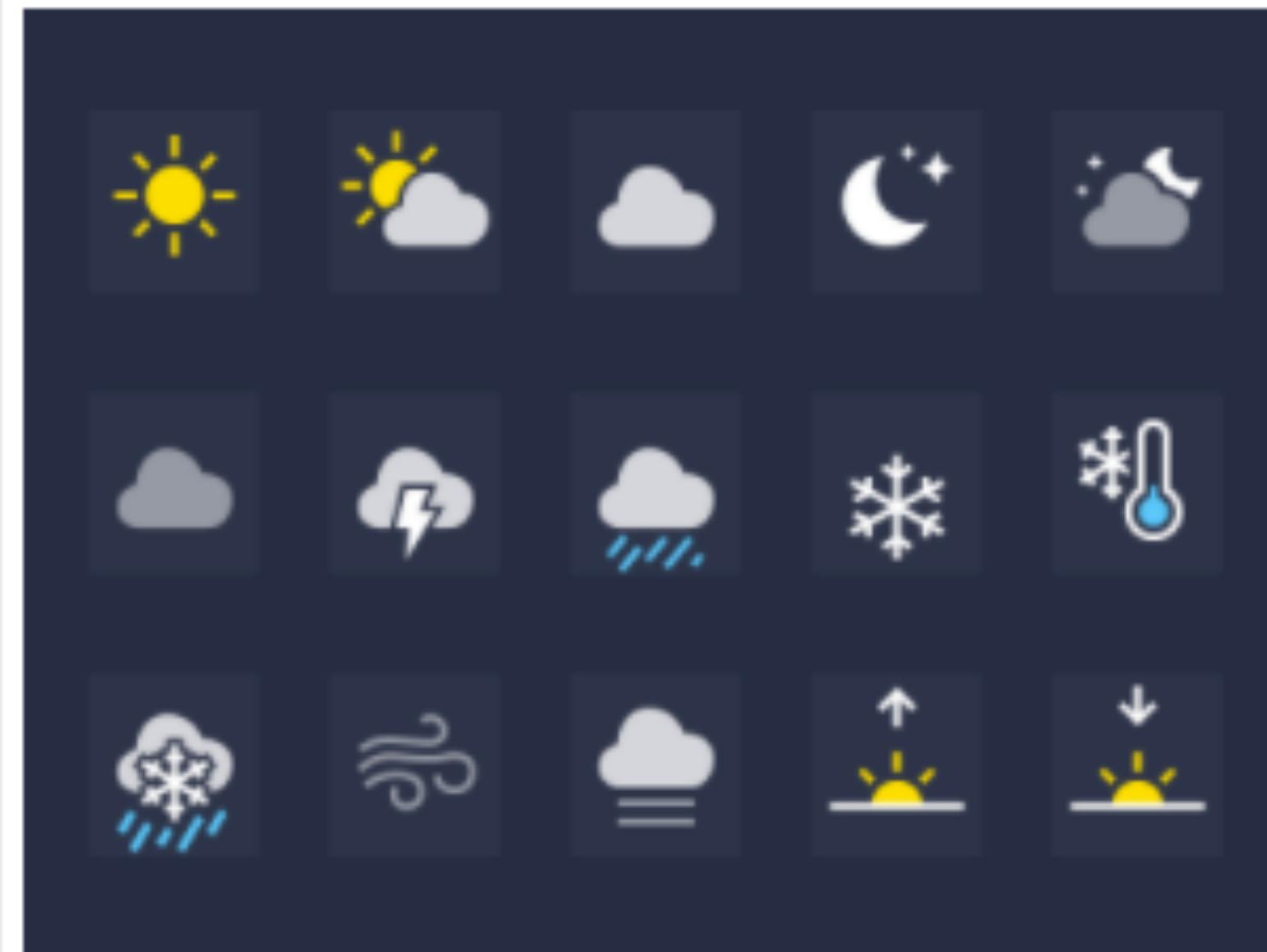


# WeathetTop Assignment Briefing



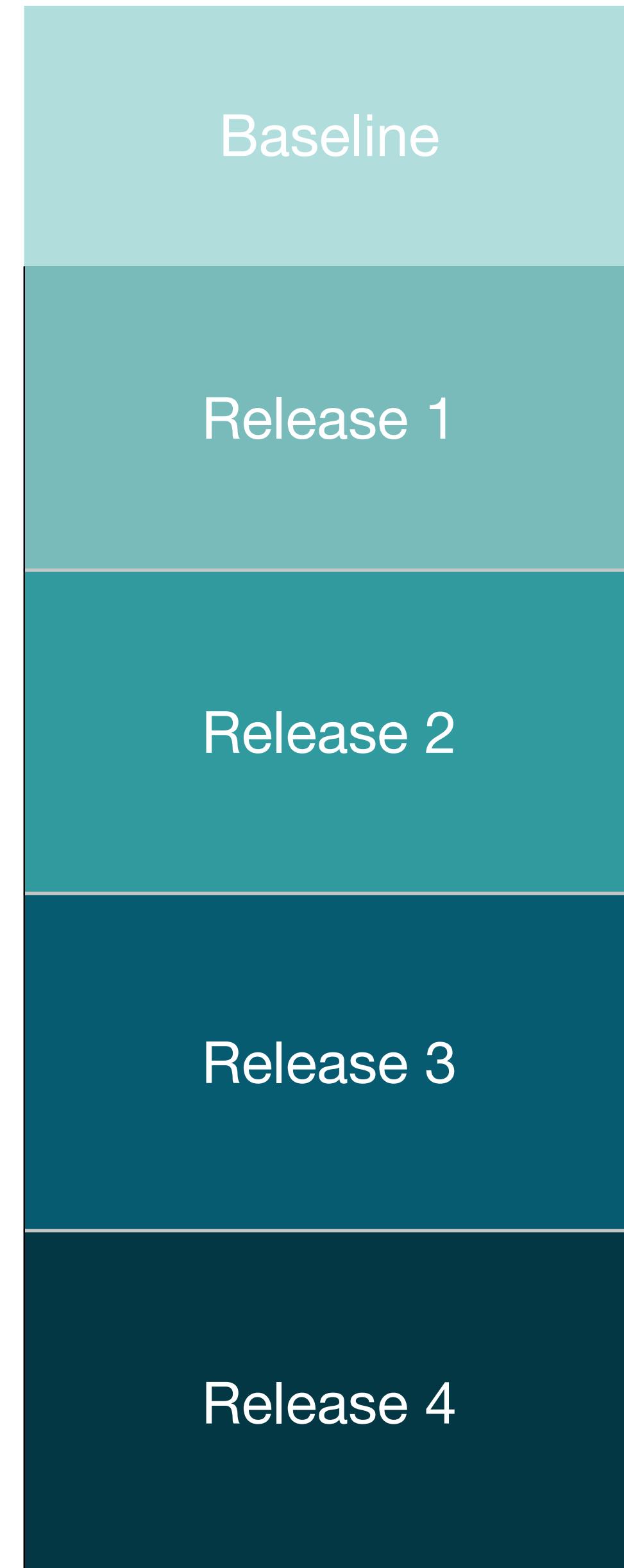
A walkthrough the  
assignment specification

## Assignment Concept

- Reimplement WeatheTop using:
  - *Javascript*
  - *Express/Handlebars*
  - *Glitch*
- Existing application features same for :
  - *Release 1*
  - *Release 2*
  - *Release 3*
- New features part of:
  - *Release 4*

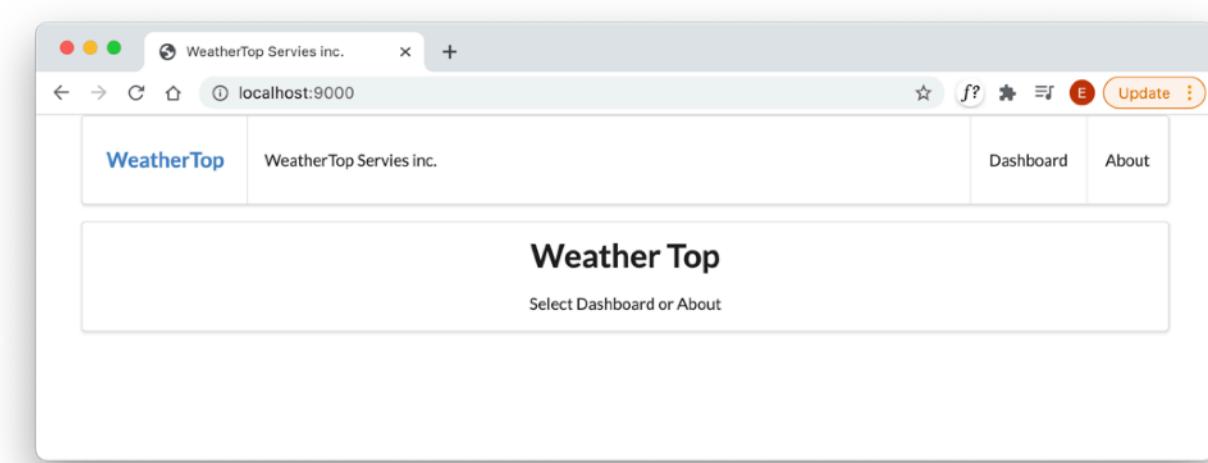
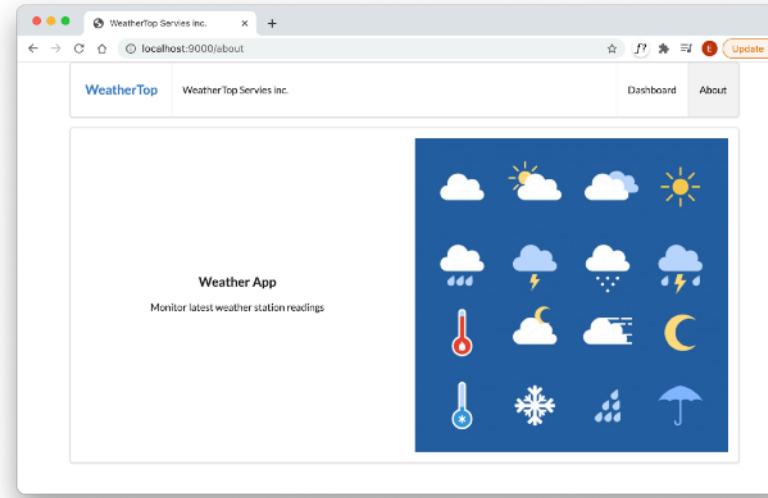


# Grading Bands



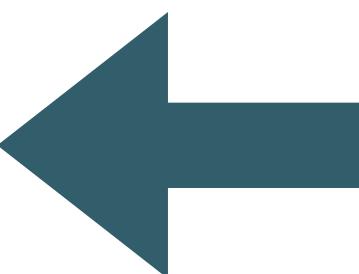
Version	Package Label	Grade Range
1	<b>Baseline</b>	0%-20%
2	<b>Release 1</b>	20%-45%
3	<b>Release 2</b>	45%-60%
4	<b>Release 3</b>	60%-70%
5	<b>Release 4</b>	70%-100%

	Reading	Station	Member	Features	Code
Baseline	Code, Temp Wind Speed Pressure	Station Name  Latest weather, Temp C, F, Wind Bft, pressure	None	Load and display stations + their readings from json file + display latest weather for station	Zipped archive +readme



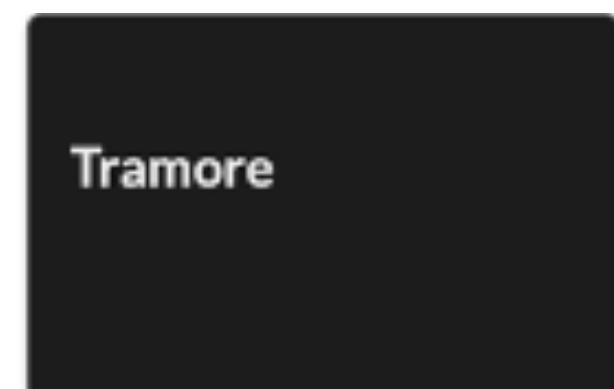
Dunmore

Dunmore	Weather	Temp 0.5 C 32.9 F	Wind 1 bft	Pressure 999 hpa
Code	Temp	Wind Speed	Pressure	
700	8.0	1.0	1000	
200	0.5	3.5	999	



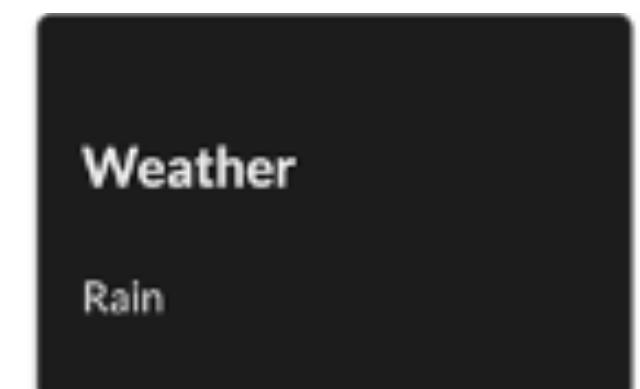
- Show latest conditions (last reading)

Weather  
conditions



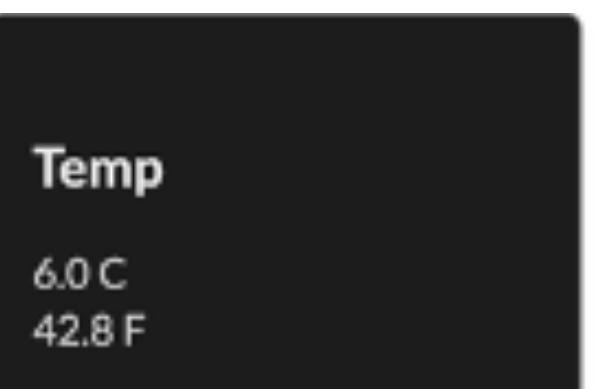
Station Name

Temp in  
both C & F

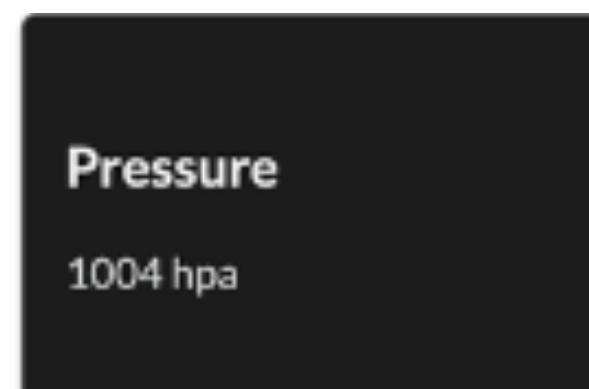


Temp  
6.0 C  
42.8 F

Wind in  
Beaufort



Wind  
1 bft



Pressure  
1004 hpa

Pressure

```
{
  "stationCollection": [
    {
      "id" : "01",
      "name": "Tramore",
      "readings": [
        {
          "id" : "02",
          "code": 800,
          "temperature": 0.5,
          "windSpeed": 3.5,
          "pressure": 1002
        },
        {
          "id" : "03",
          "code": 600,
          "temperature": 6,
          "windSpeed": 2,
          "pressure": 1004
        },
        {
          "id" : "04",
          "code": 700,
          "temperature": 8,
          "windSpeed": 1,
          "pressure": 1005
        }
      ],
      "id" : "05",
      "name": "Dunmore",
      "readings": [
        {
          "id" : "06",
          "code": 700,
          "temperature": 8,
          "windSpeed": 1,
          "pressure": 999
        },
        {
          "id" : "07",
          "code": 200,
          "temperature": 0.5,
          "windSpeed": 3.5,
          "pressure": 1000
        }
      ]
    }
  ]
}
```

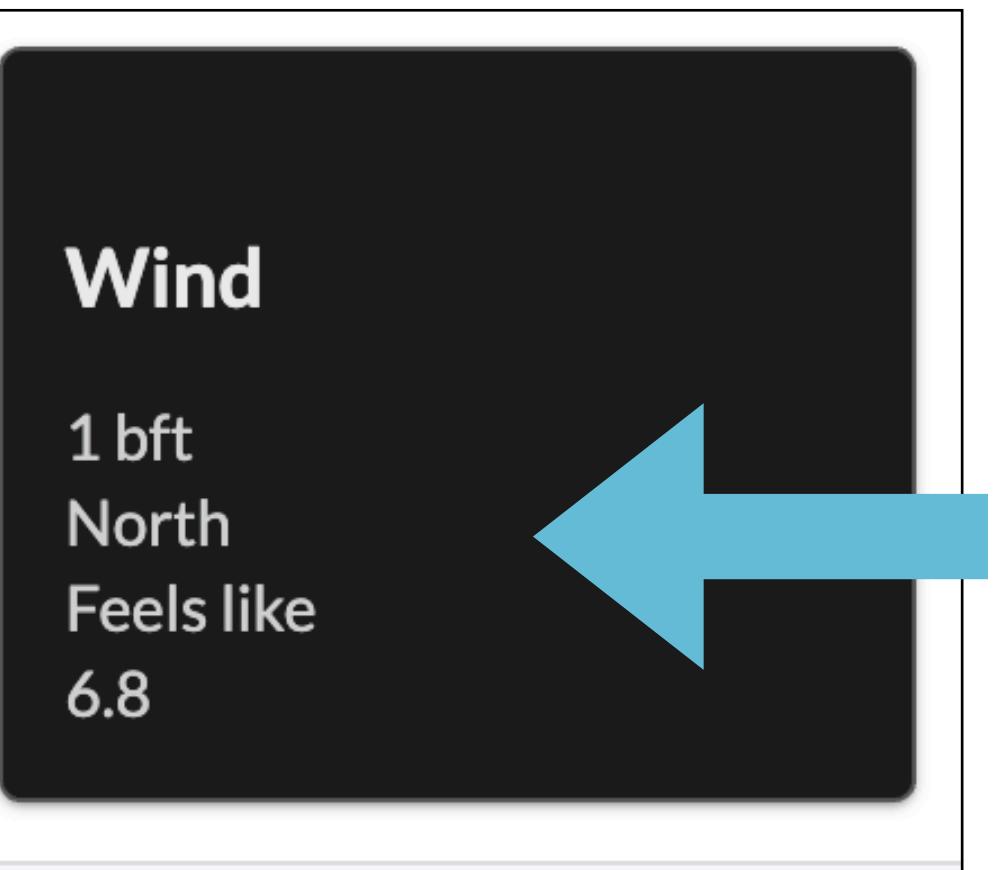
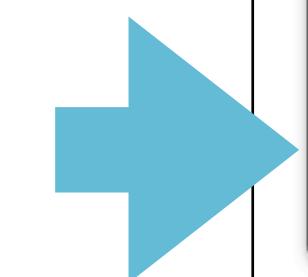
	Reading	Station	Member	Features	Code
Release 1	+ Wind Direction	+ Wind Chill, Wind Compass	None	Dashboard shows station list + button to open station view. Include forms to add new Station + new reading	+ Glitch Project

Add Station

Add Reading

```
{
  "stationCollection": [
    {
      "id": "01",
      "name": "Tramore",
      "readings": [
        {
          "id": "02",
          "code": 800,
          "temperature": 0.5,
          "windSpeed": 3.5,
          "pressure": 1002,
          "windDirection": 90
        },
        {
          "id": "03",
          "code": 600,
          "temperature": 6,
          "windSpeed": 2,
          "pressure": 1004,
          "windDirection": 96
        },
        {
          "id": "04",
          "code": 700,
          "temperature": 8,
          "windSpeed": 1,
          "pressure": 1005,
          "windDirection": 101
        }
      ]
    },
    {
      "id": "05",
      "name": "Dunmore",
      "readings": [
        {
          "id": "06",
          "code": 700,
          "temperature": 8,
          "windSpeed": 1,
          "pressure": 999,
          "windDirection": 98
        },
        {
          "id": "07",
          "code": 200,
          "temperature": 0.5,
          "windSpeed": 3.5,
          "pressure": 1000,
          "windDirection": 102
        }
      ]
    }
  ]
}
```

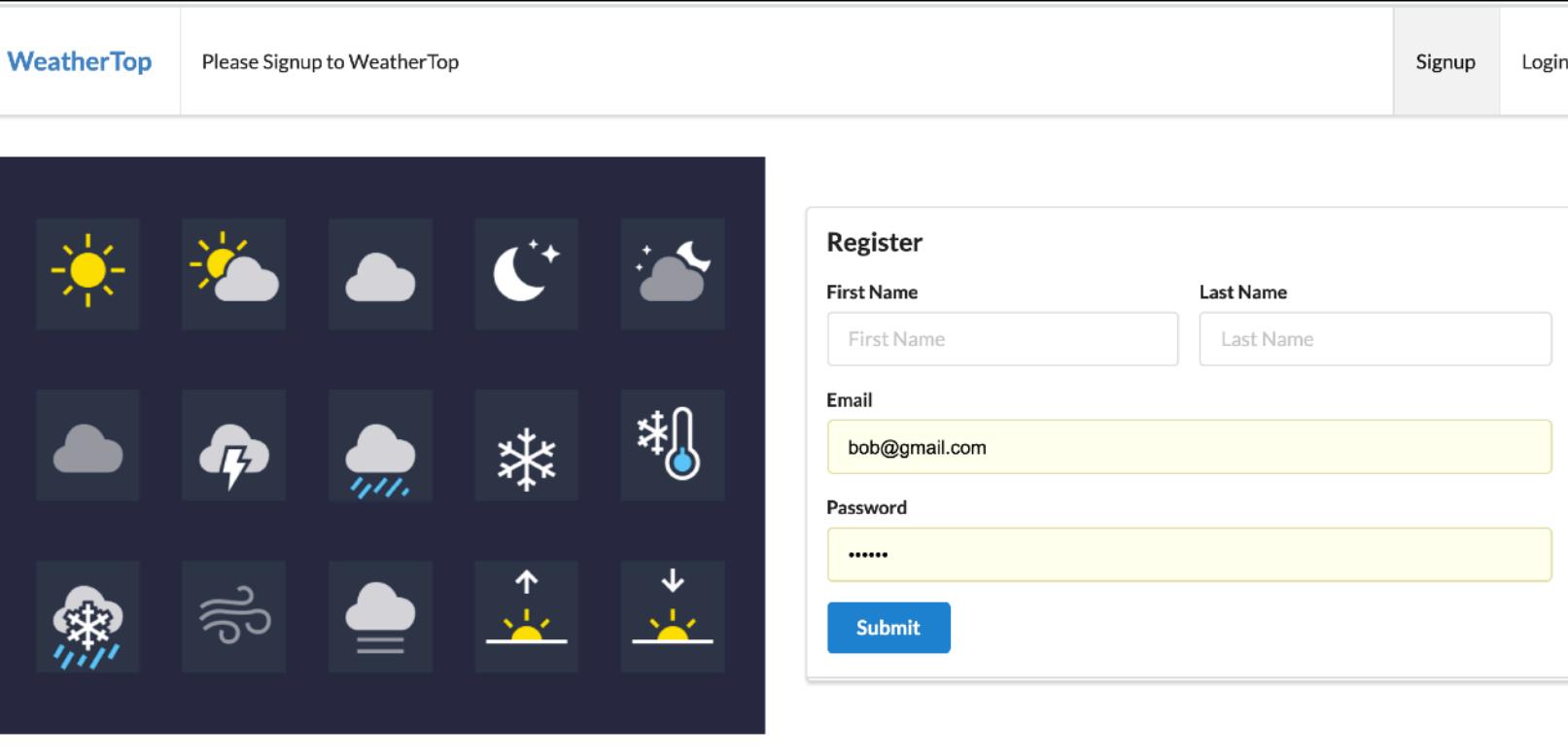
Wind Chill



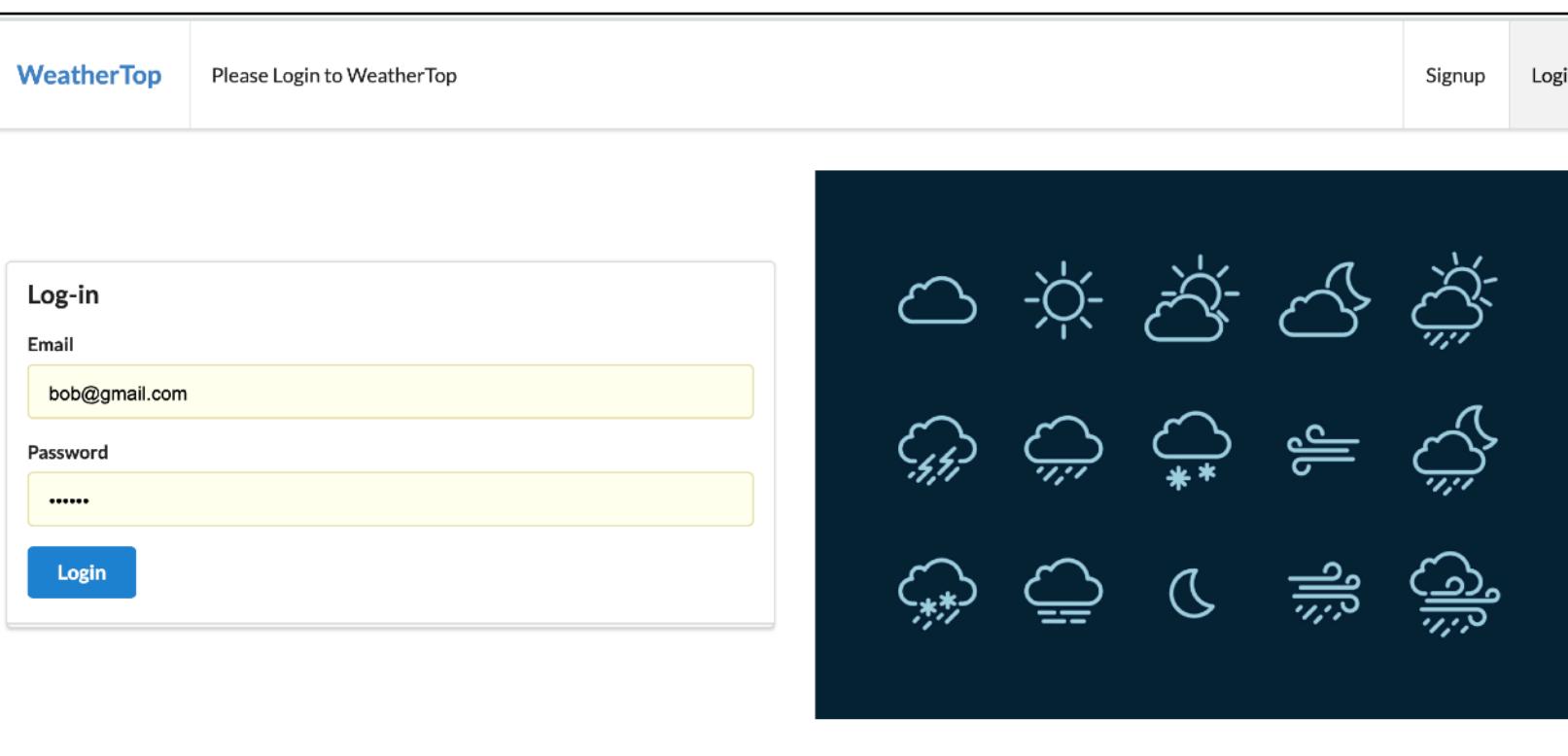
Wind  
Compass

	Reading	Station	Member	Features	Code
Release 2	+Lat, Lng Max/Min (Temp, Wind, Pressure)	First Name, Last Name, Email, Password + Stations	Members can signup/log in. Members may create any number of weather stations.	+ github repo	

User can Sign up / log in



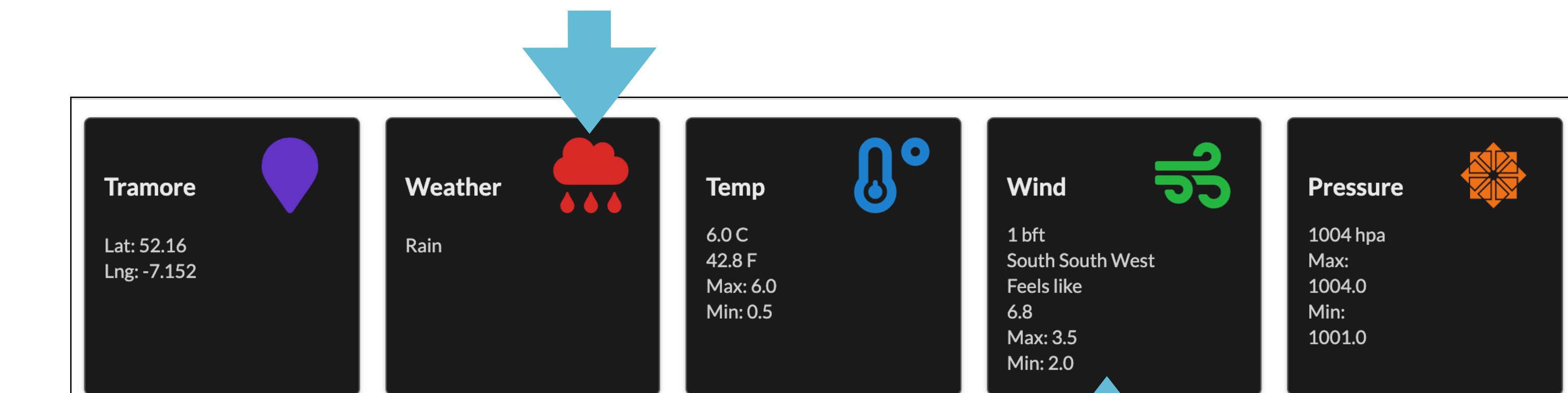
Suitable Icons



Add Station with Location



Max/Min Temp/Wind/Pressure



# Release 1 Example

## Station Store

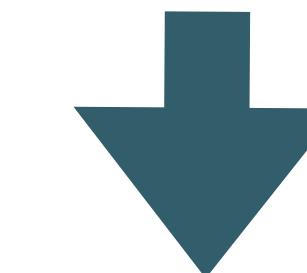
```
{  
  "stationCollection": [  
    {  
      "id": "01",  
      "name": "Tramore",  
      "readings": [  
        {  
          "id": "02",  
          "code": 800,  
          "temperature": 0.5,  
          "windSpeed": 3.5,  
          "pressure": 1002,  
          "windDirection": 90  
        },  
        {  
          "id": "03",  
          "code": 600,  
          "temperature": 6,  
          "windSpeed": 2,  
          "pressure": 1004,  
          "windDirection": 96  
        },  
        {  
          "id": "04",  
          "code": 700,  
          "temperature": 8,  
          "windSpeed": 1,  
          "pressure": 1005,  
          "windDirection": 101  
        }  
      ]  
    },  
    {  
      "id": "05",  
      "name": "Dunmore",  
      "readings": [  
        {  
          "id": "06",  
          "code": 700,  
          "temperature": 8,  
          "windSpeed": 1,  
          "pressure": 999,  
          "windDirection": 98  
        },  
        {  
          "id": "07",  
          "code": 200,  
          "temperature": 0.5,  
          "windSpeed": 3.5,  
          "pressure": 1000,  
          "windDirection": 102  
        }  
      ]  
    }  
  ]  
}
```

Release 2 Will  
Introduce a  
**User Store**

```
{  
  "users": [  
    {  
      "firstName": "homer",  
      "lastName": "simpson",  
      "email": "homer@simpson.com",  
      "password": "secret",  
      "id": "3ad52697-6d98-4d80-8273-084de55a86c0"  
    },  
    {  
      "firstName": "marge",  
      "lastName": "simpson",  
      "email": "marge@simpson.com",  
      "password": "secret",  
      "id": "2b6f0989-7b7f-4a38-ad26-aa06b922d751"  
    }  
  ]  
}
```

*Introduced via  
Lab 06a  
Sessions*

Each Station  
will now have a  
'userid' field.



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

```
{  
  "stationCollection": [  
    {  
      "id": "01",  
      "name": "Tramore",  
      "userid": "3ad52697-6d98-4d80-8273-084de55a86c0",  
      "readings": [  
        {  
          "id": "02",  
          "code": 800,  
          "temperature": 0.5,  
          "windSpeed": 3.5,  
          "pressure": 1002,  
          "windDirection": 90  
        },  
        {  
          "id": "03",  
          "code": 600,  
          "temperature": 6,  
          "windSpeed": 2,  
          "pressure": 1004,  
          "windDirection": 96  
        },  
        {  
          "id": "04",  
          "code": 700,  
          "temperature": 8,  
          "windSpeed": 1,  
          "pressure": 1005,  
          "windDirection": 101  
        }  
      ]  
    },  
    {  
      "id": "05",  
      "name": "Dunmore",  
      "userid": "3ad52697-6d98-4d80-8273-084de55a86c0",  
      "readings": [  
        {  
          "id": "06",  
          "code": 700,  
          "temperature": 8,  
          "windSpeed": 1,  
          "pressure": 999,  
          "windDirection": 98  
        },  
        {  
          "id": "07",  
          "code": 200,  
          "temperature": 0.5,  
          "windSpeed": 3.5,  
          "pressure": 1000,  
          "windDirection": 102  
        }  
      ]  
    }  
  ]  
}
```

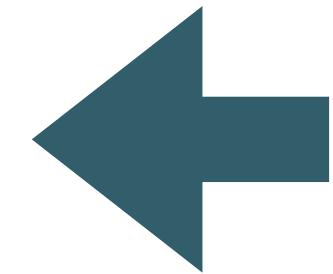
```
let stations = stationStore.getUserStations(loggedInUser.id)
```

	Reading	Station	Member	Features	Code
Baseline	Code, Temp Wind Speed Pressure	Station Name Latest weather, Temp C, F, Wind Bft, pressure	None	Load and display stations + their readings from json file + display latest weather for station	Zipped archive +readme
Release 1	+ Wind Direction	+ Wind Chill, Wind Compass	None	Dashboard shows station list + button to open station view. Include forms to add new Station + new reading	+ Glitch Project
Release 2		+Lat, Lng Max/Min (Temp, Wind, Pressure)	First Name, Last Name, Email, Password + Stations	Members can signup/log in. Members may create any number of weather stations. Members + sample stations + readings loaded from JSON	+ github repo

# Where to Start?

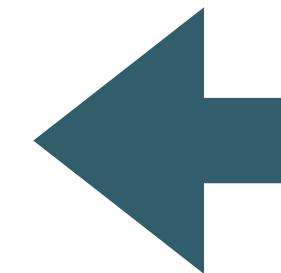
# Baseline

Consider adapting Playlist-1 application (Lab-03a) refactoring the Song model to become an Reading & Playlist to become Station



# Release 1

Explore how to pass additional information to a view - not just a single object



Replicate how Playlist 2 moves the songs to their own view and move Readings to their own controller/view

# Release 2

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



Copy and adapt the Accounts Class + views from Playlist 4

## Lab-03a Playlist 1



Import and run a new starter project. Extend this project to include multiple..

Lab-04 Playlist 2



Refactor the dashboard controller to show summary on of the playlists + link to..

# Lab-05 Playlist 3



Enable Songs and Playlists  
to be added via simple  
forms.

Lab-06a Playlist 4

Playlist 4

---

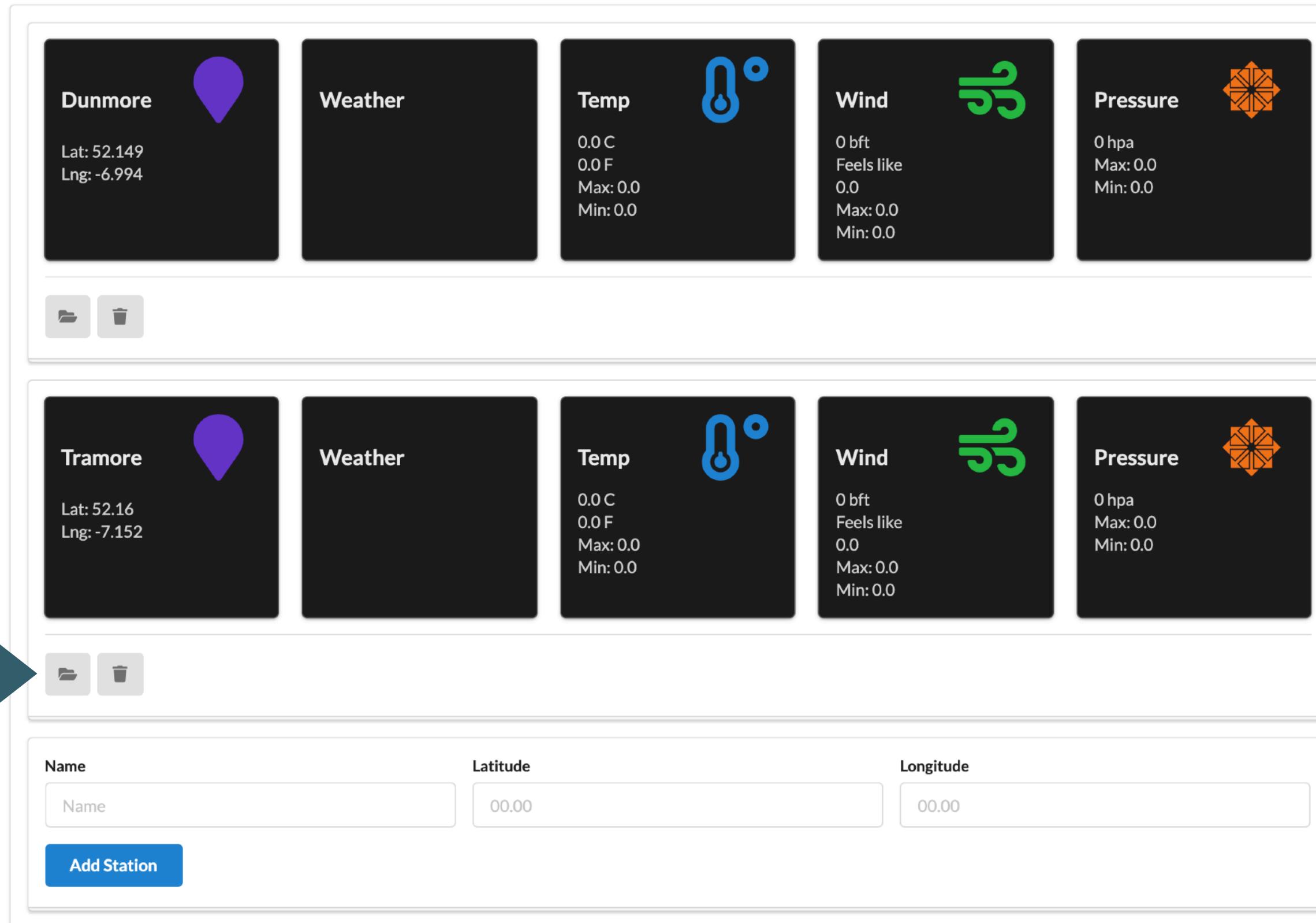
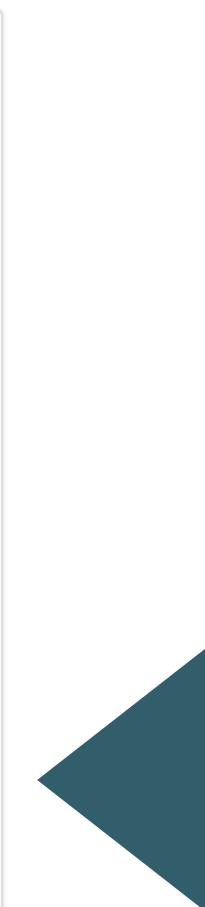
## Log-in

Email

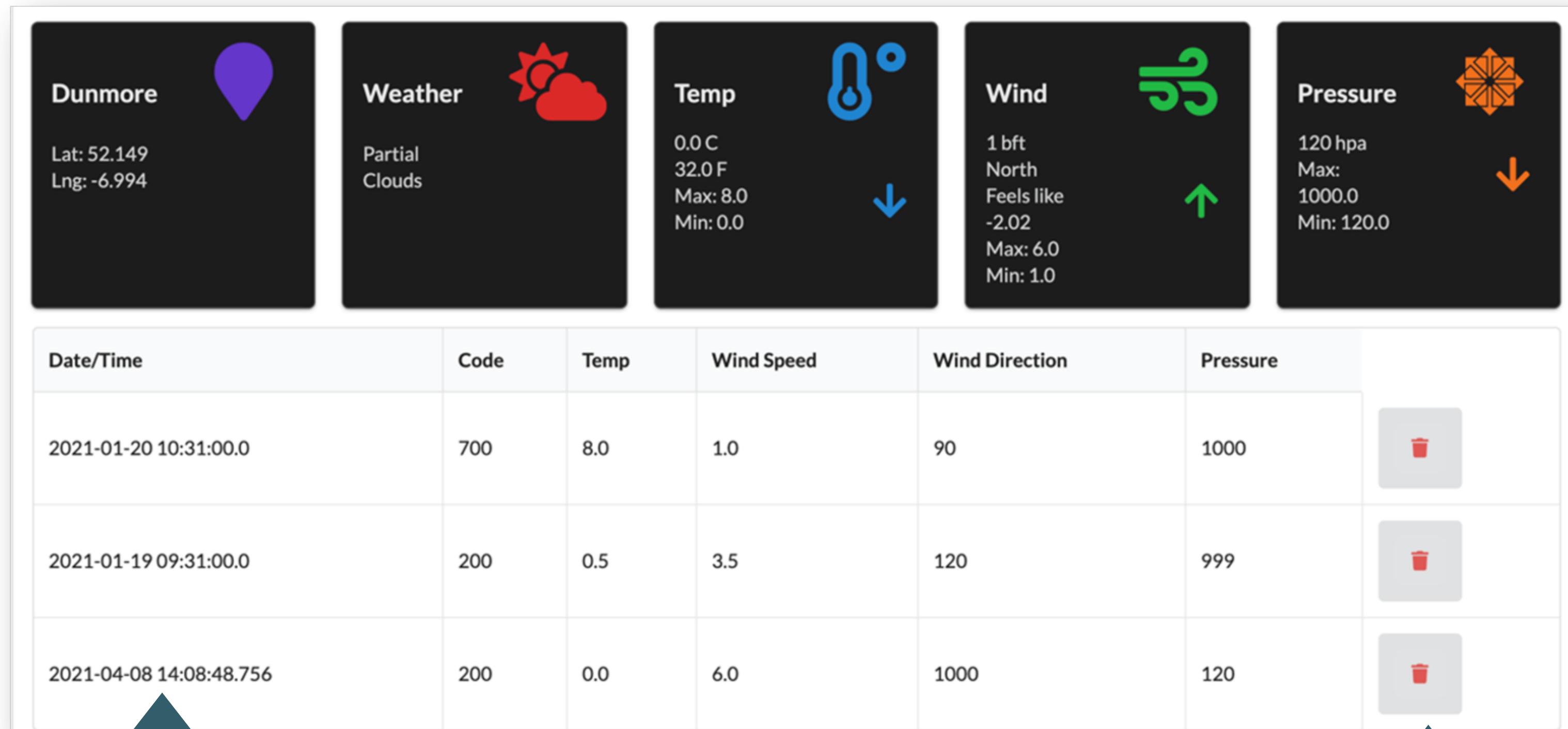
Password

**Login**

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

	Reading	Station	Member	Features	Code
Release 3	+ Time / Date	Temp, Wind Pressure Trends	User can edit their personal details.	Member dashboard list summary lists latest conditions for all stations. (alphabetically). Members can delete reports or stations	Deployed + Github repo + history tags)
Stations listed alphabetically Delete Station				Dashboard lists latest weather for all Stations (but not individual readings)	{ "stationCollection": [ { "id": "01", "name": "Tramore", "readings": [ { "id": "02", "code": 800, "temperature": 0.5, "windSpeed": 3.5, "pressure": 1002, "date": "2021-04-25T07:20:42.138Z" }, { "id": "03", "code": 600, "temperature": 6, "windSpeed": 2, "pressure": 1004, "date": "2021-05-25T07:20:42.138Z" }, { "id": "04", "code": 700, "temperature": 8, "windSpeed": 1, "pressure": 1005, "date": "2021-06-25T07:20:42.138Z" } ] }, { "id": "05", "name": "Dunmore", "readings": [ { "id": "06", "code": 700, "temperature": 8, "windSpeed": 1, "pressure": 999, "date": "2021-02-25T07:20:42.138Z" }, { "id": "07", "code": 200, "temperature": 0.5, "windSpeed": 3.5, "pressure": 1000, "date": "2021-03-25T07:20:42.138Z" } ] }

	Reading	Station	Member	Features	Code
Release 3	+ Time / Date	Temp, Wind Pressure Trends	User can edit their personal details.	Member dashboard list summary lists latest conditions for all stations. (alphabetically). Members can delete reports or stations	Deployed + Github repo + history tags)



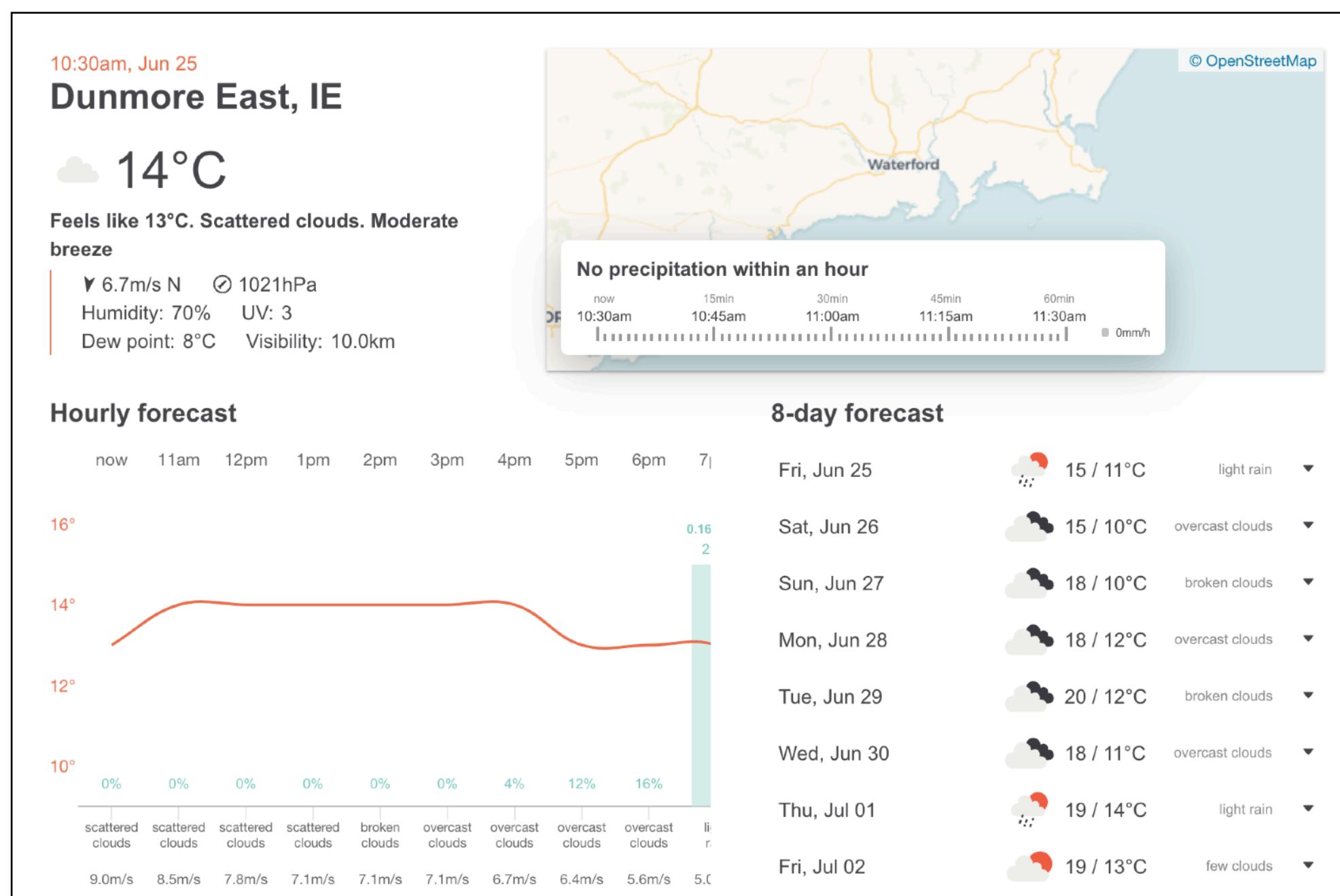
Date/Time when reading is created

Delete reading

## Trends

- Rising: Three most recent readings rising
- Falling: Three most recent readings falling
- Steady : neither of the above

	Reading	Station	Member	Features	Code
Release 4	Auto Read from OpenWeather	Station Map View	User can edit their personal details.	Simple Graph of Trends	Github repo tags



WeatherTop | Dunmore Weather Station | Dashboard | About | 

**Dunmore**   
Lat: 52.149  
Lng: -6.994

**Weather** 

**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

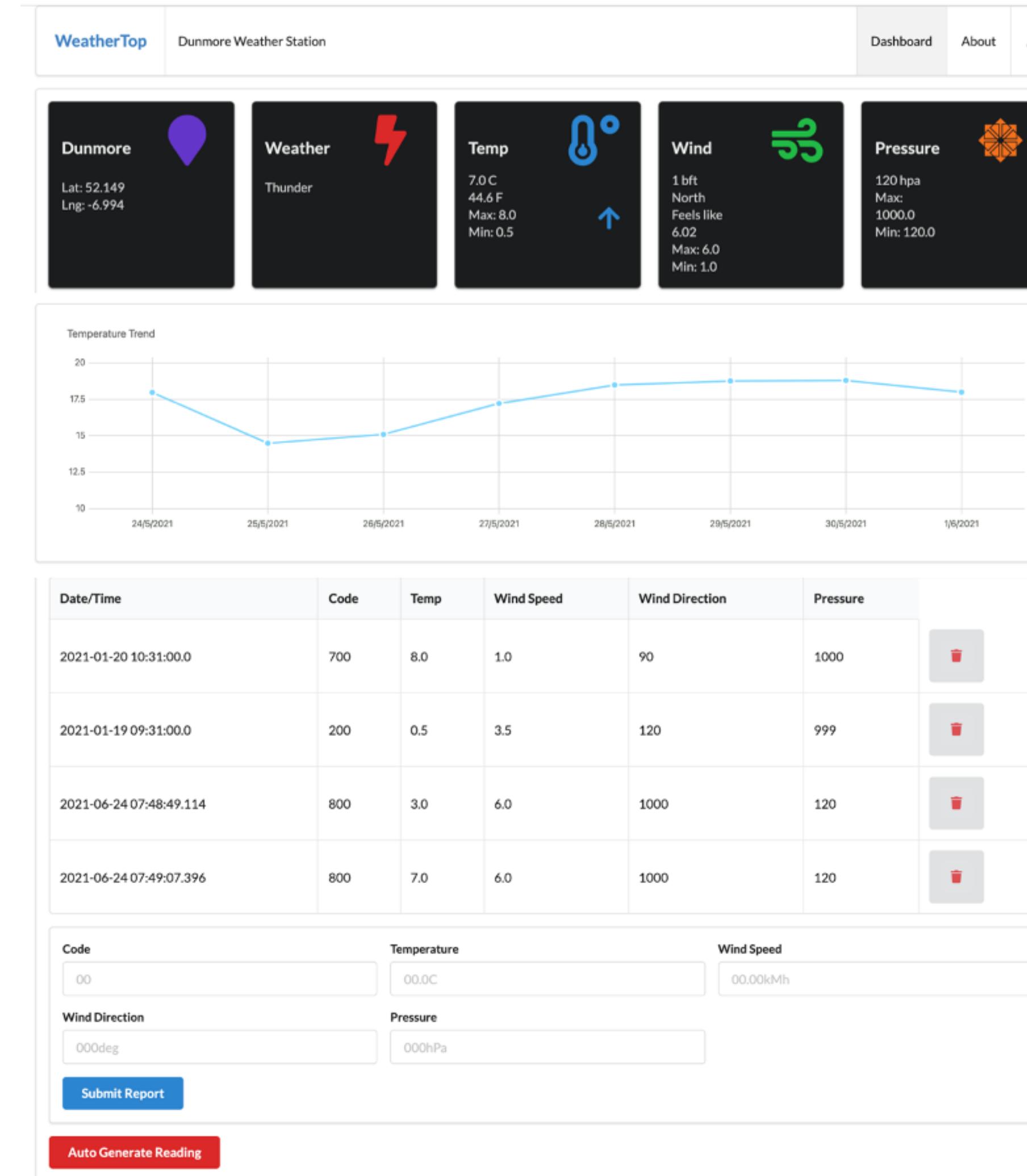
Date/Time	Code	Temp	Wind Speed	Wind Direction	Pressure
2021-01-20 10:31:00.0	700	8.0	1.0	90	1000
2021-01-19 09:31:00.0	200	0.5	3.5	120	999

**Code**: 00 | **Temperature**: 00.0C | **Wind Speed**: 00.00kMh  
**Wind Direction**: 000deg | **Pressure**: 000hPa

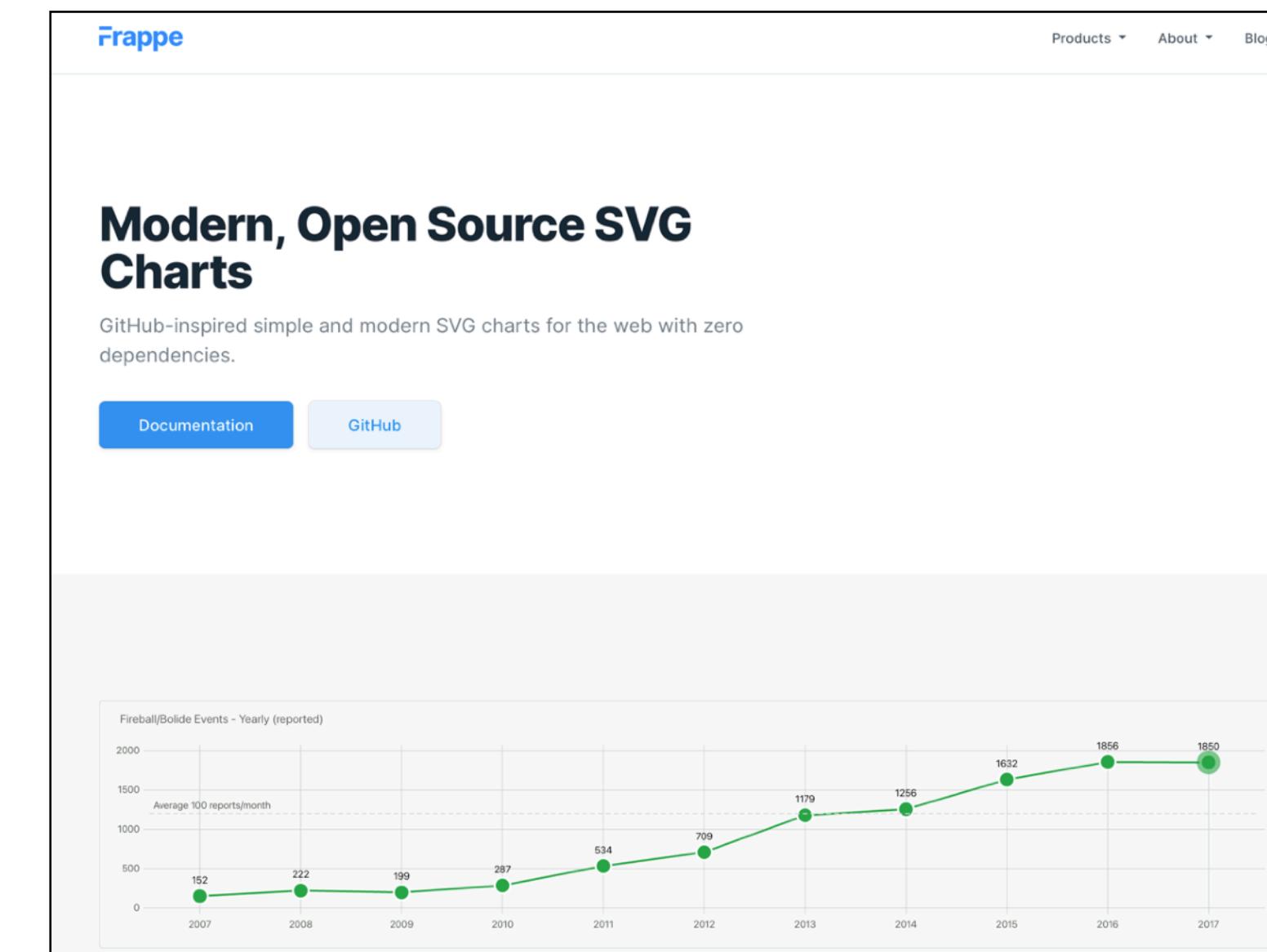
**Submit Report** | **Auto Generate Reading**

Auto Generate reading by  
accessing OpenWeatherMap API

	Reading	Station	Member	Features	Code
Release 4	Auto Read from OpenWeather	Station Map View	User can edit their personal details.	Simple Graph of Trends	Github repo tags

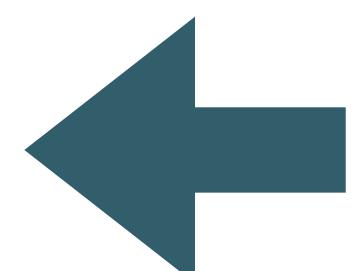
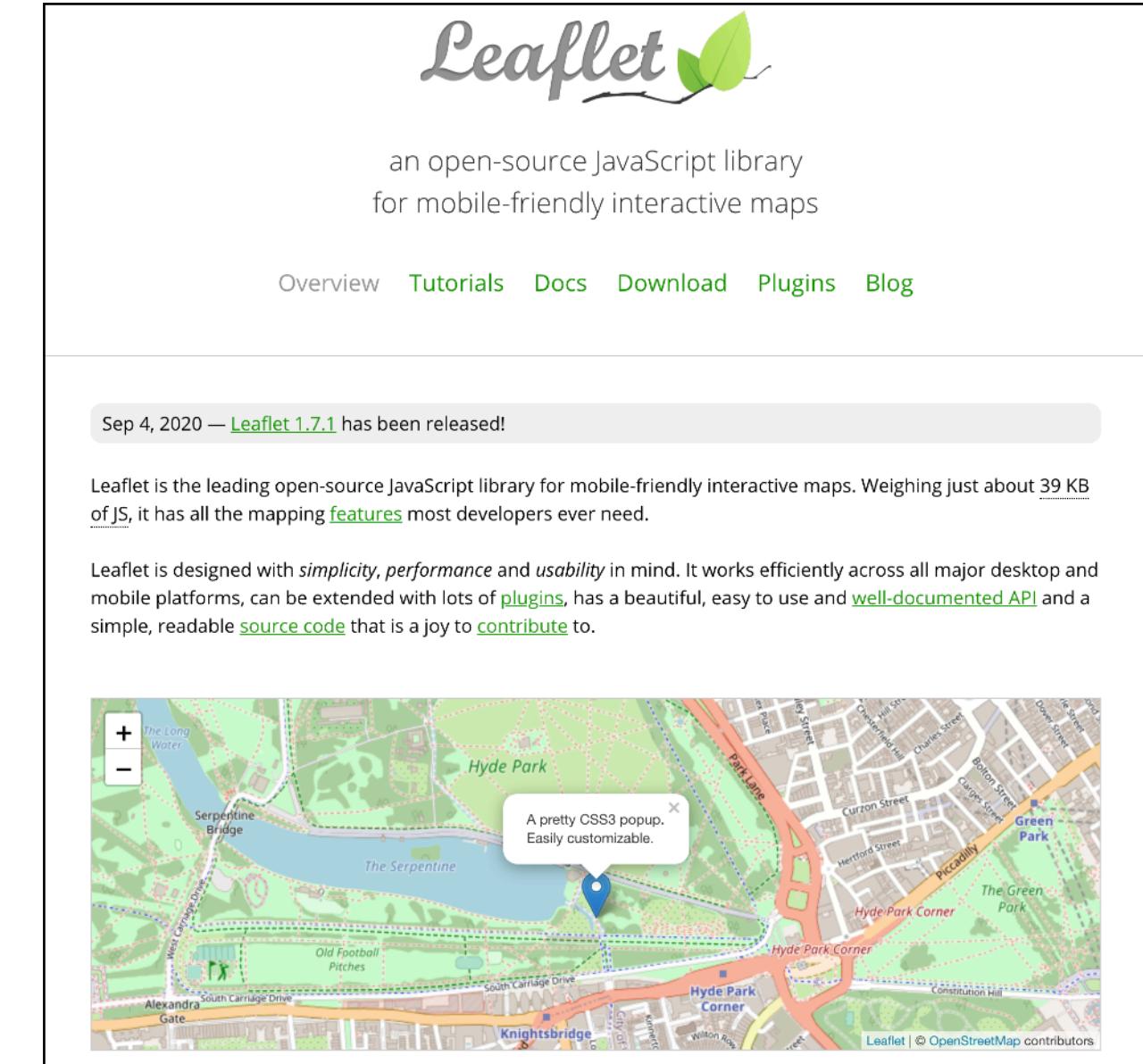


## Chart of Trends



	Reading	Station	Member	Features	Code
Release 4	Auto Read from OpenWeather	Station Map View	User can edit their personal details.	Simple Graph of Trends	Github repo tags

The screenshot shows the WeatherTop application's interface. At the top, there are two tabs: "WeatherTop" (selected) and "WeatherTop Stations". Below the tabs is a header with "Dashboard", "About", and a user icon. The main area contains two sections of weather data cards. The first section includes cards for "Dunmore" (Lat: 52.149, Lng: -6.994) and "Weather" (Thunder). The second section includes cards for "Tramore" (Lat: 52.16, Lng: -7.152) and "Weather" (Rain). Each card displays icons and detailed weather information such as temperature, wind, and pressure. Below these sections is a large map of Ireland with several blue location markers placed on it, corresponding to the stations listed above. At the bottom, there is a form for adding a new station with fields for "Name", "Latitude", and "Longitude", and a "Add Station" button.

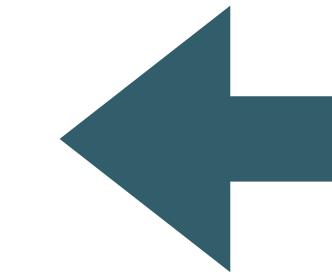


Show Marker for each Station on map

# Where to Start?

Release 3

Reflect on structure of WeatherTop (Java) sample solution. Are there lessons from its approach?



WeatherTop

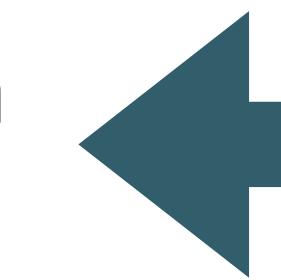
A detailed walkthrough of a Java/Play WeatherTop implementation

WeatherTop Repo

Versioned and tagged WeatherTop source repo

Release 4

Work through labs to experiment with WeatherAPI access + simple charts



Lab 07a OpenWeatherMap

gives the main weather type, temperature (°C), wind speed (m/h) and direction for today (times may vary), midnight tonight and then midday for tomorrow.

Tonight Tomorrow Wednesday Thursday Friday Saturday

12:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 00:00 01:00 02:00 03:00 04:00 05:00 06:00 07:00

13:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 00:00 01:00 02:00 03:00 04:00 05:00 06:00 07:00

14:00 18:00 19:00 20:00 21:00 22:00 23:00 00:00 01:00 02:00 03:00 04:00 05:00 06:00 07:00

15:00 19:00 20:00 21:00 22:00 23:00 00:00 01:00 02:00 03:00 04:00 05:00 06:00 07:00

16:00 20:00 21:00 22:00 23:00 00:00 01:00 02:00 03:00 04:00 05:00 06:00 07:00

17:00 21:00 22:00 23:00 00:00 01:00 02:00 03:00 04:00 05:00 06:00 07:00

18:00 22:00 23:00 00:00 01:00 02:00 03:00 04:00 05:00 06:00 07:00

19:00 23:00 00:00 01:00 02:00 03:00 04:00 05:00 06:00 07:00

20:00 00:00 01:00 02:00 03:00 04:00 05:00 06:00 07:00

21:00 01:00 02:00 03:00 04:00 05:00 06:00 07:00

22:00 02:00 03:00 04:00 05:00 06:00 07:00

23:00 03:00 04:00 05:00 06:00 07:00

00:00 04:00 05:00 06:00 07:00

01:00 05:00 06:00 07:00

02:00 06:00 07:00

03:00 07:00

04:00

Create developer account and explore the API using the browser.

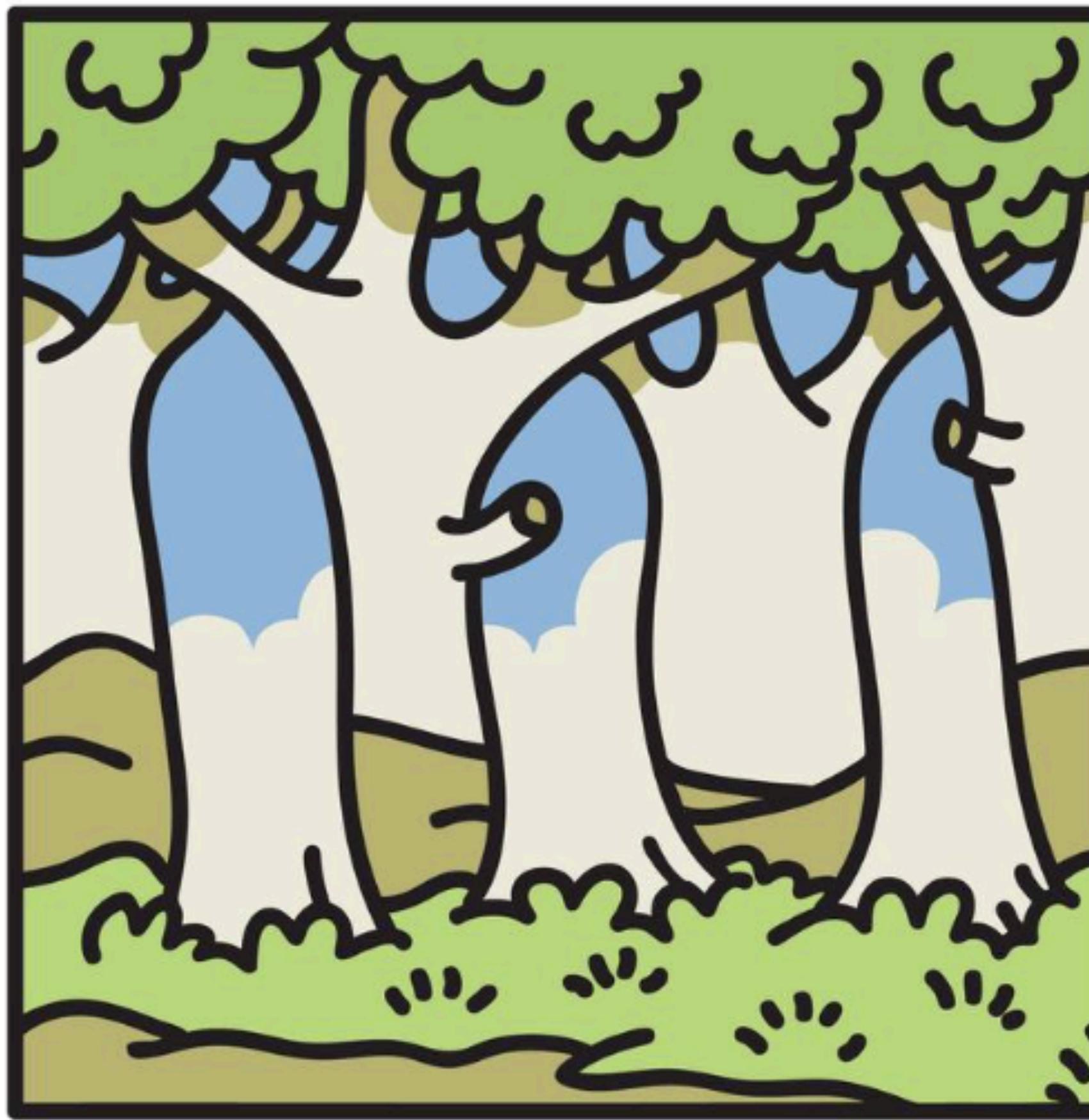
Lab 07b API Access

Retrieve latest weather report in javascript

Lab 07c Charts

Display a simple trend chart

# Difficulty Seeing the Wood from the Trees?



Lab-00b Todo 1

Lab-00c Todo 2

Lab-00d Todo 3

Todo List

- Do something
- Do something else
- Do more stuff
- Do that again

Create a Todo application in Glitch

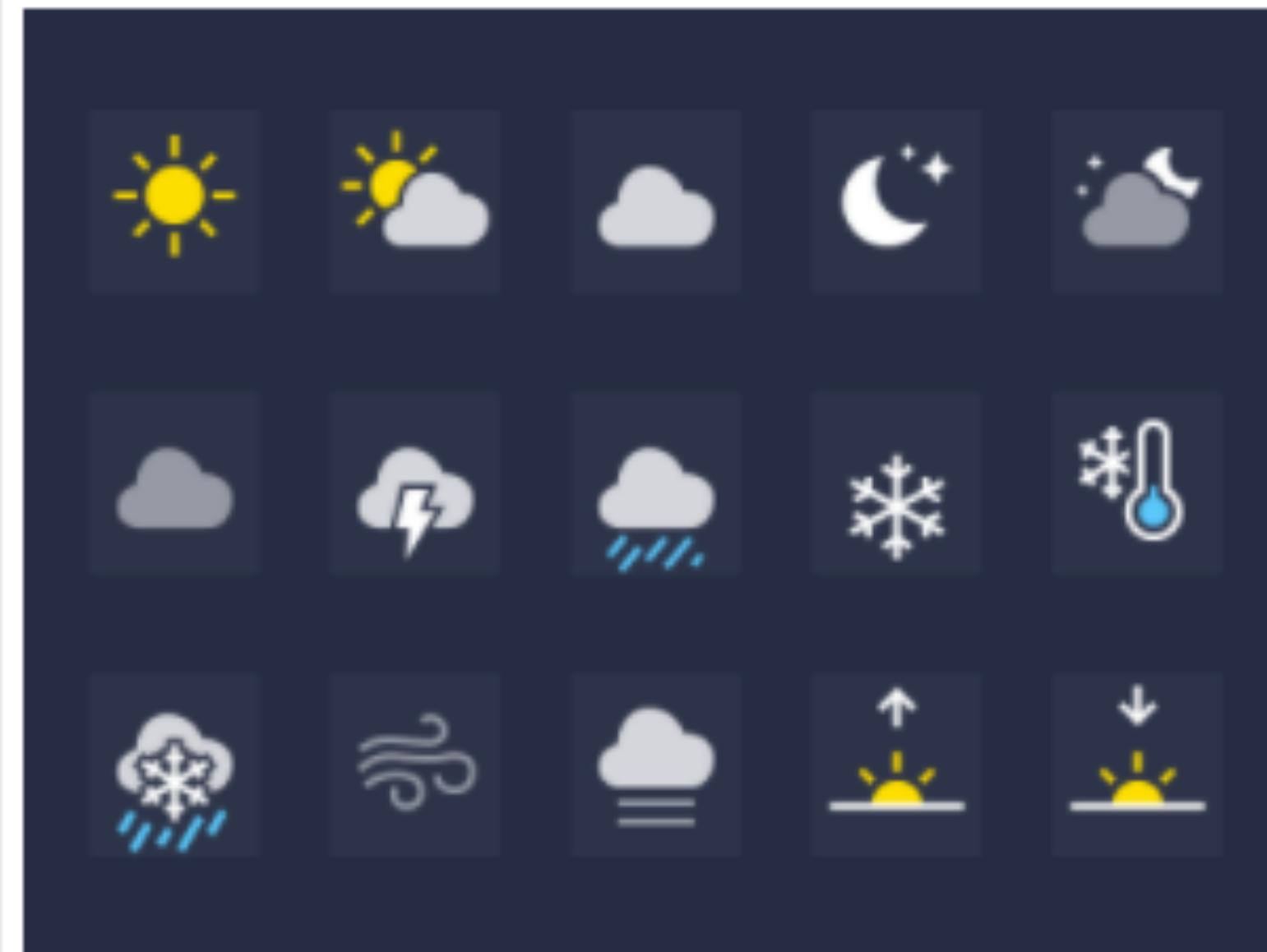
Incorporate IDs into the todo model

Incorporate Sessions / User accounts into Todo

These standalone labs tour the major concepts with a simplified application

	Reading	Station	Member	Features	Code
Baseline	Code, Temp Wind Speed Pressure	Station Name Latest weather, Temp C, F, Wind Bft, pressure	None	Load and display stations + their readings from json file + display latest weather for station	Zipped archive +readme
Release 1	+ Wind Direction	+ Wind Chill, Wind Compass	None	Dashboard shows station list + button to open station view. Include forms to add new Station + new reading	+ Glitch Project
Release 2		+Lat, Lng Max/Min (Temp, Wind, Pressure)	First Name, Last Name, Email, Password	Members can signup/log in. Members may create any number of weather stations. Members + sample stations + readings loaded from JSON	+ Github repo
Release 3	+ Time/Date	Temp, Wind Pressure Trends	User can edit their personal details.	Member dashboard list summary lists latest conditions for all stations. (alphabetically). Members can delete reports or stations	+Github repo with history
Release 4	Auto Read from OpenWeatherMap API	Station Map View	User can edit their personal details.	Simple Graph of Trends	+Github repo with tags

# WeathetTop Assignment Briefing



A walkthrough the  
assignment specification