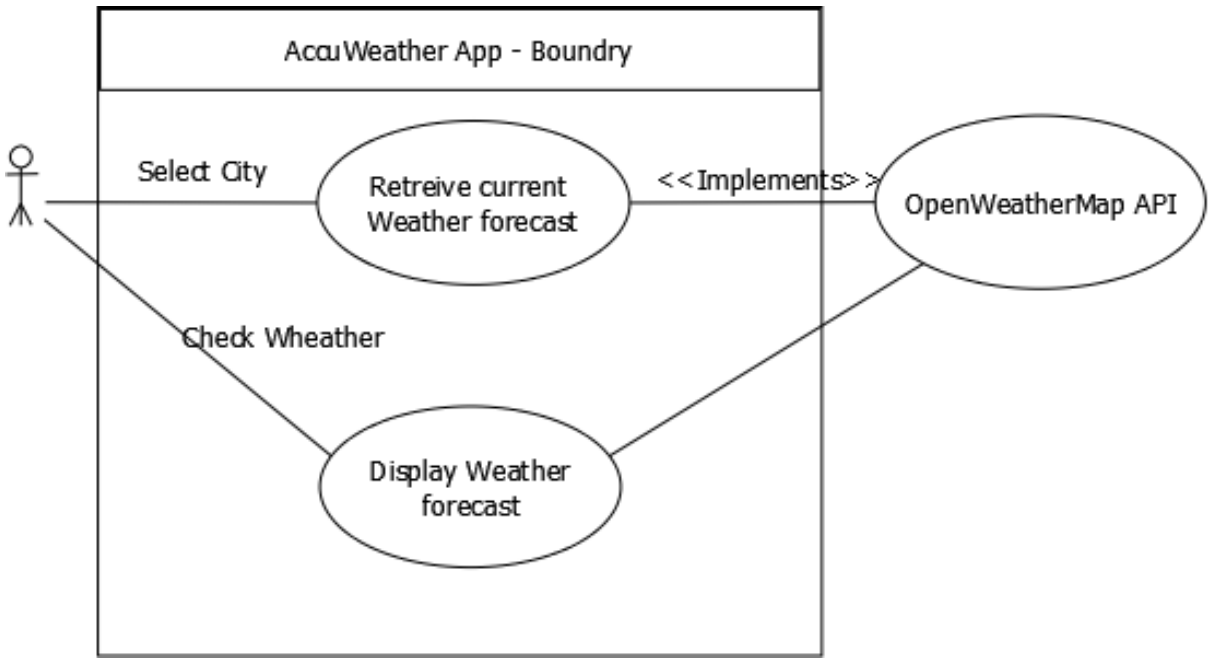
Contents

Introduction

This document provides a solution overview of a web application “AccuWeather Project” which provides a capability to display current weather conditions for a specific city selected from the application.

High Level Solution Overview

- AccuWeather Project implements a REST API exposed by OpenWeatherMap to fetch the current weather conditions based on the city selected by the user
- Accuweather Project provides a configurable list of cities which user can select from a drop down on the web page
- On selection of a city, AccuWeather Project will invoke Current Weather API exposed by OpenWeatherMap
- API returns Temperature, Humidity, Pressure, Min & Max Temperature, Wind, Rain, Clouds etc
- Webpage reads the response from API and displays all the results back to the user



Low Level Design

- When the webpage “weather_info.html” for AccuWeather Project is loaded, a drop down is provided to the user to select the cities.
    - Current LoVs are – Sydney, Melbourne, Wollongong
    - These LoVs are loaded at run time from a property file “cities.properties”. This will ensure that the list of cities is configurable and application can be extended to any number of cities with a small configuration change to the property file
- On Selection of a city from the drop down, a REST API call is invoked from the underlying JS layer using GET operation
    - This API call takes following attributes as input parameter
        - City
    - This API uses JSON as a default format
- API call will look as below – api.openweathermap.org/data/2.5/find?q=Melbourne
- API will provide response as below in JSON Format


```
{
	"message": "accurate",
	"cod": "200",
	"count": 1,
	"list": [
		{
			"id": 2643743,
			"name": "Melbourne",
			"coord": {
				"lat": 51.5085,
				"lon": -0.1258
			},
			"main": {
				"temp": 7,
				"pressure": 1012,
```

```
                        "humidity": 81,
                        "temp_min": 5,
                        "temp_max": 8
                },
                "dt": 1485791400,
                "wind": {
                        "speed": 4.6,
                        "deg": 90
                },
                "sys": {
                        "country": "GB"
                },
                "rain": null,
                "snow": null,
                "clouds": {
                        "all": 90
                },
                "weather": [
                        {
                                "id": 701,
                                "main": "Mist",
                                "description": "mist",
                                "icon": "50d"
                        }, {
                                "id": 300,
                                "main": "Drizzle",
                                "description": "light intensity drizzle",
                                "icon": "09d"
                        }
                ]
        }
    ]
}
```


- JS reads the JSON response and displays following result on the webpage based on below mapping from JSON response –

Element Name on Webpage	**Element Name in JSON Response**
City	Value under the element “name”
Updated Time	Current System Date & Time
Weather	Value under the element “description”
Temperature	Value under the element “Temp” + “^{O}C”
Wind	Value under the element “speed” + “Km/h”