Final Project for SW Engineering Class
CSC648/848 Fall 2020

Company Name: The Dream Team
Application Name: Public Health and Safety in California

Section 02
Team 6

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12/01/2020

URL: sfsucsc648.com

2) Product summary: Please copy this section from M4 (it is put here again for completeness of M5)

Product name: Public Health and Safety in California by The Dream Team

Summary:
The application shows the Wildfire data and Covid data in the state of California. It will allow the counties Directors of Health and Fire Departments to enter metrics for both Covid and Wildfire with respective levels of evacuations. The public of california is able to search in the application by county and select the desired data to be shown (Covid, Wildfire or both) and have the ability to register and get alert messages when is time to shelter-in-place or evacuate for wildfire depending on the levels of evacuation. The Covid page has the information of number of cases per day, number of deaths per day, number of icu per day and number of hospitalizations per day displayed in a graph. The Wildfire page shows an interactive map where the wildfire data is shown and a table with the different wildfires registered with the information start date, end date, air quality level, evacuation level, area and if it is active.

Itemized list of ALL major committed functions:

- Search by county
- Info selection (Covid or Wildfires)
- Data Admin can input data information.
- Registration
- County Covid-19 data
- County Wildfire data
- Data filter
- Map interaction
- Alert system

The main appeal of our site is that it is a one stop shop for wildfires as well as coronavirus without having to sign up for several programs. It is also full state with options for which area to receive alerts. Map interaction will also help with visualization of data, this feature is often separate from actual alert systems.

URL: https://sfsucsc648.com/DataEntry

3) Milestone documents – M1-M4

M1 (09/22/2020):

Feedback:

ID	Item	Criteria	Feedback
01	Expected size of this document	About 7-10 pages	Good (21). Please add numbers to the pages.
02	Title Page	Format and Structure ● SW Engineering CSC648/848 Fall 2020” ● Section Number ● Team number ● Names of students and roles ● M1 ● History table (revision)	Good. Missing the history table (revision)
03	Executive Summary	~1 page. Why we should fund this project?	Good. 5 seniors or 6? “team of 5 Seniors” Be careful of over promise capabilities: “(A) This site shall implement search by location (counties, zip code, city).”

04	**Personas and main Use Cases**	**About 1/3 of a page per persona** **4-5 <u>main</u> *use cases*. Descriptive title and number to each use case**	**Good.** 1. **Scientific Advisor (George)** 2. **Emergency Coordinator (Kelly)** 3. **Retired Electrician (Phillip)** **Use cases need to be numbered to be easily identified.** ***Don Swanson* is part of the uses cases and is not described in the personas….**
05	**List of main data items and entities**	**Name, meaning, usage, etc.**	**Good. Nice tables!**
06	**Initial list of functional requirements**	**High level functions you plan to develop**	**Good. 13 requirements. I like the organization of the requirements using tables.**
07	**List of non-functional requirements**	**Performance, expected load, security requirements, storage, availability, fault tolerance**	**Good. (14) Those included in the project documentation. That's good.**
08	**Competitive analysis**	**3-4 competitive products**	**Good.**
09	**High-level system architecture and technologies used**	**Itemized list of all main SW components**	**Good.**
10	**Team and roles**	**List student names**	**Ok. Why only 4 members. Interesting, first page has 6, exec summary 5 and this section 4. Please be consistent.**

11	**Checklist**	**Answers to the items**	**Ok. You should identify which items are done and which ones are on track.**

1. Executive Summary

2020 has been a rather historical year for many California residents. First facing the global pandemic, COVID-19 swept through the state infecting almost 700,000 residents and causing over 15,000 deaths. Then we have huge wildfires burning through hundreds of miles of our valued forest, destroying homes, property and most importantly infecting our air. It can be said that california is faced with a very difficult task and that is to keep everyone safe. Right now california and the residents need to stay informed of what is happening around them so team of 6 Seniors came together and formed a company that would address this problem by creating a web based application that would provide the residents and officials of California with useful information.This app would be centered the data from wildfires and COVID-19 , that could be pinned on a map containing all the counties in california. The application's data would be administered by higher ranking officials such as director of public health and Fire chief's in all 58 counties.The data that we will monitor for COVID-19 includes metrics in number of cases per 100k, deaths per 100k, spikes in cases, number of ICU cases and levels of danger (shelter in place) in each individual county or collective counties near the user.For monitoring data in wildfires we will focus on data such as air quality, area of burn, contamination, start date, active fires, and levels of evacuation.The application will have many functionality than just displayed data, (A) This site shall implement search by location (counties, zip code, city). (B) User's shall be able to filter through the data to see what they are most concerned about.(C) User's shall be able to interact with the map on the application to see a representation of the data. (D) User's could switch between seeing COVID-19 or Wildfire data. (E) The site will be able to receive trending news on specific california COVID cases or wildfires.(F) Be able to register users for an account that will have their personal location. (G) Be able to send them alerts when there is a unsafe level in wildfires or COVID-19 (evacuation levels or shelter in place orders).Our data administrators (health and fire officials) would be able to trigger an alert when there is a high level concern about certain counties or there are order of shelter in place or evacuation to registered users.Any misuse of the application would be ultimately monitored by a site administrator that would review any items or user's before going on the site live.

There are many news outlets and mobile applications on the market that are able to fulfill similar functionality that we aim to bring but with limited functionality and only one side of the data (COVID-19 or WildFires). The main appeal of our application would be a centralized bridge on both COVID-19 and Wild Fire data, user's would

not have to sign up for individual services to keep up to date with what is happening around them. The site functionalities and design on the application will be tailored towards the needs of a user while still making it very friendly and fast.

2. Personas and main use cases

With the magnitude and complexity of tracking the progression and potential risk of both the state wildfires and global pandemic, efficiency is paramount and in order to make this platform as effective as can be we must identify the most likely users and their needs. In short we will be identifying the personas and the main use cases for them and identify common personal responsibilities and power they hold in their communities to combat these life threatening obstacles to the people of California. We will be focusing on three personas and their main use cases as we believe the scope and overlap of what these personas would utilize our platform also would cover the functionality that would be desired and used by the average person maximizing the applicative uses for specialists and the average person.

George Pines

George is a scientific advisor who works with the California governor Gaavin Newsom. He specializes in infectious disease is mild tempered but not afraid to take drastic action when it comes to pandemics. His main responsibilities is to evaluate the spread of infectious diseases and formulate strategies to combat the spread and suggest them to the governor. One point of contention he has when it comes to new software tracking tools are the accuracy and reliability of the data recorded on platforms that allow access to anyone. These sometimes bring unqualified people reporting data that is inaccurate and muddies the overall picture of the fight against the disease.

Kelly Batswana

Kelly is an emergency coordinator for the fire departments of the greater Los Angeles area. She keeps track of local and state fires and how much of them are under control. She is reliable and can operate under pressure in complex situations as her job requires. She does this in order to manage the resources of the local stations in case a large blaze comes towards Los Angeles and determines if outside help from other departments and agencies is needed. One point of pain for Kelly was that in the past other platforms she has worked with to track fires were painfully slow and when dealing with fires that can change within the hour due to wind patterns or something outside her control the speed of reports are paramount.

Phillip Coers

Phillip is a retired electrician who lives in Oakland to be close to his family. He has had two heart surgeries and suffered from a severe case of pneumonia a few years back. He is a well meaning person who spends his time with his grandchildren. Due to his medical past Phillip keeps track of flu season and any other infectious diseases in order to prepare a self quarantine as he does periodically to protect himself and with covid 19, hsi family. Phillips main point of contention when using

past platforms to keep an eye on infections in his area was the ease of use. He was mainly concerned with his local community but the UI was often a nightmare in order to find his local community.

Use Cases

George Pines is preparing for his biweekly meeting with the governor and his advisory team in order to determine if any state wide changes need to be made for the Coronavirus guide lines. George will be using our platform to check the daily cases reported for each county and compare them to last weeks along with the graph that shows a trendline of active cases for the past three months. George can also check which counties active cases are on the decline and if there are counties with cases on the rise. After the meeting and having presented his suggestions based on the data from the past few weeks George takes the new suggestions to the guidelines and submits them to an administrator on the platform in order to update the FAQ page on the platform for those looking for information from the state government.

Kelly Batswana has been keeping track of the fires burning North and South of Los Angeles county and is about to go on a zoom call with the heads of the local departments. She will be collecting info from them on local fires and with the fires outside the county warns the department heads to prepare to battle these fires if they get closer to the county Line. Kelly also has set automatic alarms on the platform to alert her if the fires enter adjacent control and if the percentage controlled reported by those counties rises above 30%. Kelly is able to see the surrounding counties with fires and the percentage controlled long with an overlay of current weather projections and wind conditions. Kelly has an upcoming meeting with the Governor in order to determine if additional aid and funding will be needed and is determining this based on reporting on the platform.

Phillip Coers is trying to determine how he will handle the pandemic. He is keeping an eye on the total cases in the state and his county. He is concerned with how easily it spreads as there has been a lot of misinformation flying around so he checks the platforms FAQ page. He sees that people in his age group are especially susceptible and that cases locally are on the rise. Using this info he determines to stay with his daughter and her family to ride it out and before he leaves he uses the platform to find a local testing center to make sure he's ok before he goes to stay with them as they have young kids.

Don Swanson is the superintendent of the San Francisco school district and is trying to determine whether to continue distance learning into the next semester. He checks the platform for any new guidelines from the state to follow and check the trend of the active cases in the state for the last month. He specifically looks for any info on infection rates by age group and sees that children while still able to become infected do so at a lower rate than adults. He sets a notification for any guidelines or state news that comes out and will check periodically up until the moment he makes

the decision while considering the trend line and projected trend line from the start of the pandemic and a month forecast based on past infection cases.

3. List of Main data items and entities

USER - Informations about a registered user		
id	UUID / CUID	Auto generated by My SQL
firstname	String	User’s first name
lastname	String	User's last name
email	String	Unique user email address used for the login

password	String (encrypted)	Encrypted user password used for the login
phone	String	User's phone number
address	addressId	User’s address needed for relaying relevant and useful information

ADDRESS - Detailed location		
id	Int	Auto incremented by My SQL
county	countyId	Location’s county
zipcode	Int	Location’s zip code
city	String	Location’s city
street	String	Location’s street
number	Int	House number

COVID		
id	Int	Auto incremented by My SQL
date	timestamps	Date of the metrics
cases	Int	Number of new cases at this date
deaths	Int	Number of deaths at this date
county	countyId	Metrics location
icu	Int	Number of ICU at this date
hosp	Int	Number of hospitalizations at this date

FIRE		
id	Int	Auto incremented by My SQL

startdate	timestamps	Start date of the fire
endate	timestamps	End date of the fire
aqi	Int	Air Quality Index
EvacuationLevel	Int	Emergency level
county	countyId	Fire location
area	Float	Area of burn (ha)
active	Boolean	Is the fire still active

COUNTY		
id	Int	Auto incremented by My SQL
population	Int	Total population of county
name	String	Name of County
area	Float	Total County area (ha)

4. Initial list of functional requirements

ID	FR01
Title	Search by county
Type	Functional requirement
Description	Search implementation shall be available to the user so that they can look through data
Examples	A user shall be able to search for data based on several key inputs.

ID	FR 02
Title	Data filter
Type	Functional requirement

Description	Users shall choose what data is shown in the map
Examples	“User1” wants to search in the map only by air quality so he selects the option of the air quality filter and in the map is only shown that type of data.

ID	FR 03
Title	Registration
Type	Functional requirement
Description	User’s shall register to the application to see the data of wildfires and COVID-19 Metrics
Examples	After user’s makes an account they can see all the data and access to other features

ID	FR 04
Title	Alerts
Type	Functional requirement
Description	Users shall get alert messages when it is time to shelter in place or evacuate due to a wildfire.
Examples	Ex1: There is a high spike of COVID-19 cases in your county and there is a shelter in place order taken. Our application will be able to send an alert regarding the shelter in place. Ex2: Wildfires are happening near your area, the application will be able to send you an alert for evacuation.

ID	FR 05
Title	Data Admin’s
Type	Functional requirement
Description	County directors or health and fire departments shall be able to enter metric numbers as COVID-19 number of cases per 100k, death per 100k and number of fires in the county with respective levels of evacuation (L1, L2, L3).

Examples	Data Admin can input all data information that they have available into our site of covid-19 and wildfires per county.

ID	FR 06
Title	Site Admins
Type	Functional requirement
Description	The site shall have admins who will be able to trigger the alerts according with state guidelines (either shelter in place or evacuation) They will be able to approve items before they go live on the site They can delete inappropriate items or user's
Examples	Country order's a shelter in place, site admin will be able to trigger a alert sent to all users that are registered for alerts Incorrect items are listed on the site, site admin shall be able to take them down User's are sending inappropriate information, site admin shall be able to delete user's

ID	FR 07
Title	Map interaction
Type	Functional requirements
Description	In the user interface we shall include a map that user's shall be able to interact with to have a better experience looking at data
Examples	The user shall select a county in the map and the information about the county will show in the screen

ID	FR 08
Title	Covid-Wildfire selection
Type	Functional requirement
Description	Application shall have the capability of being able to switch data from covid to wildfire, vice versa and have it

	accessible to the user.
Examples	The user shall select the option between Covid statistics or Wildfire statistics and it will change the interactive map and data.

ID	FR 09
Title	Covid Alerts
Type	Functional requirement
Description	The Site admin shall trigger the alerts to the users when there are more than 5k per 100k cases of covid
Examples	Sudden increase spike in covid cases, site admin sends out alerts to those who are registered within the same area of the spikes.

ID	FR 10
Title	Wildfire alerts
Type	Functional requirement
Description	The Site admin shall trigger the alerts to the users when the level of evacuation L3 is reported
Examples	Wildfires emerge, those who are in similar proximity receive an alert on the severity of the evacuation.

ID	FR 11
Title	Twitter news
Type	Functional requirement
Description	The page shall show the latest tweets from different accounts related to the Government of California.
Examples	@CAPublicHealth @CAgovernor

ID	FR 12
Title	County Covid data
Type	Functional requirement
Description	The page shall show the number of new cases per 100k, the new deaths per 100k, the accumulative cases, the accumulative deaths, number of hospitalization cases, number of ICU cases and the web of the county health department.
Examples	Once the user selects a county all the data must be shown

ID	FR 13
Title	County Wildfire data
Type	Functional requirement
Description	User's shall have current data and historical data that shows all the different levels of evacuations among all counties,
Examples	User's shall be able to access the earliest data available in a certain county

5. List of non-functional requirements

ID	NFR 01
Title	Login identification
Type	Non functional requirement
Description	All users that want to log in shall introduce a username or an email, and a password
Examples	A user that is already registered,wants to log in, the user has to identify correctly with the username or email and the password.

ID	NFR 02

Title	Email verification
Type	Non functional requirement
Description	Once the user is registered, to verify a proper email address from the public, the application may require email confirmation as they received an email from the system.
Examples	A user that has registered has to verify his email before the user can receive alerts and notifications

ID	NFR 03
Title	Non logged users
Type	Non functional requirement
Description	User’s can still get functionality of the site without having to sign in
Examples	Users that have not logged in can only access to the map data

ID	NFR 04
Title	Web compatibility and optimization
Type	Non functional requirement
Description	Application shall be optimized for standard desktop/laptop browsers e.g. must render correctly on the two latest versions of two major browsers
Examples	User’s can use any browser to access the application

ID	NFR 05
Title	Mobile devices compatibility
Type	Non functional requirement
Description	Selected application functions must render well on mobile devices
Examples	User’s shall be able to access the application from iphone

	and android phones with a similar experience to using it from a website

ID	NFR 06
Title	Availability
Type	Non functional requirement
Description	Site will be available to all, on a 24/7/365 basis
Examples	If user's want to use the application at 3am in the morning, they are able to do so.

ID	NFR 07
Title	Performance
Type	Non functional requirements
Description	The speed of the site shall be in a moderate to fast
Examples	User's shall not have to wait more than 5 seconds for a response time from the server

ID	NFR 08
Title	Data storage
Type	Non functional requirement
Description	All data shall be stored in MySQL database running inside a Docker container on the server
Examples	All the data in the application has to be stored in the server's database

ID	NFR 09
Title	Historical data
Type	Non-functional requirement

Description	User’s shall have option to be able to look at the earliest data available on the application
Examples	User’s can search for data from a year ago

ID	NFR 10
Title	Low system requirements (Hardware)
Type	Non Functional requirements
Description	User’s shall be able to use a underpowered device or a slow internet connection and still have reasonable response times from the application
Examples	Server Side rendering allows users to receive a static web page that is fast and lightweight

ID	NFR 11
Title	Security
Type	Non functional requirement
Description	The page shall use Let's Encrypt for SSL certificates to enable HTTPS
Examples	User’s shall not have to worry about signing into a vulnerable site without proper security measures

ID	NFR 12
Title	Usability
Type	Non Functional requirements
Description	Application shall be very easy to use and intuitive for everyone to use.
Examples	The application can be used by people of every age so it must be as easy and intuitive as possible so everybody has access to the data provided by the application.

ID	NFR 13
Title	SFSU Project
Type	Non Functional requirements
Description	The website shall prominently display the following exact text on all pages "SFSU Software Engineering Project CSC 648-848, Fall 2020. For Demonstration Only" at the top of the WWW page.
Examples	This must be displayed so it is not confused with a real application

ID	NFR 14
Title	Different language option
Type	Non functional requirement
Description	The page shall be developed in English but it can have an option for spanish speakers
Examples	Since in california there are a lot of spanish speakers the page must be in both languages

6. Competitive Analysis

PublicAlerts Wildfire
https://www.publicalerts.org/hazards/wildfire-2020

Text Alerts from SFgov
https://sf.gov/get-text-alerts-about-coronavirus

WildFire App
https://play.google.com/store/apps/details?id=io.wildfireapp.wildfire&hl=en_US
https://apps.apple.com/us/app/wildfire-local-breaking-news/id1046411483

Features	The Dream Team	Wildfire App	SFgov	PublicAlerts
Corona alerts	yes	yes	yes	no

fire alerts	yes	no	no	yes
Alerts for all of California	yes	yes	no	yes
Authentication of alert information	yes	no	yes	yes
Map Interaction	Stretch goal	no	no	yes
Twitter Integration	yes	no	no	no

The main appeal of our site is that it is a one stop shop for wildfires as well as coronavirus without having to sign up for several programs. It is also full state with options for which area to receive alerts from so you can select several areas if you are worried about loved ones who may live in different parts of the country. The information will be straight from government officials instead of other citizens which can be less reliable and credible. Map interaction will also help with visualization of data, this feature is often separate from actual alert systems. Twitter integration is also a very important feature as Twitter is a very quick source for information right now.

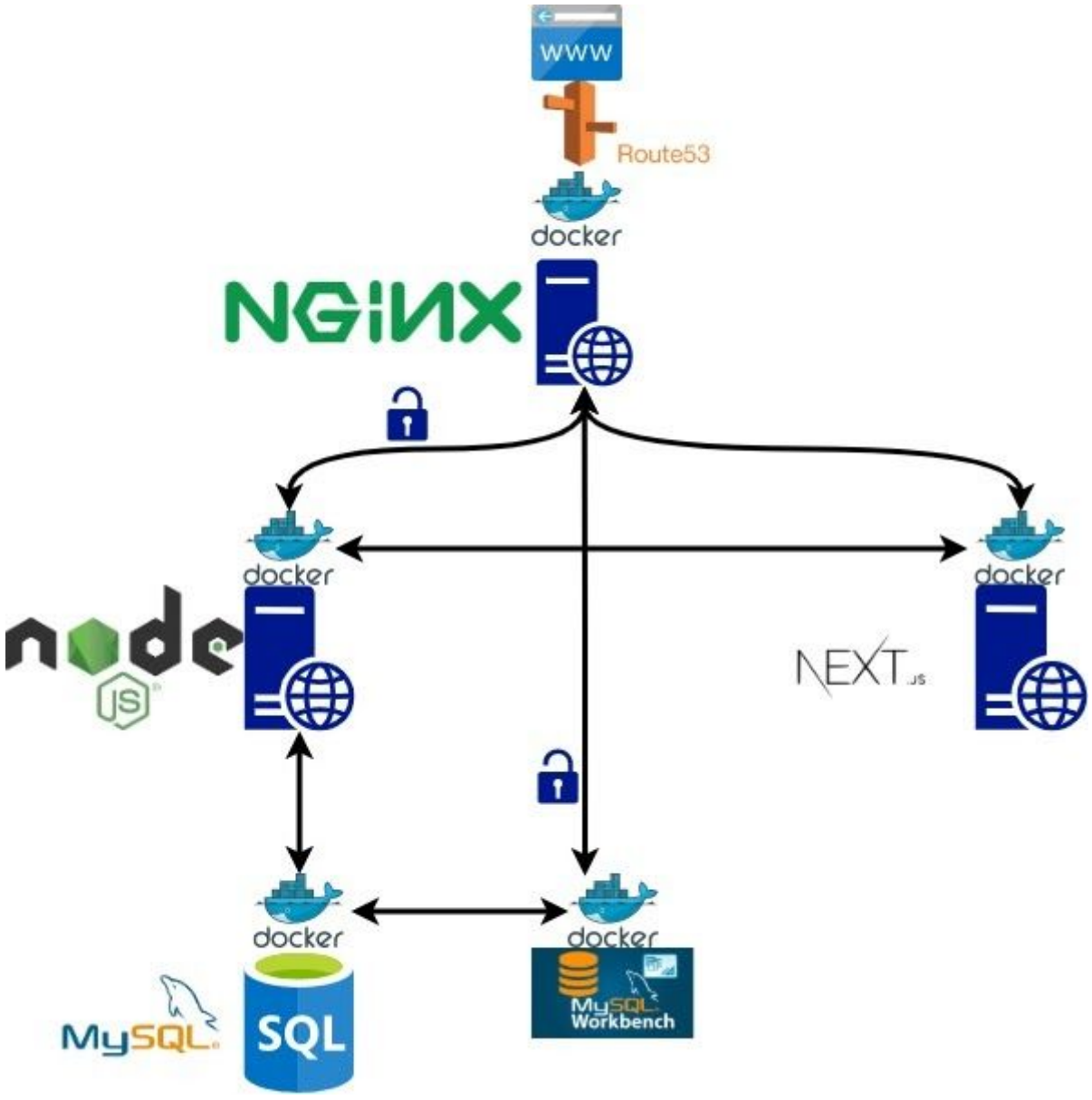
7. High-level system architecture and technologies used

Our application uses a NEXT.js frontend, a Node.js backend, and a MySQL database as its primary layers. All software components are encapsulated within Docker containers for ease of access, ease of deployment, and enhanced security. This results in an application that can be easily scaled and redeployed. An entire software stack can be configured and deployed on AWS Fargate with a single command. The application is currently deployed on a single AWS EC2 instance running Amazon Linux 2, but the application setup would enable easily scaling up using technologies such as Docker Swarm. A full list of frameworks and software tools used is below:

- AWS EC2 instance for cloud deployment
- AWS Route53 domain mapping and DNS management
- Docker containers for major software components
- NGINX web server and load balancer running inside a Docker container
- Let’s Encrypt for SSL certificates to enable HTTPS*
- NEXT.js frontend running inside a Docker container
- Node.js backend running inside a Docker container
- MySQL database running inside a Docker container

- MySQL Workbench for database administration, also inside a Docker container

A diagram of the application architecture is below.



Typical end user HTTP and HTTPS traffic is initially routed through Route53 to the NGINX container, where it is further routed to the NEXT.js frontend or the Node.js backend. Site administrators with proper authentication can also access the MySQL Workbench container through the NGINX container.

Requests involving database access proceed first through the Node.js backend, then to the MySQL container. County employees have expanded access to the backend to perform operations such as updating COVID counts or uploading fire data, but do not have site administrative access.

8. **Team and Roles**

Team Lead: Lauren Wong
Github Master: Duy Nguyen
Backend Lead : Nate Munger
Front End Lead: Yann Sainson
Full Stack Developer: Jair Gonzalez
Support: Alvaro Maroto

9. **Checklist for each item below:**
    - Team found a time slot to meet outside of the class
    - Github master chosen
    - Team decided and agreed together on using the listed SW tools and deployment server
    - Team Ready and able to use the chosen back and front end frameworks and those who need to learn are working on learning and practicing
    - Team Lead ensured that all team members read the final M1 and agree/ understand it before submission
    - Github organized as discussed in class (e.g master branch, development branch, folder for milestone documents etc.)

M2 (10/06/2020):

Feedback:

ID	Item	Criteria	Feedback
00	Expected size of this document	About 20-25 pages	19 pages
01	Functional Requirements - prioritized	Expand or repeat functional requirements from Milestone 1 into Milestone 2 w/ reference numbers (1-*must have*; 2 – *desired*; 3 – *opportunistic)*	On Track. From 21 functional Reqs. Counted on M1, I see 13 in this M2 and 9 P1s from them. It is good.
02	UI Mockups and Storyboards (high level only)	All major use cases from M1. Format is very flexible, recommend hand drawings	On Track. Good mockups and storyboards. Need to add some description to identify use case.
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. *Media storage,* APIs (if any), algorithm and SW tools	On Track. Good db organization.
04	High Level UML Diagrams	*HL Class diagrams, and Component and deployment*	On Track. Good, I like the handwritten UMLs.
05	Key risks for your project at this time	Skills, schedule, technical, teamwork, legal/content	On Track. Skills: good, you are helping each other using zoom-discord. Schedule: diff. time zone is real life. Teamwork: ALL members need to collaborate, let me know if I need to intervene.

06	Project management	No more than half a page how you managed and plan to M2 and future tasks. Must start using Trello or similar tools for task management	On Track. Using Space/Discord. Good you are meeting every Friday. Ö

1. Functional Requirements - prioritized

Priority 1:

Admin:

ID	FR 05
Title	Data Admin's
Type	Functional requirement
Description	County directors or health and fire departments shall be able to enter metric numbers as COVID-19 number of cases per 100k, death per 100k and number of fires in the county with respective levels of evacuation (L1, L2, L3).
Examples	Data Admin can input all data information that they have available into our site of covid-19 and wildfires per county.
Priority	1- must have

ID	FR 06
Title	Site Admins
Type	Functional requirement
Description	The site shall have admins who will be able to trigger the alerts according with state guidelines (either shelter in place or evacuation) They will be able to approve items before they go live on the site They can delete inappropriate items or user's
Examples	Country order's a shelter in place, site admin will be able

	to trigger a alert sent to all users that are registered for alerts Incorrect items are listed on the site, site admin shall be able to take them down User's are sending inappropriate information, site admin shall be able to delete user's
Priority	1- must have

ID	FR 09
Title	Covid Alerts
Type	Functional requirement
Description	The Site admin shall trigger the alerts to the users when there are more than 5k per 100k cases of covid
Examples	Sudden increase spike in covid cases, site admin sends out alerts to those who are registered within the same area of the spikes.
Priority	1- must have

ID	FR 10
Title	Wildfire alerts
Type	Functional requirement
Description	The Site admin shall trigger the alerts to the users when the level of evacuation L3 is reported
Examples	Wildfires emerge, those who are in similar proximity receive an alert on the severity of the evacuation.
Priority	1- must have

User:

ID	FR01
Title	Search by county
Type	Functional requirement
Description	Search implementation shall be available to the user so

	that they can look through data
Examples	A user shall be able to search for data based on several key inputs.
Priority	1- must have

ID	FR 03
Title	Registration
Type	Functional requirement
Description	User's shall register to the application to see the data of wildfires and COVID-19 Metrics
Examples	After user's makes an account they can see all the data and access to other features
Priority	1- must have

ID	FR 04
Title	Alerts
Type	Functional requirement
Description	Users shall get alert messages when it is time to shelter in place or evacuate due to a wildfire.
Examples	Ex1: There is a high spike of COVID-19 cases in your county and there is a shelter in place order taken. Our application will be able to send an alert regarding the shelter in place. Ex2: Wildfires are happening near your area, the application will be able to send you an alert for evacuation.
Priority	1- must have

ID	FR 08
Title	Covid-Wildfire selection
Type	Functional requirement

Description	Application shall have the capability of being able to switch data from covid to wildfire, vice versa and have it accessible to the user.
Examples	The user shall select the option between Covid statistics or Wildfire statistics and it will change the interactive map and data.
Priority	1- must have

ID	FR 12
Title	County Covid data
Type	Functional requirement
Description	The page shall show the number of new cases per 100k, the new deaths per 100k, the accumulative cases, the accumulative deaths, number of hospitalization cases, number of ICU cases and the web of the county health department.
Examples	Once the user selects a county all the data must be shown
Priority	1- must have

ID	FR 13
Title	County Wildfire data
Type	Functional requirement
Description	User’s shall have current data and historical data that shows all the different levels of evacuations among all counties,
Examples	User’s shall be able to access the earliest data available in a certain county
Priority	1- must have

Priority 2:

ID	FR 02

Title	Data filter
Type	Functional requirement
Description	Users shall choose what data is shown in the map
Examples	“User1” wants to search in the map only by air quality so he selects the option of the air quality filter and in the map is only shown that type of data.
Priority	2 – desired

ID	FR 07
Title	Map interaction
Type	Functional requirements
Description	In the user interface we shall include a map that user’s shall be able to interact with to have a better experience looking at data
Examples	The user shall select a county in the map and the information about the county will show in the screen
Priority	2 – desired

Priority 3:

ID	FR 11
Title	Twitter news
Type	Functional requirement
Description	The page shall show the latest tweets from different accounts related to the Government of California.
Examples	@CAPublicHealth @CAgovernor
Priority	3 – opportunistic

2. UI Mockups and Storyboards (high level only)

Username

Date

Home Profile SignOut

Daily new cases:212

Monthly running total:12,235

Total active:456

SEND EMAIL

CHECK EMAIL

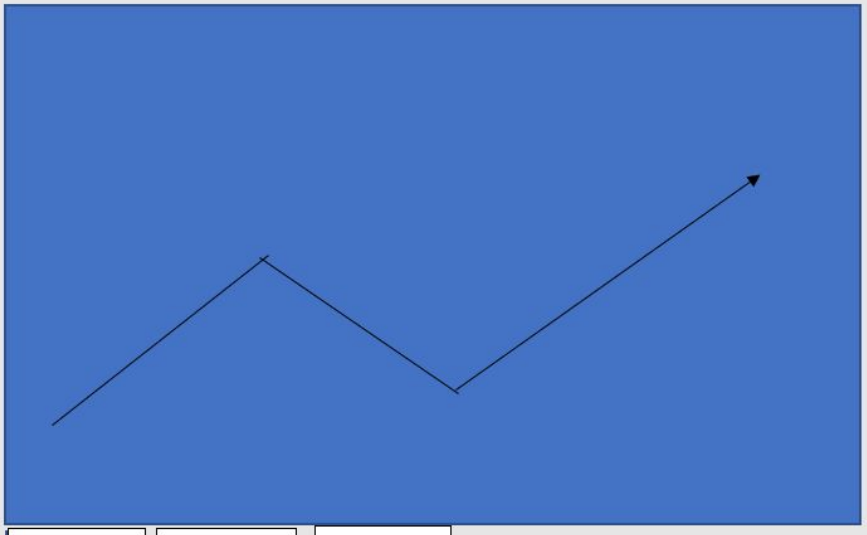
MEMOS

(THESE ARE ALL LINKS)

GEOGRAPHICAL ANALYSIS

GRAPHICAL ANALYSIS

Home Profile SignOut



OF CASES

% DAILY CHANGE

DEATHS

(THESE ARE INTERACTIVE BUTTONS)

ACTUAL

PROJECTED

NATIONAL AVERAGE

Home **Profile** **SignOut**

COUNTY	# OF CASES
County with most cases:	
County with most new cases:	
ALAMEDA:	56
SAN FRANCISCO:	22

MAP BY COUNTY

Home **Profile** **SignOut**

Counties

Map of county with testing centers

# of cases for county:

new cases:

County announcements (page link)

Home **Profile** **SignOut**

SANTA CLARA COUNTY

- STAY INSIDE
- CURFEW @ 10 PM
- BEACHES CLOSED

Home **Profile** **SignOut**

Blue box is map of California broken down into county for forest fires

Interactive map buttons

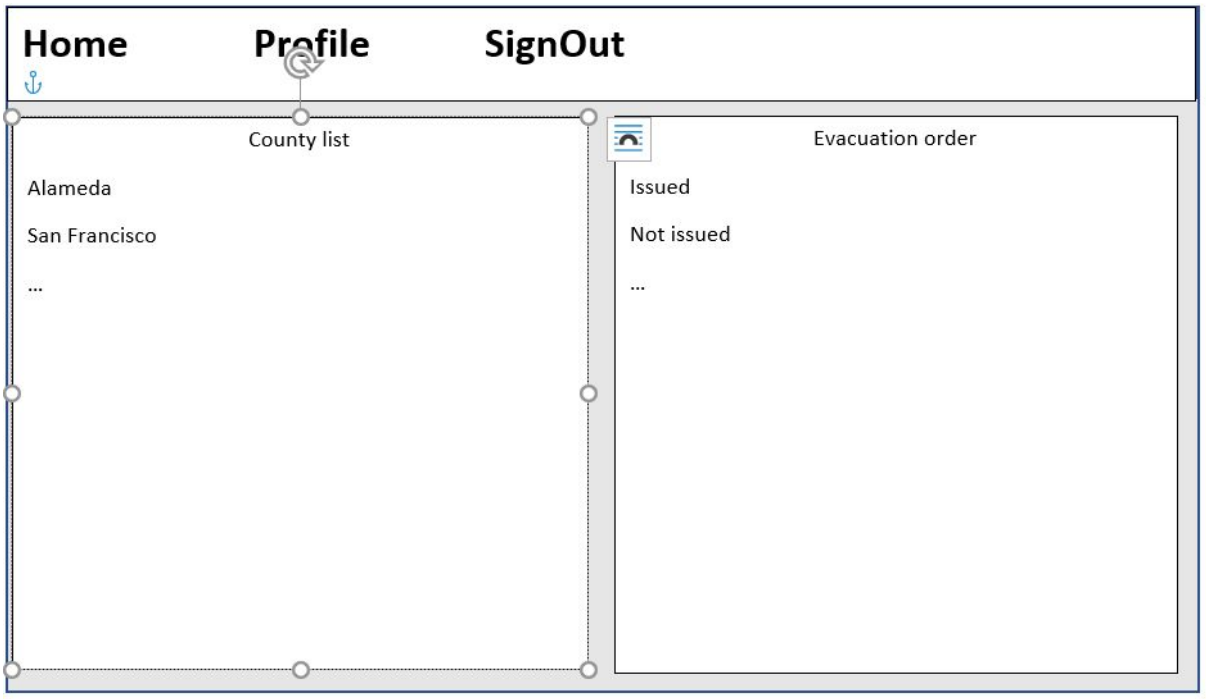
% fire contained

Counties Evacuated

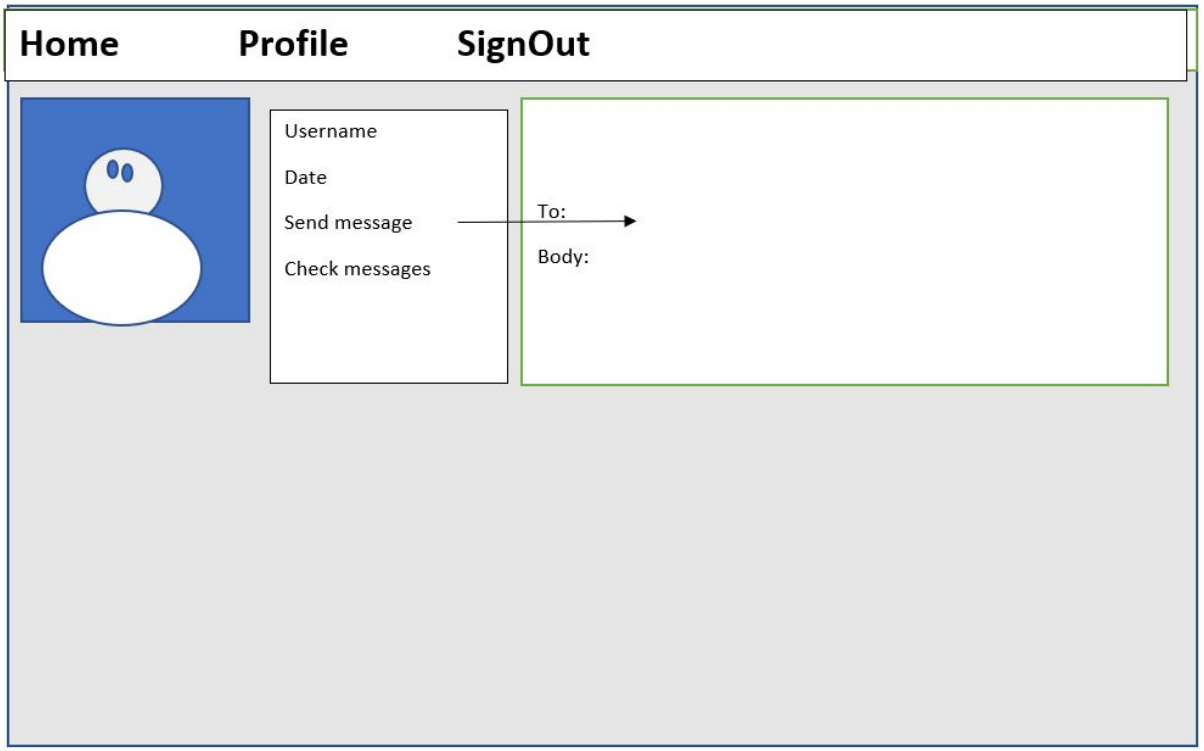
Danger level

Evacuation center address links

Evacuation order by county


Home
Profile
SignOut
County list
Alameda
San Francisco
...
Evacuation order
Issued
Not issued
...


Home
Profile
SignOut
County
fire % contained
San Francisco
12%
Map of surrounding counties for forest fires
Weather projections by county. Temp,wind speeds, fire warnings



3. Database Model Description

USER - Informations about a registered user		
id	UUID / CUID	Auto generated by My SQL
firstname	String	User’s first name
lastname	String	User's last name
email	String	Unique user email address used for the login
password	String (encrypted)	Encrypted user password used for the login
phone	String	User's phone number
address	addressId	User’s address needed for relaying relevant and useful information

type	String	Identifies whether user has regular access, data-entry access, admin, etc

ADDRESS - Detailed location		
id	Int	Auto incremented by My SQL
county	countyId	Location’s county
zipcode	Int	Location’s zip code
city	String	Location’s city
street	String	Location’s street
number	Int	House number

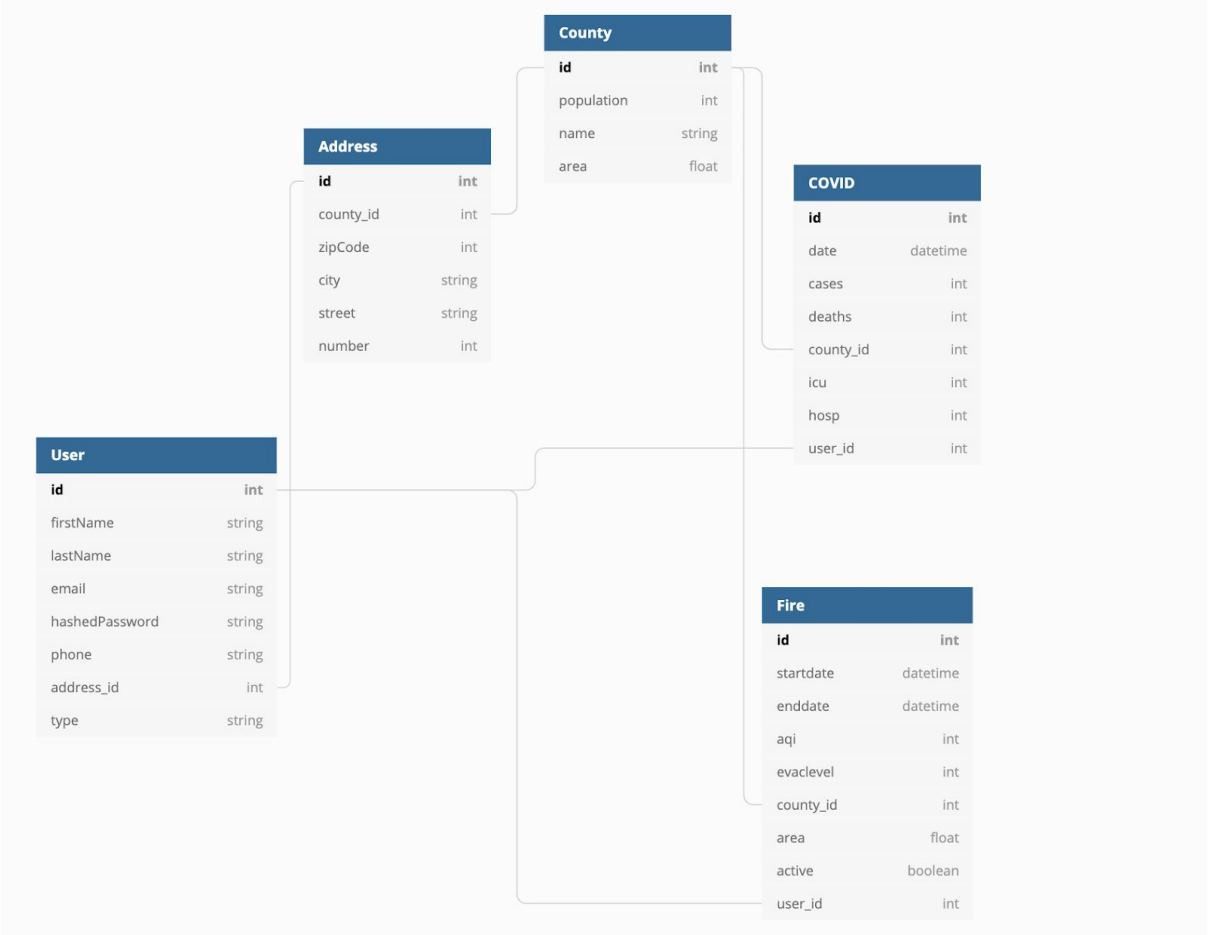
COVID		
id	Int	Auto incremented by My SQL
date	timestamps	Date of the metrics
cases	Int	Number of new cases at this date
deaths	Int	Number of deaths at this date
county	countyId	Metrics location
icu	Int	Number of ICU at this date
hosp	Int	Number of hospitalizations at this date
user	UserId	User who uploaded data

FIRE		
id	Int	Auto incremented by My SQL
startdate	timestamps	Start date of the fire
endate	timestamps	End date of the fire
aqi	Int	Air Quality Index

EvacuationLevel	Int	Emergency level
county	countyId	Fire location
area	Float	Area of burn (ha)
active	Boolean	Is the fire still active
user	UserId	User who uploaded data
name	String	Name of fire

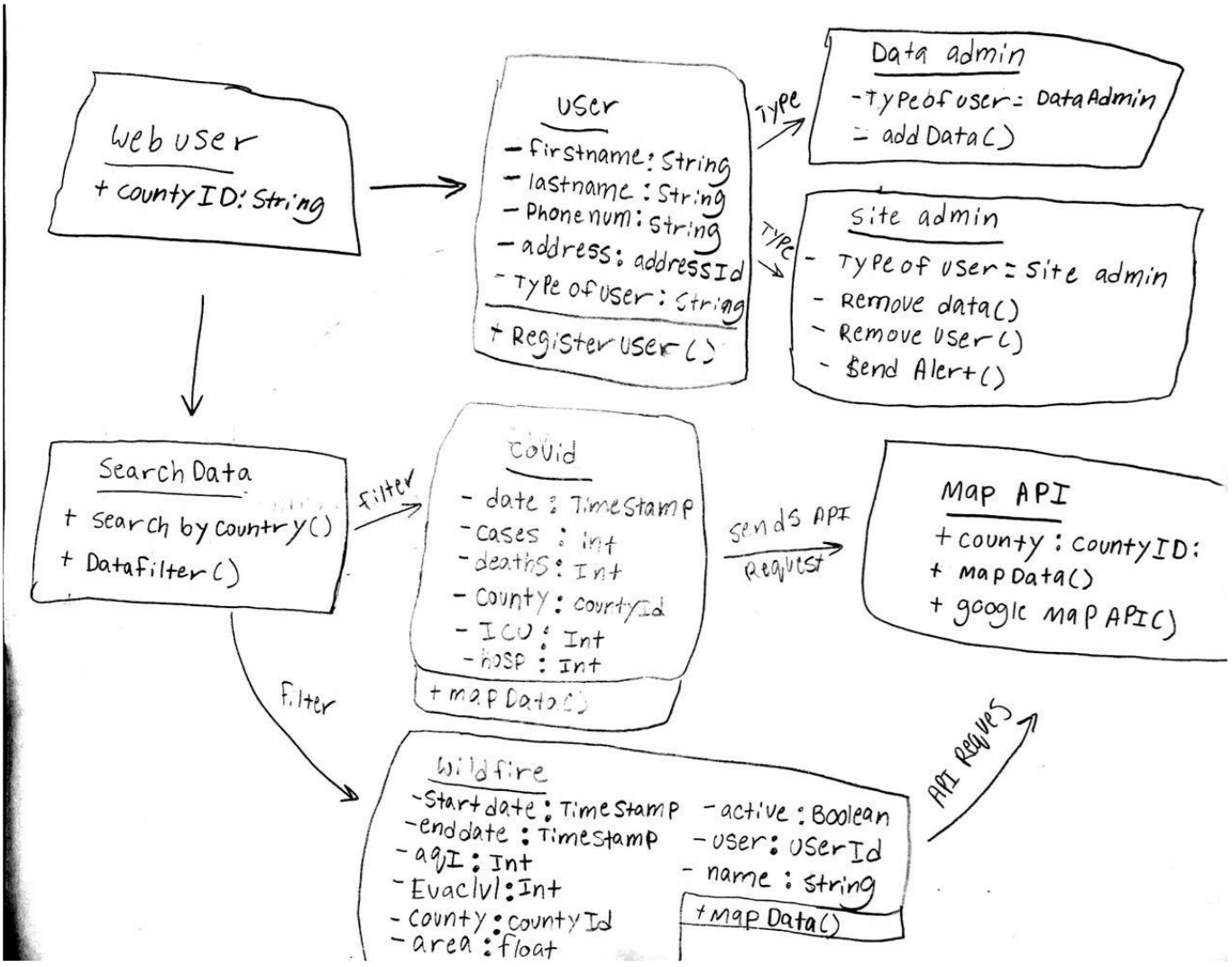
COUNTY		
id	Int	Auto incremented by My SQL
population	Int	Total population of county
name	String	Name of County
area	Float	Total County area (ha)
latitude	Float	Latitude
longitude	Flat	Longitude

Below is a diagram illustrating the relationships between schemas:

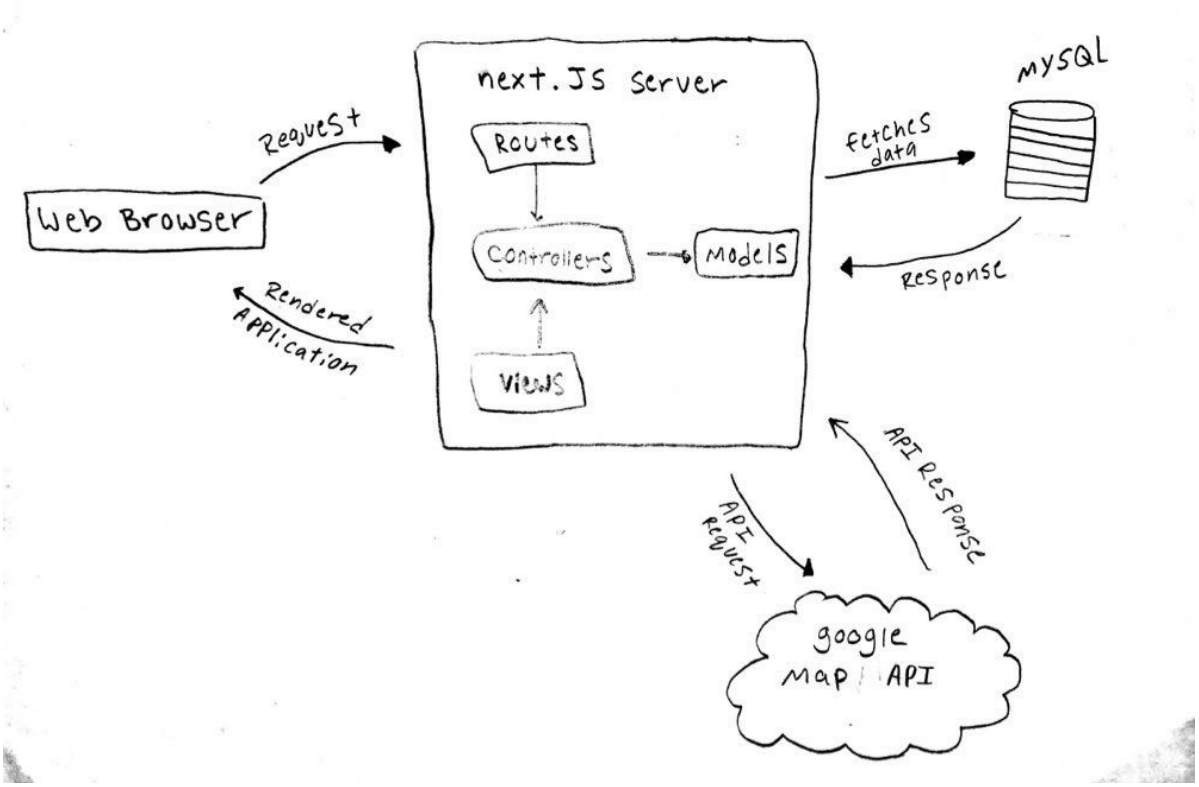


4. High Level UML Diagrams

a) *High-level UML class diagrams* for implementation classes of core functionality, i.e. functionality with provided interfaces. Focus on the main high-level classes only (one or at most two levels deep). This must reflect an OO approach to implementing your site

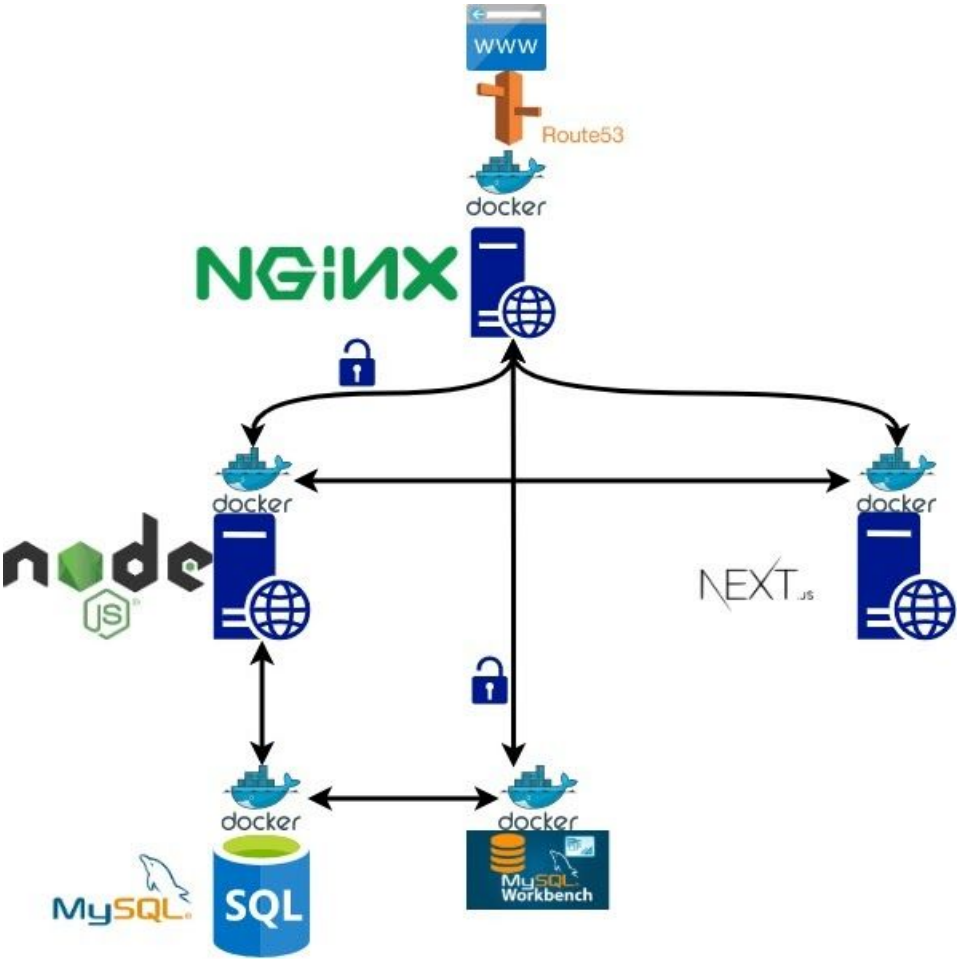


b) *UML Component and deployment diagrams*



Typical end user HTTP and HTTPS traffic is initially routed through Route53 to the NGINX container, where it is further routed to the NEXT.js frontend or the Node.js backend. Site administrators with proper authentication can also access the MySQL Workbench container through the NGINX container.

Requests involving database access proceed first through the Node.js backend, then to the MySQL container. County employees have expanded access to the backend to perform operations such as updating COVID counts or uploading fire data, but do not have site administrative access.



5 .Identify actual key risks for your project at this time

Skill Risks:

Members have expressed several risks:

-Not having worked with the chosen tools:
Read docs and help each other. Also use zoom or discord to do live meetings if some members have more experience than others.

-Not having deployed a website:
Again, read docs and ask other members for help. Find other outside resources.

-Difficulties with documentation:

Use tools that will help with documentation. Split up work between members but also come together to review

Schedule risks:

Risk: We have to deal with time differences.

Solution: Luckily we only have 2 time zones to deal with so it is not very hard to organize as long as we have clear communication. There need to be compromises as necessary. We need to be careful that everyone understands times of meetings in their time zone.

Teamwork risks:

Risk: “It works on machine”

Solution: Hopefully docker will help with this. Otherwise we just need to be willing to help each other and read documentation carefully.

Risk: Lack of communication or missed deadlines by certain members

Solution: We need to hold each other accountable. If someone is not communicating and/or missing deadlines there should be communication with them that they are not meeting expectations. As a last resort the CEO should be contacted.

Risk: Difficulties when it comes to the backend members communicating with the front end members and making sure things come together properly.

Solution: Make sure the setup and architecture are sound right from the beginning. Making sure to plan everything out before the actual coding. There may need to be extra meetings just dedicated to this.

Technical risks:

Risk: We are using many tools and they may interact in a weird way with each other.

Solution: Not quite sure yet, search the internet for solutions.

6. Project management

We will use Space, a tool released by Jetbrains, helping teams in collaboration and development processes for project management.

We are meeting every Friday to take stock on the project progression and assign tasks to each team member. In Space, we will define it as a weekly meeting so that everybody can see eventual changes.

We will also use Space for task management. We will create a checklist for every milestone. In Space, a task is called an issue.
Every issue has a title, a description, a definition of done, a status, a due date, and a checklist. Before every milestone, we will assign issues to every team member.

There is six status for an issue:

- **Backlog:** Issue identified but not in the scope for a milestone
- **Ready to dev:** Issue scoped for a milestone and assigned to a team member
- **In progress:** Issue started by the team member
- **In review:** Issue waiting for review (Github Pull Request)
- **Testing:** Issue merged in the development branch
- **Production:** The issue is done and merged on the master branch

We use Discord for communication. We defined various text channels such as #front-end, #back-end, #resources, and more, to organize our conversations.

M3 (10/20/2020):

Feedback:

ID	Item	Criteria	Feedback
01	UI and functionality feedback (P1 functions only)	- Test main use cases - Check functionality and record issues/observe bugs - Check UI and usability - Check if UI is responsive to change of browser size - Performance in page/image rendering, search - Verify enough WWW pages are implemented and connected	Needs improvement, work on the usability and the user experience (the searching and browsing flow)
02	Functionality Check	• Home page • Search (including search field validation) • Search results • Filtering (dropdown menu search) • Search Details and maps (if applicable) • Alert Messaging/Registration/Administration (if applicable) • Data Upload/Metrics Entry • Dashboards (user/admin) • UI responsiveness (resize the browser) • Performance (e.g. display of results list)	On Track. • Home page is good. • Search functionality and results needs work. Covid is displaying a bar chart and the wildfire a map that is generic. • Filtering (dropdown menu search): it is okay. • Alert Messaging is not implemented yet. • Metrics entry is okay • Registration capability is okay • Dashboard pending to be displayed.

03	Brief review of code, github, database etc.	• All key DB tables completed (users, items, messages, categories etc.) • Search fully working • Home page and search results integrated with back end • Search field input validation to allow proper alphanumeric characters (letters and numbers) • Search arguments persistent • Be ready to show examples of code so coding style and code comments can be checked.	On Track. • Reviewed DBs for counties location and registration. Finalize any pending table. • Search validation not implemented • Code comments need to be added
04	Project status	1. *Teamwork*: 2. *Risks* 3. *Coding practices* 4. *Usage of proper SE code management practices* 5. *How did you address site security and safe coding practices* 6. *Digital content* 7. Other	On Track. Need Improvement. It seems that only a few members are working on the implementation. More collaboration and team integration is needed. 1. Make sure to address site security.

05	List of P1 features committed for delivery agreed	*Team already reviewed and committed for final P1 list?*	On Track. Make sure to commit to your P1 list and implement all those functions.
06	Overall Instructor Review	● Git/Github organization ● Git/Github usage ● Code documented ● MVC/OO patterns followed up ● Frameworks ● Database organization ● Blobs being used? ● Adherence to best practices of security ● Efficiency ● Other	On Track. Make sure that the code and database are properly submitted in github. Keep working on documentation and application.

M4 (11/03/2020):

Feedback:

ID	Item	Criteria	Feedback
01	Objectives Achieved?	1. To make final commitment for functions to be delivered 2. To check that all required non-functional specs are satisfied or on track 3. To practice formal usability test plan development 4. To practice formal QA 5. To practice code review 6. Ensure basic practices of secure SE are applied 7. Ensure effective teamwork 8. Ensure software development is effective	On Track. Overall a good document. The date in the 1st page has 9/22/2020, not sure is that correct. Plus a blank page?

02	Document delivered (PDF)	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	On Track. ● Summary missed a brief description. 9 itemized list, + unique features. ● Ok UT and QA plan. ● More blank pages??? ● Ok Code Review ● Standard Security approach. ● Most of the Non-functional Specifications should be done by now. Good you entered the ones who represent an issue. And Lauren already talked to me regarding those.

1. Product summary

Product name: Public Health and Safety in California by The Dream Team

Summary: The application shows the Wildfire data and Covid data in the state of California. It will allow the counties Directors of Health and Fire Departments to enter metrics for both Covid and Wildfire with respective levels of evacuations. The public of california is able to search in the application by county and select the desired data to be shown (Covid, Wildfire or both) and have the ability to register and get alert messages when is time to shelter-in-place or evacuate for wildfire depending on the levels of evacuation. The Covid page has the information of number of cases per day, number of deaths per day, number of icu per day and number of hospitalizations per day displayed in a graph. The Wildfire page shows an interactive map where the wildfire data is shown and a table with the different wildfires registered with the information start date, end date, air quality level, evacuation level, area and if it is active.

Itemized list of ALL major committed functions:

- Search by county
- Info selection (Covid or Wildfires)
- Data Admin can input data information.

- Registration
- County Covid-19 data
- County Wildfire data
- Data filter
- Map interaction
- Alert system

The main appeal of our site is that it is a one stop shop for wildfires as well as coronavirus without having to sign up for several programs. It is also full state with options for which area to receive alerts. Map interaction will also help with visualization of data, this feature is often separate from actual alert systems.

URL:https://sfsucsc648.com/DataEntry

2- Usability test plan

- Test objectives:
The function that is going to be tested is the Data Entry function for both Covid-19 and WildFire data.
This function is going to be tested because it is a very important function in our application as it is the base function for all the data that is stored in the database, and subsequently shown in the screen.
This usability test plan is going to measure the effectiveness, efficiency, if it is error tolerant and if it is easy to learn.

- Test background and setup:
System setup: Dell inspiron 7559 with Windows 10 operating system using the Chrome browser.

Starting point: The current state of our system focuses on implementing the functionality and testing each component. UI and site flow/appearance is minimal. Our site is composed of the main page which our testing will begin. This page contains links to the other components we are testing as the user would either go to Corona or fire data input from the homepage.

Intended users: Our intended users are split into three central groups. The biggest by far is the average user who holds a basic account and visits the website to check the status of either the fire or Covid situations in their areas. The Second group would be the county administrators who would report the relevant information daily to the website that the average user would rely upon. The last and smallest group would be the system administrators/government officials who would review the input data and approve it to go forward to the public. The group we focused on would be the county administrators and the ability to navigate and input the data. This we thought would be a critical component to the system that warranted more testing.

URL of the system to be tested: https://sfsucsc648.com/

- Usability Task description:

TASK	DESCRIPTION
Covid data for San Francisco	Enter Covid19 data for San Francisco county for 11/10/2020
Covid data for Alameda County	Enter Covid19 data for Alameda County for 11/10/2020
Covid data for Calaveras County	Enter Covid19 data for Calaveras County for 11/10/2020
WildFire data for San Francisco	Enter Covid19 data for San Francisco county for 11/10/2020
WildFire data for Alameda County	Enter Covid19 data for Alameda County for 11/10/2020
WildFire data for Calaveras County	Enter Covid19 data for Calaveras County for 11/10/2020

- Lickert subjective test:

1. I found the GUI easy to use:

__ Strongly disagree
__ Disagree
__ Neither agree or disagree
__ Agree
__ Strongly agree

2. It was easy to complete the data form:

__ Strongly disagree
__ Disagree
__ Neither agree or disagree
__ Agree
__ Strongly agree

3. It was easy to submit the data form:

__ Strongly disagree
__ Disagree
__ Neither agree or disagree
__ Agree
__ Strongly agree

3- QA test plan

- Test objectives:
The objective of the QA test plan is to check if SW performs to specs. This QA will be for the Data Entry function for both Covid-19 and WildFire data.
This test is going to focus on the data forms and is going to test the input of the data focusing on the different parameters, testing if they are in range, out of range, invalid input data, etc.
The test is not going to evaluate

- HW and SW setup (including URL):
Dell inspiron 7559 with Windows 10 operating system using the Chrome browser.

URL: https://sfsucsc648.com/DataEntry

- Feature to be tested:
The principal features to be tested are the input forms for both covid and wildfires and the interaction between these forms and the database.

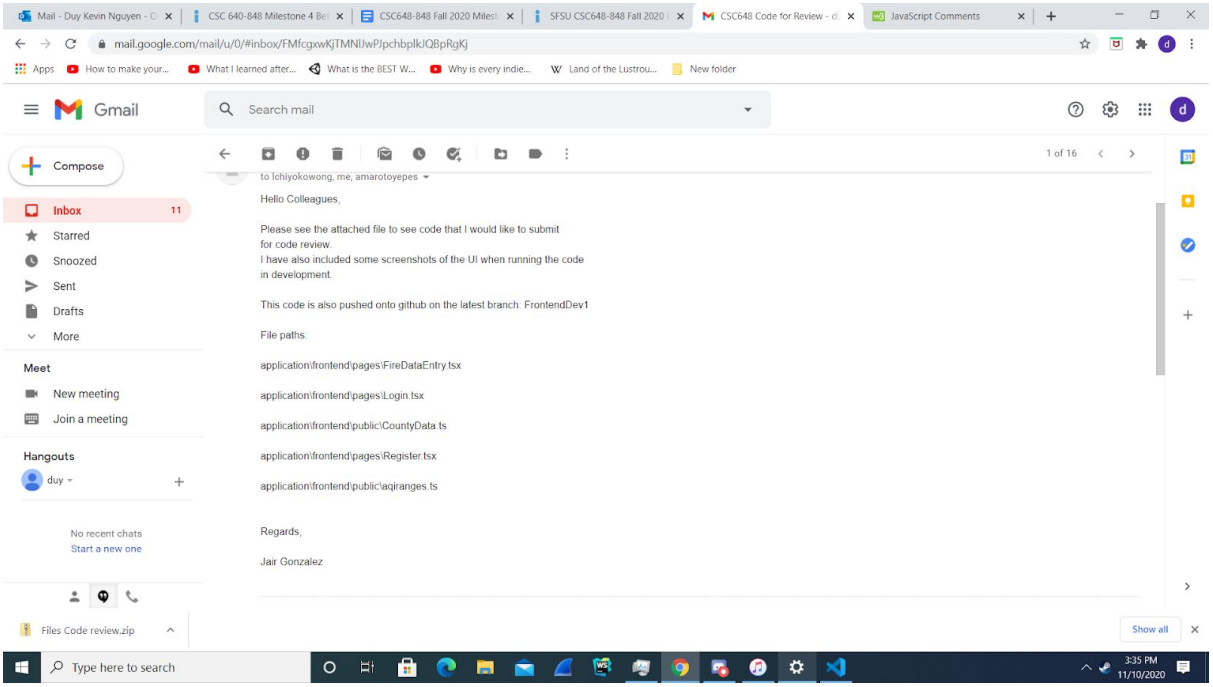
- QA Test plan: - table format:

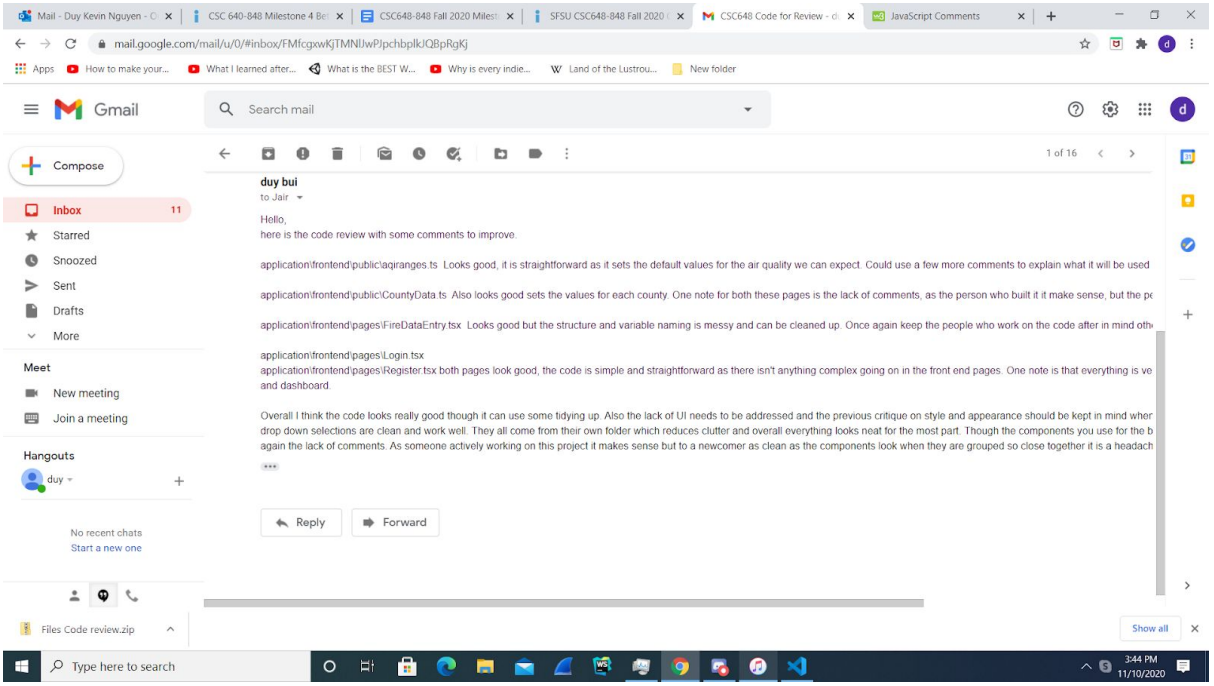
test #	**test title**	**test description**	**test input**	**expected correct output**	**test results**
01	Good Covid data	Test what happens when data that satisfies the parameters is submitted.	**San Francisco** **3** **7** **23** **153** **11/10/2020**	Get a new entry in the database that contains the data that has been submitted.	**PASS**
02	Negative Covid data	Test what happens when negative numbers data is submitted.	**San Francisco** **-3** **-7** **-23** **-153** **11/10/2020**	The new entry on the database should be rejected because the data contains negative numbers and should not be added.	**PASS**
03	Invalid Covid data	Test what happens when invalid data is submitted.	**0** **0** **0** **0** **0**	The new entry on the database should be rejected	**PASS**

			11/10/2020	because the data contains invalid data as a number is added to a name parameter.	
04	Empty Covid data	Test what happens when no data is submitted.	***empty* *empty* *empty* *empty* *empty* 11/10/2020**	The input parameters are required so it should alert that you have to complete the information before it submits.	**PASS**
05	Good Wildfire data	Test what happens when data that satisfies the parameters is submitted.	**11/10/2020 11/09/2020 1 San Mateo County 10.0 Test Fire True**	Get a new entry in the database that contains the data that has been submitted.	**PASS**
06	Negative Wildfire data	Test what happens when negative numbers data is submitted.	**11/10/2020 11/09/2020 -1 San Mateo County -10.0 Test Fire False**	The new entry on the database should be rejected because the data contains negative numbers and should not be added.	**PASS**
07	Invalid Wildfire data	Test what happens when invalid data is submitted.	**11/10/2020 NONE -1 San Mateo County -10.0 Test Fire False**	The new entry on the database should be rejected because the data contains invalid data as a number is added to a name	**PASS**

				parameter.	
08	Empty Wildfire data	Test what happens when no data is submitted.	***empty*** ***empty*** ***empty*** ***empty*** ***empty*** ***empty*** ***empty*** ***empty***	The input parameters are required so it should alert that you have to complete the information before it submits.	**PASS**

4. Code Review

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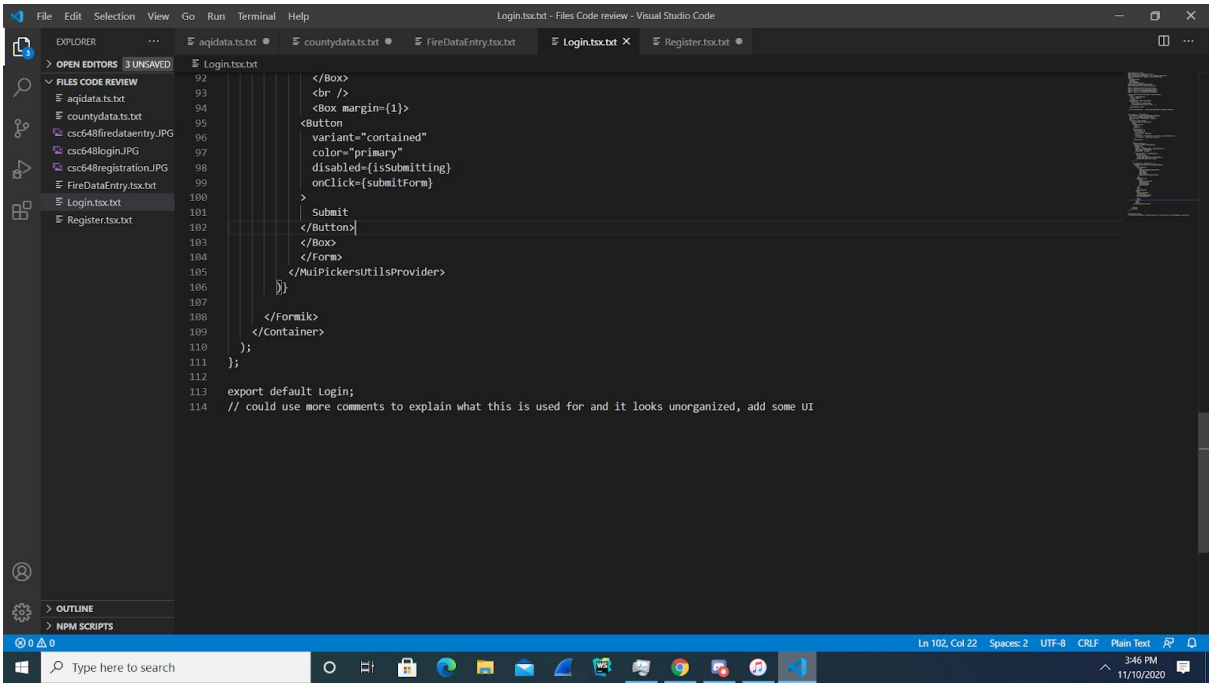
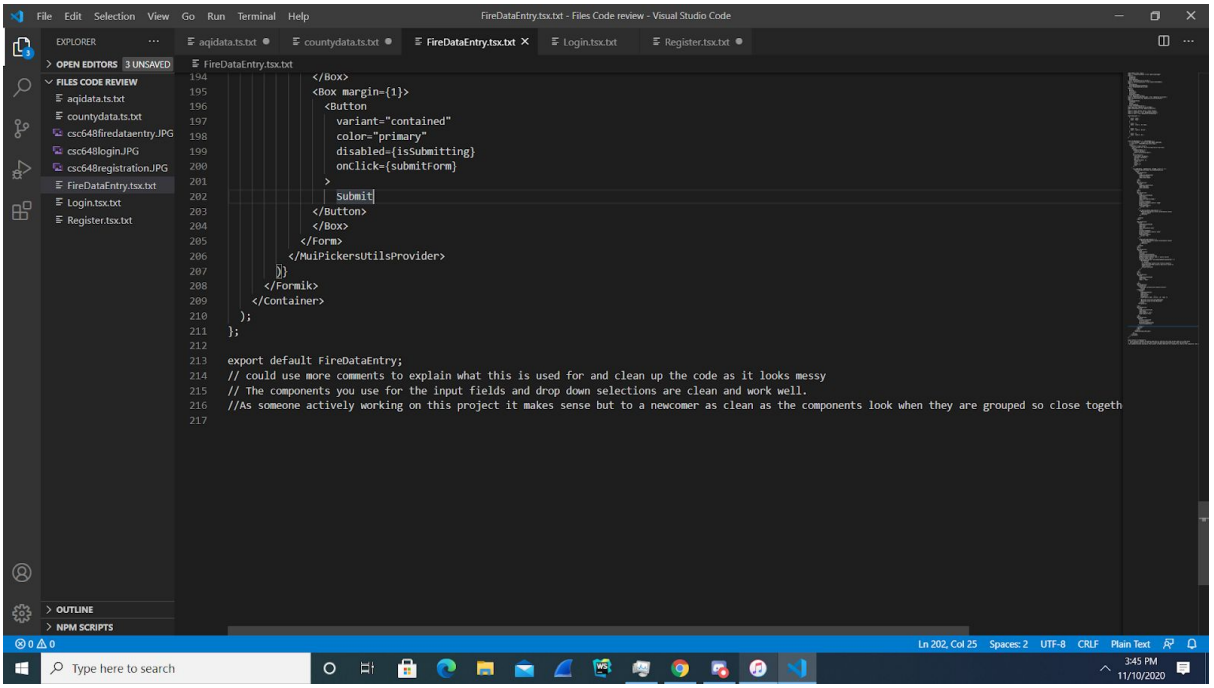
Apps
How to make your...
What I learned after...
What is the BEST W...
Why is every indie...
Land of the Lustrou...
New folder
Gmail
Search mail
Compose
Inbox 11
Starred
Snoozed
Sent
Drafts
More
Meet
New meeting
Join a meeting
Hangouts
duy
No recent chats
Start a new one
1 of 16
duy bui
to Jair
Hello,
here is the code review with some comments to improve.
application\frontend\public\aqiranges.ts Looks good, it is straightforward as it sets the default values for the air quality we can expect. Could use a few more comments to explain what it will be used
application\frontend\public\CountyData.ts Also looks good sets the values for each county. One note for both these pages is the lack of comments, as the person who built it it make sense, but the pe
application\frontend\pages\FireDataEntry.tsx Looks good but the structure and variable naming is messy and can be cleaned up. Once again keep the people who work on the code after in mind oth
application\frontend\pages\Login.tsx
application\frontend\pages\Register.tsx both pages look good, the code is simple and straightforward as there isn't anything complex going on in the front end pages. One note is that everything is ve
and dashboard.
Overall I think the code looks really good though it can use some tidying up. Also the lack of UI needs to be addressed and the previous critique on style and appearance should be kept in mind wher
drop down selections are clean and work well. They all come from their own folder which reduces clutter and overall everything looks neat for the most part. Though the components you use for the b
again the lack of comments. As someone actively working on this project it makes sense but to a newcomer as clean as the components look when they are grouped so close together it is a headach
Reply
Forward
Files Code review.zip
Show all
Type here to search
3:44 PM
11/10/2020


File Edit Selection View Go Run Terminal Help
Login.tsx.txt - Files Code review - Visual Studio Code
EXPLORER
OPEN EDITORS 3 UNSAVED
FILES CODE REVIEW
aqidata.ts.txt
countydata.ts.txt
csc648firedataentry.JPG
csc648loginJPG
csc648registrationJPG
FireDataEntry.tsx.txt
Login.tsx.txt
Register.tsx.txt
OUTLINE
NPM SCRIPTS
aqidata.ts.txt
countydata.ts.txt
FireDataEntry.tsx.txt
Login.tsx.txt
Register.tsx.txt
Login.tsx.txt
</Box>

<Box margin={1}>
<Button
variant="contained"
color="primary"
disabled={isSubmitting}
onClick={submitForm}
>
Submit
</Button>
</Box>
</Form>
</MuiPickersUtilsProvider>
)}
</Formik>
</Container>
);
};
export default Login;
// could use more comments to explain what this is used for and it looks unorganized, add some UI
Ln 102, Col 22 Spaces: 2 UTF-8 CRLF Plain Text
Type here to search
3:46 PM
11/10/2020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aqidata.ts.txt
countydata.ts.txt
FireDataEntry.tsx.txt
Login.tsx.txt
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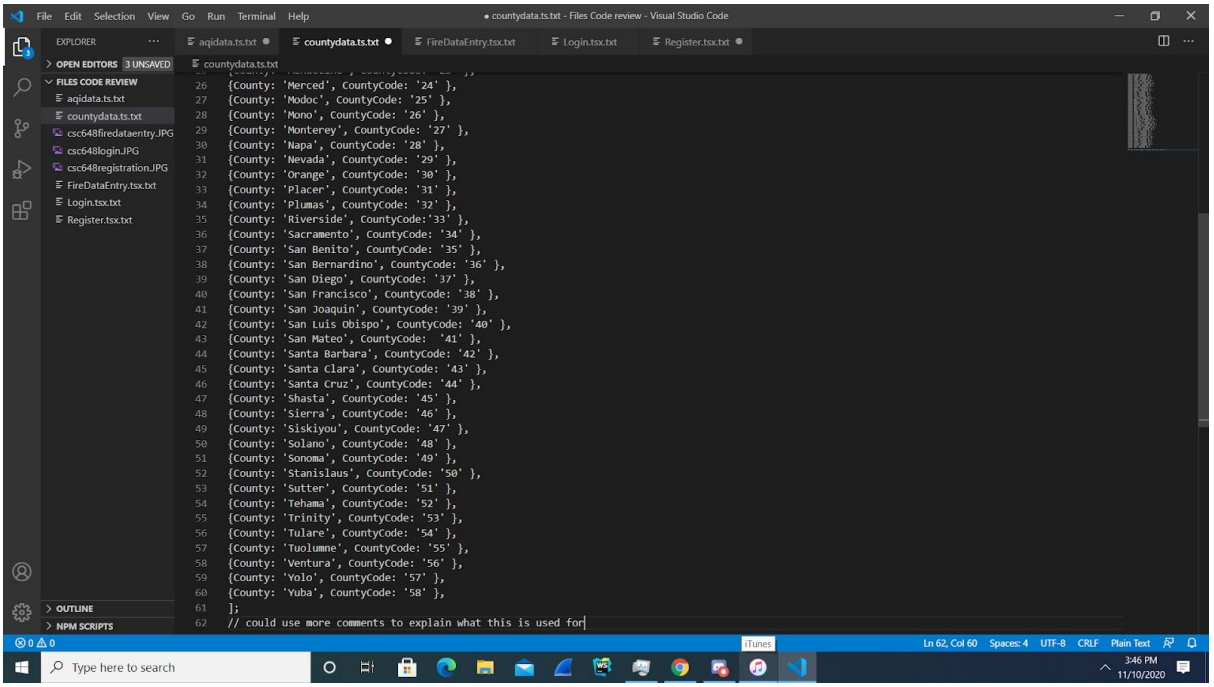
FireDataEntry.tsx.txt
</Box>
<Box margin={1}>
<Button
variant="contained"
color="primary"
disabled={isSubmitting}
onClick={submitForm}
>
Submit
</Button>
</Box>
</Form>
</MuiPickersUtilsProvider>
)}
</Formik>
</Container>
);
};
export default FireDataEntry;
// could use more comments to explain what this is used for and clean up the code as it looks messy
// The components you use for the input fields and drop down selections are clean and work well.
//As someone actively working on this project it makes sense but to a newcomer as clean as the components look when they are grouped so close togeth
Ln 202, Col 25 Spaces: 2 UTF-8 CRLF Plain Text
Type here to search
3:45 PM
11/10/2020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csc648firedataentry.JPG
csc648loginJPG
csc648registrationJPG
FireDataEntry.tsx.txt
Login.tsx.txt
Register.tsx.txt
OUTLINE
NPM SCRIPTS
{County: 'Merced', CountyCode: '24' },
{County: 'Modoc', CountyCode: '25' },
{County: 'Mono', CountyCode: '26' },
{County: 'Monterey', CountyCode: '27' },
{County: 'Napa', CountyCode: '28' },
{County: 'Nevada', CountyCode: '29' },
{County: 'Orange', CountyCode: '30' },
{County: 'Placer', CountyCode: '31' },
{County: 'Plumas', CountyCode: '32' },
{County: 'Riverside', CountyCode:'33' },
{County: 'Sacramento', CountyCode: '34' },
{County: 'San Benito', CountyCode: '35' },
{County: 'San Bernardino', CountyCode: '36' },
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{County: 'San Joaquin', CountyCode: '39' },
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{County: 'Solano', CountyCode: '48' },
{County: 'Sonoma', CountyCode: '49' },
{County: 'Stanislaus', CountyCode: '50' },
{County: 'Sutter', CountyCode: '51' },
{County: 'Tehama', CountyCode: '52' },
{County: 'Trinity', CountyCode: '53' },
{County: 'Tulare', CountyCode: '54' },
{County: 'Tuolumne', CountyCode: '55' },
{County: 'Ventura', CountyCode: '56' },
{County: 'Yolo', CountyCode: '57' },
{County: 'Yuba', CountyCode: '58' },
];
// could use more comments to explain what this is used for
iTunes
Ln 62, Col 60 Spaces: 4 UTF-8 CRLF Plain Text
Type here to search
3:46 PM
11/10/2020

4) Screenshots of actual final product as shown in the demo, one per page

Registration

firstName
lastName
email
phone number
password
confirm password
address
county
zipcode
city
submit

Already Registered?

Login

Covid 19 Data Entry Form

County name

0

0

0

0

12/02/2020

submit

Wild Fire Data Entry Form

start date
end date
Air Quality Level
Evacuation Level
county id
county name
area
active
name of fire
submit

Employee Dashboard

Fire Records

Name	Aqi	Area	Start Date	End Date	Active Status	Evacuation Level	Approved	Delete
	97	1446.2790431639494	2020-08-30T21:42:01.324Z			2	false	Delete
	111	129.11418041890312	2020-01-13T18:04:09.207Z			2	false	Delete
	172	1848.4572617181593	2020-10-12T02:16:04.258Z			2	false	Delete
	67	1332.4499702993705	2020-04-18T20:49:05.738Z			2	false	Delete
	205	875.0891708218886	2020-04-13T18:04:42.553Z			2	false	Delete

5) Screenshots of key DB tables (1-2 pages)

Counties:

id	population	name	area	latitude	longitude
65	1671329	Alameda County	738.000000000000000000000000000000	37.648081000000000000000000000000	-121.913304000000000000000000000000
66	1129	Alpine County	739.000000000000000000000000000000	38.617610000000000000000000000000	-119.798999000000000000000000000000
67	39752	Amador County	606.000000000000000000000000000000	38.443550000000000000000000000000	-120.653856000000000000000000000000
68	219186	Butte County	1640.000000000000000000000000000000	39.665959000000000000000000000000	-121.601919000000000000000000000000
69	999101	Fresno County	5963.000000000000000000000000000000	36.761006000000000000000000000000	-119.655019000000000000000000000000
70	192843	El Dorado County	1712.000000000000000000000000000000	38.785532000000000000000000000000	-120.534398000000000000000000000000
71	28393	Glenn County	1315.000000000000000000000000000000	39.602546000000000000000000000000	-122.401700000000000000000000000000
72	99755	Nevada County	958.000000000000000000000000000000	39.295191000000000000000000000000	-120.773446000000000000000000000000
73	2470546	Riverside County	7208.000000000000000000000000000000	33.729828000000000000000000000000	-116.002239000000000000000000000000
74	18039	Inyo County	10192.000000000000000000000000000000	36.561977000000000000000000000000	-117.403927000000000000000000000000
75	1153526	Contra Costa C…	720.000000000000000000000000000000	37.919479000000000000000000000000	-121.951543000000000000000000000000
76	398329	Placer County	1407.000000000000000000000000000000	39.062032000000000000000000000000	-120.722718000000000000000000000000
77	43539	Siskiyou County	6287.000000000000000000000000000000	41.587986000000000000000000000000	-122.533287000000000000000000000000
78	434061	Monterey County	3322.000000000000000000000000000000	36.240107000000000000000000000000	-121.315573000000000000000000000000
79	65084	Tehama County	2951.000000000000000000000000000000	40.126156000000000000000000000000	-122.232276000000000000000000000000
80	466195	Tulare County	4824.000000000000000000000000000000	36.230453000000000000000000000000	-118.780542000000000000000000000000
81	21547	Colusa County	1151.000000000000000000000000000000	39.177739000000000000000000000000	-122.237563000000000000000000000000
82	18807	Plumas County	2554.000000000000000000000000000000	39.995170000000000000000000000000	-120.829516000000000000000000000000
83	62808	San Benito County	1389.000000000000000000000000000000	36.610702000000000000000000000000	-121.085296000000000000000000000000
84	64386	Lake County	1258.000000000000000000000000000000	39.094802000000000000000000000000	-122.746757000000000000000000000000
85	137744	Napa County	754.000000000000000000000000000000	38.507351000000000000000000000000	-122.325995000000000000000000000000
86	762148	San Joaquin Co…	1399.000000000000000000000000000000	37.935034000000000000000000000000	-121.272237000000000000000000000000
87	766573	San Mateo County	449.000000000000000000000000000000	37.416664000000000000000000000000	-122.371542000000000000000000000000
88	3005	Sierra County	953.000000000000000000000000000000	39.576925000000000000000000000000	-120.521993000000000000000000000000
89	2180085	San Bernardino…	20062.000000000000000000000000000000	34.857220000000000000000000000000	-116.181197000000000000000000000000
90	10039107	Los Angeles Co…	4060.000000000000000000000000000000	34.196398000000000000000000000000	-118.261862000000000000000000000000

Covid Records:

id	county_id	cases	deaths	icu	hosp	date	approved	submitter_id
1	65	257	10	9	10	2020-02-07 03:14:54.743	0	1
2	65	288	35	30	30	2020-04-30 09:46:52.565	0	1
3	65	81	31	12	14	2020-03-15 16:11:46.801	0	1
4	65	71	21	23	25	2020-01-28 21:09:22.220	0	1
5	65	47	28	24	27	2020-05-26 05:24:05.781	0	1
6	65	211	15	15	16	2020-10-09 19:40:57.140	0	1
7	65	18	3	39	42	2020-10-26 21:21:08.853	0	1
8	65	258	15	1	5	2020-05-30 14:48:48.378	0	1
9	65	253	23	0	0	2020-03-06 16:10:45.437	0	1
10	65	279	27	20	23	2020-10-05 06:48:34.981	0	1
11	65	56	11	7	11	2020-08-25 03:20:09.029	0	1
12	65	199	11	23	23	2020-05-14 03:10:51.475	0	1
13	65	253	31	10	15	2020-09-26 23:27:37.795	0	1
14	65	297	37	11	14	2020-10-19 13:44:51.170	0	1
15	65	251	22	39	40	2020-05-26 17:38:26.428	0	1
16	65	115	9	17	21	2020-06-05 16:29:16.119	0	1
17	65	281	10	38	42	2020-01-23 18:29:35.562	0	1
18	65	230	28	35	39	2020-11-18 17:51:55.488	0	1
19	65	25	29	3	6	2020-10-31 11:25:34.435	0	1
20	65	43	13	13	14	2020-11-03 01:46:54.233	0	1
21	65	58	11	4	6	2020-07-05 00:57:47.805	0	1
22	65	193	39	6	9	2020-10-26 14:16:15.472	0	1
23	65	155	27	37	42	2020-01-25 14:07:20.535	0	1
24	65	192	16	21	25	2020-07-10 18:11:09.509	0	1
25	65	242	4	17	18	2020-07-29 18:34:22.209	0	1
26	66	206	35	12	12	2020-10-13 11:26:15.094	0	1

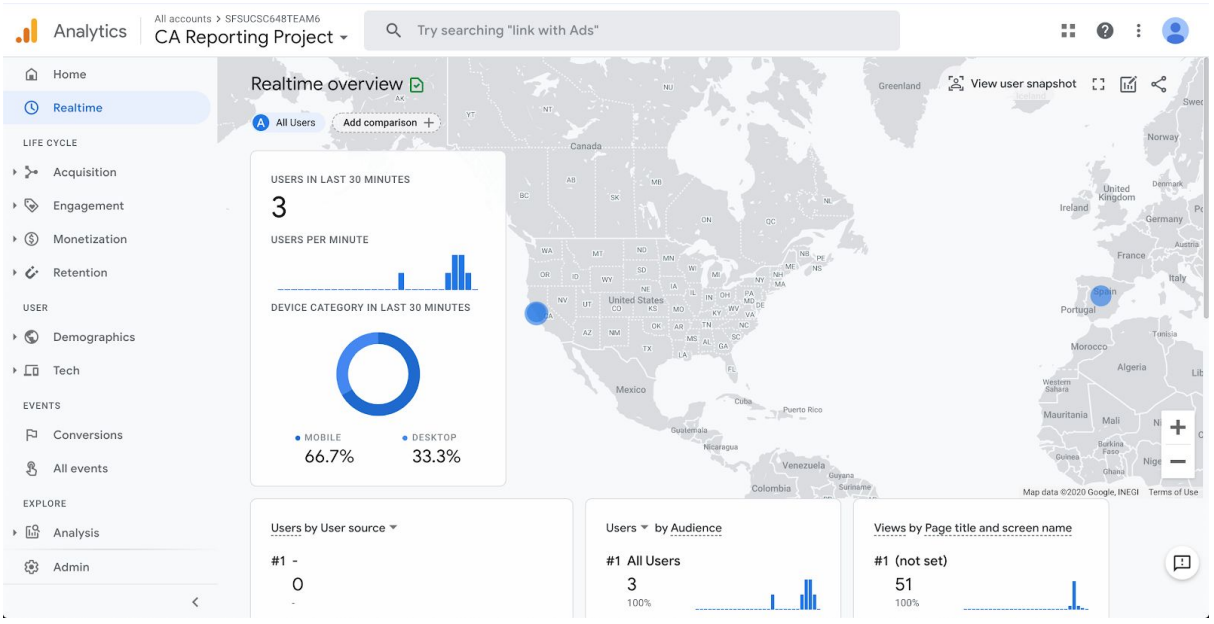
Fire Records:

id	start_date	end_date	aqi	EvacuationLevel	county_id	area	active	name	approved	submitter_id
3	2020-10-12 02:16:04.258	NULL	172	2	65	1848.4572617181593000000000000000000	0	NULL	0	1
4	2020-04-18 20:49:05.738	NULL	67	2	65	1332.4499702993705000000000000000000	0	NULL	0	1
5	2020-04-13 18:04:42.553	NULL	205	2	65	875.0891708218886000000000000000000	0	NULL	0	1
6	2020-04-29 18:50:25.395	NULL	228	2	65	233.9238428837197400000000000000000	0	NULL	0	1
7	2020-01-25 17:24:20.727	NULL	104	2	65	531.2577625352158000000000000000000	0	NULL	0	1
8	2020-06-29 12:20:36.329	NULL	190	2	65	344.2659880300312000000000000000000	0	NULL	0	1
9	2020-03-06 00:19:54.970	NULL	131	2	65	847.4050411517657000000000000000000	0	NULL	0	1
10	2020-05-25 09:36:01.322	NULL	140	2	65	1691.1288831148170000000000000000000	0	NULL	0	1
11	2020-11-29 15:35:55.380	NULL	50	2	65	1838.8743025668940000000000000000000	0	NULL	0	1
12	2020-06-26 19:24:05.538	NULL	62	2	65	647.4102340107731000000000000000000	0	NULL	0	1
13	2020-08-24 07:39:10.016	NULL	119	2	65	466.5278823474819000000000000000000	0	NULL	0	1
14	2020-01-09 14:34:51.853	NULL	88	2	65	1707.5222641435740000000000000000000	0	NULL	0	1
15	2020-09-09 07:16:57.914	NULL	213	2	65	1872.6455570195772000000000000000000	0	NULL	0	1
16	2020-05-07 08:28:59.123	NULL	77	2	65	1429.0075911979975000000000000000000	0	NULL	0	1
17	2020-06-22 19:18:26.645	NULL	118	2	65	1621.1016428274510000000000000000000	0	NULL	0	1
18	2020-02-01 23:52:00.801	NULL	106	2	65	99.471511756414910000000000000000	0	NULL	0	1
19	2020-05-31 21:46:15.599	NULL	79	2	65	82.868655588765110000000000000000	0	NULL	0	1
20	2020-11-25 22:34:50.293	NULL	236	2	65	333.5837560647682000000000000000000	0	NULL	0	1
21	2020-03-11 19:55:20.713	NULL	214	2	65	53.295782306352730000000000000000	0	NULL	0	1
22	2020-04-19 23:43:34.810	NULL	102	2	65	1554.5811883363140000000000000000000	0	NULL	0	1
23	2020-11-06 23:20:23.020	NULL	64	2	65	956.2189090382105000000000000000000	0	NULL	0	1
24	2020-07-19 13:11:32.938	NULL	118	2	65	1363.1522533503469000000000000000000	0	NULL	0	1
25	2020-01-26 01:50:18.475	NULL	227	2	65	713.4589766011808000000000000000000	0	NULL	0	1
26	2020-07-14 17:36:25.205	NULL	231	2	66	504.5978843806650000000000000000000	0	NULL	0	1
27	2020-05-30 13:13:57.481	NULL	116	2	66	727.7549190921097000000000000000000	0	NULL	0	1
28	2020-10-26 06:47:26.621	NULL	248	2	66	583.2210923205141500000000000000000	0	NULL	0	1

User:

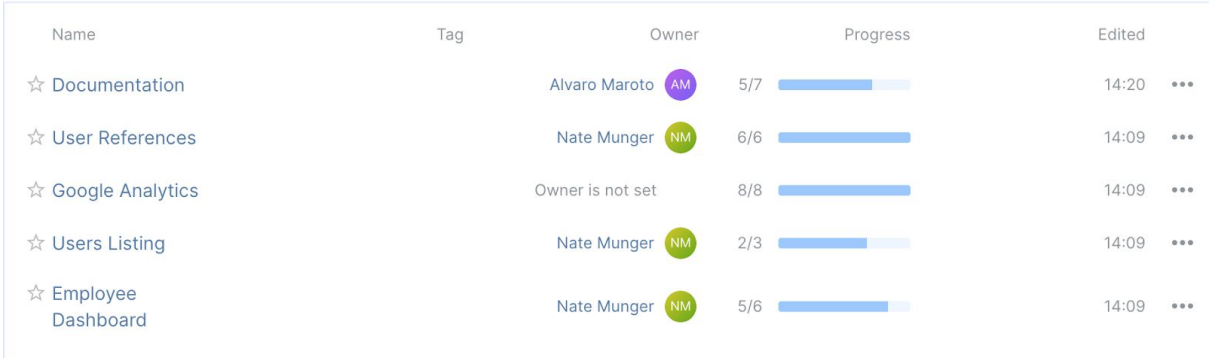
id	start_date	end_date	aqi	EvacuationLevel	county_id	area	active	name	approved	submitter_id
3	2020-10-12 02:16:04.258	NULL	172	2	65	1848.4572617181593000000000000000000	0	NULL	0	1
4	2020-04-18 20:49:05.738	NULL	67	2	65	1332.4499702993705000000000000000000	0	NULL	0	1
5	2020-04-13 18:04:42.553	NULL	205	2	65	875.0891708218886000000000000000000	0	NULL	0	1
6	2020-04-29 18:50:25.395	NULL	228	2	65	233.9238428837197400000000000000000	0	NULL	0	1
7	2020-01-25 17:24:20.727	NULL	104	2	65	531.2577625352158000000000000000000	0	NULL	0	1
8	2020-06-29 12:20:36.329	NULL	190	2	65	344.2659880300312000000000000000000	0	NULL	0	1
9	2020-03-06 00:19:54.970	NULL	131	2	65	847.4050411517657000000000000000000	0	NULL	0	1
10	2020-05-25 09:36:01.322	NULL	140	2	65	1691.1288831148170000000000000000000	0	NULL	0	1
11	2020-11-29 15:35:55.380	NULL	50	2	65	1838.8743025668940000000000000000000	0	NULL	0	1
12	2020-06-26 19:24:05.538	NULL	62	2	65	647.4102340107731000000000000000000	0	NULL	0	1
13	2020-08-24 07:39:10.016	NULL	119	2	65	466.5278823474819000000000000000000	0	NULL	0	1
14	2020-01-09 14:34:51.853	NULL	88	2	65	1707.5222641435740000000000000000000	0	NULL	0	1
15	2020-09-09 07:16:57.914	NULL	213	2	65	1872.6455570195772000000000000000000	0	NULL	0	1
16	2020-05-07 08:28:59.123	NULL	77	2	65	1429.0075911979975000000000000000000	0	NULL	0	1
17	2020-06-22 19:18:26.645	NULL	118	2	65	1621.1016428274510000000000000000000	0	NULL	0	1
18	2020-02-01 23:52:00.801	NULL	106	2	65	99.471511756414910000000000000000	0	NULL	0	1
19	2020-05-31 21:46:15.599	NULL	79	2	65	82.868655588765110000000000000000	0	NULL	0	1
20	2020-11-25 22:34:50.293	NULL	236	2	65	333.5837560647682000000000000000000	0	NULL	0	1
21	2020-03-11 19:55:20.713	NULL	214	2	65	53.295782306352730000000000000000	0	NULL	0	1
22	2020-04-19 23:43:34.810	NULL	102	2	65	1554.5811883363140000000000000000000	0	NULL	0	1
23	2020-11-06 23:20:23.020	NULL	64	2	65	956.2189090382105000000000000000000	0	NULL	0	1
24	2020-07-19 13:11:32.938	NULL	118	2	65	1363.1522533503469000000000000000000	0	NULL	0	1
25	2020-01-26 01:50:18.475	NULL	227	2	65	713.4589766011808000000000000000000	0	NULL	0	1
26	2020-07-14 17:36:25.205	NULL	231	2	66	504.5978843806650000000000000000000	0	NULL	0	1
27	2020-05-30 13:13:57.481	NULL	116	2	66	727.7549190921097000000000000000000	0	NULL	0	1
28	2020-10-26 06:47:26.621	NULL	248	2	66	583.2210923205141500000000000000000	0	NULL	0	1

6) Google analytics plot for your WWW site or plugins or API used (1 page)



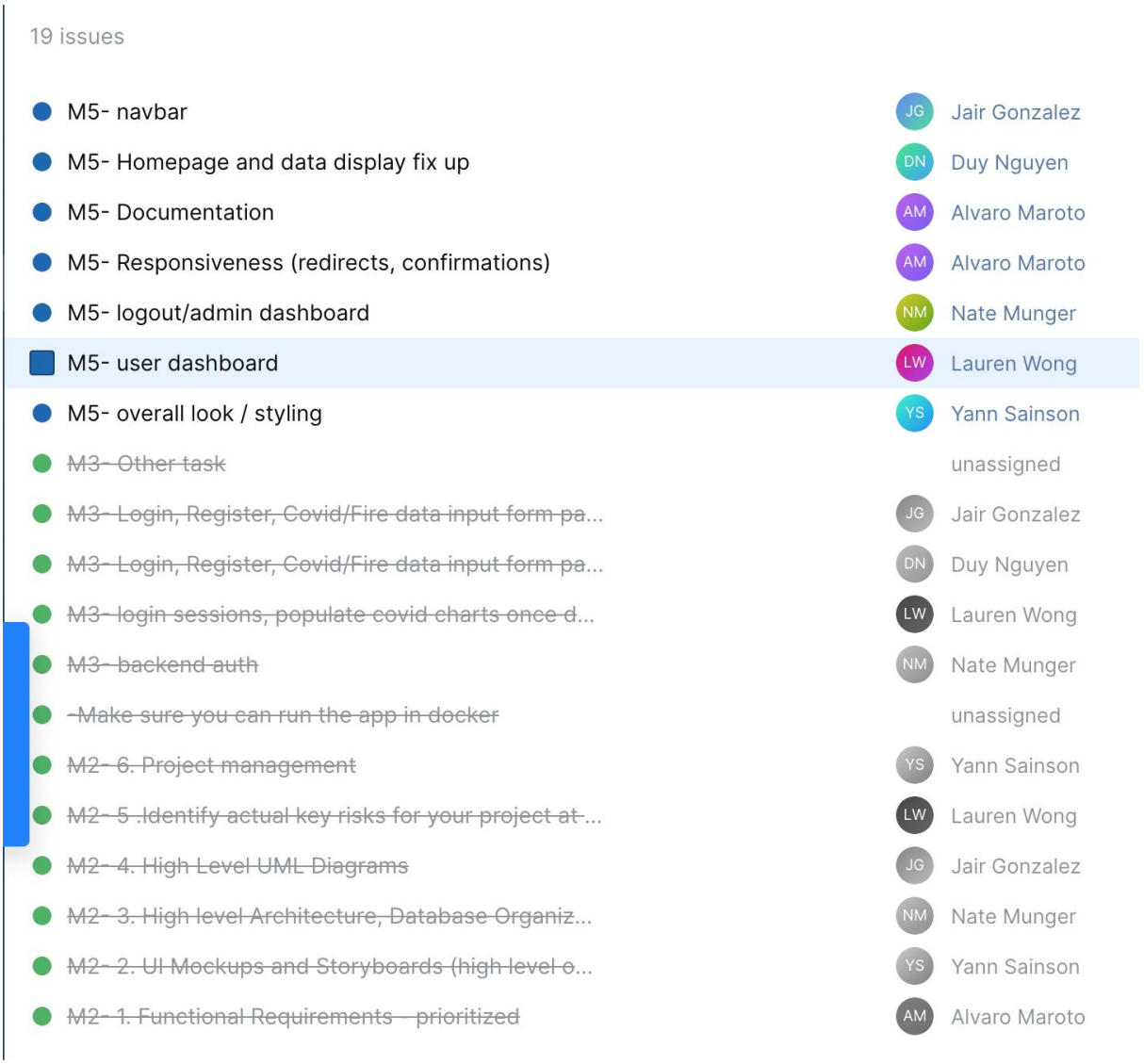
7) Screenshot(s) of your task management system (like Trello) showing a snapshot of your project management

Task Specific Checklists:

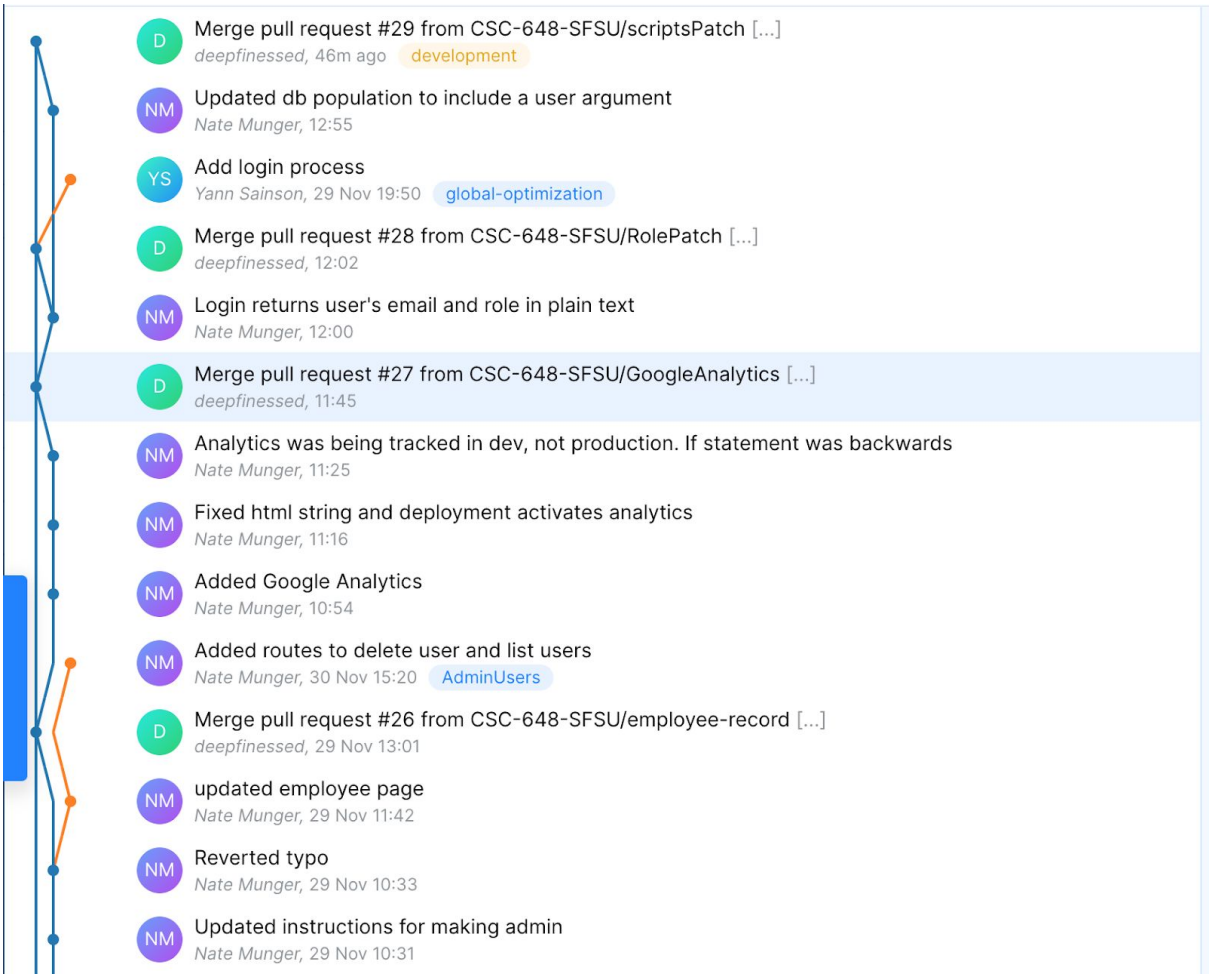


Name	Tag	Owner	Progress	Edited
☆ Documentation		Alvaro Maroto AM	5/7	14:20 •••
☆ User References		Nate Munger NM	6/6	14:09 •••
☆ Google Analytics		Owner is not set	8/8	14:09 •••
☆ Users Listing		Nate Munger NM	2/3	14:09 •••
☆ Employee Dashboard		Nate Munger NM	5/6	14:09 •••

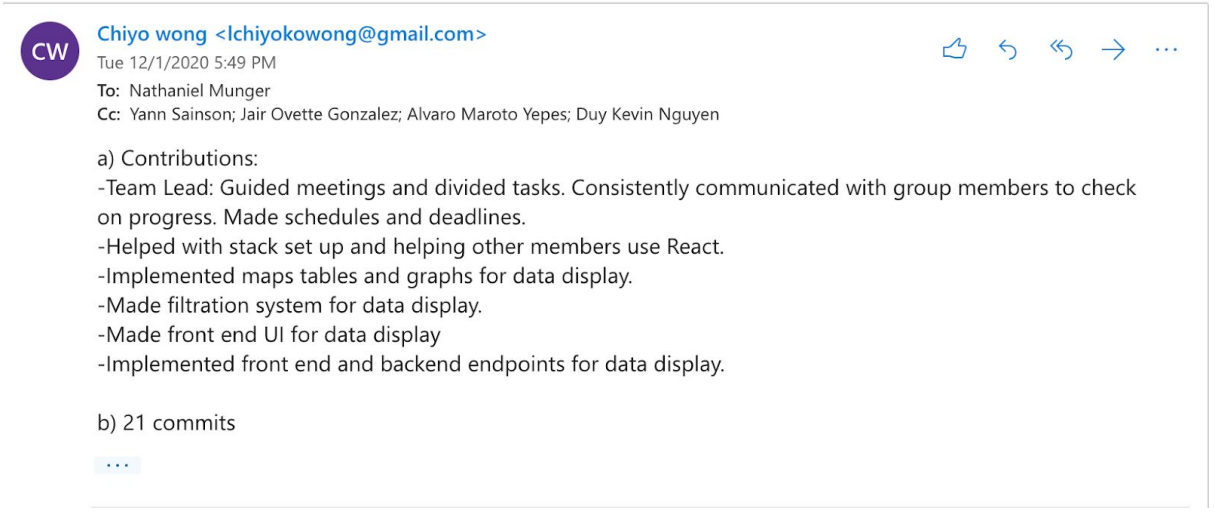
Issue Tracking:



GitHub Tracking:



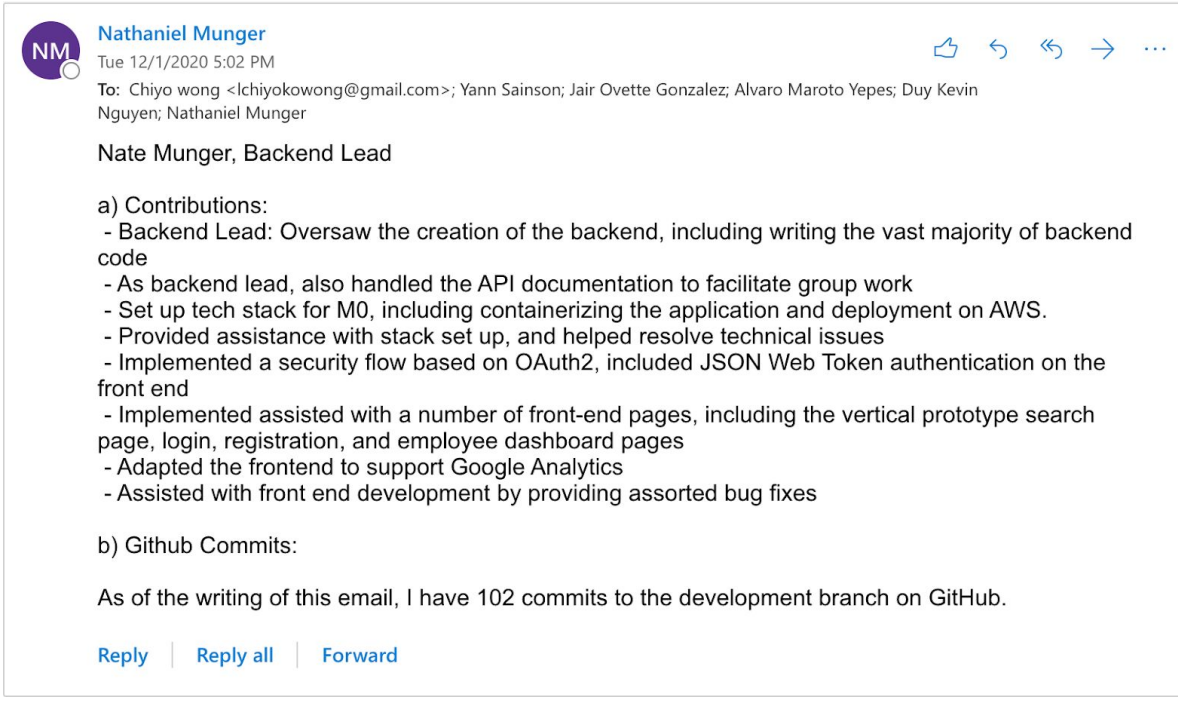
8) Team member contributions



Chiyo wong <lchiyokowong@gmail.com>
Tue 12/1/2020 5:49 PM
To: Nathaniel Munger
Cc: Yann Sainson; Jair Ovette Gonzalez; Alvaro Maroto Yepes; Duy Kevin Nguyen

a) Contributions:
-Team Lead: Guided meetings and divided tasks. Consistently communicated with group members to check on progress. Made schedules and deadlines.
-Helped with stack set up and helping other members use React.
-Implemented maps tables and graphs for data display.
-Made filtration system for data display.
-Made front end UI for data display
-Implemented front end and backend endpoints for data display.

b) 21 commits



Nathaniel Munger
Tue 12/1/2020 5:02 PM
To: Chiyo wong <lchiyokowong@gmail.com>; Yann Sainson; Jair Ovette Gonzalez; Alvaro Maroto Yepes; Duy Kevin Nguyen; Nathaniel Munger

Nate Munger, Backend Lead

a) Contributions:
- Backend Lead: Oversaw the creation of the backend, including writing the vast majority of backend code
- As backend lead, also handled the API documentation to facilitate group work
- Set up tech stack for M0, including containerizing the application and deployment on AWS.
- Provided assistance with stack set up, and helped resolve technical issues
- Implemented a security flow based on OAuth2, included JSON Web Token authentication on the front end
- Implemented assisted with a number of front-end pages, including the vertical prototype search page, login, registration, and employee dashboard pages
- Adapted the frontend to support Google Analytics
- Assisted with front end development by providing assorted bug fixes

b) Github Commits:

As of the writing of this email, I have 102 commits to the development branch on GitHub.

Reply | Reply all | Forward

Jair Ovette Gonzalez
to me, Nathaniel, Yann, Alvaro, Duy

Jair Gonzalez

a) Contributions
- Full Stack developer: Worked alongside the front-end developers, and fulfilled other required tasks
- Created data entry form pages for covid data and wildfire data
- Managed data input fields in data entry forms
- Created login and registration pages
- Managed UI in login, registration, and data entry pages
- Participation in code review

b) Currently only have 1 commit made to development branch

9) Post analysis – lessons learned (one-page max)

The main challenges for this assignment were teamwork and working with many new technologies. In retrospect we probably should have worked with a stack that more of the group was familiar with so that we could have had more even participation. We probably could have had more group meetings where we learned about the technologies together so we could have been more on the same page. We could have had better organization and task management so that it was more clear what each member's expected contributions should have been. In general we could have had a cleaner vision of what our end product should be like and made more concrete plans. Communication was less than ideal on this project but that was also probably partly because of the remote circumstances and would have been slightly better in person although this might have come with other challenges. Different time zones also posed a bit of a problem as did busy schedules for some members. The level gap when it came to knowledge about some of the tools being used was troublesome and I am not sure about what could have been done about that.
When it comes to our actual product there could have been a lot more polish in the UI and styling. The backend, auth and data display were all relatively good and registration and login worked as needed. We could have managed our time a little better to finish up the last requirements. Our code could have been cleaner and better commented in general. I think it would have helped if we had done a little more programming together as then we could have all gotten a better idea of the overall state of the site.
I think the biggest take away from this assignment has been how hard it is to work in a group and share a code base. I think we all learned a lot about the git workflow. We also got to learn about new tools and know much more about how to deploy a website.