SoilCon

WEBPROG PROJECT

SoilCon: A Soil Moisture Monitoring Device For Crop Water Management

PRESENTED BY BALAGTAS GROUP:

Balagtas, Rey Simon D.
Marigosio, Ryle Aaron D.
Parce, Ercath Paul Z.
Salio, Anilov P.
Siman, Justine Ren F.

SoilCon

INTRODUCTION

CONTEXT

Proper irrigation is vital for plant growth, but manual watering and fixed timers often cause under- or over-watering.

SoilCon is a soil moisture monitoring device with a web platform that tracks soil moisture in real-time and automates irrigation.

PURPOSE

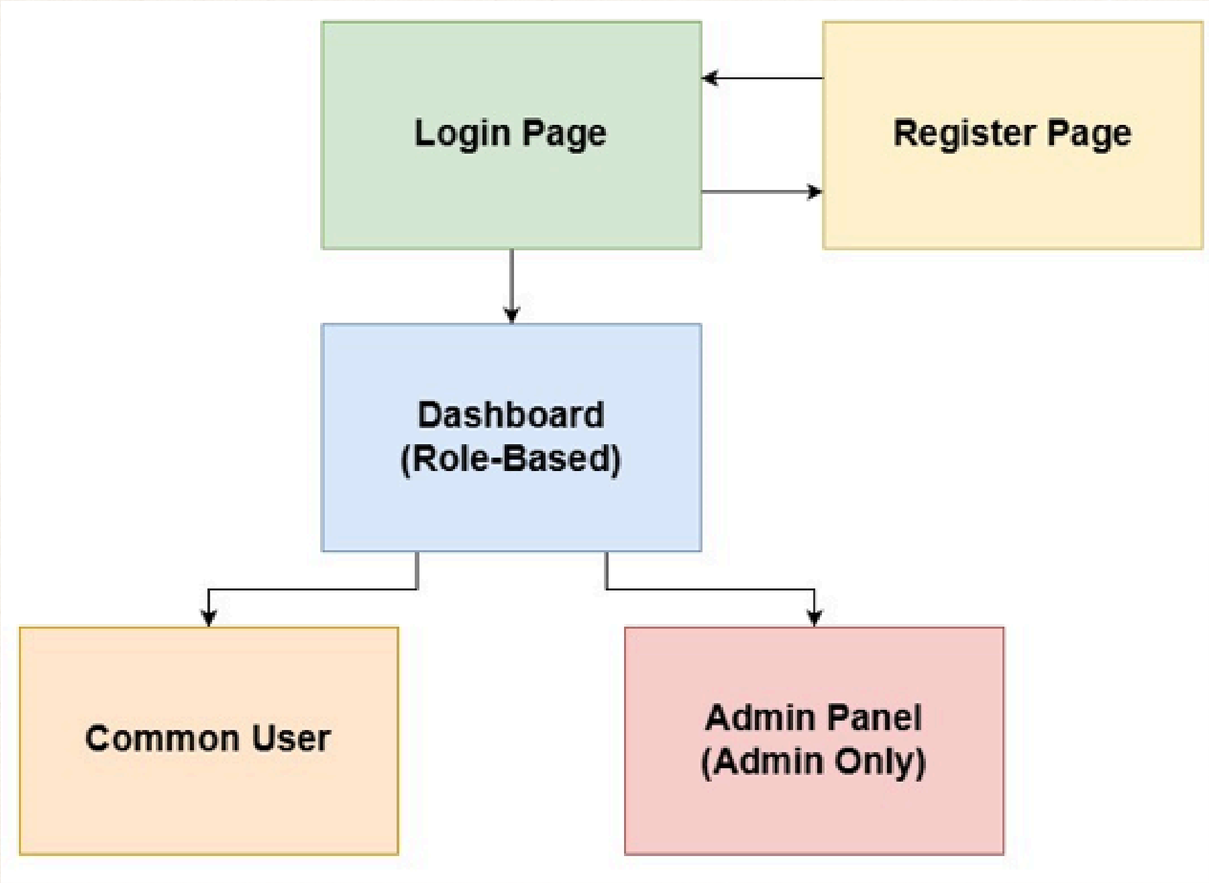
This project aims to support proper irrigation management by providing a web-based platform for monitoring soil moisture data.

The system allows users to view, store, and manage moisture readings through an online interface, enabling better irrigation decisions.

SoilCon

SoilCon

Website Structure



SoilCon

TOOLS AND RESOURCES

Tools And Resources

Design Tools

Canva

Draw.io

smartdraw

Tools And Resources

Development Tools

VS Code

GitHub

Arduino IDE

InfinityFree

Google Sheets

Tools And Resources

Testing Tools

GTmetrix

PageSpeed Insights

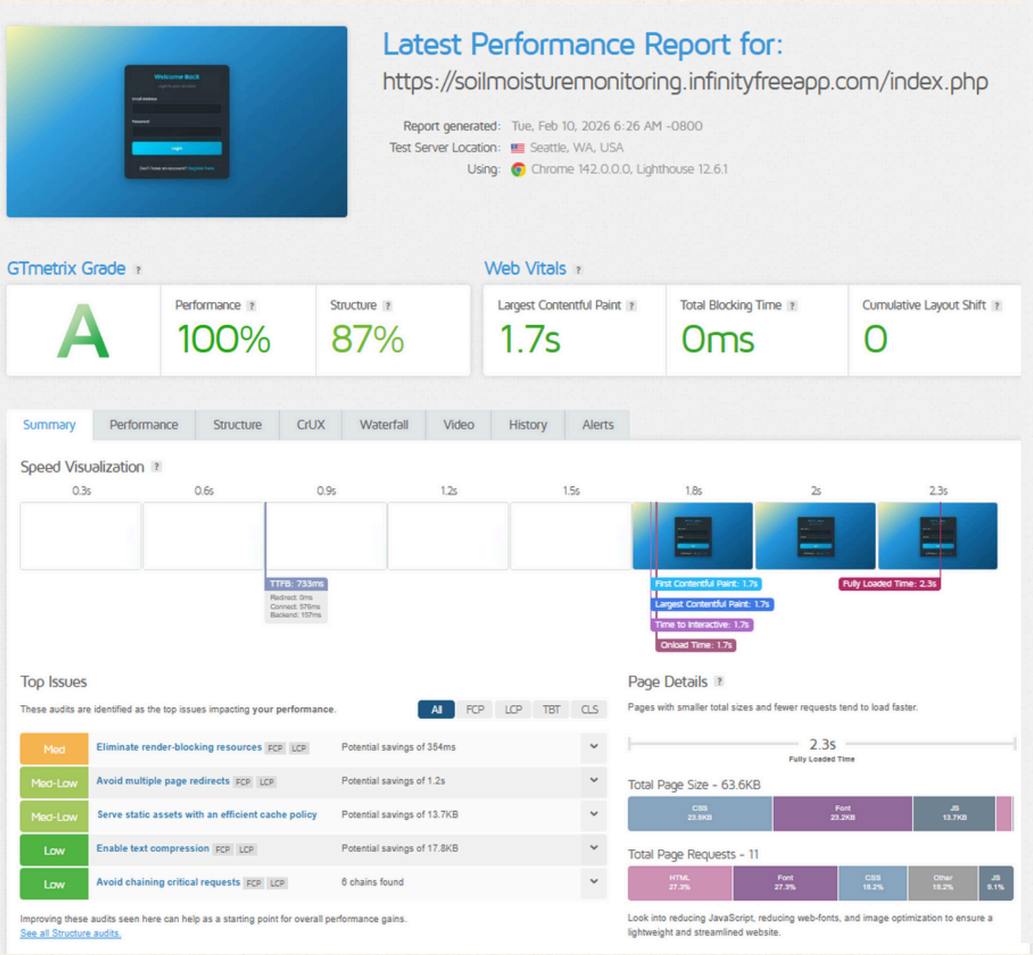
solarwinds pingdom

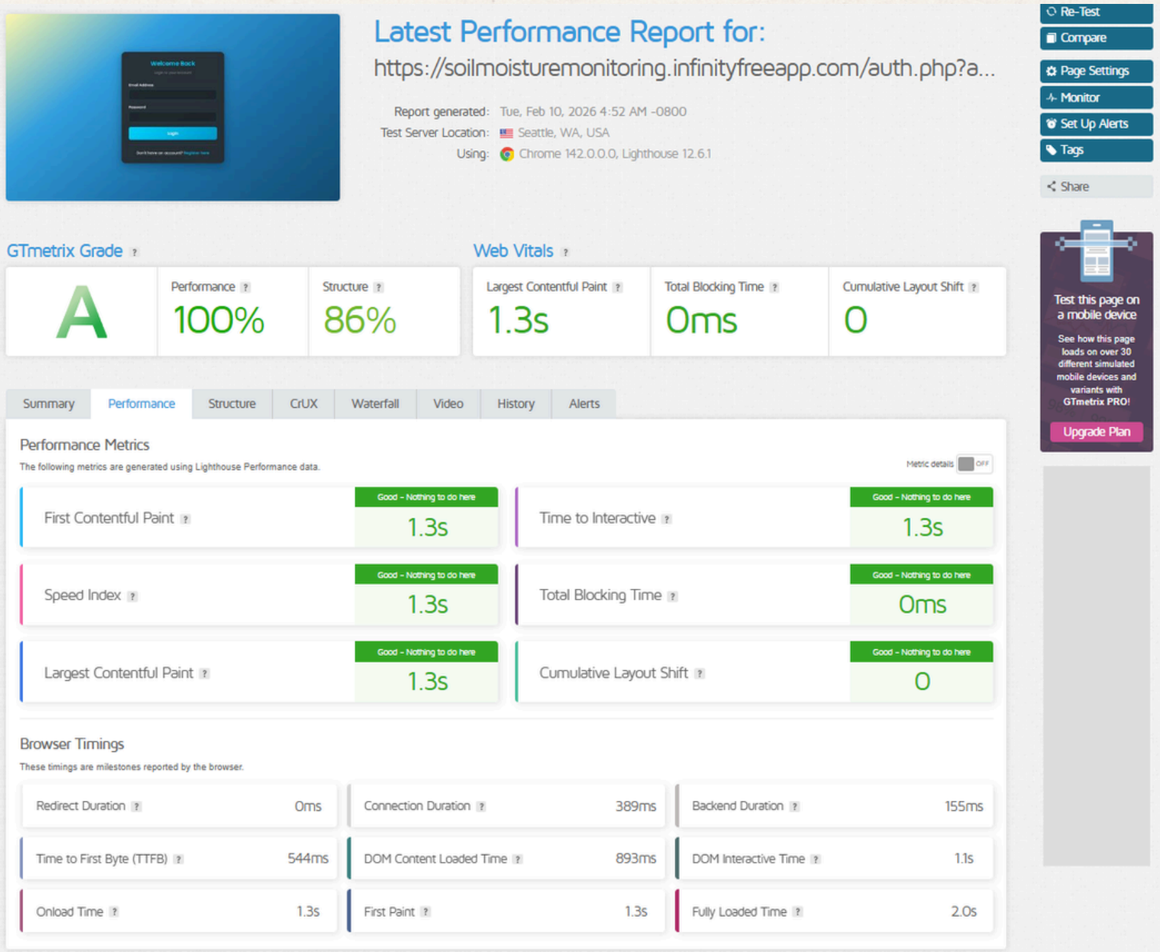
SoilCon

PERFORMANCE

WEBSITE PERFORMANCE

GTmetrix





WEBSITE PERFORMANCE

PageSpeed Insights

MOBILE

Report from Feb 10, 2026, 9:11:13 PM

https://soilmoisturemonitoring.infinityfreeapp.com/auth.php?action=login

Analyze

Mobile | Desktop

Discover what your real users are experiencing — No Data

Diagnose performance issues

Performance	Accessibility	Best Practices	SEO
89	86	100	90

89

Performance

Values are estimated and may vary. The performance score is calculated directly from these metrics. See calculator.

0–49 | 50–89 | 90–100

METRICS — Expand view

First Contentful Paint 2.6 s	Largest Contentful Paint 2.6 s
Total Blocking Time 0 ms	Cumulative Layout Shift 0.015

DESKTOP

Report from Feb 10, 2026, 9:11:13 PM

https://soilmoisturemonitoring.infinityfreeapp.com/auth.php?action=login

Analyze

Mobile | Desktop

Discover what your real users are experiencing — No Data

Diagnose performance issues

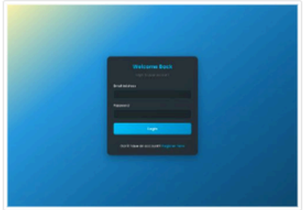
Performance	Accessibility	Best Practices	SEO
96	86	100	90

96

Performance

Values are estimated and may vary. The performance score is calculated directly from these metrics. See calculator.

0–49 | 50–89 | 90–100

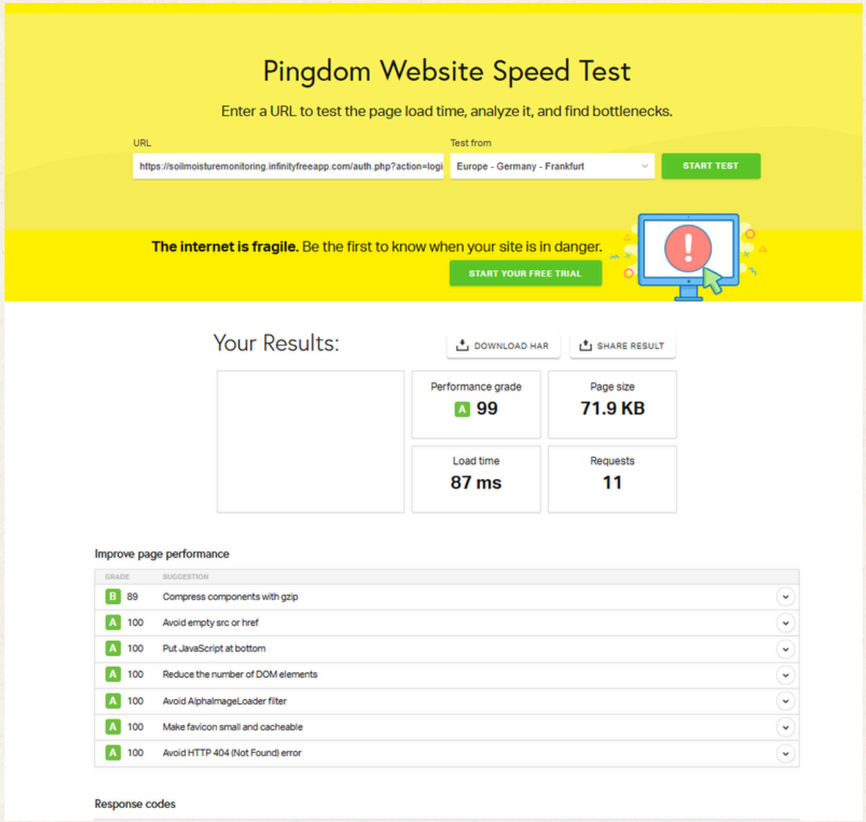


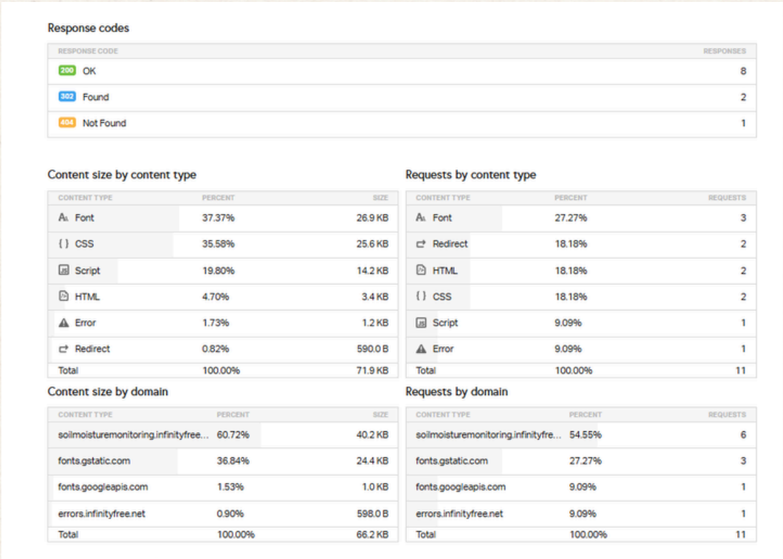
METRICS — Expand view

First Contentful Paint 0.8 s	Largest Contentful Paint 0.8 s
Total Blocking Time 0 ms	Cumulative Layout Shift 0

WEBSITE PERFORMANCE

solarwinds pingdom





Response codes

RESPONSE CODE	RESPONSES
200 OK	8
302 Found	2
404 Not Found	1

Content size by content type

CONTENT TYPE	PERCENT	SIZE
Font	37.37%	26.9 KB
CSS	35.58%	25.6 KB
Script	19.80%	14.2 KB
HTML	4.70%	3.4 KB
Error	1.73%	1.2 KB
Redirect	0.82%	590.0 B
Total	100.00%	71.9 KB

Requests by content type

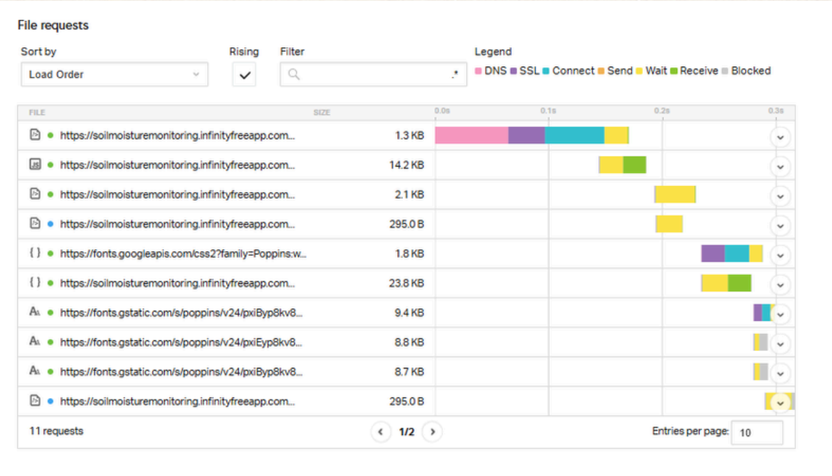
CONTENT TYPE	PERCENT	REQUESTS
Font	27.27%	3
Redirect	18.18%	2
HTML	18.18%	2
CSS	18.18%	2
Script	9.09%	1
Error	9.09%	1
Total	100.00%	11

Content size by domain

CONTENT TYPE	PERCENT	SIZE
soilmoisturemonitoring.infinityfree...	60.72%	40.2 KB
fonts.gstatic.com	36.84%	24.4 KB
fonts.googleapis.com	1.53%	1.0 KB
errors.infinityfree.net	0.90%	598.0 B
Total	100.00%	66.2 KB

Requests by domain

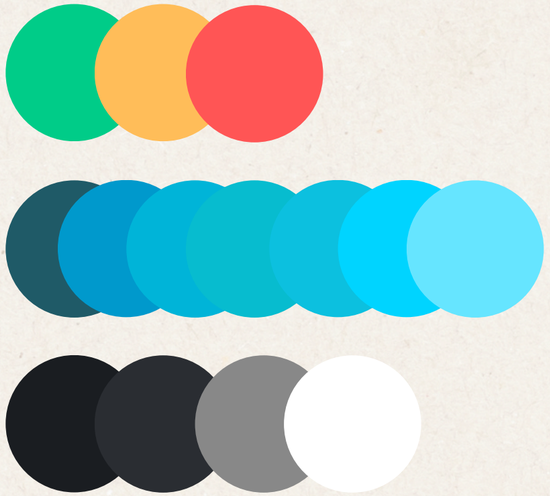
CONTENT TYPE	PERCENT	REQUESTS
soilmoisturemonitoring.infinityfre...	54.55%	6
fonts.gstatic.com	27.27%	3
fonts.googleapis.com	9.09%	1
errors.infinityfree.net	9.09%	1
Total	100.00%	11



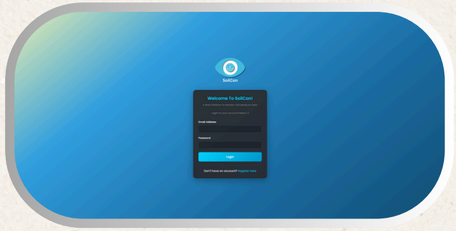
SoilCon

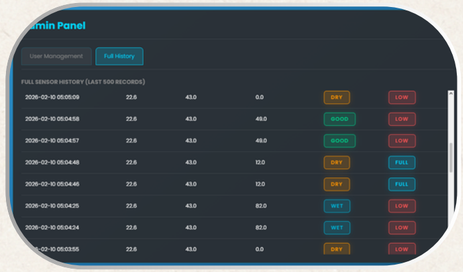
VISUAL DESIGN

COLOR PALLETS



SAMPLE





TYPOGRAPHY

Poppins

Poppins

Poppins

Poppins

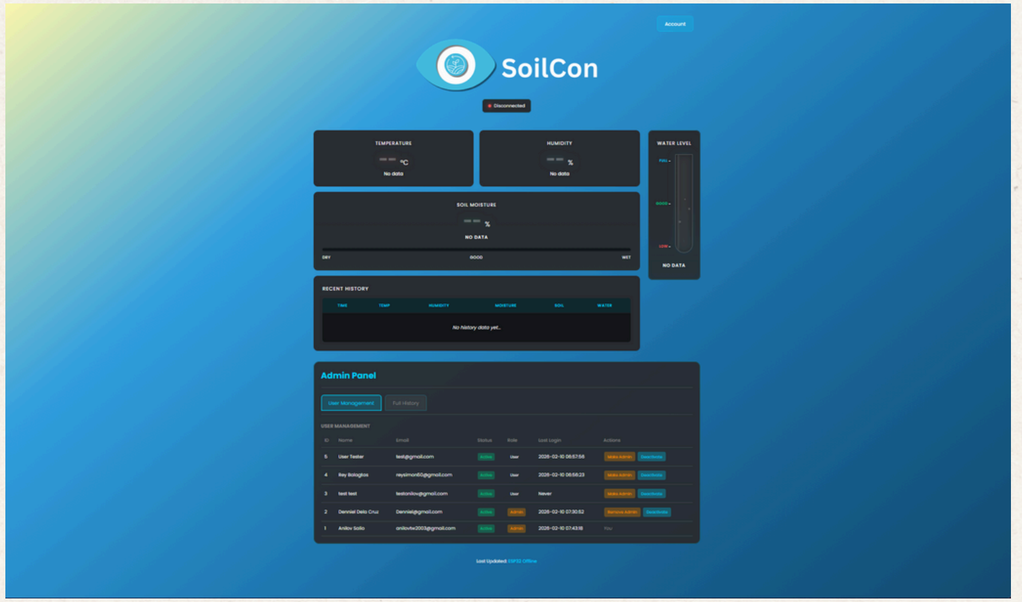
Poppins

Poppins

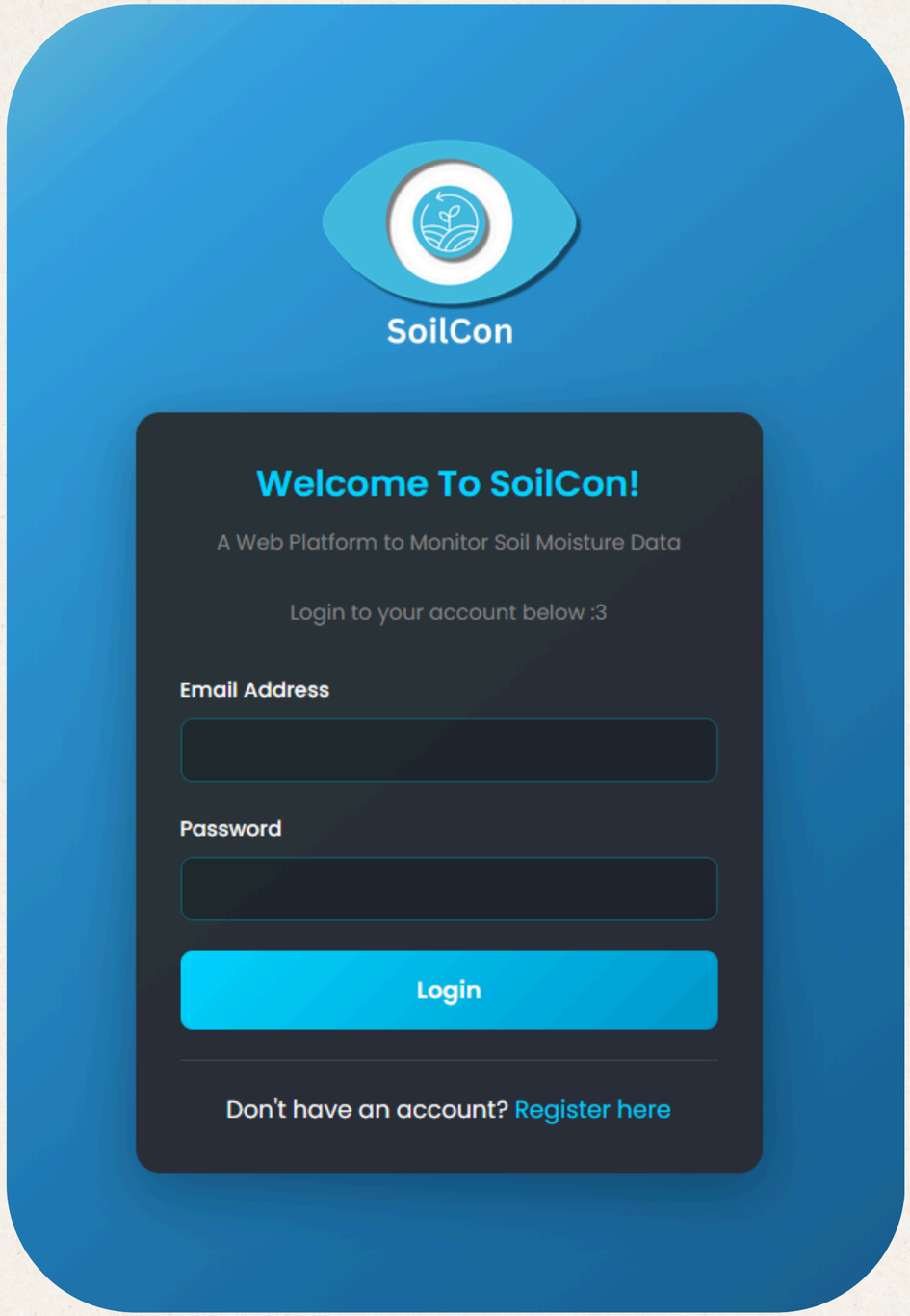
Poppins

Poppins

WHITESPACE

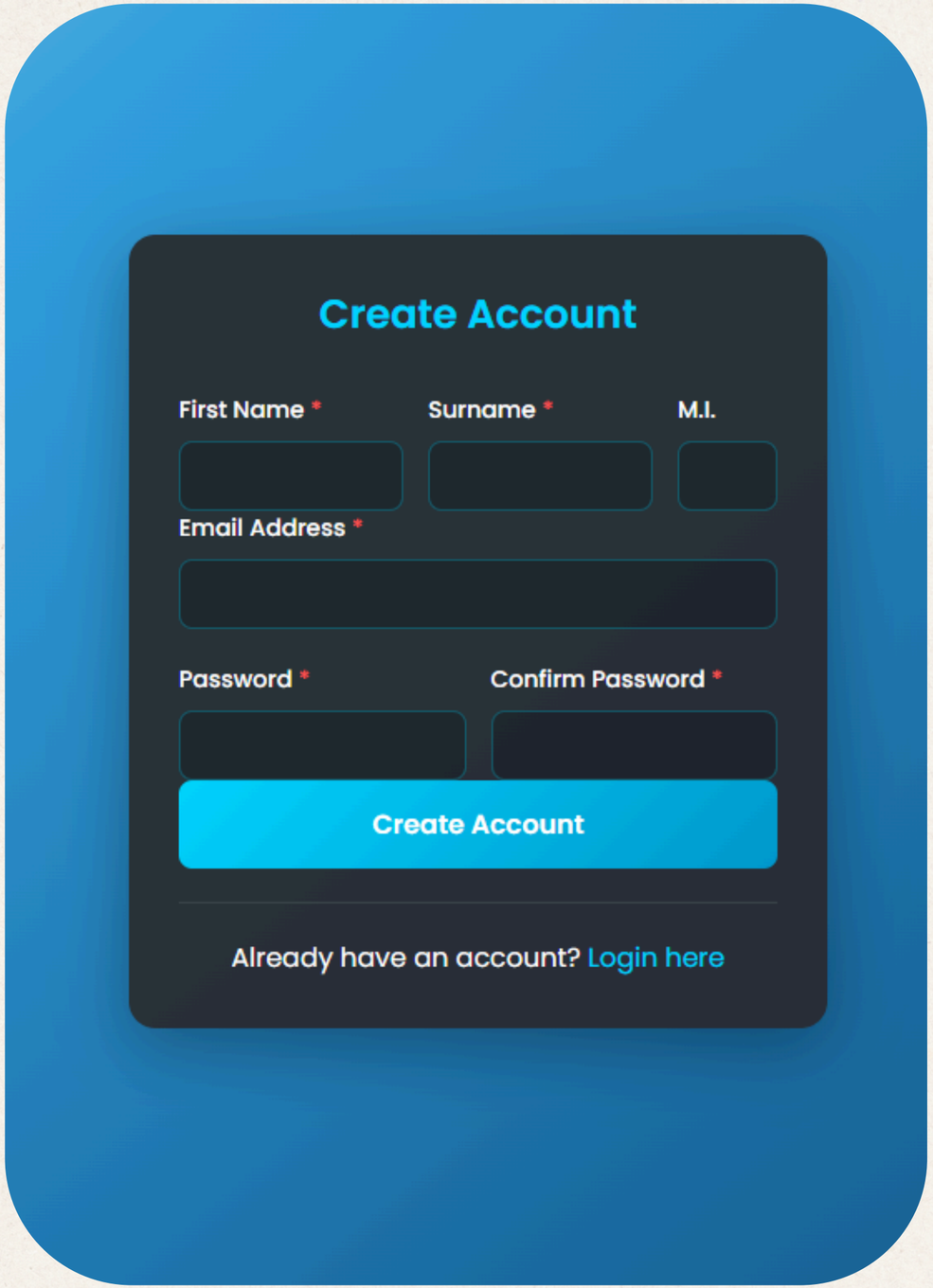


IMAGERY



Login Page

This page lets users log in to the system. It requires an email address and password and includes an option for new users to register.

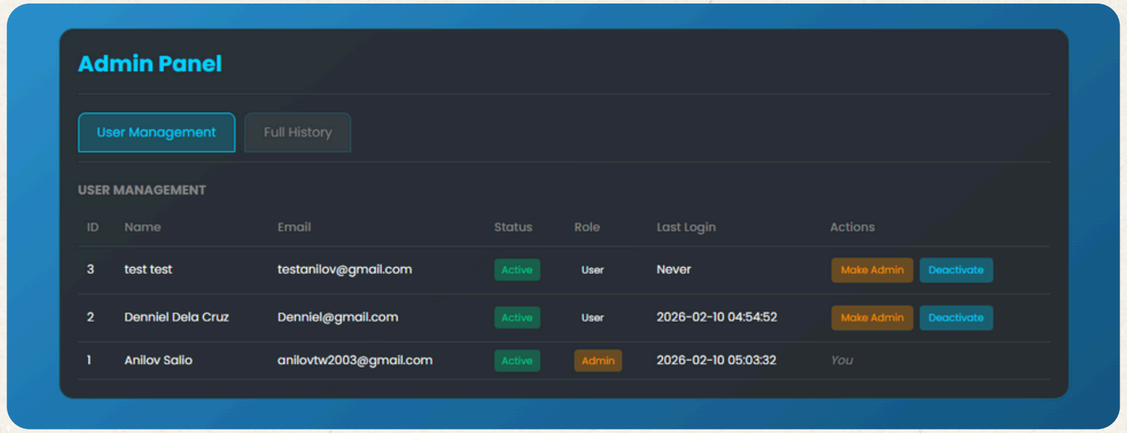


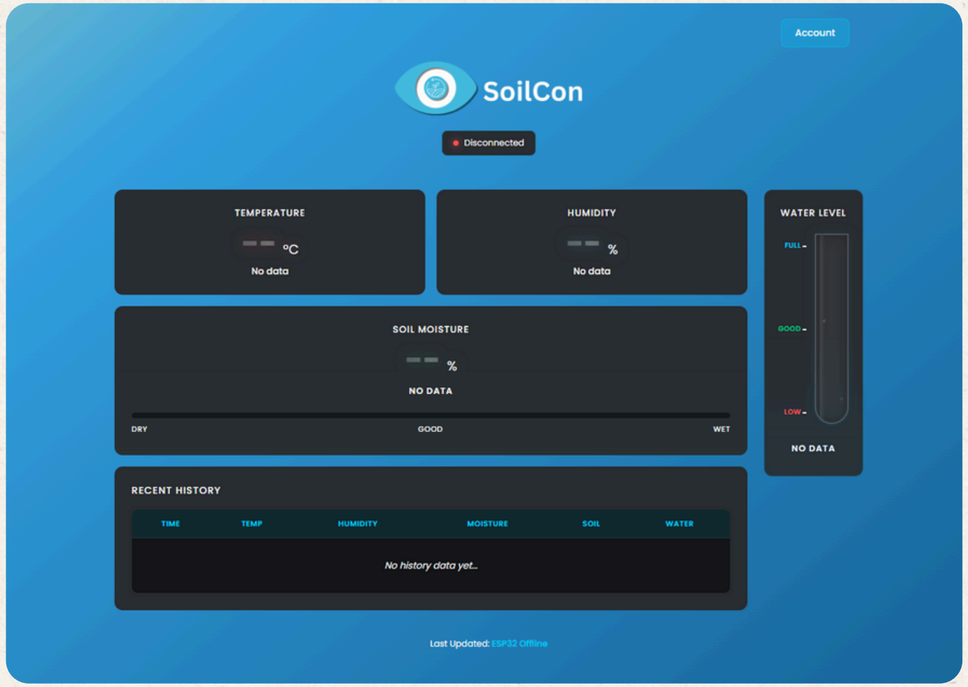
Register Account

This page allows new users to create an account by providing their personal information, email address, and password. It ensures that users can register securely and includes password confirmation to reduce input errors. A login option is provided for users who already have an existing account.

ADMIN DASHBOARD

After login, administrators access the monitoring dashboard with system-level visibility. Sensor data from the ESP32 is sent to Google Sheets and then retrieved and displayed on the website.





USER DASHBOARD

After logging in, users are directed to the monitoring dashboard where sensor data is displayed using numerical values, status indicators (e.g., Dry, Normal, Warm), and progress bars.

Soil moisture is shown through a horizontal Dry-to-Wet indicator, while water level is displayed using a vertical bar labeled Low, Good, or Full.

WEBSITE LINK

SoilCon

https://soilmoisturemonitoring.infinityfreeapp.com

GitHub

https://github.com/anilovtw2003-cmd/WEBPROG_Finals_Project

SoilCon

THANK YOU!

PRESENTED BY BALAGTAS GROUP:

Balagtas, Rey Simon D.
Marigosio, Ryle Aaron D.
Parce, Ercath Paul Z.
Salio, Anilov P.
Siman, Justine Ren F.