

# cThings Front-end Interview Task

## 1. Introduction

*IMPORTANT - PLEASE READ THE WHOLE DOCUMENT BEFORE STARTING*

The aim of this front-end interview task is to create a simple single-page weather web application using HTML, CSS and JavaScript. The web application will consist of a single web page that allows a user to search for a city and return the current weather and temperature. This is a design and UX/UI focused task so the interface should look good, provide a good user interface/experience as well as being fully functional. The web application should work in the latest version of all cross-platform modern web browsers (Firefox, Google Chrome).

Included with this task are weather icons (Designed by Freepik). You can use your own if preferred.

## 2. Task

### 2.1. DESIGN THE USER INTERFACE

The user interface should consist of a simple search input and button (figure 2.1.1). When a city is entered into the search input and the search button is clicked the weather and temperature should be returned (figure 2.1.2). The weather should be returned as an icon and the temperature as a number. The user interface should consider: end-user device/screen-size (be responsive); and accessibility (input focus, enter key should trigger a search).

You can use any JavaScript/CSS frameworks/libraries that are publicly available; for example: Bootstrap, React, jQuery. Icons and images can be sourced from any royalty-free website; for example: Pixabay, Unsplash, Noun Project, Flaticon.

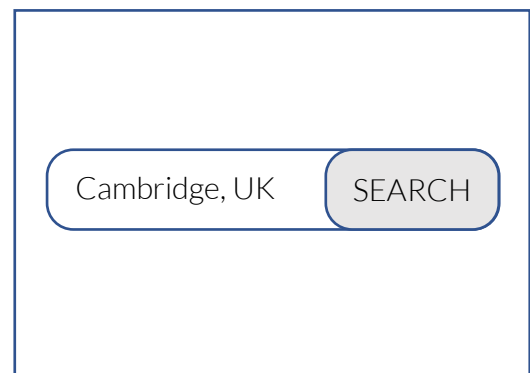


Figure 2.1.1

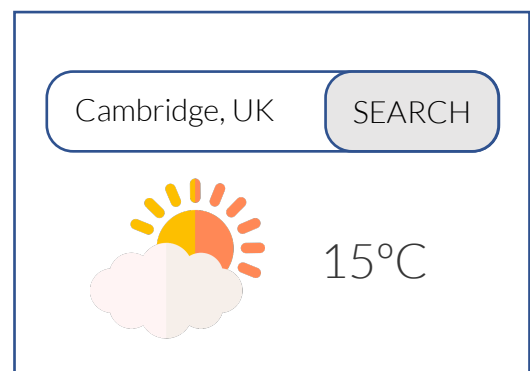


Figure 2.1.2

## 2.2. INTERACT WITH A WEB API

The web application should retrieve weather data from a web API – the Open Weather API (<https://openweathermap.org>) is recommended although other free APIs are available. You will need to register and generate an API key to make requests.

Open Weather API hints and tips:

- The API key can take between 10 minutes and 2 hours to be activated (if you get a 401 error it probably hasn't been activated yet)
- The basic API call for the Open Weather API looks like this (other endpoints are available):

```
GET api.openweathermap.org/data/2.5/weather?q={city name}&appid={api_key}
```

- A list of weather conditions and icons for the Open Weather API can be found here: <https://openweathermap.org/weather-conditions>
- The temperature returned by the Open Weather API is in Kelvin (you'll need to convert it to degrees Celsius)

## 2.3. DATETIME MANIPULATION

The Open Weather API returns sunrise and sunset as unix timestamps. Using the Moment JS library (<https://momentjs.com/>) – or an alternative if preferred – compare the sunrise/sunset time to the current time to display the time until sunrise/sunset below the weather and temperature (figure 2.3.1). This could be as simple as “sunrise in 4 hours” or “sunset at 16:54”. Display sunrise if night-time; display sunset if day-time.

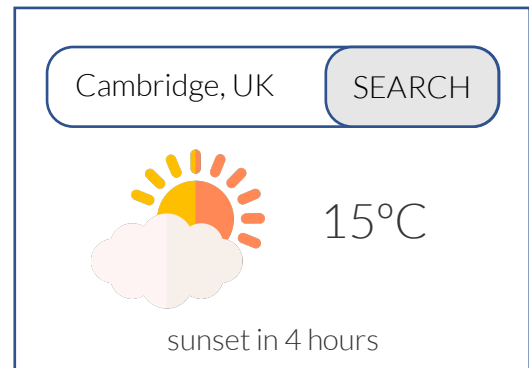


Figure 2.3.1

## 2.4. ANIMATE THE USER INTERFACE

Change the background image, fade the background or switch the theme of the page depending on whether it is day-time or night-time in the city currently searched.

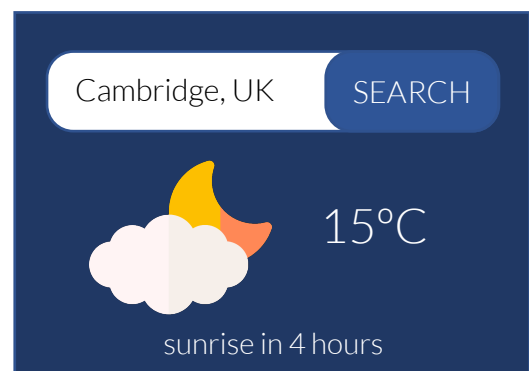


Figure 2.4.1