Assignment 2 (Weather)

Web Framework Development (2022/23)

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When submitting your assignment electronically as a ZIP file, this document MUST be placed in a prominent place within the ZIP file. If this document is absent you will not get a grade for this assessment.

This list MUST be submitted with an *Assignment Cover Sheet*. You must only tick the boxes below if that functionality has been completed in your assignment submission.

The Chrome web browser will be used to view your work.

**Part 1 - REST API Database Server**

**Routes [25 marks] [6%]**

A REST API server using Express receives these route requests, retrieves the data using SQL queries from the database and returns the data as the JSON data shown in demo video.

GET /sites [5]

GET /today/2023-03-01 [5]

GET /sitedata/<SITE NAME> [5]

This data should be retrieved using Angular Services [10]

**Part 2 – Angular Website**

**Navigation Bar [10 marks] [2%]**

Show consistent navigation bar using routing across all pages [10]

**Sites [34 marks] [8%]**

This page content is an Angular component

Shows site data in table ordered by site name [10]

All data fetched from REST API server using HTTP Service request [10]

Use an interface for *site* data in service request and sites array [10]

Using Bootstrap [4]

**Site Map [15 marks] [4%]**

This page content is an Angular component

Shows site locations on Leaflet map [10]

Popup shows site name and coordinates [5]

**Today [44 marks] [11%]**

This page content is an Angular component

Shows average air, road and wind speed per site on March 1st 2023 ordered by site name [15]

Table columns sortable in ascending and descending order [10]

Navigation to next and previous dates works [15]

Using Bootstrap [4]

**@Site Date Detail [55 marks] [13%]**

This page content is an Angular component

routerLink used to get to this page [5]

Correct site name and date shown [5]

Correct air, road and wind speed data shown for site and date ordered by time [10]

Correct average air, road and wind speed data shown in column heading [5]

***\*D3/SVG Chart [30]***

Correct scatter plot dots of air temperature values [10]

Labelled value for each dot [5]

y axes shown scaled from minimum to maximum value [10]

Correct colour used for air temperature value [5]

*\* Applied Computing group must use D3 solution*

**Live [45 marks] [11%]**

This page content is an Angular component

Shows live data for sites ordered by site name [20]

Wind direction arrow shows correct approximate wind direction [5]

Shows site image if available. *No image* if not. [5]

Filter sites by name textbox works [15]

**Live Map [32 marks] [8%]**

This page content is an Angular component

Shows site locations with appropriate icon for weather description [20]

Site popup shows site name, weather description, air temperature, wind speed, and clickable site image icon [12]

**Site Data [40 marks] [10%]**

This page content is an Angular component

Site dropdown with site names [5]

On choosing a site all site data is displayed ordered by date & time [10]

Air, Road and Wind Speed columns are sortable [10]

Air temperature slider bar setup using correct min & max value [5]

Slider filters dataset correctly [10]

**Stats [30 marks] [7%]**

This page content is an Angular component

National Air, Road & Wind statistics are correct [15]

Site Coldest, Warmest and Windiest statistics are correct [15]

**Daily Stats [60 marks] [15%]**

This page content is an Angular component

Site dropdown with site names [5]

Show correct minimum & maximum air temperature and mean wind speed [5]

***\*D3/SVG Wind Speed Column Chart [30]***

Correct column bars for wind speed values [10]

Labelled value at x axis for each bar [5]

x axis shown scaled for number of values [5]

y axis shown scaled from 0 to maximum value [5]

Correct mean line shown [5]

***\*D3/SVG Wind Speed Line Chart [20]***

Correct column dots & lines for wind speed values [10]

x axis shown scaled for number of values [5]

y axes shown scaled from 0 to maximum value [5]

*\* Applied Computing group must use D3 solution*

**Misc [20 marks] [5%]**

There should be no warnings or errors visible within the console tab [20]

All marks above are subject to a code review of your solution. A code review will include checks for the following:

* readability
* duplication of code
* variable naming
* code performance
* authenticity
* hard coding
* etc.

***A note on plagiarism and cheating.***

*If any of the code submitted by you is deemed copied from or by someone else it will be formally reported to the Head of School of Science and a Disciplinary Committee will be convened to deal with this issue. You do not want that to happen!!  
Never copy code from someone else or another source. Never give your code to someone else. Keep your code safely in your own possession. Plagiarism and cheating are very serious academic offenses with serious consequences for your future academic studies and work opportunities. Under current guidelines all students involved in plagiarism or cheating must be reported to the Head of School where a Disciplinary Committee will deal with the issue.*