
WeatherTop 2.0

ICT Skills 1 Assignment Briefing

Version 1



WeatherTop Inc. have requested a revised version of the WeatherTop application – called WeatherTop 2. This is to be reimplementations of the original (WeatherTop 1) specification implemented as a Glitch/Node application.

As well as the features as specified in the WeatherTop 1 specification, they are looking for 3 new features to be prototyped:

- *Auto Generate Reading*: When a reading is being submitted, an 'Auto' button will populate a reading from the OpenWeatherMap Service (<https://openweathermap.org>). This service can generate a reading from any given lat/lng value.
- *Graph of Trends*: A simple line chart of temperature, wind and pressure trends.
- *Map of Stations*: A Map with markers indicating the location of the Stations

These features, or a subset thereof, are to be part of a new 'Release 4' version.

Project Deliverables

The payment schedule has been revised, with Starter & Baseline merged + a new Release 4 added which includes a prototype of the new features.

| Version | Package Label | Payment |
|---------|---------------|----------|
| 1 | Baseline | 0%-20% |
| 2 | Release 1 | 20%-45% |
| 3 | Release 2 | 45%-60% |
| 4 | Release 3 | 60%-70% |
| 5 | Release 4 | 70%-100% |

We will accept the most complete version only, as one of the following:

1. A glitch project link
2. A zipped archive of all code for the version (named version-codename.zip)
3. A GitHub repository

We have a preference for (3), but are happy to accept (1) or (2)

Grading Rubric

| | 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 |
| 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 OpenWeather Map API | Station Map View | | Simple Graph of Trends | + Github repo tags |

Auto Generate Reading

OpenWeatherMap is a service that provides a public API for accessing global weather data:

- <https://openweathermap.org/>

Developers can register for an account to get an API Key, and then use this key to request weather data. The API includes a feature to get the current weather data from a specific lat/lng.

WeatherTop

Dunmore Weather Station

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

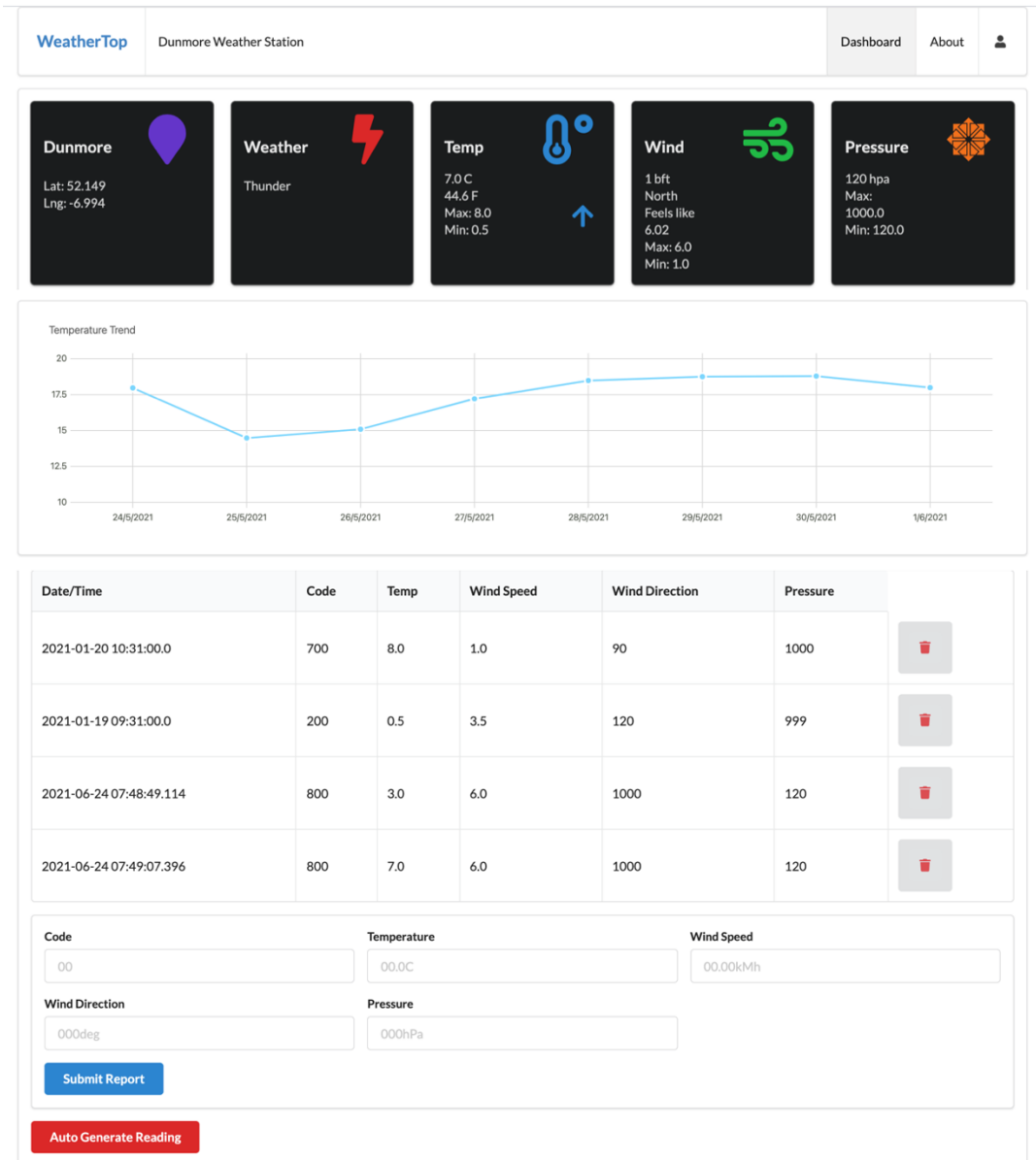
The Auto Generate button ignores the values in the form and creates acquires a new reading from the OpenWeatherMap API.

We recommend accessing the API using the Axios component:

- <https://axios-http.com/>

Graph of Trends

Display trends visually as a simple line chart:



The above shows temperature only. WeatherTop are interested in variations on the above – including ability to show temperature, wind and pressure trends.

We recommend using the Frappe Chart component:

- <https://frappe.io/charts>

Maps

On the Dashboard, display a map showing the locations of each station:

WeatherTopWeatherTop Stations

DashboardAbout

Dunmore

Lat: 52.149
Lng: -6.994

Weather

Thunder

Temp

7.0 C
44.6 F
Max: 8.0
Min: 0.5

Wind

1 bft
North
Feels like
6.02
Max: 6.0
Min: 1.0

Pressure

120 hpa
Max:
1000.0
Min: 120.0

Tramore

Lat: 52.16
Lng: -7.152

Weather

Rain

Temp

6.0 C
42.8 F
Max: 6.0
Min: 0.5

Wind

1 bft
South South West
Feels like
6.8
Max: 3.5
Min: 2.0

Pressure

1004 hpa
Max:
1004.0
Min:
1001.0

Leaflet | Map data: © OpenStreetMap contributors, SRTM

Name

Latitude

Longitude

Name

00.00

00.00

Add Station

We recommend using the Leaflet mapping component:

- <https://leafletjs.com/>