a yoga class, workshop, or program offered by the center.

- **id** (Primary Key, Integer): Unique identifier for the activity
- **title** (VARCHAR): Name of the activity (e.g., "Morning Vinyasa Flow")
- **level** (VARCHAR): Difficulty tier (e.g., "Beginner", "Intermediate", "Advanced")
- **short_description** (TEXT): Concise summary of the activity
- **about** (TEXT): Detailed explanation of the activity

- **ideal_for** (TEXT): Target audience (e.g., “Postnatal recovery”, “Stress relief”)
- **language_code** (VARCHAR): Language of the description of the activity (e.g., “it”, “fr”)
- **main_benefits** (TEXT): Key outcomes (e.g., “Flexibility”, “Mindfulness”)
- **schedule** (TEXT): Start time and date of the activity
- **image** (TEXT): URL to promotional image
- **room_id** (Integer, Foreign Key → Room): References Room.id in the Room table
- **teacher_id** (Integer, Foreign Key → Teacher): References Teacher.id (instructor leading the activity)
- **responsible_id** (Integer, Foreign Key → Teacher): References Teacher.id (administrator/staff overseeing logistics)

Participant

Information about the participant that left a review.

- **id** (Primary Key, Integer): Unique identifier for the participant
- **name** (VARCHAR): Full name of the participant
- **image** (VARCHAR): URL to the photo of the participant

Reviews

All the reviews left by participants for activities.

- **id** (Primary Key, Integer): Unique identifier for the review
- **stars** (Integer): Number of stars in the review (0–5)
- **review** (TEXT): Textual content of the review
- **language_code** (VARCHAR): Language of the review (e.g., “it”, “fr”)
- **participant_id** (Integer, Foreign Key → Participant): References Participant.id (the one leaving the review)
- **activity_id** (Integer, Foreign Key → Activity): References Activity.id (the one being reviewed)

Room

Information about rooms where activities take place.

- **id** (Primary Key, Integer): Unique identifier for the room
- **title** (VARCHAR): Name of the room
- **description** (TEXT): Description of the room
- **image** (TEXT): URL to the photo of the room
- **features** (TEXT): Features of the room
- **language_code** (VARCHAR): Language of the room information (e.g., "it", "fr")

8 Annex

8.1 Abstract Pages

Topic: The Center	
Topic contents	Title: "Transforming lives through the practice of yoga and meditation." Short description: text (max 80 words) Center description: text Center image: image Rooms preview: list of [room name, description, features, activities, image] Areas preview: list of [image, name, description]
Landmarks	Navigation bar: Home, The center, Activities, Highlights, Teachers, Prices, Contact
Landmarks	Logo
Landmarks	Footer
Landmarks	Dark mode switch
Landmarks	Language change
Structural links	Link to scroll thru the rooms of the center.
Transition links	Link to the activity related to the room.

Table 12: Table for the topic "The Center"

Topic: Contact	
Topic contents	Title: "About us" Phone Number: Text (11 characters) Email Address: Email Location: interactive map Working Hours: Table FAQ: list of [question, answer] Contact form: form
Landmarks	Navigation bar: Home, The center, Activities, Highlights, Teachers, Prices, Contact
Landmarks	Logo
Landmarks	Footer
Landmarks	Dark mode switch
Landmarks	Language change
Structural links	Link to expand FAQs answers.

Table 13: Table for the kind of topic "Contact"

Topic: Prices	
Topic contents	Title: "Our Membership Plans" Description: text Prices tables: list of [subscription plan's name, price table] Plans comparison: table
Landmarks	Navigation bar: Home, The center, Activities, Highlights, Teachers, Prices, Contact
Landmarks	Logo
Landmarks	Footer
Landmarks	Dark mode switch
Landmarks	Language change

Table 14: Table for the topic "Prices"

Kind of topic: Activities	
Kind of topic contents	Name of the activity: text Activity image: image Difficulty level: text Short summary: text Schedule: text Related teacher profile photo: image Related teacher name and surname: text Description of the activity: text Details of the activity: text Room photo where the lesson takes place: image Room description where the lesson takes place: text Other activities you might like: list of activities [name of the activity, difficulty level, short summary]
Landmarks	Navigation bar: Home, The center, Activities, Highlights, Teachers, Prices, Contact
Landmarks	Logo
Landmarks	Footer
Landmarks	Dark mode switch
Landmarks	Language change
Transition links	Link to the related teacher of the activity.
Group links	Link to the other activities that take place in the same room.
Group links	Link to other activities that have the same level of difficulty.
Group link	Link to the general activity page.

Table 15: Table for the kind of topic "Activities"

Kind of topic: Teacher	
Kind of topic contents	Name: text Surname: text Profile picture: image Role: text Main expertise: text About description: text Activity he/she teaches: list of activities [name of the activity, difficulty level, schedule, short summary]
Landmarks	Navigation bar: Home, The center, Activities, Highlights, Teachers, Prices, Contact
Landmarks	Logo
Landmarks	Footer
Landmarks	Dark mode switch
Landmarks	Language change
Transition links	Link to the related activity that the teacher teaches
Group link	Link to the general teacher page.

Table 16: Table for the kind of topic "Teacher"

Group of topic: All Activities	
Group contents	Title: "Our Activities" Description: text Activities: list of activities [difficulty level, name of the activity, short summary]
Landmarks	Navigation bar: Home, The center, Activities, Highlights, Teachers, Prices, Contact
Landmarks	Logo
Landmarks	Footer
Landmarks	Dark mode switch
Landmarks	Language change
Group link	Card link to single activity

Table 17: Table for the group of topic "All Activities"

Group of topic: All Teachers	
Group contents	
	Title: "Our Teachers" Description: text Teachers: list of teachers [name, surname, role, main expertise]
Landmarks	Navigation bar: Home, The center, Activities, Highlights, Teachers, Prices, Contact
Landmarks	Logo
Landmarks	Footer
Landmarks	Dark mode switch
Landmarks	Language change
Group link	Card link to single teacher

Table 18: Table for the group of topic "All Teachers"

Group of topic: Highlights	
Group contents	
	Title: "Highlighted Activities"
Landmarks	Activities Preview: List of activities [photo, title] Navigation bar: Home, The center, Activities, Highlights, Teachers, Prices, Contact
Landmarks	Logo
Landmarks	Footer
Landmarks	Dark mode switch
Landmarks	Language change
Structural links	Link to scroll thru the highlighted activities at the center.
Transition link	Card link to single activity

Table 19: Table for the group of topic "Highlights"

8.2 Low Fidelity Wireframes

To structure and test the user flow for the Serendipity Yoga website, we created a series of low-fidelity wireframes using Figma. These wireframes focused on layout, functionality, and content hierarchy, serving as a foundational step in our design process prior to applying visual styles.

Each main page was represented:

- **Homepage:** Features introductory text, a highlighted activities carousel, class previews, a section for studio information (map and opening hours), and a visual grid for yoga stories.

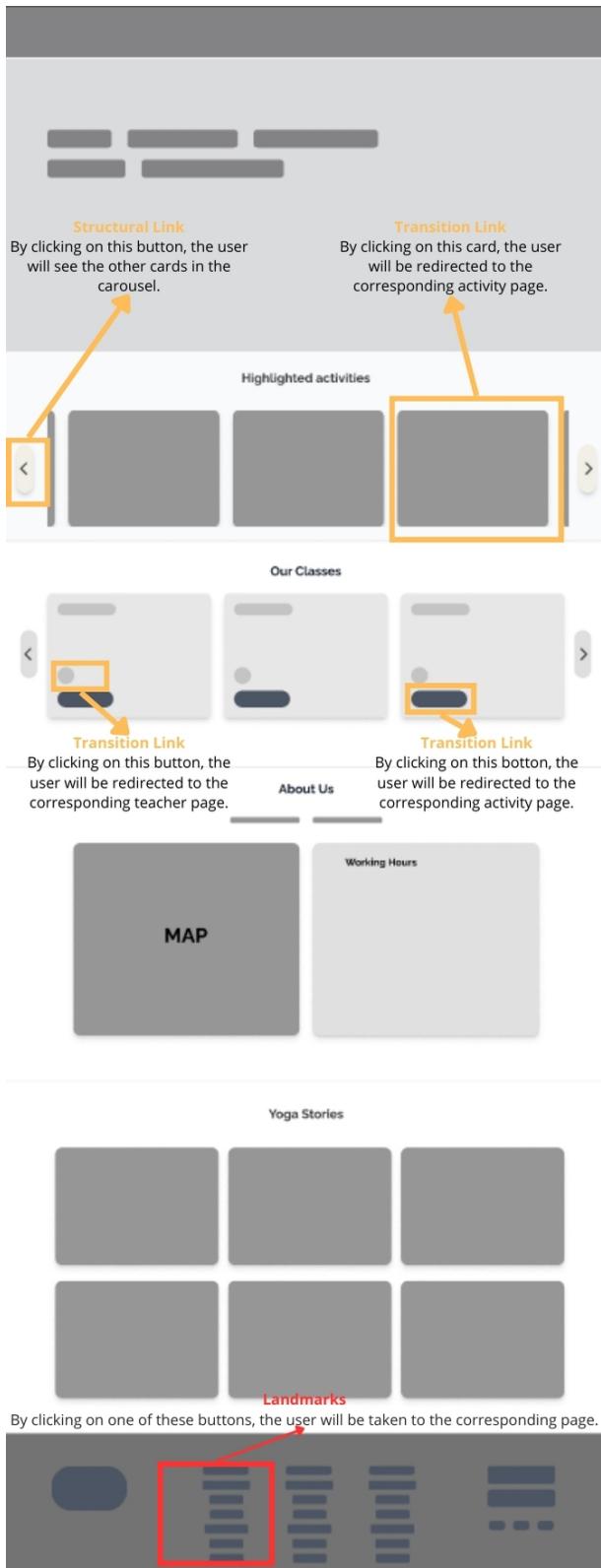


Figure 23: Homepage - Low Fidelity Wireframe

- **The Center:** Structured in three main blocks—our philosophy, our yoga rooms (carousel), and facility areas (e.g., bar, play area, spa). This layout ensured clarity and modularity.

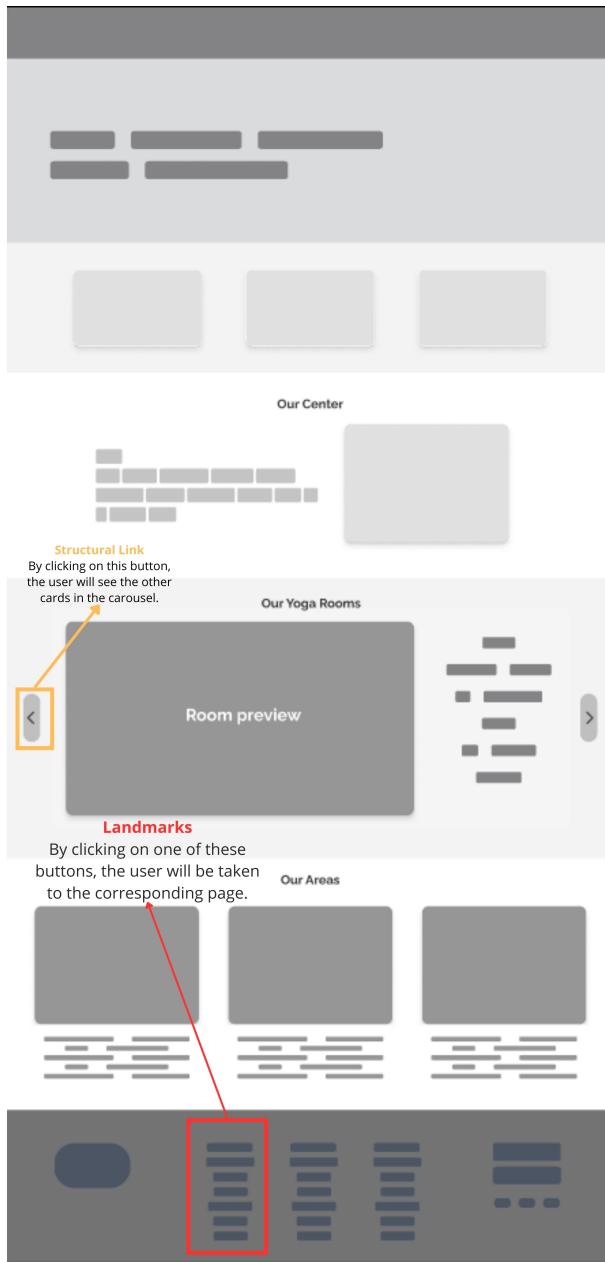


Figure 24: The Center - Low Fidelity Wireframe

- **Activities:** Divided into yoga classes and other wellness activities, each represented with consistent card-based elements for recognizability and ease of scanning.

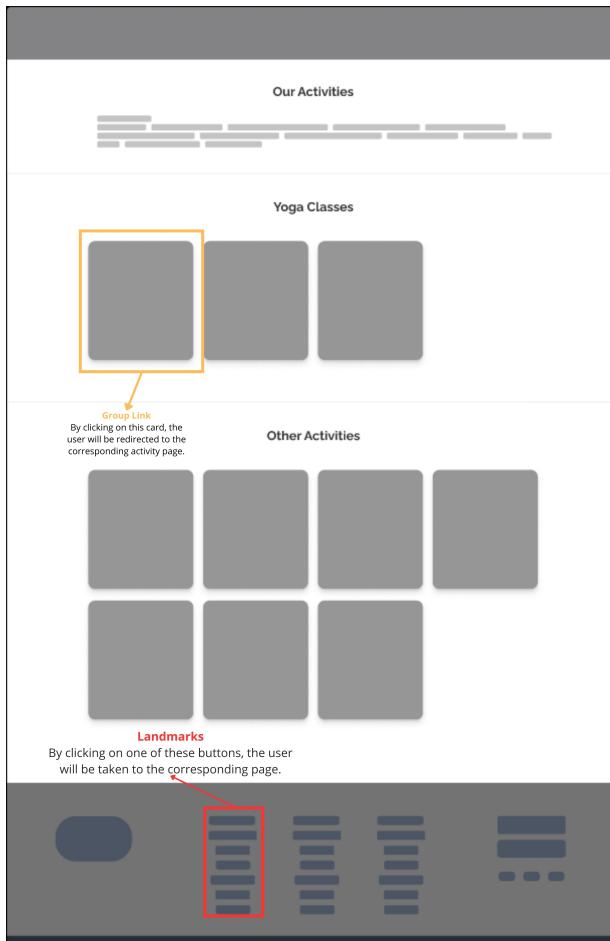


Figure 25: Activities - Low Fidelity Wireframe

- **Single Activity Page:** Includes a photo and key details at the top, followed by description, practical information, the dedicated room, and related activities.

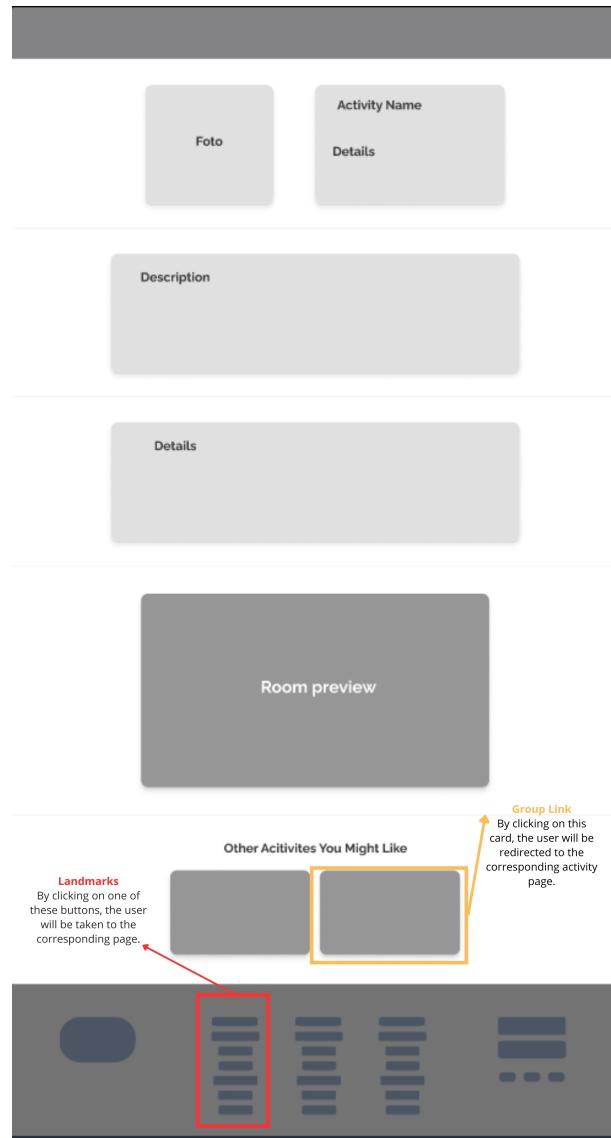


Figure 26: Single Activity - Low Fidelity Wireframe

- **Teachers Page:** A gallery-style layout showing the instructors with portrait, name, and specialization.

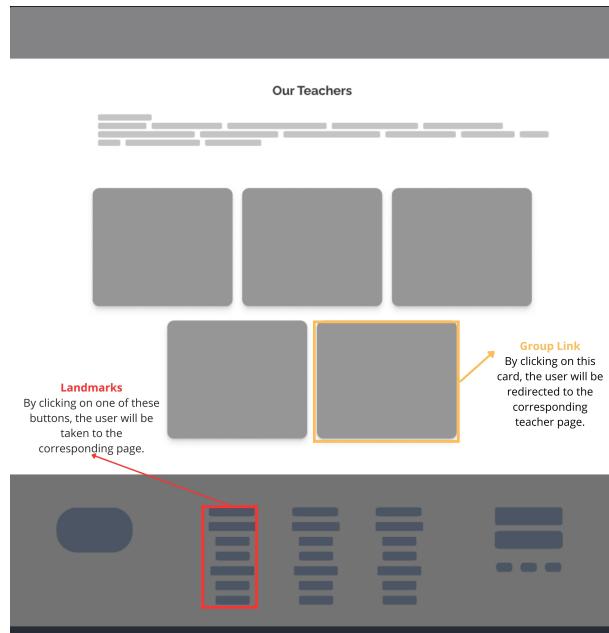


Figure 27: Teachers - Low Fidelity Wireframe

- **Single Teacher Page:** Presents the instructor's photo and bio, with linked activities displayed below to create continuity in the user journey.

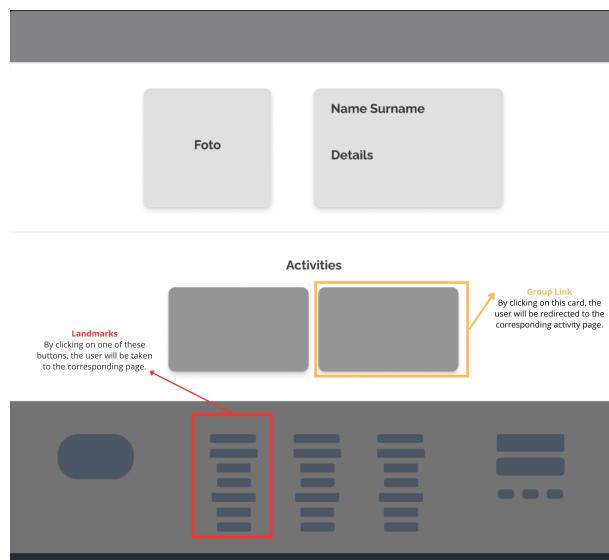


Figure 28: Single Teacher - Low Fidelity Wireframe

- **Prices Page:** Organised by membership tier (Yoga4You, Standard, Premium), with plan features and pricing comparisons. A final comparison table highlights differences across plans.

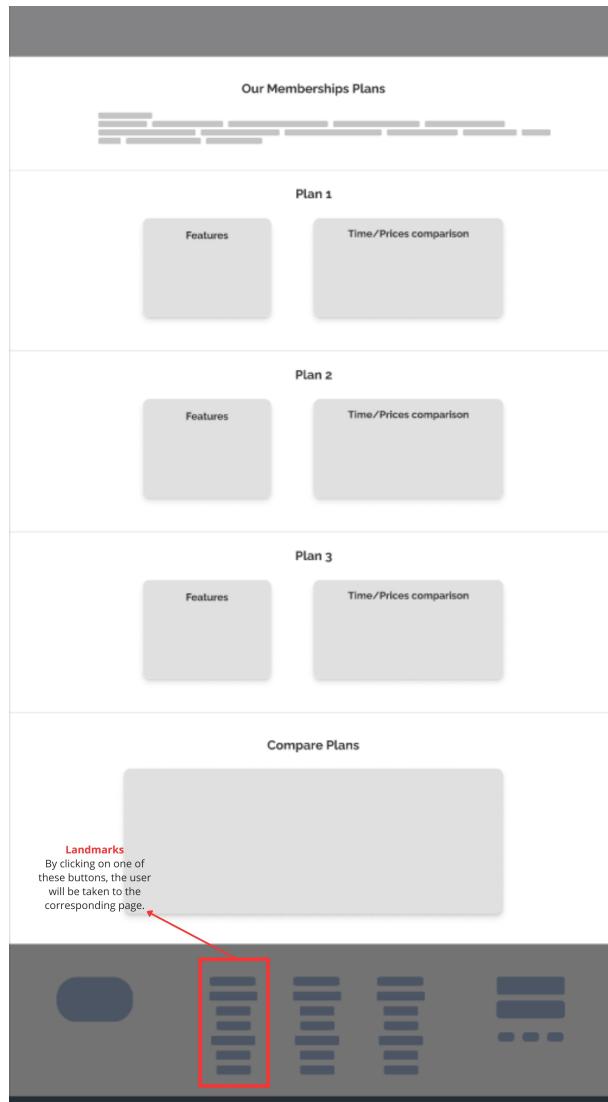


Figure 29: Prices - Low Fidelity Wireframe

- **Contact Page:** Includes a map, opening hours, FAQ section, and a contact form. The clean, functional layout supports quick information retrieval and user engagement.

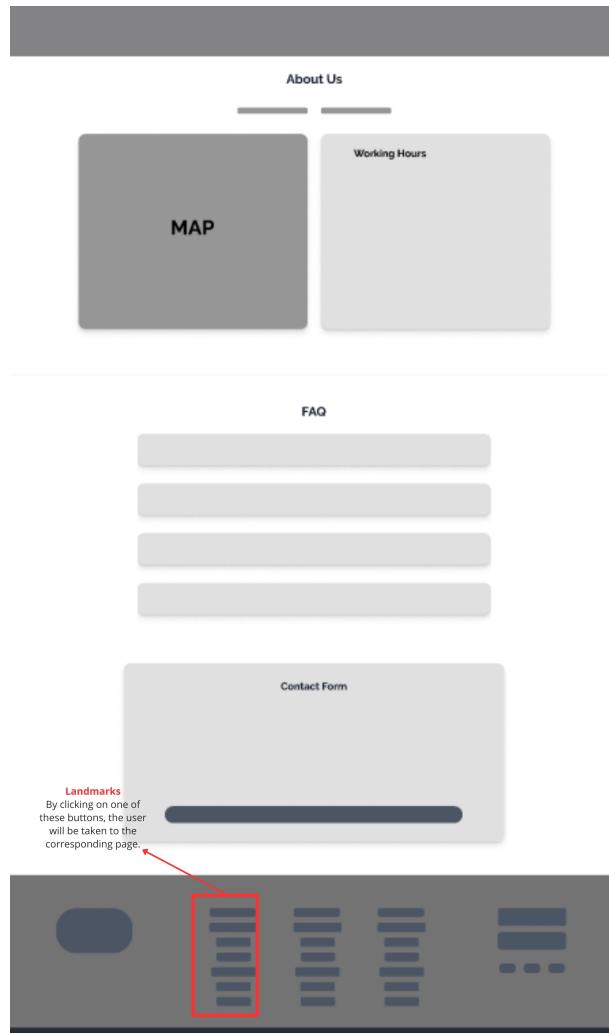


Figure 30: Contact Page - Low Fidelity Wireframe

These wireframes were instrumental in validating structure and usability across the site. Their simplicity facilitated early feedback and iteration.

8.3 User testing

8.3.1 General Methodology

To validate the insights obtained from expert evaluations and uncover potential usability problems missed during heuristic inspection, we conducted a user testing session on the Yoga Center website¹.

The primary goal was to evaluate how real users interact with the website, focusing on efficiency, success rate, and overall satisfaction. Each participant completed six realistic tasks reflecting common user scenarios, such as accessing teacher profiles or reviewing membership options.

Tests were carried out both in person and remotely. Observational notes, participant comments, and behavioral feedback were collected. Each session concluded with a

¹<https://hypermedia-applications-rho.vercel.app/>

post-task questionnaire and open discussion, providing both quantitative and qualitative data. This phase confirmed previously identified issues and revealed new interaction challenges.

8.3.2 Design of the Study

User testing followed a structured methodology to ensure repeatability and objectivity. The study focused on understanding how users from different age groups navigated the website and the challenges they encountered.

8.3.3 User Selection

The Yoga Center platform targets users interested in wellness activities, such as yoga and meditation. To reflect the actual audience, we recruited 20 participants, split into two demographic groups:

- **12 Young Adults (ages 18–40):** Digitally fluent users likely to engage with online booking and exploration of wellness services.
- **8 Adults (ages 40–60):** Users with moderate digital proficiency, focused on memberships and instructor information.

Participants over 60 were excluded to prevent bias from digital literacy challenges unrelated to website usability.

8.3.4 Evaluation Criteria

A flexible scoring system was applied to each task:

- **S (Success):** Task completed independently and fully.
- **P (Partial Success):** Task partially completed or completed with help.
- **F (Failure):** Task not completed, even with assistance.

Each task included time thresholds differentiated by age group. Exceeding the time or requesting help resulted in a downgraded score.

The testing sessions were conducted by four researchers:

- **R1:** Xin Ye
- **R2:** Matteo Civitillo
- **R3:** Nicolò Gandini
- **R4:** Mattia Vicenzotto

8.3.5 Tasks

Participants completed the following tasks in order:

1. Find a teacher who offers Hatha Yoga and read their bio.
2. Find information on a weekend retreat and check the schedule time.
3. From the homepage, access the *Highlights* and select an activity.
4. Find out how much experience is needed to attend one of the activities offered by the Yoga Center.
5. Navigate from a teacher's profile to one of the activities they lead.
6. Determine which membership includes free drinks at the bar.

Tasks were presented in English or Italian, according to participant preference.

8.4 User Test Results

The user test analysis aimed to evaluate both the success rate of task completion and the time taken to complete them. To obtain a more accurate picture of user experience, we adopted two complementary metrics:

- **Success Rate (SR):** Measures the percentage of tasks completed fully or partially, regardless of time.
- **Weighted Success Rate (WSR):** Includes time thresholds, beyond which a task is marked as failed, to simulate a more realistic user scenario.

Tasks were arranged in increasing order of complexity, with higher time limits for more demanding tasks. This structure assumes that longer completion time does not necessarily imply a negative UX if the task is inherently more complex.

The following sections analyze SR and WSR with a comparison between users under and over 40 years old to highlight differences in digital fluency.

8.4.1 Success Rate (SR)

We assessed task completion with the following criteria:

- **S** – Task successfully completed.
- **P** – Task partially completed.
- **F** – Task failed.

TASK	Researcher 1					Researcher 2					Researcher 3					Researcher 4				
	U1	U2	U3	U4	U5	U1	U2	U3	U4	U5	U1	U2	U3	U4	U5	U1	U2	U3	U4	U5
1	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
2	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
3	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
4	S	S	S	S	S	S	S	S	S	P	S	S	S	S	S	S	S	S	S	S
5	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
6	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S

Table 20: Task results for SR (Success Rate)

$$SR = \frac{1 \times CompletedTasks + 0.5 \times PartiallyCompletedTasks + 0 \times NotCompletedTasks}{TotalTasks} \quad (1)$$

$$SR = \frac{1 \times 119 + 0.5 \times 1 + 0 \times 0}{120} = 0.996 \quad (99.6\%) \quad (2)$$

8.4.2 Time Thresholds

Each task was assigned a time limit based on its complexity and user age group:

Max Time per Task	Under 40	Over 40
Task 1	30 sec	1 min
Task 2	45 sec	1 min 30 sec
Task 3	15 sec	30 sec
Task 4	1 min 30 sec	2 min 30 sec
Task 5	30 sec	50 sec
Task 6	1 min	1 min 30 sec

Table 21: Maximum time allowed per task by age group

8.4.3 Weighted Success Rate (WSR)

With time constraints applied, task results changed significantly:

TASK	Researcher 1					Researcher 2					Researcher 3					Researcher 4				
	U1	U2	U3	U4	U5	U1	U2	U3	U4	U5	U1	U2	U3	U4	U5	U1	U2	U3	U4	U5
1	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
2	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
3	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
4	S	P	S	S	S	S	S	S	S	P	S	S	S	S	S	S	S	S	S	S
5	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
6	S	S	S	S	P	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S

Table 22: Task results considering time constraints (WSR)

$$WSR = \frac{1 \times CompletedTasks + 0.5 \times PartiallyCompletedTasks + 0 \times NotCompletedTasks}{TotalTasks} \quad (3)$$

$$WSR = \frac{1 \times 117 + 0.5 \times 3 + 0 \times 0}{120} = 0.987 \quad (98.7\%) \quad (4)$$

The drop from 99.6% (SR) to 98.7% (WSR) is very small. This indicates that even when time constraints are introduced, the majority of tasks are still completed successfully, suggesting a robust and effective user experience under realistic conditions.