



Mini Project Report

on

ClimateSync - A Web Platform for Real-Time Environmental Awareness and Sustainable Practices

For the course

Web Programming Laboratory

Submitted by

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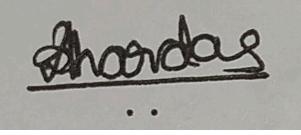
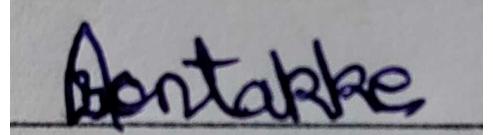
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DECLARATION

I declare that the written Mini Project report submission represents the work done based on my and / or others ideas with adequately cited and referenced the original source. I also declare that I have adhered to all principles of academic honesty and integrity as per norms of the Somaiya Vidyavihar University. I have not misinterpreted, fabricated, or falsified any idea/data/fact/source/original work/matter in my submission.

I understand that any violation of the above will be cause for disciplinary action by the university and may evoke the penal action from the sources which have not been properly cited or from whom proper permission is not sought.

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Date: 21.04.2025

Place: Mumbai-77

Application Web Development: ClimateSync

Literature Review :

Climate change is no longer just a global issue discussed at international summits, it's something we experience in our daily lives. Whether it's poor air quality, unexpected temperature spikes, or general uncertainty about how our actions affect the environment, these challenges are real and growing. As students who care about the future of our planet, we felt it was important to explore how technology — especially web development — can play a role in raising awareness and encouraging action.

The United Nations' Sustainable Development Goals stress the importance of taking urgent climate action and involving local communities in the process (UN, 2015). Studies also show that people are more likely to engage with environmental issues when the information is made accessible, personalized, and easy to understand.

There are already platforms out there that focus on live environmental data — for example, AQICN.org provides real-time Air Quality Index data for cities around the world. However, most of these tools stop at just showing the data. Others focus more on awareness but don't update users with live information. We noticed that something was missing — a bridge between knowing and doing.

That's where ClimateSync comes in. It's a web platform we developed to make climate awareness interactive, useful, and local. Our site offers:

- Real-time AQI and temperature updates using public APIs,
- A collection of sustainable practices people can try in their daily lives,
- A community engagement section where users can share ideas and take part in environmental conversations.

The goal isn't just to inform people — it's to help them take simple, meaningful steps toward sustainability. We wanted to make climate action feel less intimidating and more like something anyone can participate in.

References:

- United Nations. (2015). Sustainable Development Goals. <https://sdgs.un.org/goals>
- AQICN.org – Real-time Air Quality Index. <https://aqicn.org>

Need Statement :

Despite growing awareness about climate change, many people still lack access to real-time environmental data and practical guidance on how to contribute toward sustainability. While some platforms show air quality or weather data, they often present it in a technical or disconnected way, making it difficult for everyday users to relate or take meaningful action.

As students learning web development, we wanted to create something that goes beyond just displaying numbers. We saw a need for a platform that not only shows live environmental data, like AQI and temperature, but also explains what that data means and suggests eco-friendly actions users can take.

There's also a lack of digital spaces where users can share their thoughts or community-driven initiatives related to sustainability. By including a community engagement form and a section dedicated to sustainable practices, we aim to make ClimateSync a more inclusive and action-oriented space.

The need for a platform like ClimateSync comes from the realization that tackling climate change isn't just about policy or technology — it's also about helping people understand what's happening around them and making it easy to act on that knowledge. Our website is designed to do exactly that, in a simple, interactive, and user-friendly way.

Objectives :

The primary objectives of *ClimateSync* are:

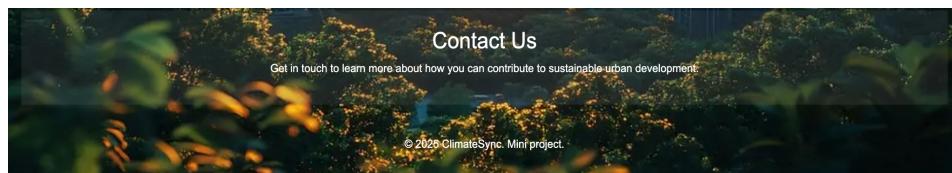
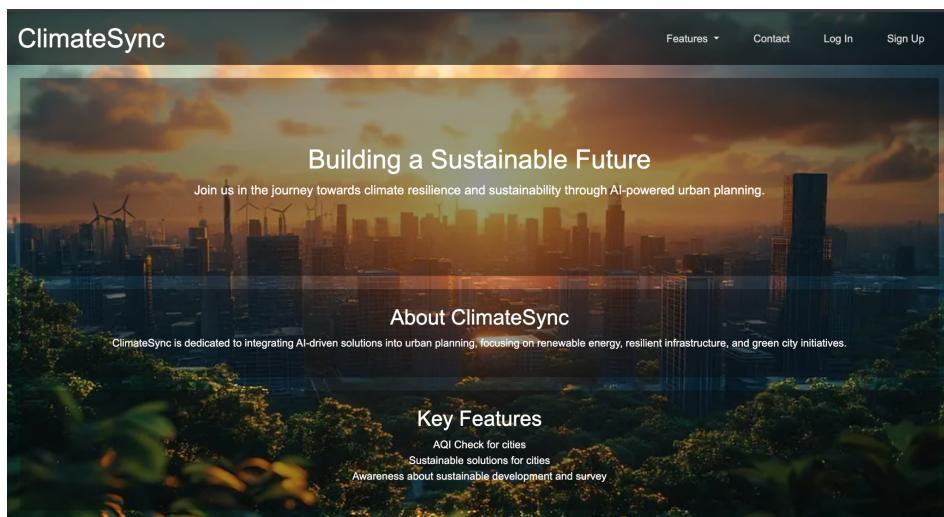
1. **Provide Real-Time Environmental Data:** Display live air quality (AQI) and temperature updates for different cities, helping users stay informed about their surroundings.
2. **Promote Sustainable Practices:** Offer actionable, easy-to-follow eco-friendly practices , customised for each city which will allow users to know which practices(among a lot) to choose to do now . Also users will be able to add their own cities if not present in the database and can add their own sustainable practices .
3. **Enhance Community Engagement:** Create a platform for users to share ideas, discuss sustainability topics, and connect with others who are passionate about climate action.
4. **Foster User Interaction:** Design an intuitive, user-friendly interface that makes accessing and understanding environmental data and practices easy for all users.

Flow of pages :

The ClimateSync website is designed to guide users through an intuitive process, ensuring that essential features are available only to registered users. The flow is as follows:

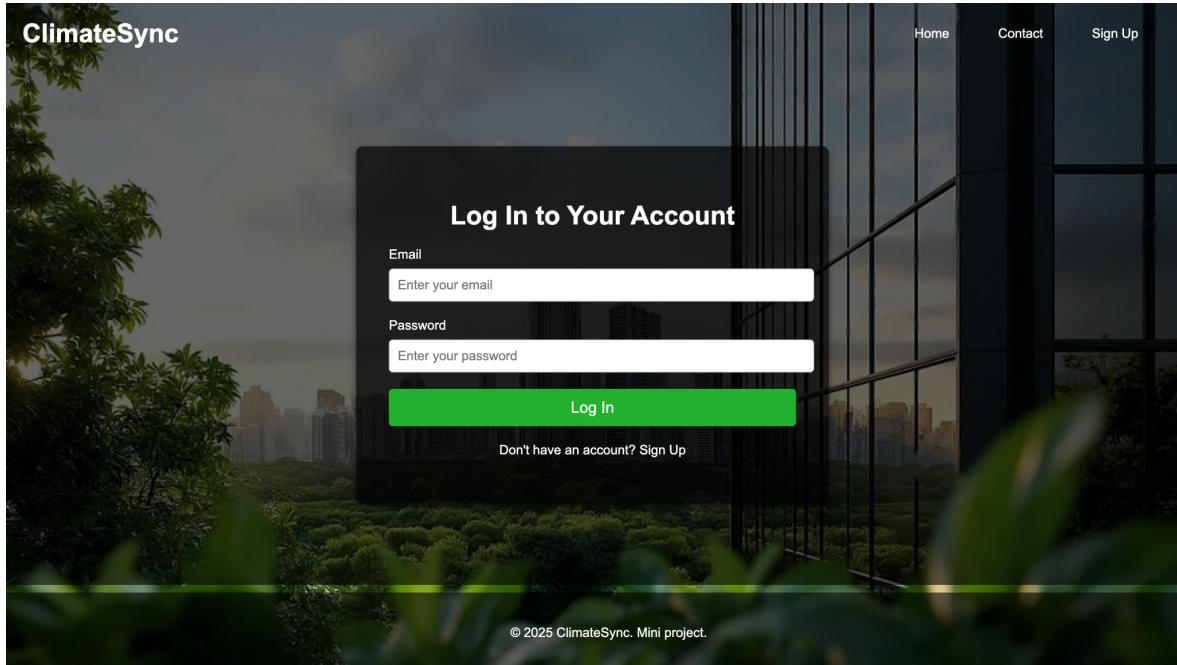
1. Homepage:

- The homepage prompts users to log in or sign up before they can access any features.
- Includes Login and Sign Up buttons.
- Features tab is hidden until the user logs in.
- Admin users logging in will see an additional Modify button to make direct changes to the database.



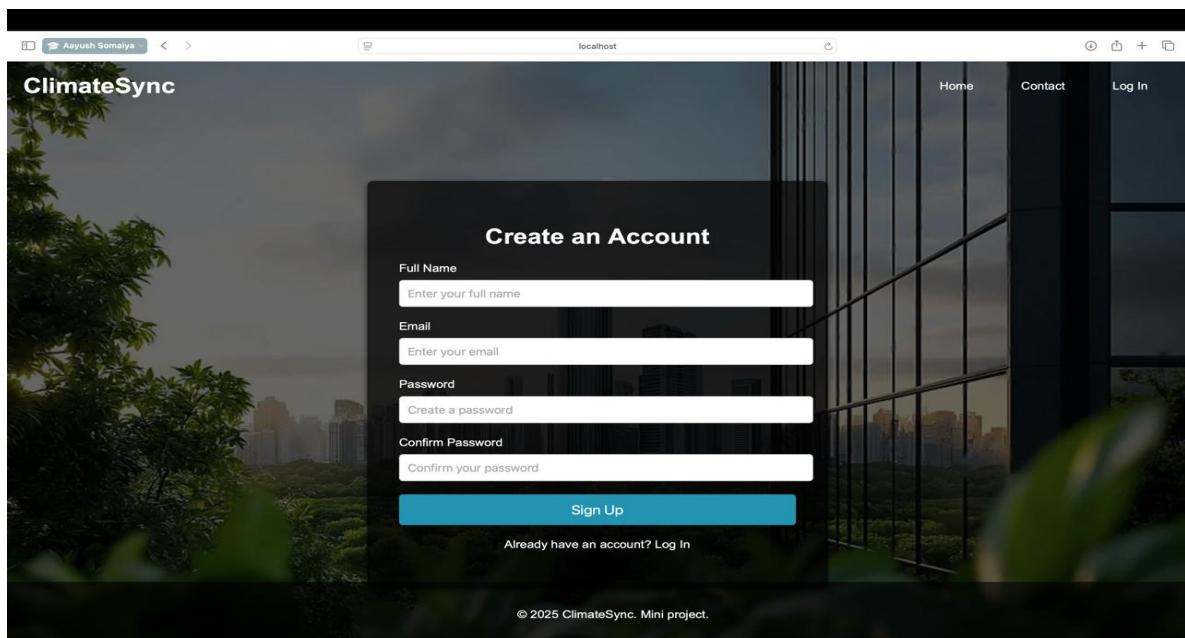
2. Login Page:

- Users must log in with their credentials to access the features.



3. Signup Page:

- New users can create an account to access the platform's features.



4. AQI Check Page:

- Provides real-time AQI and temperature updates for selected cities.
- Users can input a city to get live data on air quality and temperature.
- Also has a slider indicating the air quality.

The screenshot shows the ClimateSync website with a dark background featuring a blurred image of a city skyline at sunset. At the top, there is a navigation bar with links for Home, Contact, Awareness, and Sustainable Practices. The main content area is titled "Air Quality Index (AQI) Checker" and contains a form where "New Delhi" is entered. Below the form is a blue button labeled "Check AQI". To the right, a white box displays the results: "City: New Delhi", "AQI: 144", "Category: Unhealthy for Sensitive Groups", and "Temperature: 34.4°C". A color scale bar at the bottom indicates air quality levels from green (good) to red (hazardous). At the bottom of the page, a copyright notice reads "© 2025 ClimateSync. Mini project."

5. Static Awareness Page:

- Lists 5-6 of the most necessary and urgent sustainable practices for today's situation.
- Aimed at educating users on key practices to adopt immediately.

The screenshot shows the ClimateSync Awareness page with a dark background. At the top, there is a navigation bar with links for Home, AQI Checker, Contact, and Sustainable Practices. The main title is "ClimateSync - Awareness" and below it is a subtitle "Let's Build a Sustainable Future" with the tagline "Understand the impact of air pollution and take action to protect our environment." Three cards are displayed in a row: 1. "Understanding Air Quality Index (AQI)" with an image of industrial smokestacks and text explaining AQI measures pollution levels and their impact on health. 2. "Impact of Air Pollution on Health" with an image of a man coughing and text about respiratory issues. 3. "How Climate Change Affects Us" with images of a burning landscape, cracked earth, and a hurricane, and text about extreme weather. At the bottom, there is a banner for "COMMUNITY SUPPORT" with a small image of people.

Understanding Air Quality Index (AQI)
AQI measures pollution levels and their impact on health. Higher AQI means higher risks.

Impact of Air Pollution on Health
Exposure to pollutants like PM2.5 and NO_x can cause respiratory issues, lung diseases, and heart problems.

How Climate Change Affects Us
Rising global temperatures lead to extreme weather, melting glaciers, and rising sea levels.

Ways to Reduce Air Pollution
Use public transport, plant trees, reduce plastic usage, and support green energy initiatives.

Join the Movement for a Greener Future
Spread awareness, support clean energy policies, and participate in local sustainability efforts.

© 2025 ClimateSync. Mini project.

6. Sustainable Practices Page:

- Displays three essential sustainable practices for a selected city.
- Users can also add their own city and sustainable practices.

ClimateSync

Home Contact Awareness AQI Check

Sustainable Practices by City

Select a City:
-- Choose a City --

City not found?
+ Add a New City

Sustainable Practices by City

Select a City:

Delhi

Air Pollution

Introduce more green buffers and smog towers

Energy Usage

Promote rooftop solar panels

Noise Pollution

Strict time limits for construction work

City not found?

+ Add a New City

City not found?

+ Add a New City

City Name

Category (urban/rural)

-- Select --

Please fill out this field.

Practice 1 Title

Practice 1 Description

Practice 2 Title

Practice 2 Description

Practice 3 Title

Practice 3 Description

Submit City

7. Community Engagement Page:

- A space for users to share ideas, engage in discussions on sustainability, and offer feedback.

ClimateSync Admin Page

Home Log Out

Community Engagement Survey

Step 1 of 3

Personal Details

Full Name *

Email Address *

Phone Number (Optional)

City/Location *

Next

ClimateSync Admin Page

Home Log Out

Community Engagement Survey

Step 2 of 3

Engagement & Interests

How would you like to contribute? *

Do you want to volunteer for events? *

Yes No

Preferred mode of participation *

Online In-person Both

Skills/Expertise you can offer (e.g., Social Media, Graphic Design, Data Analysis) *

Community Engagement Survey

Step 3 of 3

Feedback & Suggestions

How do you rate climate awareness in your community? *

1 2 3 4 5

What actions do you think should be prioritized? *

Using solar energy and waste management.



[Previous](#)

[Submit](#)

Thank You, aditya!

Your response has been recorded.

[Go to Homepage](#)

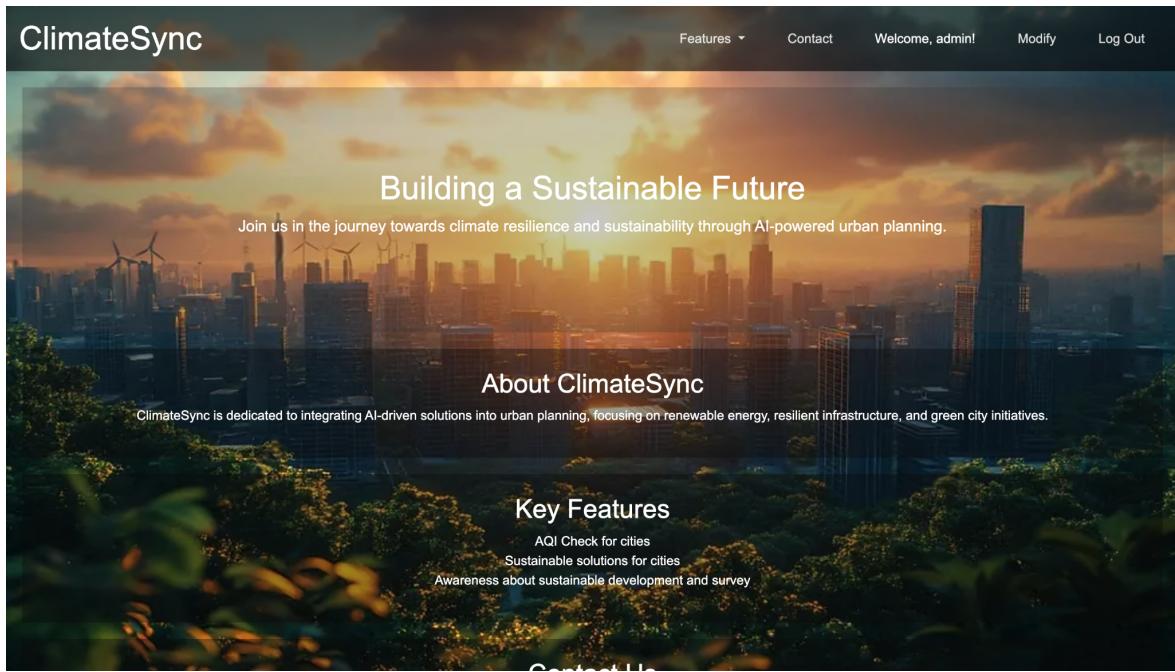
8. Contact Page:

- Provides users with a way to get in touch with the team for any queries, suggestions, or collaborations.

The screenshot shows a contact page for 'ClimateSync'. At the top, there's a dark header bar with the 'ClimateSync' logo on the left and navigation links 'Home', 'Welcome, aditya', and 'Log Out' on the right. Below the header is a white contact information box with the title 'Contact Information' and details: 'Email: info@climatesync.com' and 'Phone: +91 1234567890'. The main content area is titled 'Send Us a Message/Feedback' and contains three input fields: 'Name' (with placeholder 'Your Name'), 'Email' (with placeholder 'Your Email'), and 'Message' (with placeholder 'Describe your problem or feedback'). A blue 'Submit' button is located at the bottom left of the message form.

9. Modify page (Admin Exclusive) :

- If in login , admin credentials are entered an exclusive admin feature ‘Modify’ will be available in the homepage which will allow the admin to make changes in the database without actually opening the phpmyadmin .



A screenshot of the ClimateSync Admin Page. The header shows "ClimateSync Admin Page" and a "Home" link. The main content area is titled "Manage Sustainable Practices" and includes a "Back to Main" button. Below the title are five buttons: "View Practices" (green), "View Cities" (light blue), "Update City" (yellow), "Delete City" (red), and "Add City" (blue).

[← Back to Main](#)

Survey Responses

	Phone	City	Contribution	Volunteer	Participation Mode	Skills	Rating	Actions	Submitted At
1.com	123456789	Mumbai	Contribution	Yes	Online	All	5	All	2025-04-07 20:51:38
1.com	1234567890	Mumbai	Contribute	Yes	Online	All	5	All	2025-04-07 20:54:29

[← Back to Main](#)

Survey Responses

ID	Full Name	Email	Phone	City	Contribution	Volunteer	Participation Mode	Skills	Rating
2	Aayush	aayush@gmail.com	123456789	Mumbai	Contribution	Yes	Online	All	5
3	Aayush	aayush@gmail.com	1234567890	Mumbai	Contribute	Yes	Online	All	5

[Manage Users](#)[Manage Sustainable Practices](#)[View Survey Responses](#)[View Feedback](#)

[← Back to Main](#)

Manage Users

[View Users](#) [Add User](#) [Edit User](#) [Delete User](#)[← Back to Main](#)

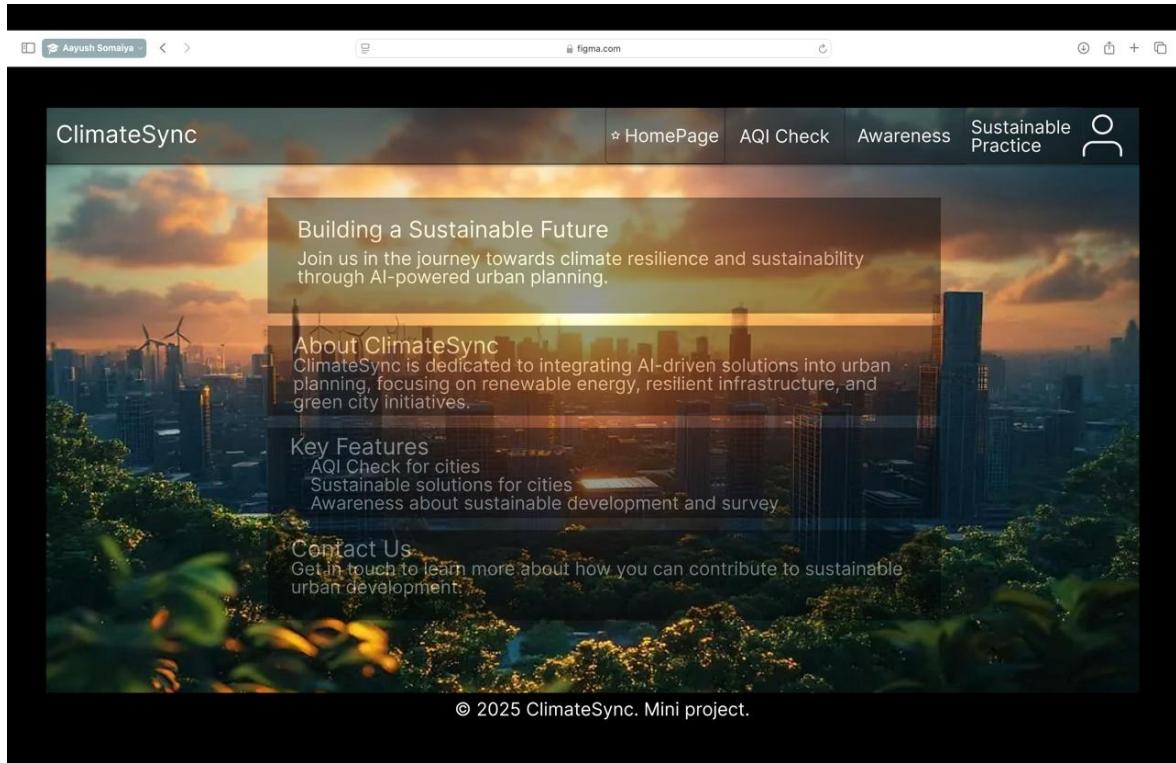
View Feedback

ID	Full Name	Email	Message	Submitted At
1	Aayush	aayush@gmail.com	Checking if the entry gets added in the database.	2025-04-07 21:04:37

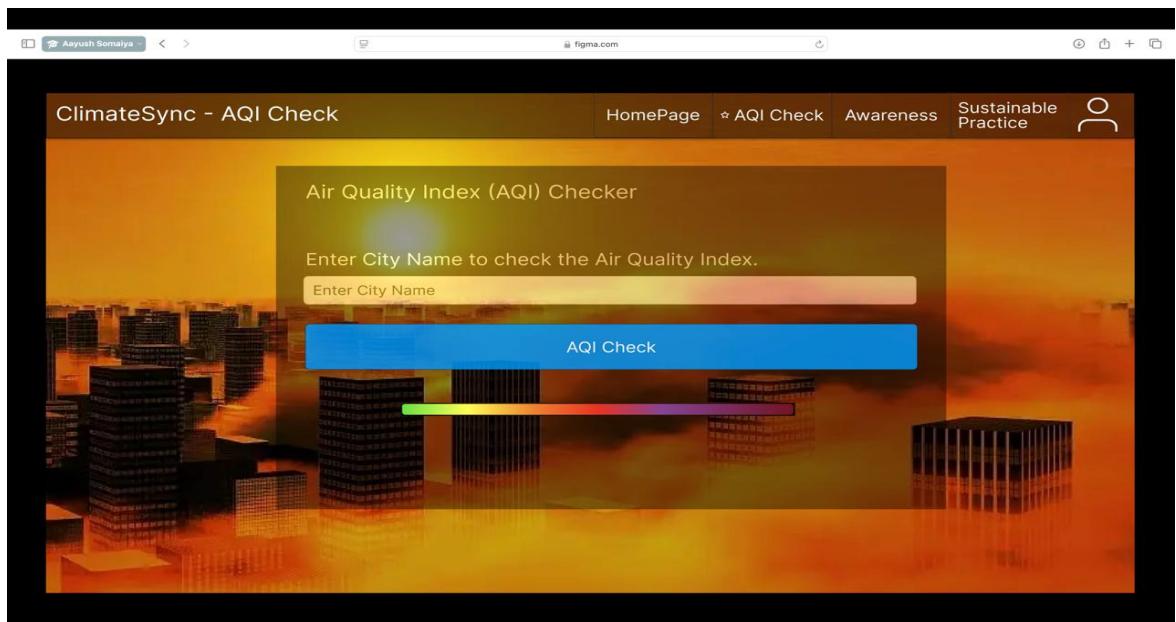
Figma Design and Database Schema :

Figma Design :

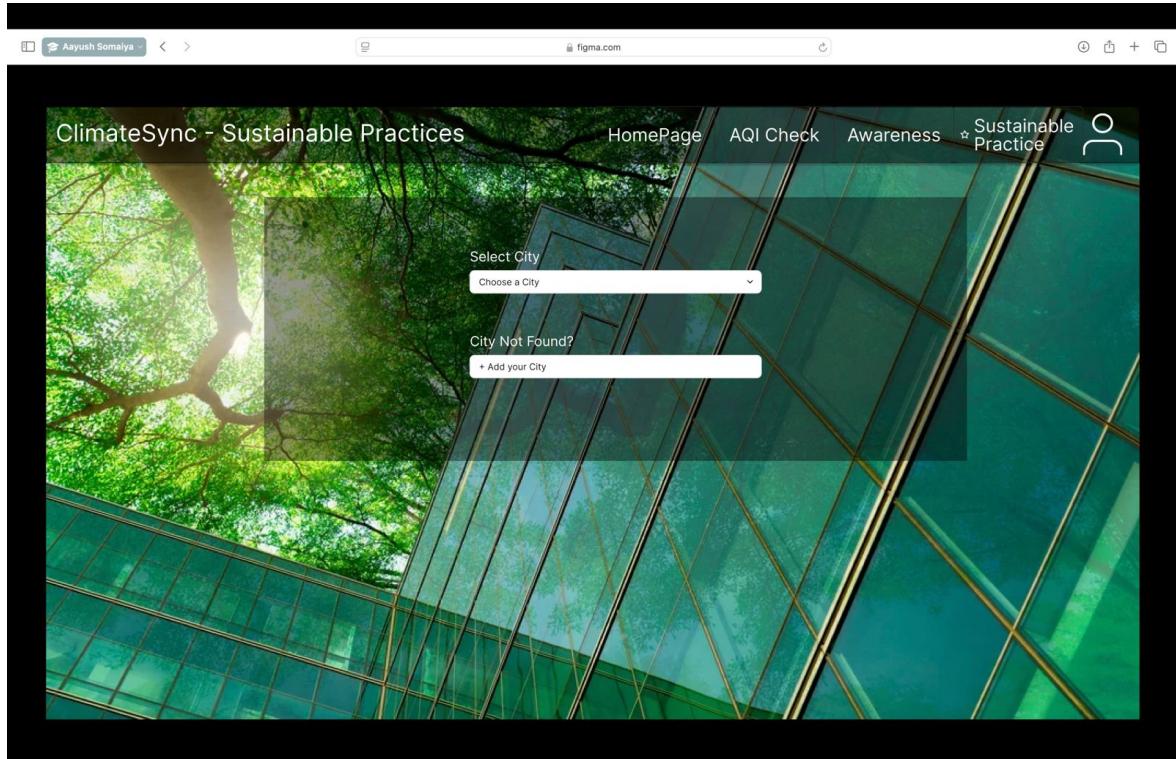
HomePage :



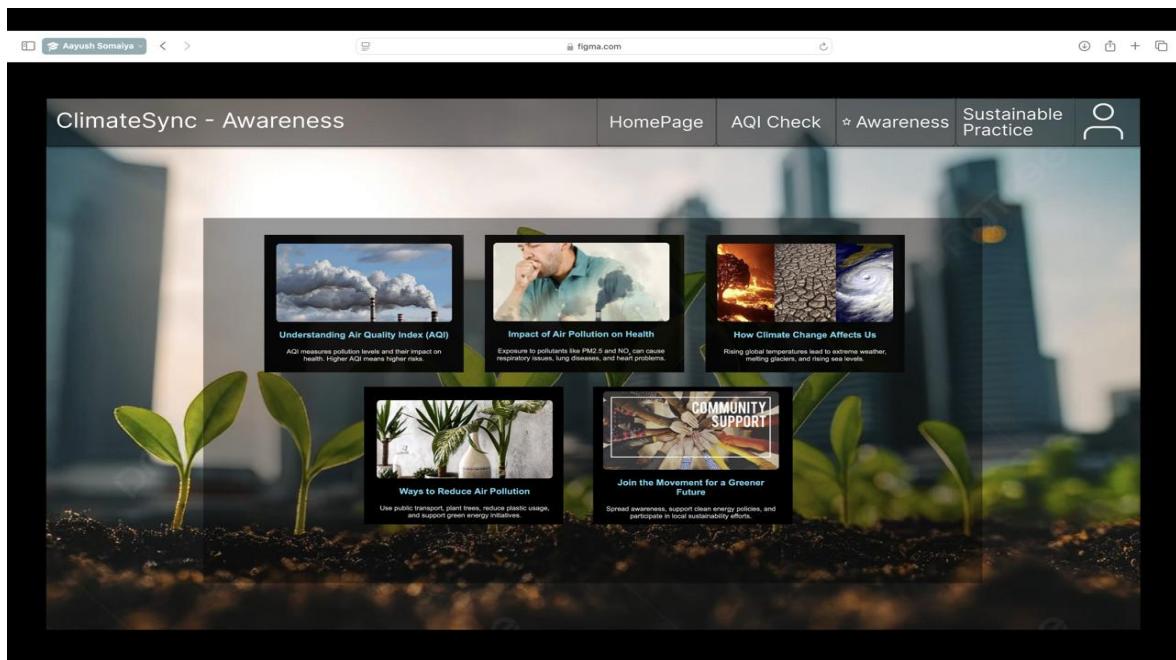
AQI Check :



Sustainable Practices :



Climate Awareness :



Schema :

users										
<u>id</u>	username	mail	password							
sustainable_practices										
<u>id</u>	city	category	practice1_title	practice1_description	practice2_title	practice2_description	practice3_title	practice3_description		
responses										
<u>id</u>	fullname	email	phone	city	volunteer	participationMode	skills	rating	actions	submitted_at
contact_messages										
<u>id</u>	name	email	message	submitted_at						

Suggested Changes:

1. Add color-coded Slider Bar to represent AQI
2. Create an Admin Functionality to make changes in the Database instead of using phpMyAdmin.

All Suggested Changes have been incorporated and verified.

Conclusion :

In conclusion, ClimateSync serves as a vital tool for promoting environmental awareness and encouraging sustainable actions at a personal and community level. By integrating real-time environmental data with practical, user-friendly sustainability practices, we have created a platform that empowers users to actively engage in climate action. The platform not only provides essential information but also fosters a sense of community where users can contribute their ideas, share knowledge, and help make their surroundings more sustainable. As students, we have learned a lot throughout this project, from technical development to understanding the importance of accessible environmental tools.

Future Scope :

In the future, *ClimateSync* can be enhanced by adding more city-specific data to make the platform even more personalized and useful for users across different regions. This could include integrating more environmental indicators like water quality, waste management, weather reports data. Artificial Intelligence can also be integrated to get live data.

Additionally, expanding the community engagement features could encourage more user participation. This could involve allowing users to share their own sustainable practices or collaborate on local environmental initiatives, creating a more active and connected user base.

GitHub Repository link : <https://github.com/AdityaSontakke23/mini-project>