SimuLab – Website Customization Report

This document summarizes the changes made to the base HTML/CSS website template to create SimuLab, a science and engineering simulation platform.

Overview

SimuLab is an educational web platform that allows users to run backend-powered simulations in physics and engineering fields. This site was built by customizing the provided template to reflect the SimuLab brand, features, and structure.

Major Changes Made

1. Branding & Identity
   - Replaced all mentions of "TechFlow Solutions" with SimuLab
   - Updated navigation bar, logo icon, and footer branding
   - Added click-to-homepage link on the SimuLab brand name

2. Homepage Content Customization
   - Hero Section: Rewritten text to introduce SimuLab's purpose and audience
   - About Section: Explained SimuLab's vision, target users, and simulation goals
   - How It Works: Added a 4-step walkthrough of the simulation experience
   - Services Section --> Renamed to Simulations and repurposed to list experiment categories:
     - Simple Mechanics
     - Structural Mechanics
     - Electromagnetism

3. New Pages Added
   - Created three new HTML pages (one per experiment category):
     - simple-mechanics.html
     - structural-mechanics.html
     - electromagnetism.html
   - Each category page includes:
     - A dedicated hero section
     - Sidebar filters (non-functional for MVP)

- A grid of simulation cards
- Footer matching homepage

4. Dark Mode Toggle

- Implemented a dark mode button in the navigation
- Added support for saving user preference using localStorage
- Ensured consistent styling across all pages

5. Navigation Enhancements

- Hamburger menu implemented for mobile devices
- JavaScript added to toggle nav drawer
- Click-outside-to-close and link-click behavior added for user experience

6. Responsive Design

- Maintained and tested mobile responsiveness across all sections
- Used existing CSS structure and media queries

7. Other Additions

- FAQs Section: Common questions about SimuLab
- Docs Section: Summarized inputs, outputs, and formulas for select simulations
- Contact Section: Static form and contact info added

SCREENSHOTS

File   C:/Users/gbola/Downloads/tesa-smb-main/tesa-smb-main/smb_website_template.html

SimuLab

Contact Us

Have questions, suggestions, or feedback? We'd love to hear from you.

Location
Lagos, Nigeria

Email
hello@simulab.com

Phone
+234 701 234 5678

Your Name   Your Email

Subject

Your Message

Send Message

</> SimuLab

Making science accessible, one simulation at a time.

Quick Links
About Us
Experiments
How It Works
Contact

Simulations
Simple Mechanics
Structural Mechanics
Electromagnetism

Contact Info
Lagos, Nigeria
+234 701 234 5678
hello@simulab.com

File   C:/Users/gbola/Downloads/tesa-smb-main/tesa-smb-main/smb_website_template.html

SimuLab

FAQs

Got questions? Here are answers to common things people ask about SimuLab.

Is SimuLab free to use?
Yes. All simulations available now are free to access and use for learning purposes.

Do I need to install anything?
Nope! Everything runs in your browser — no extra downloads or plugins required.

Can I use these simulations offline?
Currently, SimuLab requires internet access. Offline support is in our future roadmap.

Who is SimuLab built for?
Students, teachers, and self-learners who want to explore science concepts interactively.

Can I contribute or request a new simulation?
We're working on opening contributions soon. In the meantime, you can reach out via the contact form!

Contact Us

SimuLab

Documentation

Understand how each simulation works — inputs, outputs, and the math behind it.

Simple Pendulum

Inputs: Length (L), Gravitational Acceleration (g)

Outputs: Period (T), Frequency (f)

Formula: $T = 2\pi \sqrt{L/g}$

Free Fall

Inputs: Height (h), g

Outputs: Time (t), Final Velocity (v)

Formula: $v = \sqrt{2gh}$, $t = \sqrt{2h/g}$

Ohm's Law

Inputs: Two of Voltage (V), Current (I), Resistance (R)

Outputs: The third value

Formula: $V = IR$

[Go to Simulations]

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SimuLab

How It Works

SimuLab is designed to make science simulations simple and accessible in just a few steps.

1. Choose a Simulation

Browse our growing library of experiments across physics and engineering topics.

2. Enter Parameters

Input variables like mass, voltage, or pressure depending on the experiment you selected.

3. Run the Simulation

SimuLab performs the calculations instantly and returns accurate results.

4. Analyze Results

Interpret the data, understand the output, and deepen your scientific insight.

[Explore Simulations]

SimuLab

Simulations

Explore ready-to-run science simulations across physics and engineering

Simple Mechanics

Simulations for pendulums, free fall, motion, and basic laws of physics.

Structural Mechanics

Explore simulation models for plates, vibration, and deformation analysis.

Electromagnetism

Dive into simulations of electric fields, EMF, and circuit theory.

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SimuLab

About SimuLab

Making science accessible, one simulation at a time

Built for the curious. Designed for the future.

SimuLab is a backend-first platform for simulating physics and engineering experiments. Whether you're a student, educator, or developer, SimuLab provides fast, accurate, and accessible results. No lab equipment required.

Our goal is to make hands-on science possible anywhere. With a growing library of pre-built simulations and a powerful API interface, SimuLab simplifies learning and experimentation in the classroom, on the web, or through your own apps.

10+
SIMULATIONS

3
CATEGORIES

100%
LAB-FREE

Simulations

Explore ready-to-run science simulations across physics and engineering