

Final Project for SW Engineering

CSC648-848

Fall-2023

Team 01

CalAwareNow - “Digital Shield for California”

Team Lead / Backend Support: Ameen Safi (asafi1@mail.sfsu.edu)

Github Administrator/Frontend Support: Dev Patel

Backend Lead: Himal Shrestha

Frontend Lead: Chih Lin Chien (Brian)

Database Lead: Fasika Abera

Backend Lead: Trina Haque

Demo URL: <http://34.66.193.152>

Date: 12/05/2023

2. Product Summary:

Product name: CalAwareNow

CalAwareNow is a powerful online platform that acts as a protective shield for Californians and any users who want to visit California. It gives citizens the latest updates on COVID-19, natural disasters, and security threats all in real-time, ensuring they stay informed and safe wherever they are.

Our Commitment to Functionality

- User Registration: Users can sign up with email verification for secure access.
- User Login: Existing users can log in using their username and password
- User Profiles: Allowing users to customize profiles and notification settings.
- County Data Entry: County department directors can input COVID-19, wildfire, security, and weather metrics
- Alerting System: Immediate notifications based on state guidelines and user preferences.
- Alert Preferences: Users can set preferences for whether they receive alerts or not. The default behavior is that the user will get alerts for their associated county.
- Search Functionality: Users can use the search functionality to search for incidents.
- Filter: Users can use the filter to find county-specific information
- Messaging: Registered users can send feedback to an admin or director in a forum setting

What is unique in your Product (optional)?

Deployment URL: <http://34.66.193.152>

3. Milestone Documents - M1-M4:

M1 feedback:

From: Ameen Safi asafi1@mail.sfsu.edu
Subject: FW: FEEDBACK: CSC648-848 Fall 2023 Milestone1 Section 2 Team 1
Date: Oct 4, 2023 at 4:32:18 PM

Here is the feedback for our milestone 1!

From: Durga Siva Lokesh Telaprolu <dtelaprolu@sfsu.edu>
Sent: Tuesday, October 3, 2023 9:12 PM
To: Ameen Safi <asafi1@mail.sfsu.edu>
Cc: Henry Villar <jvillar@mail.sfsu.edu>
Subject: FEEDBACK: CSC648-848 Fall 2023 Milestone1 Section 2 Team 1

T1 "CalAwareNow- Digital Shield for California" M1 Feedback

CEO/CTO Feedback :

Team CalAwareNow, overall good effort. Nice explanation of data items and entities.

Read the feedback for awareness and to move in the right direction as you continue with the next milestone.

Instructor Feedback :

Overall Objective of Milestone 1 [Need improvement, On-track, Above Expectations]: **On track** with some details for your consideration.

	Item	Criteria	Feedback
01	Expected size of this document	About 7-10 pages	Good (17). Try to reduce the document size. At the end, you're going to combine all the milestones documents.
02	Title Page	<p>Format and Structure</p> <ul style="list-style-type: none">• SW Engineering CSC648/848 Fall 2022” <p>• Section Number</p> <p>• Team number</p> <p>• Names of students and roles</p> <p>• M1</p> <p>• History table (revision)</p>	Good

03	Executive Summary	~1 page. Why we should fund this project?	Good
04	Personas and main Use Cases	About 1/3 of a page per persona 4-5 <u>main use cases</u> . Descriptive title and number to each use case	Good. Well defined and cover overall. (6) Personas and (5) Use Cases.
05	List of main data items and entities	Name, meaning, usage, etc.	Good job here
06	Initial list of functional requirements	High level functions you plan to develop	Good. 19 <u>requirements</u> . Good use of 'shall' In future milestone you would need to prioritize these reqs, accordingly. P1 need to be implemented.
07	List of non-functional requirements	Performance, expected load, security requirements, storage, availability, fault tolerance	Good. 13 total, those should be exactly the ones provided by the customer.
08	Competitive analysis	3-4 competitive products	Okay. Follow the table as per the slides shown in the class
09	High-level system architecture and technologies used	Itemized list of all main SW components	Good. If you guys could include that in a tier level, that would be great.
10	Team and roles	List student names	Good
11	Checklist	Answers to the items	Good. But it's always better to include those details in a table.

Next Steps:

Understand the feedback, talk to your team and decide what needs to be added to M1 and then freeze the document and move to work on M2.

~Prof. Villar

Best Regards,

Grader

M2 Feedback:

From: Ameen Safi asafi1@mail.sfsu.edu
Subject: FW: FEEDBACK: CSC648-848 Fall 2023 Milestone 2 Section 2 Team 1
Date: Oct 16, 2023 at 5:28:28 PM

Hello everyone,

This is the feedback the grader has given us regarding M2 for the documentation portion of it. Please read so we can discuss next time we meet.

- Ameen

From: Durga Siva Lokesh Telaprolu <dtelaprolu@mail.sfsu.edu>
Sent: Monday, October 16, 2023 2:25 AM
To: Ameen Safi <asafi1@mail.sfsu.edu>
Cc: Henry Villar <jvillar@mail.sfsu.edu>
Subject: FEEDBACK: CSC648-848 Fall 2023 Milestone 2 Section 2 Team 1

T1 M2 Feedback

CEO/CTO Feedback

Team CalAwareNow, your project shows progress but falls short on document length and clarity in system architecture, specifically the search algorithm. Also, there are noticeable gaps in the UML diagrams, particularly missing relationships and the absence of a deployment diagram.

Instructor Feedback

Overall Objective of Milestone 2 [Need improvement, On track, Above Expectations]:
Documentation needs improvement

ID	Item	Criteria	Feedback
00	Expected size of this document	About 20-25 pages	13 pages. Did not met the requirement of document size.
01	Functional Requirements - prioritized	Expand or repeat functional requirements from Milestone 1 into Milestone 2 w/ reference numbers (1-must have; 2 – desired; 3 –	Priority 1 list: 9. Good

		<i>opportunistic)</i>	
02	UI Mockups and Storyboards (high level only)	All major use cases from M1. Format is very flexible, recommend hand drawings	On Track. Great.
03	High level Architecture, Database Organization	Make sure the titles and var. names are in easy to understand plain English and consistent with data definitions. <i>Media storage, APIs (if any), algorithm and SW tools</i>	You all were uncertain about the search algorithm; please ensure you finalize it. The DB organization is excellent, however.
04	High Level UML Diagrams	HL Class diagrams, and Component and deployment	There are missing relationships among the elements in the UML diagram, and the deployment diagram is not included. Please ensure these are addressed and incorporated
05	Key risks for your project at this time	Skills, schedule, technical, teamwork, legal/content	On Track. Good.
06	Project management	No more than half a page how you managed and plan to M2 and <u>future tasks</u> . <u>Must</u> start using Trello or similar tools for task management	On Track. Good.

Next Steps: Review this feedback with your team, have a conversation with professor regarding P1's, incorporate critical items to your document and freeze it. Continue working on your M3,

your M3 needs to be in production NOT in the localhost has shown in M2. Milestone 3 is expected to have more requirements implemented.

Kind Regards,
Grader

M3 Feedback:

M3 feedback was given right after the first demo presentation of our website by the professor on Zoom.

Here are some topics he asked us to focus:

- Functionality alerting, messaging
- Homepage and search integrated
- P1 needs to be fixed
- Move maps to p2

M4 Feedback:

AS Ameen Safi
Fwd: CSC648-848 Fall 2023 Milestone 4 Team 1
To: Fasika Abera, Trina Haque, Himal Shrestha, Dev Madhvesh Patel, Chih-Lin Chien

Inbox - Exchange November 17, 2023, 11:24 PM

Here is our feedback from M4

De: Durga Siva Lokesh Telaprolu <dtelaprolu@sfsu.edu>
Envío: viernes, noviembre 17, 2023 04:22
Para: Ameen Safi <asafi1@mail.sfsu.edu>
CC: Henry Villar <villar@mail.sfsu.edu>
Asunto: CSC648-848 Fall 2023 Milestone 4 Team 1

CEO/CTO M4 Feedback

CalAwareNow, good job. However, there are some details that needs to be included in your document. Please see details below for considerations and focus on finalizing your product for release and finishing the corresponding documentation (M5).

Instructor M4 Feedback

Overall Objective of Milestone 4 [Need improvement, On track, Above Expectations]: On-track with some improvement needed.

Specific M4 Feedback:

□

ID	Item	Criteria	Feedback
01	Objectives Achieved?	<ol style="list-style-type: none">1. To make final commitment for functions to be delivered2. To check that all required non-functional specs are satisfied or on track3. To practice formal usability test plan development4. To practice formal QA5. To practice code review6. Ensure basic practices of secure SE are applied7. Ensure effective teamwork8. Ensure software development is effective	Yes.

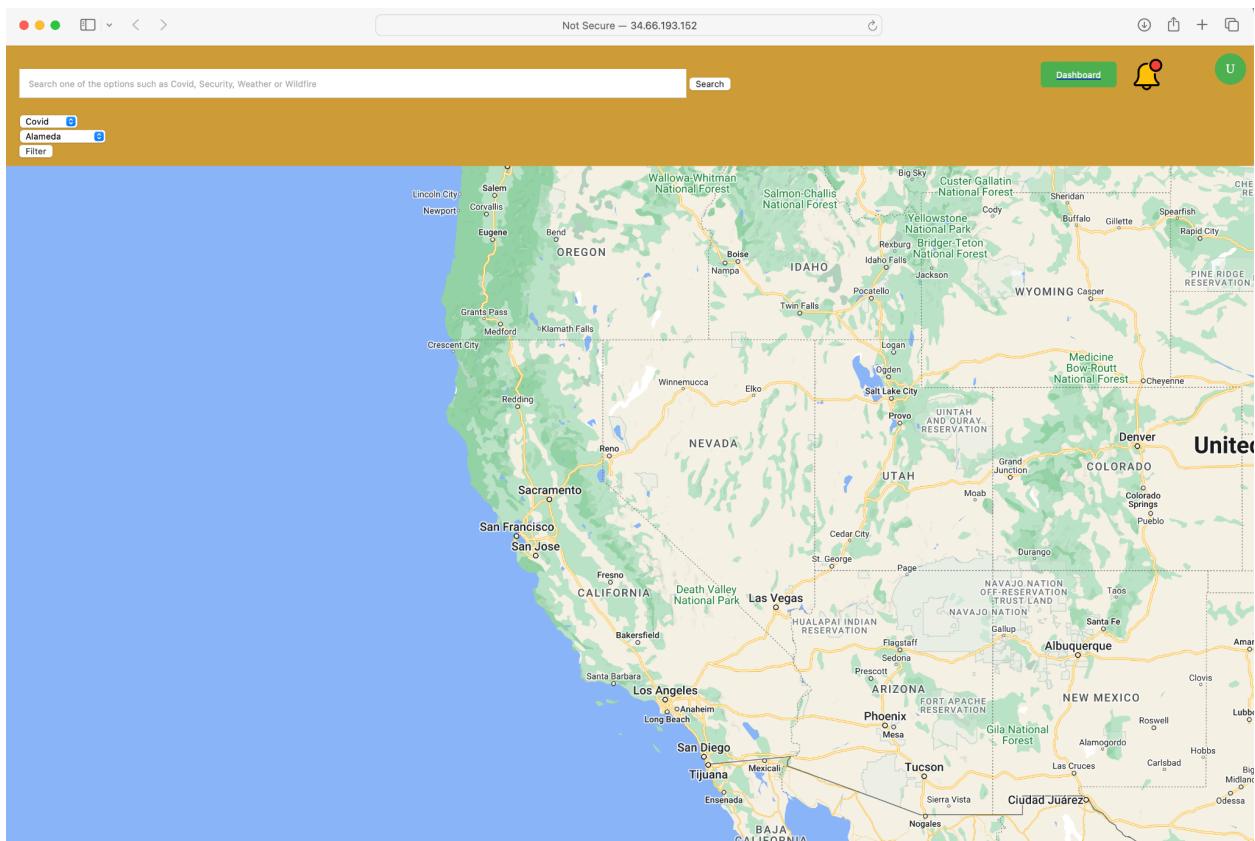
			On Track.
02	Document delivered (PDF)	<p>1. Product summary (~1/2 p) 2. Usability test plan (~2 p) 3. QA test plan (~2 p) 4. Code Review (~2 p) 5. Self-check on best practices for security (~1/2 p) 6. Self-check: Adherence to original Non-functional specs ~7 pages</p>	<ul style="list-style-type: none"> • The Summary is okay. But requirements are not described as format (e.g., user shall subscribe/register to get alerts, etc.) <ul style="list-style-type: none"> ◦ Executive summary and uniqueness of the product is missing. • Make sure the URL of the product is up and running. • UT: UT: Good, however, the use of the Likert scale and survey is incorrect. Remember they should be statements NOT questions. • QA testing: Good. • Code review is okay. • Security best practices are okay. • Non-functional Specifications (13): Good.

Next Steps for M4: Review feedback, incorporate accordingly and freeze it. Then focus on M5 and finalize all the pending functionalities and be ready for your final product release, the demo and all documentation.

Kind Regards,
Grader

4. Snapshots of Final Product:

Home Page:



User Registration Page:

The screenshot shows a user registration form on a website. The URL in the address bar is 34.66.193.152/register. The page has a white header with a blue logo containing a lightbulb icon and the text "CalAwareNow". Below the header is a title "User Registration". The form consists of five input fields: "Full Name", "Username", "Email", "Password", and "User Type". The "User Type" field contains a dropdown menu with "Admin" selected. A green "Register" button is at the bottom of the form. Below the button is a link "Already have an account? Sign in here".

34.66.193.152/register

CalAwareNow

User Registration

Full Name

Username

Email

Password

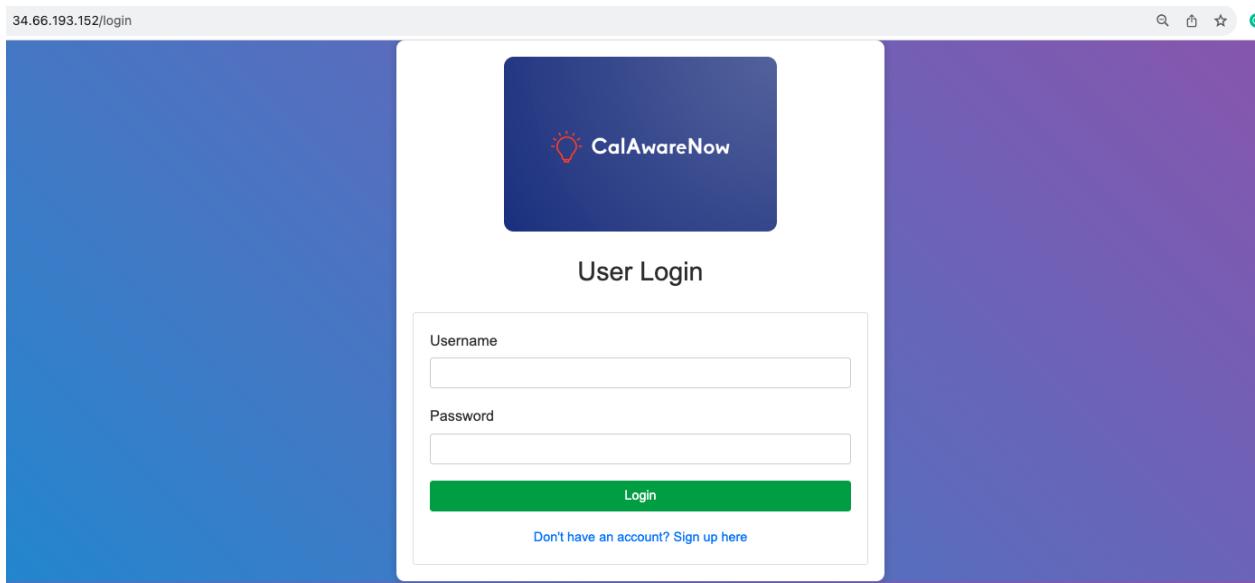
User Type

Admin

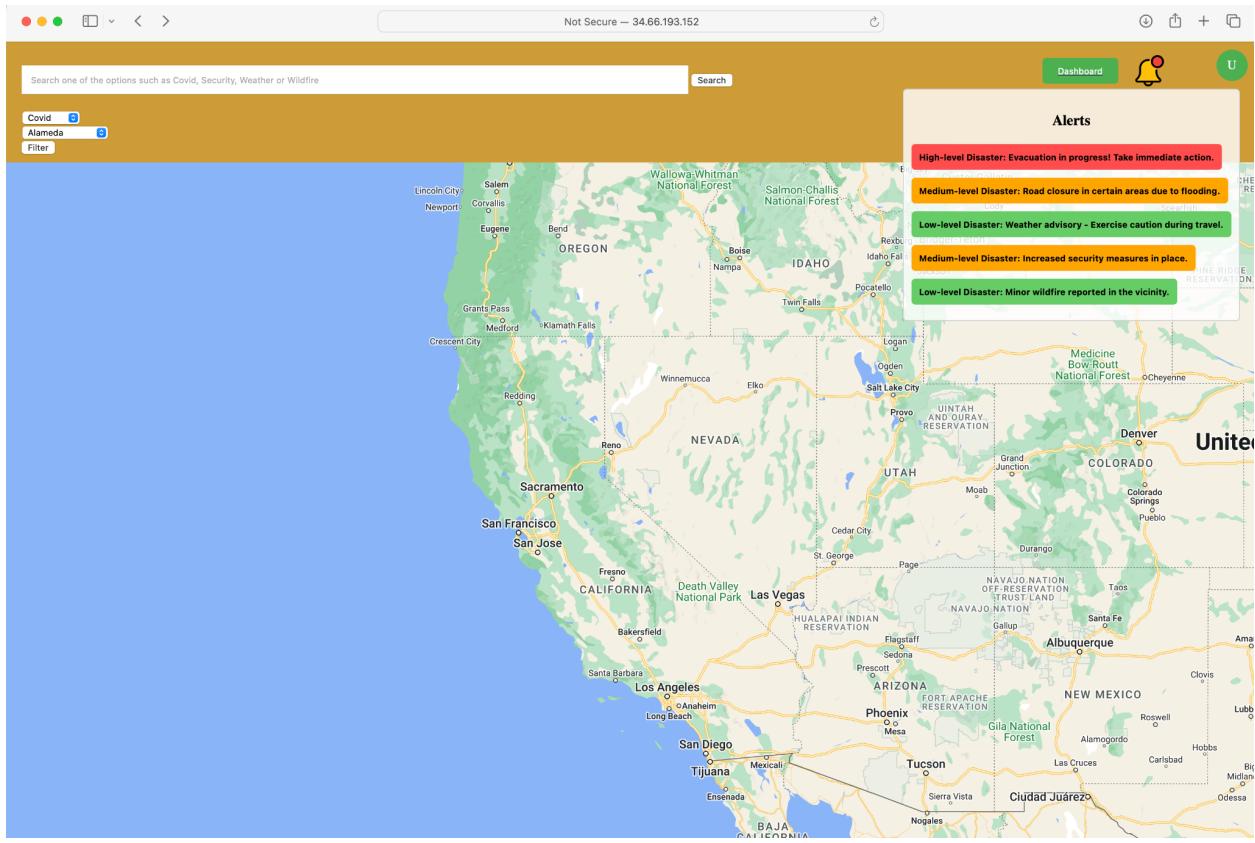
Register

Already have an account? [Sign in here](#)

Login Page:



Alert Page:



User profile:

Profile

User Profile



UserType:

Username:

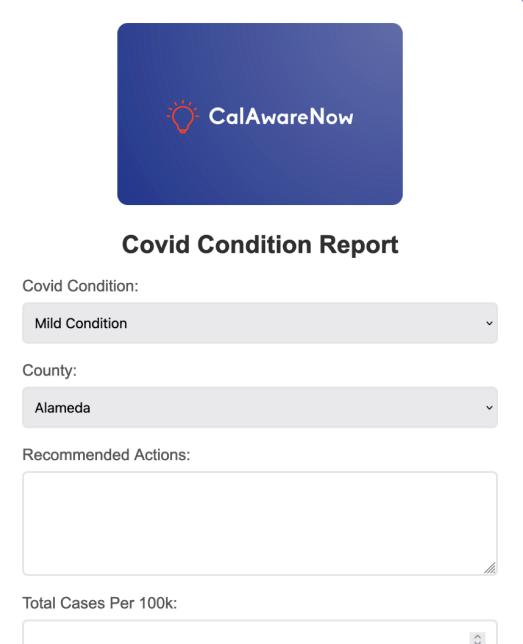
Name:

Contact Information:

Edit Profile

Send Feedback

Covid Form:



The image shows a digital form titled "Covid Condition Report" set against a background gradient from blue to purple. The form itself has a white header and a dark blue body. At the top of the blue section is a logo featuring a red lightbulb icon followed by the text "CalAwareNow". Below the logo, the title "Covid Condition Report" is centered in bold black font. The form contains several input fields: a dropdown menu for "Covid Condition" set to "Mild Condition", a dropdown menu for "County" set to "Alameda", and a large text area for "Recommended Actions" which is currently empty. At the bottom is a dropdown menu for "Total Cases Per 100k" with the first option visible.

Covid Condition Report

Covid Condition:

Mild Condition

County:

Alameda

Recommended Actions:

Total Cases Per 100k:

Security Form:

The screenshot shows a web browser window with a purple header bar. The address bar displays "Not Secure — 34.66.193.152". The main content area contains a form titled "Security Condition Report".

Form Fields:

- Security concern:** A text input field.
- Incident Status:** A dropdown menu set to "Low Risk(Area is clear)".
- County:** A dropdown menu set to "Alameda".
- Recommended Actions:** A text input field.
- Crime Cases in County:** A dropdown menu.

Buttons:

- A large blue "Submit" button at the bottom of the form.

Weather Form:

The screenshot shows a web browser window with a purple gradient background. The address bar at the top right indicates the URL is "Not Secure — 34.66.193.152". The main content area displays a weather report form titled "Weather Condition Report". The form includes three dropdown menus: "Weather Type" (set to "Rainy"), "Other weather Condition" (set to "Mild Condition"), and "County" (set to "Alameda"). A large blue "Submit" button is located at the bottom of the form.

Weather Type:
Rainy

Other weather Condition:
Mild Condition

County:
Alameda

Submit

WildFire Form:

The screenshot shows a web browser window with a purple gradient background. The address bar reads "Not Secure — 34.66.193.152". The main content area displays a form titled "Wildfire Condition Report". The form includes fields for County (dropdown menu showing "Alameda"), Description (text area), Incident cause (text area), Affected Area (in Acres) (text area), Evacuation Status (dropdown menu showing "low"), Containment (%) (text area), and a blue "Submit" button.

CalAwareNow

Wildfire Condition Report

County:

Alameda

Description:

Incident cause :

Affected Area (in Acres):

Evacuation Status:

low

Containment (%):

Submit

Search Result Page:

← → ⌂ 34.66.193.152/search/filter_result

Getting Started Google YouTube Gmail iLearn at San Franci... Dashboard Google 翻譯 Twitch Instagram Google 地圖 Facebook GitHub AI Detector by C@S... New chat Problems - LeetCode >

Search one of the options such as Covid, Security, Weather or Wildfire Dashboard

Covid ▾
Alameda ▾
Filter

Search Result for

Successful search result:

- Cases per 100k: 342
- Disaster: 12
- Recommended action: distance
- Covid Condition: 1
-

- Cases per 100k: 23
- Disaster: 10
- Recommended action: keep distance
- Covid Condition: 3
-



Feedback page:

5. Snapshots of all important DB tables

Incident Metrics Tables

Covid Metrics

Covid_Metrics	
	Columns
◆	health_metric_id
◆	cases_per_100k
◆	deaths_per_100k
◆	recorded_at
◆	fk_covid_county_id
◆	covid_condition
◆	recommended_action

Security Metrics

Security_Metrics	
	Columns
◆	security_metric_id
◆	fk_security_county_id
◆	security_concern_type
◆	security_action_description
◆	incident_status
◆	recorded_at
◆	crime_cases

Weather Metrics

Weather_Metrics	
	Columns
◆	weather_metric_id
◆	fk_weather_county_id
◆	extreme_condition_type
◆	recommended_actions
◆	recorded_at
◆	weather_condition

Wildfire Metrics

Wildfire_Metrics	
	Columns
◆	wildfire_metric_id
◆	fk_wildfire_county_id
◆	incident_description
◆	incident_cause
◆	acres
◆	incident_status
◆	incidentContainment
◆	recorded_at
◆	last_updated_at
◆	evacuation_status

User Related Tables

User

Users	
	Columns
◆	users_id
◆	full_name
◆	username
◆	email
◆	password
◆	user_type
◆	registration_date
◆	last_login
◆	fk_county_id
◆	fk_department_id

Roles

▼	Roles
▼	Columns
◆	role_id
◆	role_name

Other

Department

▼	Departments
▼	Columns
◆	department_id
◆	department_name
◆	department_location

Alerts

▼	Alerts
▼	Columns
◆	alert_id
◆	fk_alerts_county_id
◆	alert_message
◆	fk_triggered_by

▼	Counties
▼	Columns
◆	county_id
◆	county_name
◆	state
◆	population
◆	county_status
◆	county_longitude
◆	county_latitude

Counties

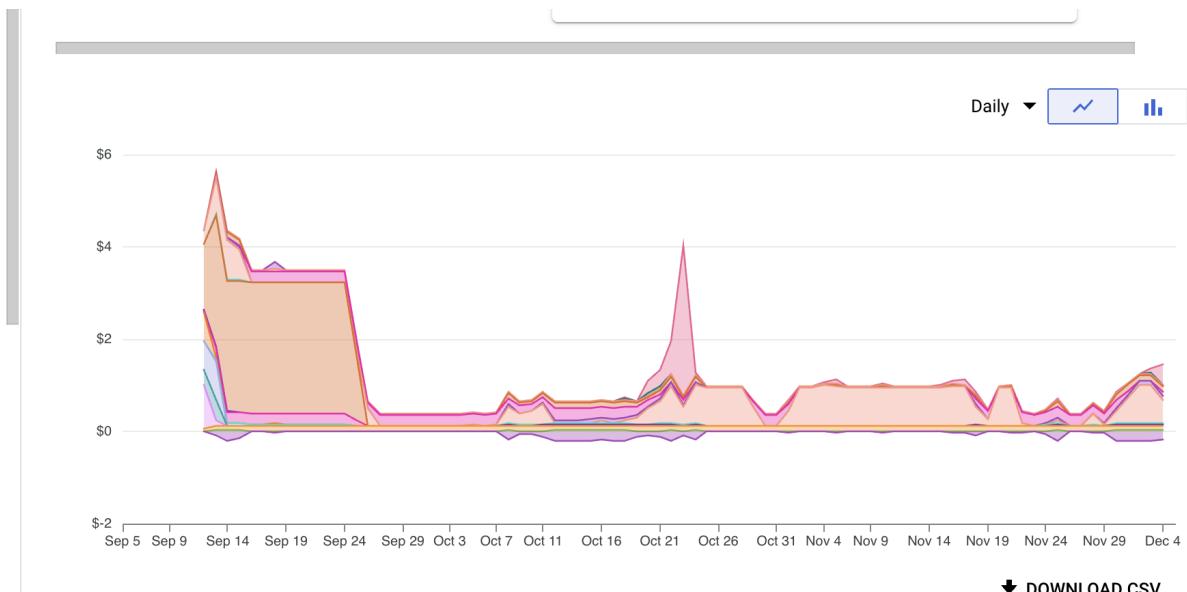
Posts



Comments



6. Google analytics plot for your WWW site (1page) - team leader



8. Team member contributions (ScreenShots):

Trina Haque:

The screenshot shows an email from Trina Haque to her team members. The subject is "My Contribution to the Project". The email body starts with "Hello guys," and "Below is the email with my contribution to the project." It then lists two points: a) and b). Point a) details her work on documentation, security protocols, vertical prototypes, backend development (login/registration, search/filter, messaging), attending team meetings, and adding validations. Point b) states she made over 200 commits with over 50,000 lines of code on GitHub. The email is timestamped at 4:57 PM and is in the "Inbox - Exchange" folder.

TH Trina Haque
My Contribution to the Project
To: Ameen Safi, Dev Madhvesh Patel, Chih-Lin Chien, Fasika Abera, Himal Shrestha

Inbox - Exchange 4:57 PM

Hello guys,

Below is the email with my contribution to the project.

a)

1. I always completed my part of the documentation when we divided up the documentation works. For example, writing up about how we implemented security protocols for our site.
2. I worked on most of the vertical prototypes.
3. For the technical work, I mainly worked on the backend such as login/registration, search/filter, and messaging.
4. I also attended most of the team meetings.
5. I added validations for all our forms and inputs.

b)

Number of submissions made to github: I made over 200 commits with over 50,000 lines of codes.

Thanks,
Trina Haque
Id: 920863317

Fasika Abera:



Fasika Abera

To: Ameen Safi; Trina Haque; Himal Shrestha; Chih-Lin Chien; Dev Madhvesh Patel



Tue 12/5/2023 5:46 PM

Hi team,

As a Database Lead in our project, here is a brief summary of my contribution.

A.

- Designed and created the project's database, comprising over ten interrelated tables
- Collaborated with front-end and back-end teams to identify and to promptly address any technical challenges related the database
- Contributed to project milestones, including write-ups for example, documentation for database schema and design and others over the course of the project as assigned by team lead
- Participated in team's slack discussions and online or in-person meetings
- Addressed feedback from front-end and back-end teams and incorporated necessary modifications to the database in a timely manner

B.

- My primary work was done through SQL workbench. The database queries/connections were submitted to GitHub by the back-end team.
- Personally made three code submissions related to the About Us page

I enjoyed working with each one of you and learning from you. Thank you for all the contributions you've made for this project.

Best Regards,
Fasika Abera

Ameen Safi:

My Contribution to the Final Project



Ameen Safi

To Chih-Lin Chien; Trina Haque; Dev Madhvesh Patel; Himal Shrestha; Fasika Abera



As team lead I accomplished the following:

- Facilitating the overall planning process of the direction to go in for our website
- Resolving confusion regarding what next steps to take in the implementation of the website, when it was hard to decide what to go with.
- Held people accountable for their contributions
- Served as a support for backend engineer team
- Helped managed the Google Cloud platform usage of our team's deployment server
- Served as a communication bridge between the team and the CEO/Professor.

I made over 100 commits on github. Made contributions to frontend and backend, as well as server-side folders in the repository.

-Ameen Safi
920689065

Himal Shrestha:



Himal Shrestha

My contribution to the project

To: Ameen Safi, dpatel13@mail.sfsu.edu, cchien2@sfsu.edu, fabera@sfsu.edu, thaque@mail.sfsu.edu

Hello Team,

Here are the list of my contribution to the group project.

a)

1. Completed documentation part that was divided among us.
2. Worked mostly in backend part for weather and wildfire form
3. Worked on user profile part, allowing user to edit their username and email, and updating it on the server side as well.
4. Attended most of the team meetings

b)

Number of submission made to github team dev: made over 50 commits

Thank You Kindly,
Himal

Dev Madhvesh Patel:

DP Dev Madhvesh Patel

To: Ameen Safi

Cc: Chih-Lin Chien; Trina Haque; Fasika Abera; Himal Shrestha

Hello guys,

Below is the email with my contribution to the project.

a)

1. I always completed my part of the documentation when we divided up the documentation works. For example, writing up about summary of the product.
2. I was assigned the role of GitHub master so I worked as a GitHub master and also worked as a frontend support
3. For the technical work, I mainly worked on the front end like forms and UI for login, registration, index, dashboard, profile page
4. I also attended all of the team meetings.
5. I also work as a scrum master as I used to schedule meetings and send the availability link to schedule and also reserve the room in the library for the meeting.

b)

Number of submissions made to github: I made over 40 commits

[Reply](#) [Reply all](#) [Forward](#)

Chih Lin Chien:

My Contribution to the Project

CC **✉ Chih-Lin Chien <cchien2@sfsu.edu>** Today at 5:42 PM
To: ✉ Ameen Safi; ✉ Trina Haque; ✉ Himal Shrestha; ✉ Dev Madhvesh Patel; ✉ Fasika Abera

My contributions to team project and teamwork:

a.

1. I set up the Google Cloud so that each group member can use the VM and database, and I deployed the code from localhost to Google Cloud. I complete milestone that our team lead assign to me.
2. I solve the SSH connection between database and the VM.
3. I made the UI for index, dashboard, and fix the UI for the project.
4. I attend all the meetings on zoom or in person.
5. I also make the JavaScript for homepage and dashboard.
6. I deploy the map on the homepage.

b.

Number of submissions I made to GitHub team dev. branch : I made over 110 commits.

Thank you everyone!

Chih Lin Chien
922720315

9. Post analysis:

In about one - page team lead should summarize: a) main challenges; and b) what would he/she do better next time to address those challenges. Team lead should consult with team members before completing this. Please be honest in identify issues and mistakes, this will help your learning

