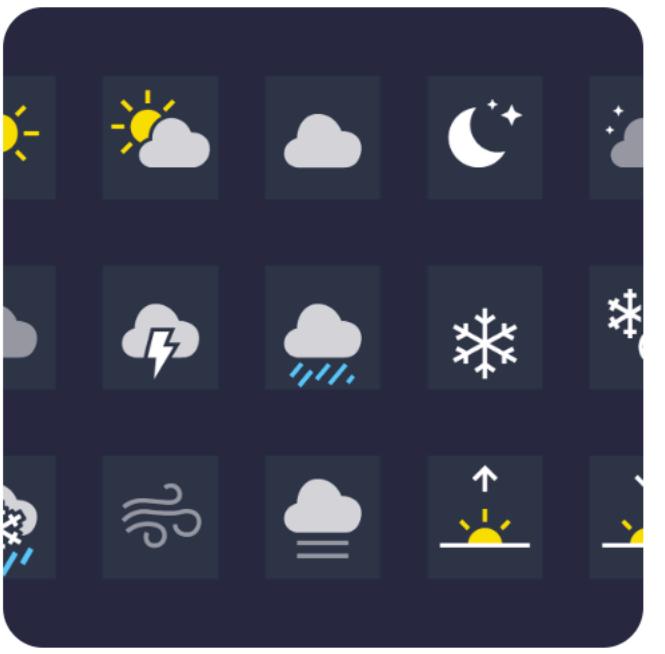


# Weather 2 Assignment Briefing

[WeatherTop](#)   
[Assignment...](#)



[A walkthrough the assignment specification](#)

## Assignment Concept

- Implement a weather station app using:

- *Javascript*
- *Express/Handlebars*
- *Glitch*

- Guided Course Material For :

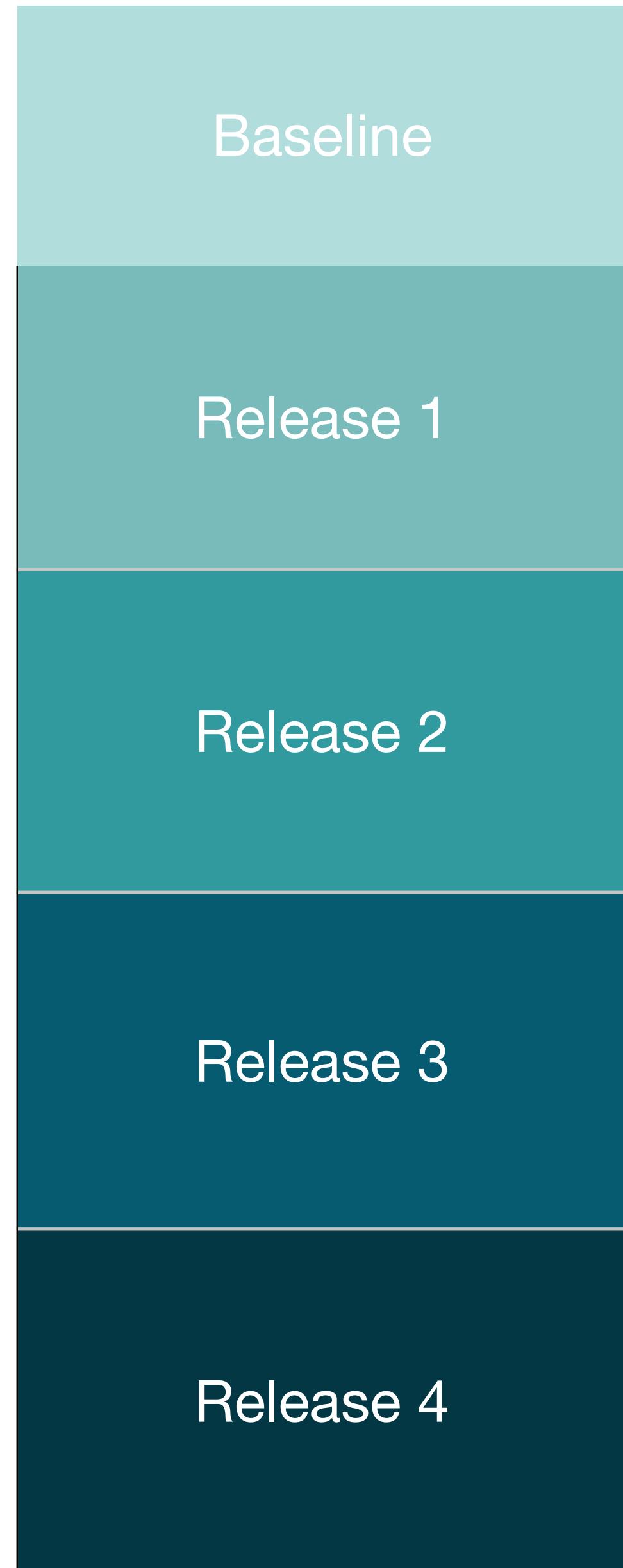
- *Release 1*
- *Release 2*
- *Release 3*

- New features part of:

- *Release 4*



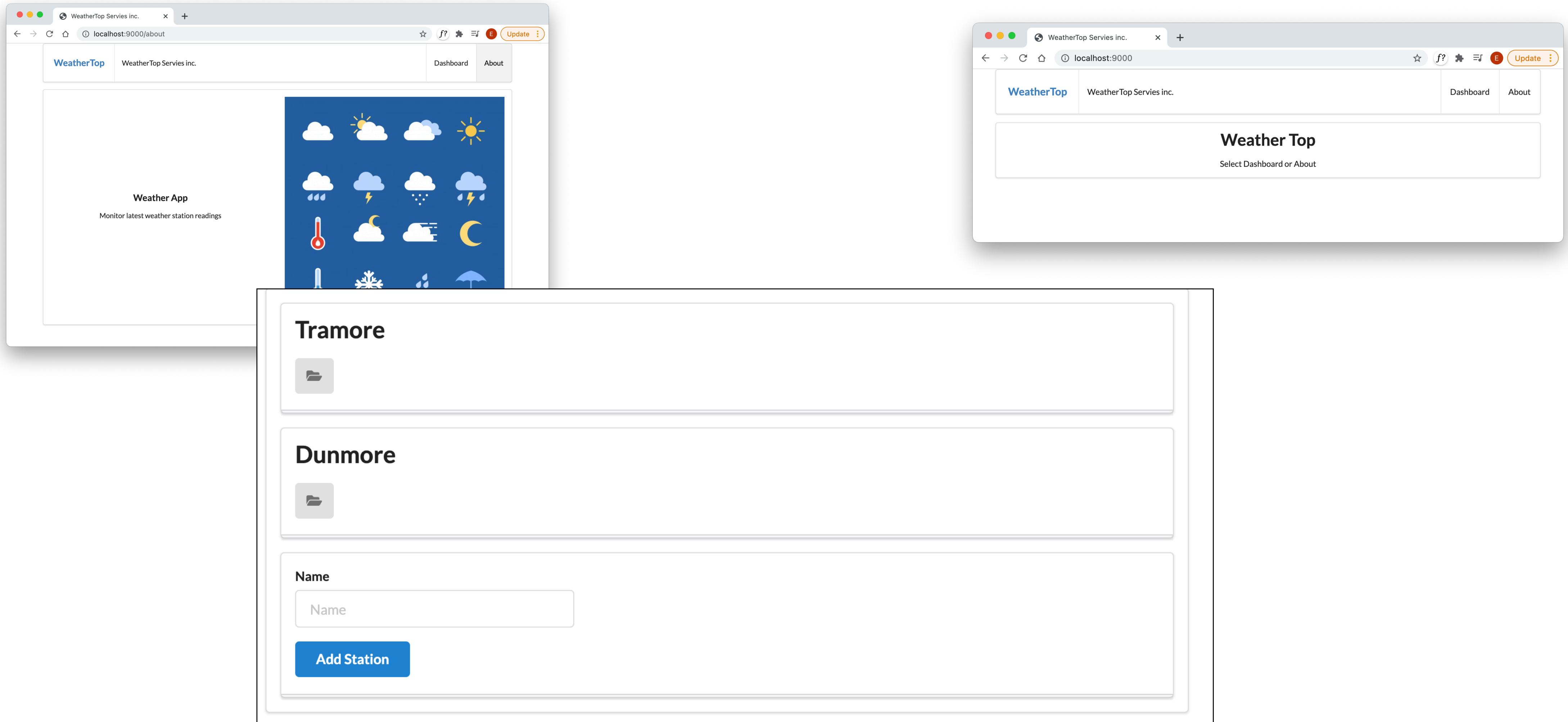
# Grading Bands



Version	Package Label	Grade Range
1	<b>Baseline</b>	0%-20%
2	<b>Release 1</b>	20%-45%
3	<b>Release 2</b>	45%-60%
4	<b>Release 3</b>	60%-70%
5	<b>Release 4</b>	70%-100%

These are a guide only and may change

	Report	Station	Member	Features	Code
Baseline		Station Name (must use a station-store.js with _id)	None	Can add and list stations, clicking on a station opens the detail page with just the station name. Must have a station-controller.js	Zipped archive +readme



	Report	Station	Member	Features	Code
Release 1	Code, Temp, Wind Speed, Pressure. (must use a report-store.js with _id)		None	Can add a report to a station with the parameters in the “Report” column. A station should have many reports. (A report will have a stationId). Must have a report-controller.js	+ Glitch Project

Code	Temp	Wind Speed	Wind Direction	Pressure
800	0.5	3.5	0	0
600	6.0	2.0	0	0

Code:  Temperature:  Wind Speed:

Wind Direction:  Pressure:

Submit Report

You are to use weather codes from  
<https://openweathermap.org/weather-conditions>

Add Report (likely when you click into the station)

	Report	Station	Member	Features	Code
Release 2	+ Wind Direction (dropdown menu)	+Lat, Lng. Max/Min (Temp, Wind, Pressure) taken from reports. Display icon for code.	First Name, Last Name, Email, Password + Stations. Cookie. Must have a user-store.js	Members can signup/log in. Members may create any number of weather stations. (Hint: Stations will now have a userId). Must have an accounts-controller.js.  Only shows member's stations	+ Github repo

WeatherTop Please Signup to WeatherTop Signup Login

Register

First Name Last Name

Email bob@gmail.com

Password .....  
Submit

User can Sign up / log in

Release 2 Will Introduce a **User Store**

WeatherTop Please Login to WeatherTop Signup Login

Log-in

Email bob@gmail.com

Password .....  
Login

Each Station will now have a 'userid' field.

We can retrieve stations for a given user using this id ...

```
let stations = stationStore.getUserStations(loggedInUser.id)
```

Name Latitude Longitude

Name 00.00 00.00

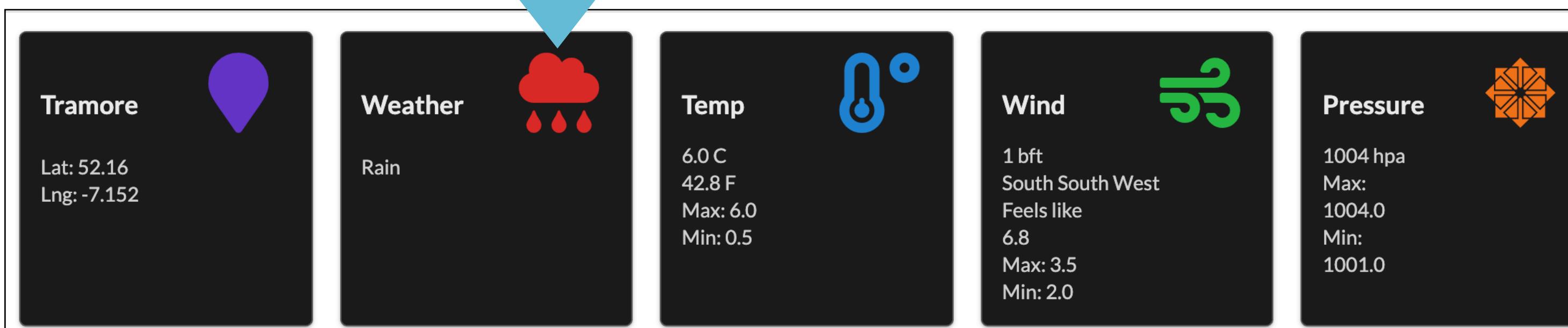
Add Station

Add Station with Location

Review the sessions lab

	Report	Station	Member	Features	Code
Release 2	+ Wind Direction (dropdown menu)	+Lat, Lng. Max/Min (Temp, Wind, Pressure) taken from reports. Display icon for code.	First Name, Last Name, Email, Password + Stations. Cookie. Must have a user-store.js	Members can signup/log in. Members may create any number of weather stations. (Hint: Stations will now have a userId). Must have an accounts-controller.js	+ Github repo

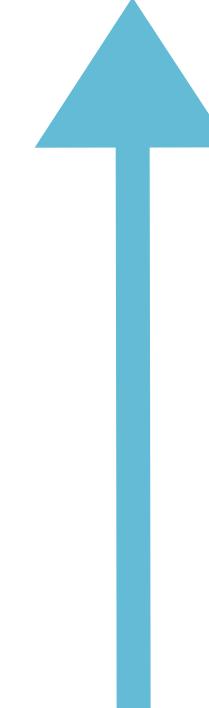
## Suitable Icons ( <https://openweathermap.org/weather-conditions#icon-list> )



You are to use weather codes from  
<https://openweathermap.org/weather-conditions>  
You can optionally use the icons from this page too  
and simply link to them e.g.  
<https://openweathermap.org/img/wn/10d@2x.png>

Don't worry if you don't have all these fields,  
follow the rubric, you likely can only do min and  
max here, current weather is in release 3

Code	Temp	Wind Speed	Wind Direction	Pressure
700	8.0	1.0	90	1000
200	0.5	3.5	120	999
200	0.0	6.0	1000	120



This page is when you click into a station where  
you can see the summary of the station in the  
icons and the reports below. You can likely add a  
report here too from a previous release.

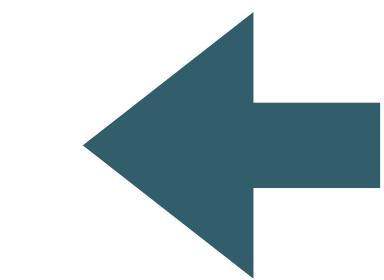
Max/Min Temp/Wind/Pressure<sup>7</sup>

	Report	Station	Member	Features	Code
Baseline		Station Name (must use a station-store.js with _id)	None	Can add and list stations, clicking on a station opens the detail page with just the station name. Must have a station-controller.js	Zipped archive +readme
Release 1	Code, Temp, Wind Speed, Pressure. (must use a report-store.js with _id)		None	Can add a report to a station with the parameters in the “Report” column. A station should have many reports. (A report will have a stationId). Must have a report-controller.js	+ Glitch Project
Release 2	+ Wind Direction (dropdown menu)	+Lat, Lng. Max/Min (Temp, Wind, Pressure) taken from reports. Display icon for code	First Name, Last Name, Email, Password + Stations. Cookie. Must have a user-store.js	Members can signup / log in. Members may create any number of weather stations. (Hint: Stations will now have a userId). Must have an accounts-controller.js. Only shows members stations.	+ Github repo

# Where to Start?

Baseline

Consider adapting Playlist-1 application (Lab-03a) - refactoring the playlist model to become a Station. Marks will be lost if anything in the code is still called playlist.

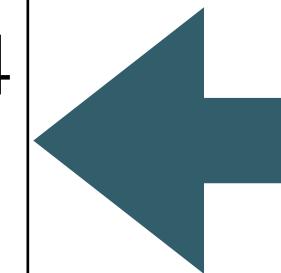


Lab-03a Playlist 1  
Create a Playlist application, enabling simple named playlists to..

Release 1

Replicate how Playlist 2 moves the tracks to their own view and add Reports with their own controller/view. Marks will be lost if anything in the code is still called track.

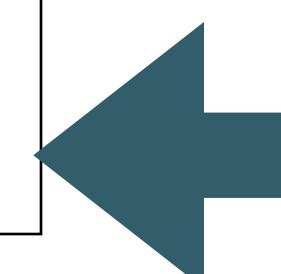
Copy the forms for creating playlists/tracks from Playlist 4 - use these as the model for creating Reports/Stations



You will likely have a dashboard page and a station page with reports but welcome pages may help too

Release 2

Copy and adapt the Accounts Class + views from Playlist 4. Only show members stations. Clicking into a station shows you the reports and the card/icon driven min/max summary



Lab-04 Playlist 2



Allow track to be added to playlists.

Lab-06 Playlist 3



Support delete of Playlist & Tracks + Updating of tracks.

Lab-07a Playlist 4

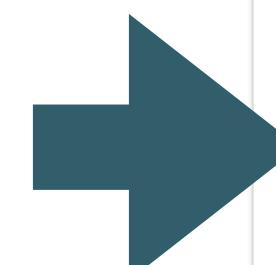
list 4
n
ier@simpson.com
rd
...
in

Introduce Sessions onto the Playlist application, enabling user accounts...

	Report	Station	Member	Features	Code
Release 3	+ Time/Date (When report is saved <a href="https://day.js.org/docs/en/display/format">https://day.js.org/docs/en/display/format</a> or new Date().toISOString())		User can edit their personal details.	Member dashboard summary alphabetically lists latest conditions for all stations (taken from the time in the "Report" column). Members can delete reports or stations. Bonus - deleting a station auto deletes it's reports (cascades)	+Github repo with history

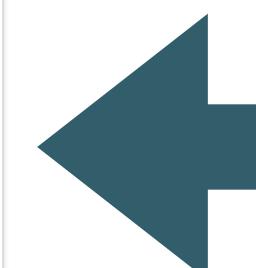
Stations listed alphabetically

Delete Station



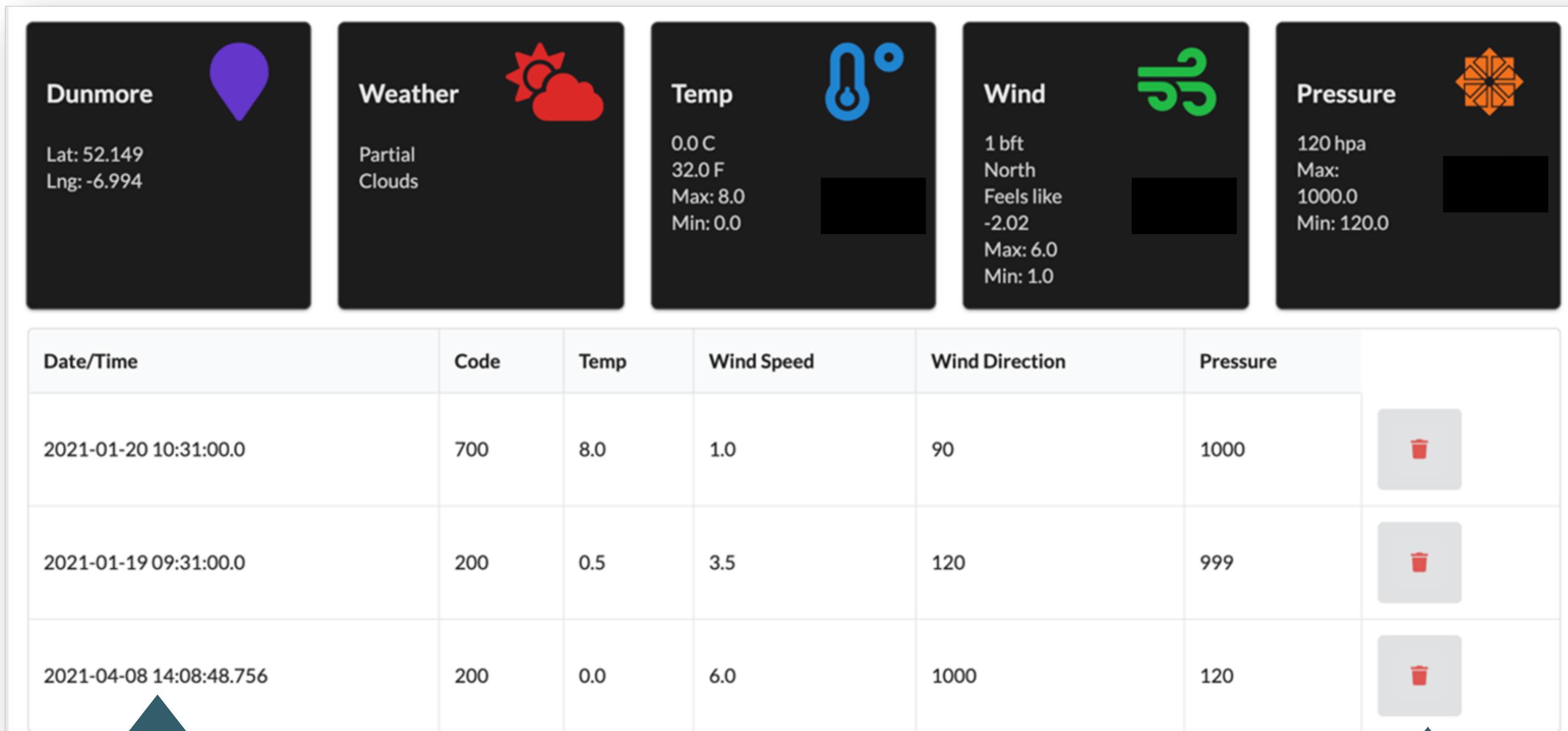
The dashboard displays a list of stations. Each station card includes a location pin icon, the station name, latitude, longitude, and a 'Weather' section with icons for temperature, wind, and pressure. Below the list is a form for adding a new station, featuring fields for Name, Latitude, and Longitude, and a blue 'Add Station' button.

Here you taking the min/max summary from the station page and applying it to the station list dashboard. (Might be useful as a partial and use an “each”)



Expand upon the dashboard to list latest weather for all the member's Stations (but not individual reports). Current reports are the latest, max and min are from all reports

	Report	Station	Member	Features	Code
Release 3	+ Time/Date  (When report is saved <a href="https://day.js.org/docs/en/display/format">https://day.js.org/docs/en/display/format</a> or new Date().toISOString())		User can edit their personal details.	Member dashboard summary alphabetically lists latest conditions for all stations (taken from the time in the "Report" column). Members can delete reports or stations. Bonus - deleting a station auto deletes it's reports (cascades)	+Github repo with history

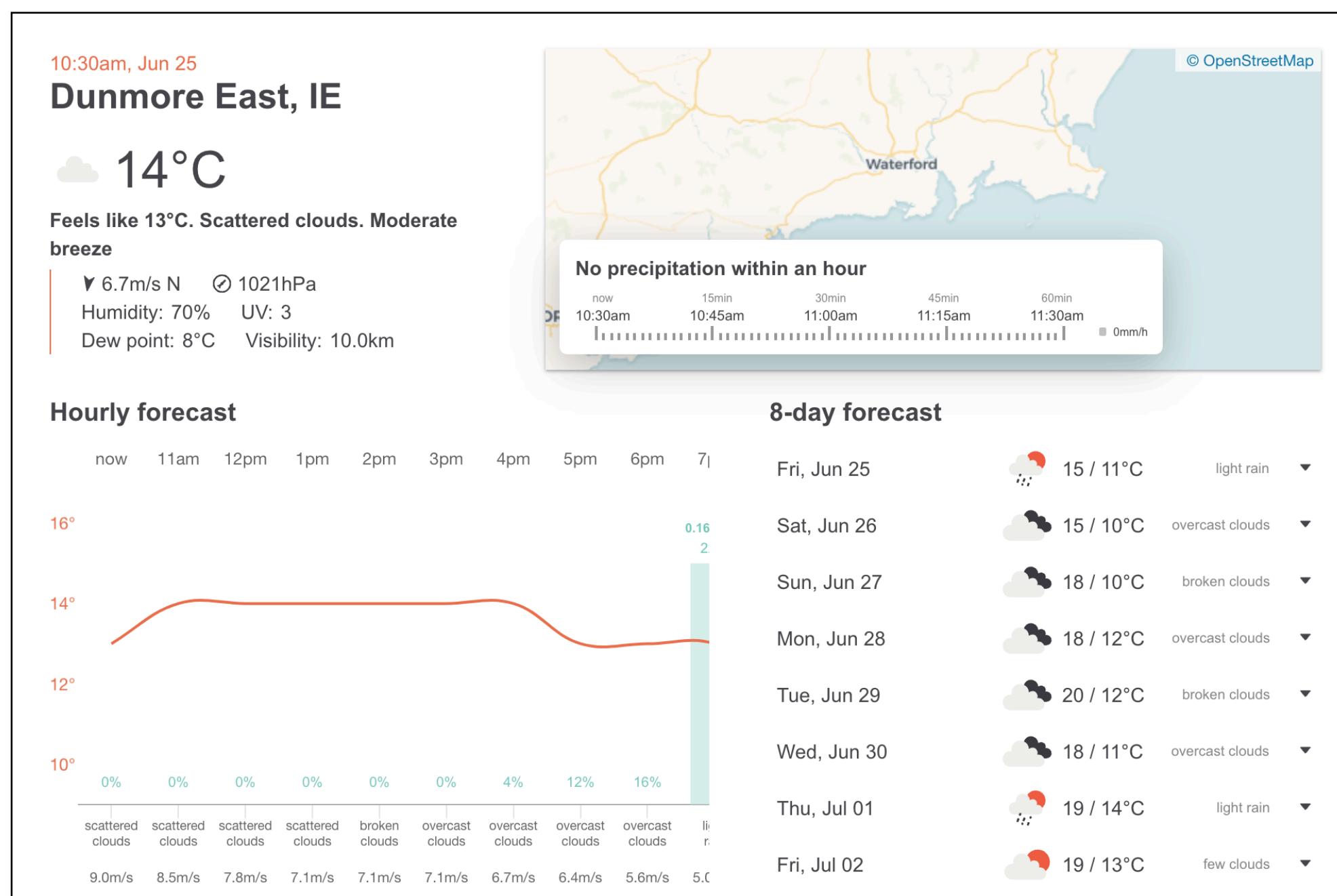


Date/Time when report is created

This is the station view

Delete report

	Report	Station	Member	Features	Code
Release 4	Auto Read from OpenWeather	Station Map View		Simple Graph of Trends	Github repo tags



Auto Generate report by accessing OpenWeatherMap API

WeatherTop    Dunmore Weather Station

Nice touch

Dashboard    About    

**Dunmore**

Lat: 52.149  
Lng: -6.994

**Weather**



Partial Clouds

**Temp**



0.5°C  
32.9°F  
Max: 8.0  
Min: 0.5

**Wind**



1 bft  
East South East  
Feels like -0.22  
Max: 3.5  
Min: 1.0

**Pressure**



999 hPa  
Max: 1000.0  
Min: 999.0

Date/Time	Code	Temp	Wind Speed	Wind Direction	Pressure
2021-01-20 10:31:00.0	700	8.0	1.0	90	1000
2021-01-19 09:31:00.0	200	0.5	3.5	120	999

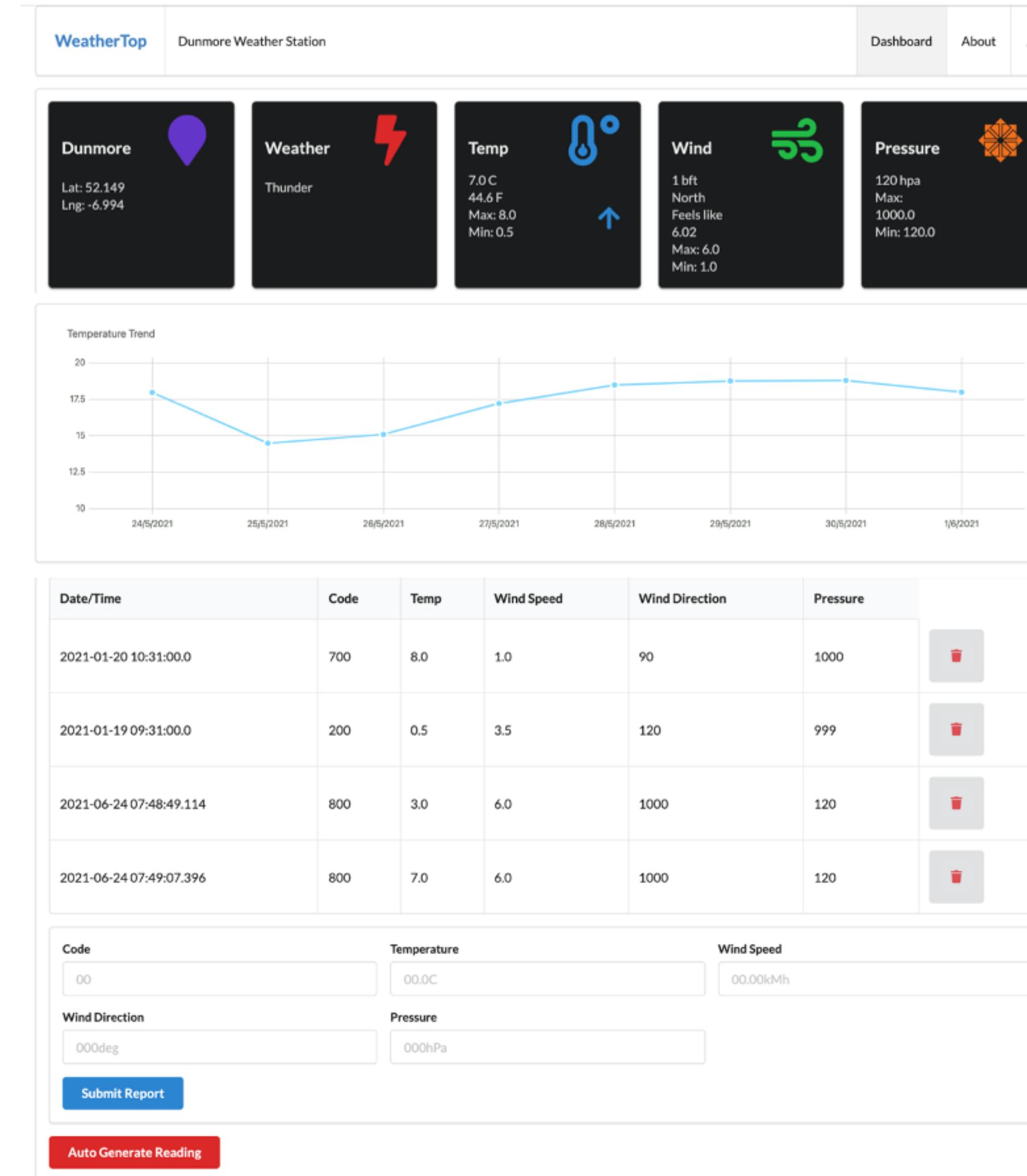
**Code**: 00    **Temperature**: 00.0C    **Wind Speed**: 00.00kmh

**Wind Direction**: 000deg    **Pressure**: 000hPa

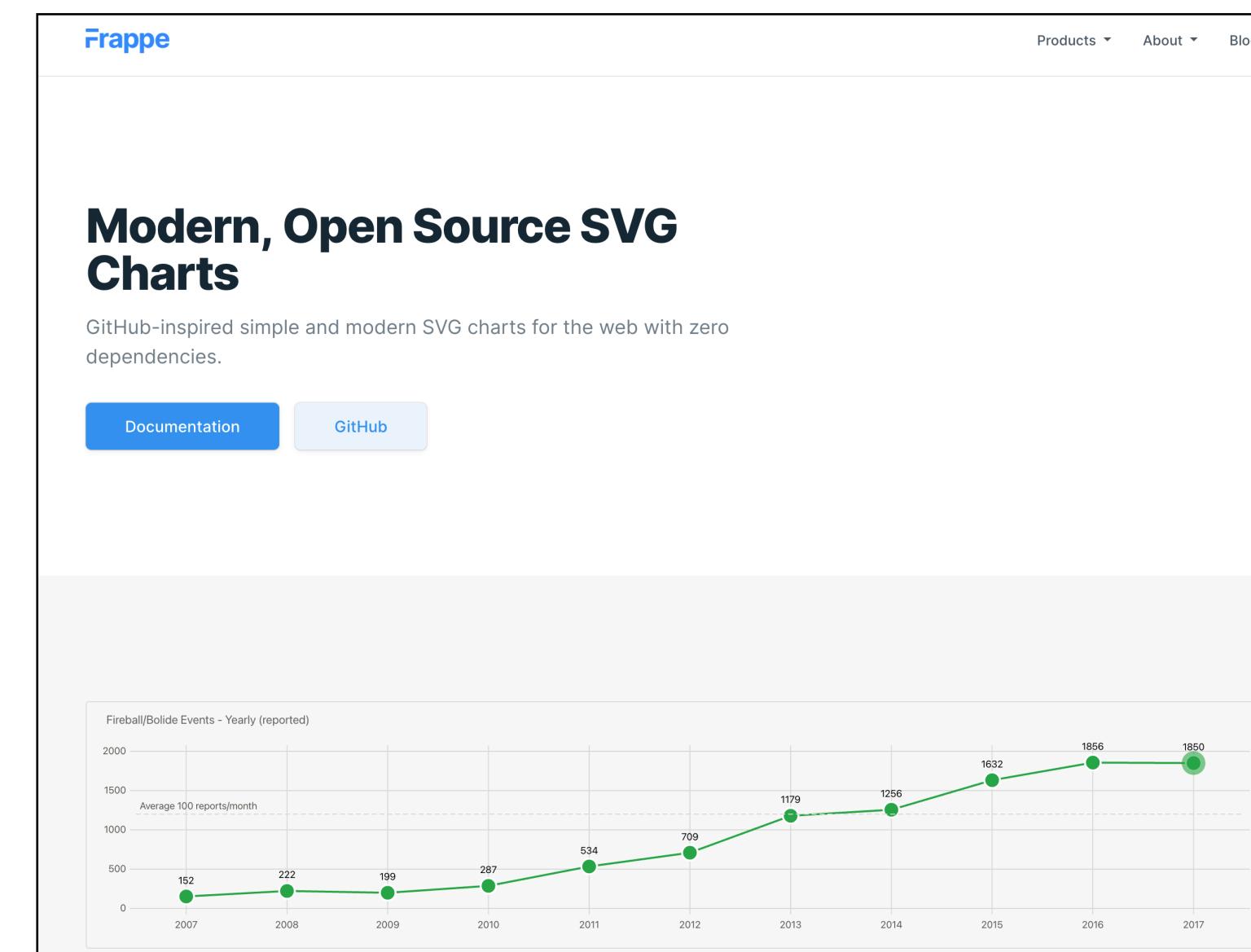
**Submit Report**

**Auto Generate Reading**

	Report	Station	Member	Features	Code
Release 4	Auto Read from OpenWeather	Station Map View		Simple Graph of Trends	Github repo tags



## Chart of Trends



	Report	Station	Member	Features	Code
Release 4	Auto Read from OpenWeather	Station Map View		Simple Graph of Trends	Github repo tags

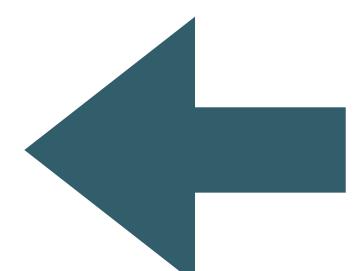
The screenshot shows the WeatherTop application's interface. At the top, there are tabs for 'WeatherTop' and 'WeatherTop Stations'. Below this, two sections of weather data are displayed in cards:

- Dunmore:** Lat: 52.149, Lng: -6.994. Icons: location pin, thermometer.
- Weather:** Thunder. Icons: lightning bolt.
- Temp:** 7.0 C, 44.6 F. Max: 8.0. Min: 0.5. Icons: thermometer.
- Wind:** 1 bft, North. Feels like: 6.02. Max: 6.0. Min: 1.0. Icons: wind.
- Pressure:** 120 hpa. Max: 1000.0. Min: 120.0. Icons: pressure.

Below these sections is a map of Ireland with three stations marked: Dunmore, Tramore, and Dunmor East. A legend at the bottom indicates the station names and their locations.

At the very bottom, there is a form to add a new station with fields for Name, Latitude, and Longitude, and a 'Add Station' button.

The screenshot shows the Leaflet.js website. The header features the Leaflet logo and navigation links for Overview, Tutorials, Docs, Download, Plugins, and Blog. A news banner at the top right announces the release of Leaflet 1.7.1 on Sep 4, 2020. The main content area displays a map of Hyde Park in London, showing various landmarks and a CSS3 popup window with a location marker and text: "A pretty CSS3 popup. Easily customizable." The footer credits Leaflet and OpenStreetMap contributors.



Show Marker for each Station on map

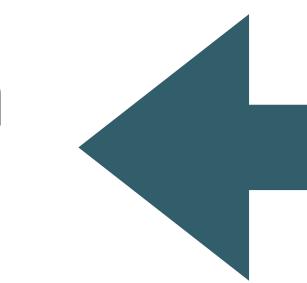
# Where to Start?

Release 3

Use knowledge gained from lectures and labs to build new feature sets

Release 4

Work through labs to experiment with WeatherAPI access + simple charts



**Lab 08a**  
[OpenWeatherMap](#)

Cloudy (18°C), Cloudy (21°C), Fair (20°C), Light rain (21°C)

TOMORROW (18°C), WEDNESDAY (20°C), THURSDAY (21°C), FRIDAY (20°C)

18:00 19:00 20:00 21:00 22:00 23:00 Tue 24th 00:00 01:00 02:00 03:00 04:00

15°C 16°C 15°C 15°C 15°C 15°C 15°C 15°C 15°C 15°C 15°C 14°C

[Create developer account and explore the API using the browser.](#)

**Lab 08b API Access**

Retrieve latest weather report in javascript

**Lab 08c Charts**

Display a simple trend chart

	Report	Station	Member	Features	Code
Baseline		Station Name (must use a station-store.js with _id)	None	Can add and list stations, clicking on a station opens the detail page with just the station name. Must have a station-controller.js	Zipped archive +readme
Release 1	Code, Temp, Wind Speed, Pressure. (must use a report-store.js with _id)		None	Can add a report to a station with the parameters in the “Report” column. A station should have many reports. (A report will have a stationId). Must have a report-controller.js	+ Glitch Project
Release 2	+ Wind Direction (dropdown menu)	+Lat, Lng. Max/Min (Temp, Wind, Pressure) taken from reports. Display icon for code	First Name, Last Name, Email, Password + Stations. Cookie. Must have a user-store.js	Members can signup/log in. Members may create any number of weather stations. (Hint: Stations will now have a userId). Must have an accounts-controller.js. Only shows members stations.	+ Github repo
Release 3	+ Time/Date (When report is saved <a href="https://day.js.org/docs/en/display/format">https://day.js.org/docs/en/display/format</a> or new Date().toISOString())		User can edit their personal details.	Member dashboard summary alphabetically lists latest conditions for all stations (taken from the time in the “Report” column). Members can delete reports or stations. Bonus - deleting a station auto deletes it's reports (cascades)	+Github repo with history
Release 4	Auto Read from OpenWeatherMap API	Station Map View		Simple Graph of Trends	+Github repo with tags

# Tips

- Start with the simplest lab, augment and build from there, do NOT jump straight into the last lab and try add all the features at once, you will get confused.
- Be consistent with the units you are displaying (km/h, knots), this is left up to you (you do not need to store the units themselves, the UI can make assumptions)
- Be sure to use the weather codes mentioned earlier in the slides
- Only aim for Release 4 if you have the time, not everyone will, the labs provided for student driven learning should get you up and running on those (hint: do the auto read first, then trends and then maps)
- A data model is not provided so it is recommended to keep it simple, start with the simple labs and adjust the model attribute names, in brief
  - A station has many reports - reports have a station id - `reportStore.getAllReportsByStation(stationId)`
  - A user has many stations - stations have a user id - `stationStore.getAllStationsByUser(userId)`

# Submission

- All submissions must be a zip containing the code, readme and self assessment rubric
- All assessment rubrics must be in PDF, non pdf submissions (e.g. word doc) will result in lost marks
- Include a URL to your git repo in your self assessment (add lecturer to your repository)
- Deadline will be late August, review the Moodle submission
- Grading will take place in September and October during 15 minute online interviews where you will talk through the rubric and the application with the lecturer

# WeatherTop 2.0 Assignment Briefing

