



# Assignment 1:

## Reactive Internet Application

### Task

The objective of this first assignment is to develop an 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 3<sup>rd</sup> 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 5 days. The client side should then display some summary information including:

- Packing: if there is rain anytime over the next 5-days indicate that the user should bring an umbrella.
- Indicate the type of whether that the user should pack for Cold (temperatures below 13C), Mild (temperatures from 13C to 23C inclusive) or Hot (temperatures above 23C).
- Give a summary table for the next 5 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 the design process and technologies used to develop you Internet Application with a technical report of approximately 1500 words.

Demonstrate all of these features working with a video of under 3 minute duration.

## Task Execution

You are expected to work on this assignment during your scheduled lab session “Lab 5” and “Lab 6” and outside of the lab sessions. You may not collaborate as it is an individual assignment.

## Submission Details

Please submit the following files via Blackboard before 11:50pm on Sunday 22<sup>nd</sup> of October.

- All source code in its original format.
- A single pdf file with all source code.
- A technical report detailing the design process and technologies used to develop you Internet Application.
- A video of under 3 minutes duration demonstrating all features of your Internet Application.



## Marking Scheme

This assignment is worth a total of 40% of your year-end results for the CSU44000 module and the marking scheme is as follows.

Marks				
Weighting	Aspect	0 - 39	40 - 69	70 - 100
15%	Design Process Detailed in the Report	The student failed to demonstrate a systematic and professional approach to designing the Internet Application.	The student demonstrated a systematic and professional approach to solving the problem. This design process has been documented in the report. The design process was informed by topics introduced in the module.	The student demonstrated exceptional creativity and self-directed learning in their approach to designing the Internet Application. This design process has been thoroughly and accurately documented in the written report.
15%	Technical Knowledge Demonstrated in the Report	The student failed to demonstrate thorough understanding of the technical topics introduced in the module in the technical report.	The student demonstrated thorough understanding of the technical topics introduced in the module in the technical report.	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.



Marks				
Weighting	Aspect	0 - 39	40 - 69	70 - 100
20%	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 3 minutes in length.
20%	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 3 minutes in length.



Marks				
Weighting	Aspect	0 - 39	40 - 69	70 - 100
15%	Visual Impact	The Internet Application has a poor Visual Impact when used. Or The video demonstrating the Internet Application is missing or of low quality or incorrect length.	The Internet Application functions with a good quality interface.  This is demonstrated by a good quality video of under 3 minutes and over 2 minutes.	The Internet Application is visually appealing in intuitive to use.  This has been demonstrated by a high quality video of under 3 minutes.
15%	Innovation	The Internet Application has failed to include any functioning innovative features.	The innovative features are of superficial complexity or utility or are not very innovative.	Innovative features of non-trivial complexity have been designed and developed. These features work reliably. The functionality of these innovative features have been excellently presented with a video of under 3 minutes in length.