Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

School of Computer Science and Statistics
CSU44000 – Internet Applications
2022/2023

Assignment 1:
Reactive Internet Application

Task

The objective of this first assignment is to develop a simple Internet Application which demonstrates the following features:

Client implementation requirements:

- A reactive client running in an Internet Browser using Vue.js
- The client must utilize the V- directives and moustache syntax
- The client must interact with a Server-Side application using at least one Web API primitive.
- You may not use Vue-CLI or any other 'scaffolding' system.

Server implementation requirements:

- A Server-side application which exposes at least one API primitive and consumes the services of a 3rd party Web API (you won't be able to do this from the client side due to 'same-origin' restrictions).

Application details:

You are asked to produce an application that inputs the city that someone is planning to go to. Your server-side should use the openweathermap API to get the weather forecast for that city for the next 4 days. The client side should then display some summary information including:

- Packing: if there is rain anytime over the next 4-days indicate that the user should bring an umbrella.
- Indicate the type of whether that the user should pack for Cold (temperatures below 12C), Mild (temperatures from 12C to 24C inclusive) or Hot (temperatures above 24C).
- Give a summary table for the next 4 days showing: Temperature, Wind Speed and Rainfall level.

The openweathermap API is documented here: https://openweathermap.org/api

When you request the weather data for a city, it will return you the Longitude and Latitude of the city. You can then use these in the AIR Pollution API to get the PM2_5

forecast for the next 5 days. If this exceeds 10, then you should advise the user to wear a mask.

On completion of these core feature you should implement one innovative and creative feature which requires that is unique to your Internet Application. This innovative feature should involve a non-trivial addition or modification of both the client and the server.

Clearly document all of these features working with a video of under 1 minute duration.

Task Execution

You are expected to work on this assignment during your scheduled lab session on the 10th or 11th of October and on the 17th or 18th of October.

Please ensure that you arrive on time and stay for 50 minutes to allow for your task execution to be assessed.

You may also work on the assignment outside of the scheduled lab time until 11:50pm on Sunday 23rd of October.

Submission Details

Please submit the following files via Blackboard before 11:50pm on Sunday 23rd of October.

- All source code in its original format.
- A single pdf file with all source code.
- A video of under 1 minute duration documenting all features of your Internet Application.

Marking Scheme

This assignment is worth a total of 30% of your year-end results for the CSU44000 module and the marking scheme is as follows.

10% of your year-end results for the task execution determined as follows:

		Marks		
Weighting	Aspect	0 - 39	40 - 69	70 - 100
50%	Problem solving	The student failed to demonstrate a systematic and professional approach to solving the problem during the specified lab time, informed by topics introduced in the module.	The student demonstrated a systematic and professional approach to solving the problem during the specified lab time, informed by topics introduced in the module.	The student demonstrated exceptional creativity and self-direct learning in their approach to solving the problem during the specified lab time.
50%	Technical Knowledge	The student failed to demonstrate thorough understanding of the technical topics introduced in the module.	The student demonstrated thorough understanding of the technical topics introduced in the module.	The student demonstrated the ability to critically evaluate tools and design techniques introduced in the module. The student has demonstrated the ability to acquire new technical skills related to the topics introduced in the module.

Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

School of Computer Science and Statistics
CSU44000 – Internet Applications
2022/2023

20% of your year-end results are for the final Internet Application submitted before the deadline.

		Marks		
Weighting	Aspect	0 - 39	40 - 69	70 - 100
10%	Client Program	The client program contains one or more errors in the execution of the core functionality.	The core functionality of the client program is executed correctly. The code has been written with good style using a good choice of variable and function names. A reasonable attempt has been made at adding innovative features.	The core functionality of the client program is executed correctly. The code has been written with excellent style using an excellent choice of variable and function names. Appropriate comments have been used. An excellent attempt has been made at adding innovative features which are unique. The functionality has been excellently presented with a video of under 1 minute in length.
10%	Server Program	The server program contains one or more errors in the execution of the core functionality.	The core functionality of the server program is executed correctly. The code has been written with good style using a good choice of variable and function names. A reasonable attempt has been made at adding innovative features.	The core functionality of the server program is executed correctly. The code has been written with excellent style using an excellent choice of variable and function names. Appropriate comments have been used. An excellent attempt has been made at adding innovative features which are unique. The functionality has been excellently presented with a video of under 1 minute in length.