Project
Ionic Country, Weather & News Reader

Mobile Applications Development
Higher Diploma in Science – Computing (Software Development)

Contents

Introduction

Write an Ionic mobile application that reads news, weather, and country data from internet resources.

Project Start

The project must be written using the Ionic framework V3 and created initially using the following command:

```
ionic start GXXXXXXX blank --type=ionic-angular
```

where GXXXXXXX is your student number.

Submission of the Project

The zipped Ionic project (named GXXXXXXX.zip where GXXXXXXX is your student number) should be uploaded to the *Project* section of Moodle in the Mobile Applications Development module no later than **Tuesday, January 4th 2022 at 8:00am.**

Plagiarism

Plagiarism will be dealt with in accordance with the institute's Plagiarism policy.

Marks

This project is worth 60% of the marks for the module.

Marking Scheme

85% of the marks will be awarded for implementing the functionality described in this document.

15% of the marks will be awarded for innovation, extra functionality, exceeding the requirements listed in this document.

Please describe your innovation (if any) in a document entitled innovation.doc which should be stored in the root folder of your submission.

Overview of Web App

The web app should consist of the following pages:

Home Page

The *Home Page* is the first page of the application. It has a navigation bar which should have your student number and a link to the *Settings* page.

The first time the application is run no city has yet been entered the so the *News* button and weather, and country data will be hidden.

Figure 1 Home Page

The *Settings Page* allows the user of the app to enter a *City* for which weather data will be displayed and to change the *Units* in which the weather data is shown.
The default units should be *Metric*.

Any changes made on this page should be stored persistently by the app, when the *Save* button is pressed.
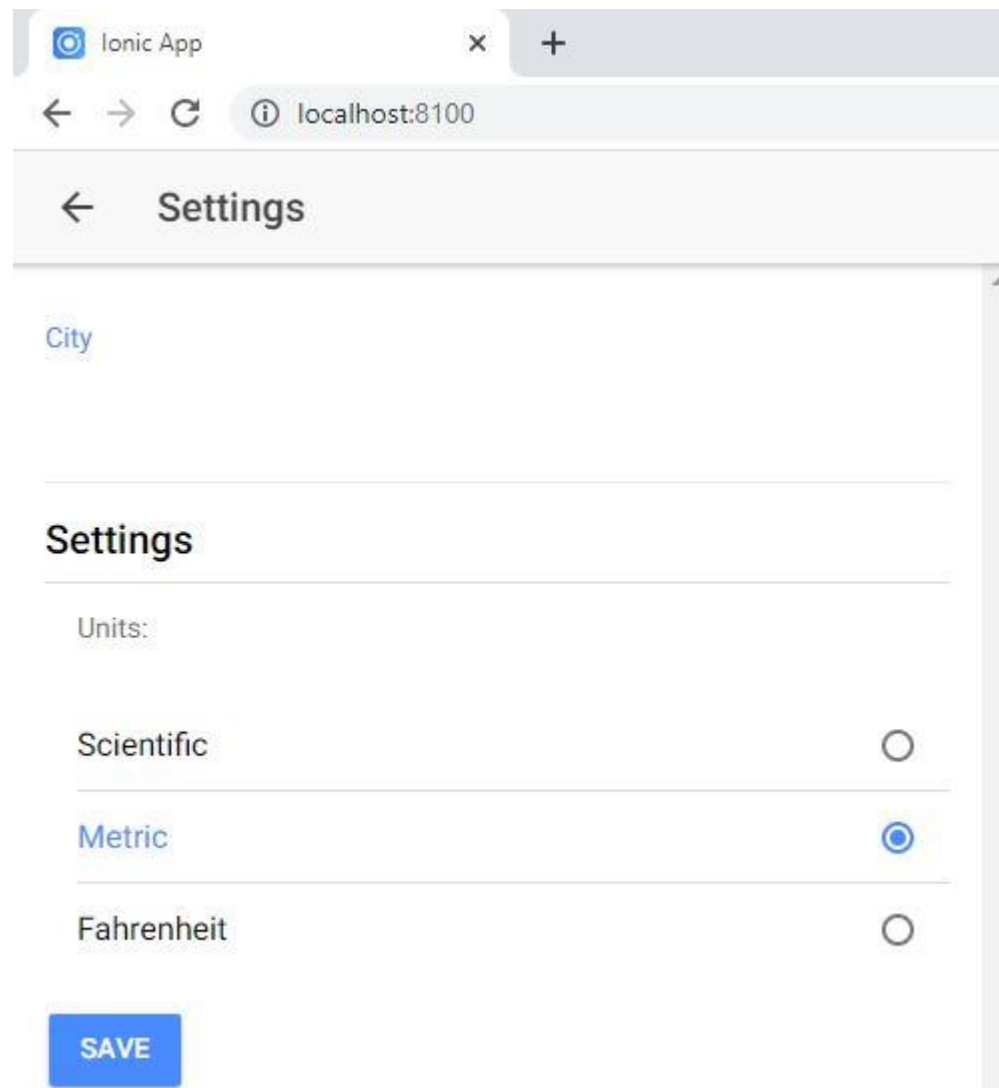If the user leaves the page without pressing the *Save* button, changes are not saved.

Figure 2 Settings Page

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If the user presses *Save* but doesn't enter a *City* he/she should be presented with an error message as shown:
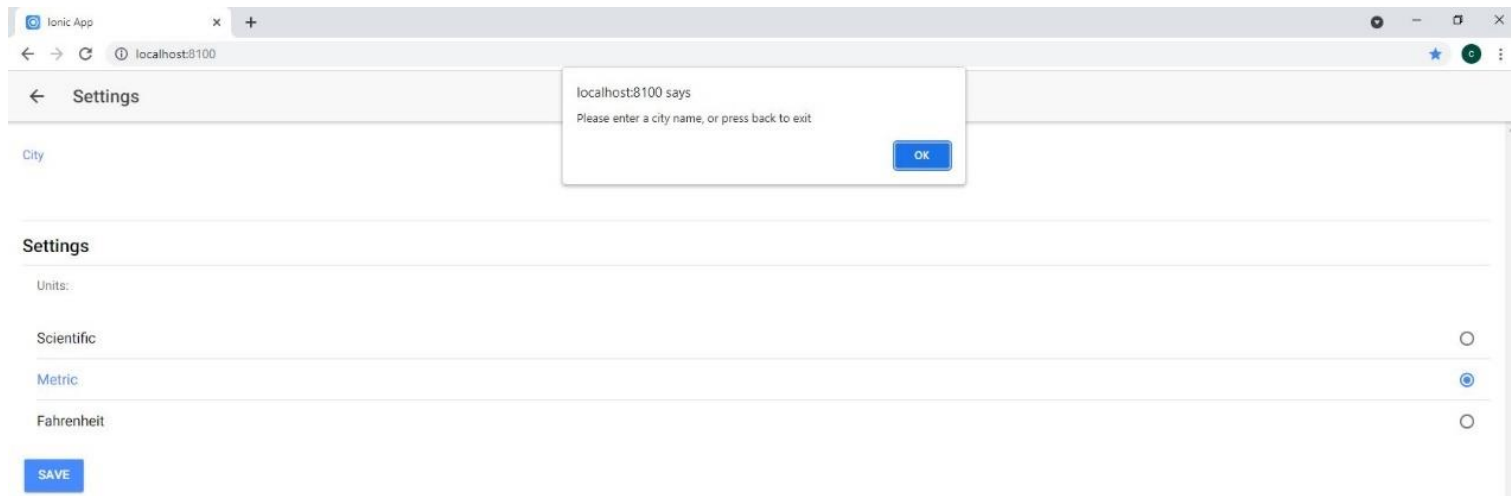

Figure 3 Settings page with Error Message

When a *City* and *Units* have been successfully entered, the next time the *Settings* page is opened these should be shown:
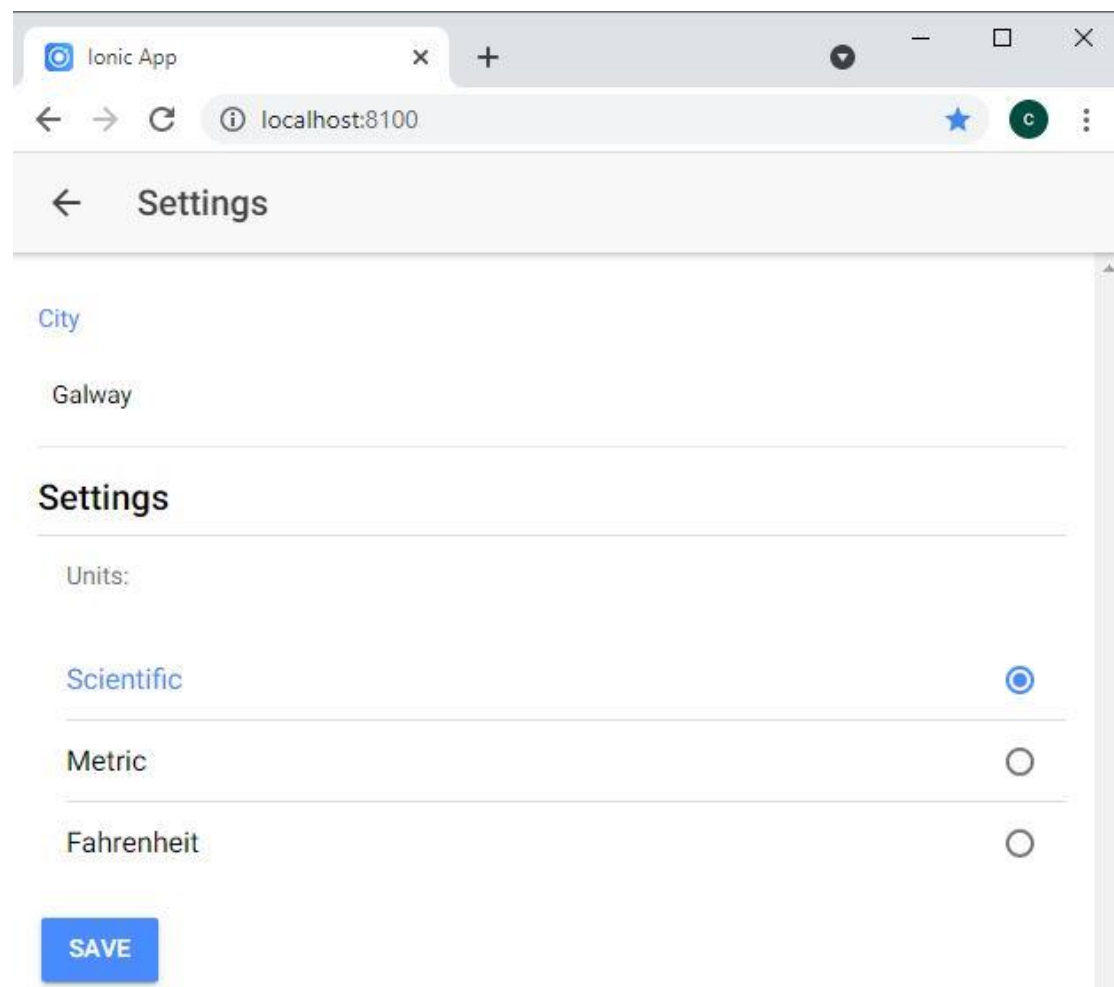

Figure 4 Settings page reading data from storage

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Once a *City* has been saved persistently by the *Settings* page, weather and news for that city should be shown if possible.

City data should be read from https://restcountries.com/#api-endpoints-v3. If the city name that has been saved in storage is not found on restcountries.com, then the following error should be shown, and no news or weather data shown.
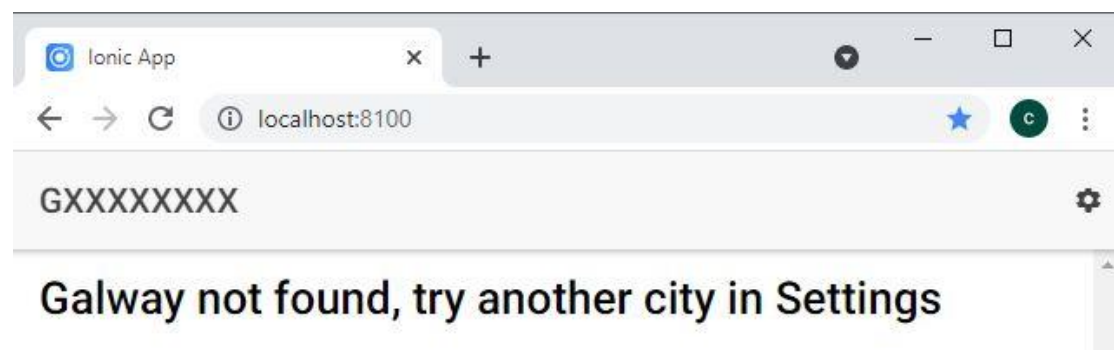

Figure 5 City not found

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Home Page – City Found – Display Country Info

If the city name that has been saved in storage is found on restcountries.com, the following information should be shown:

- City Name (e.g. London – from Storage)
- Country Common name (e.g. United Kingdom – from *common* attribute of data returned from restcountries.com)
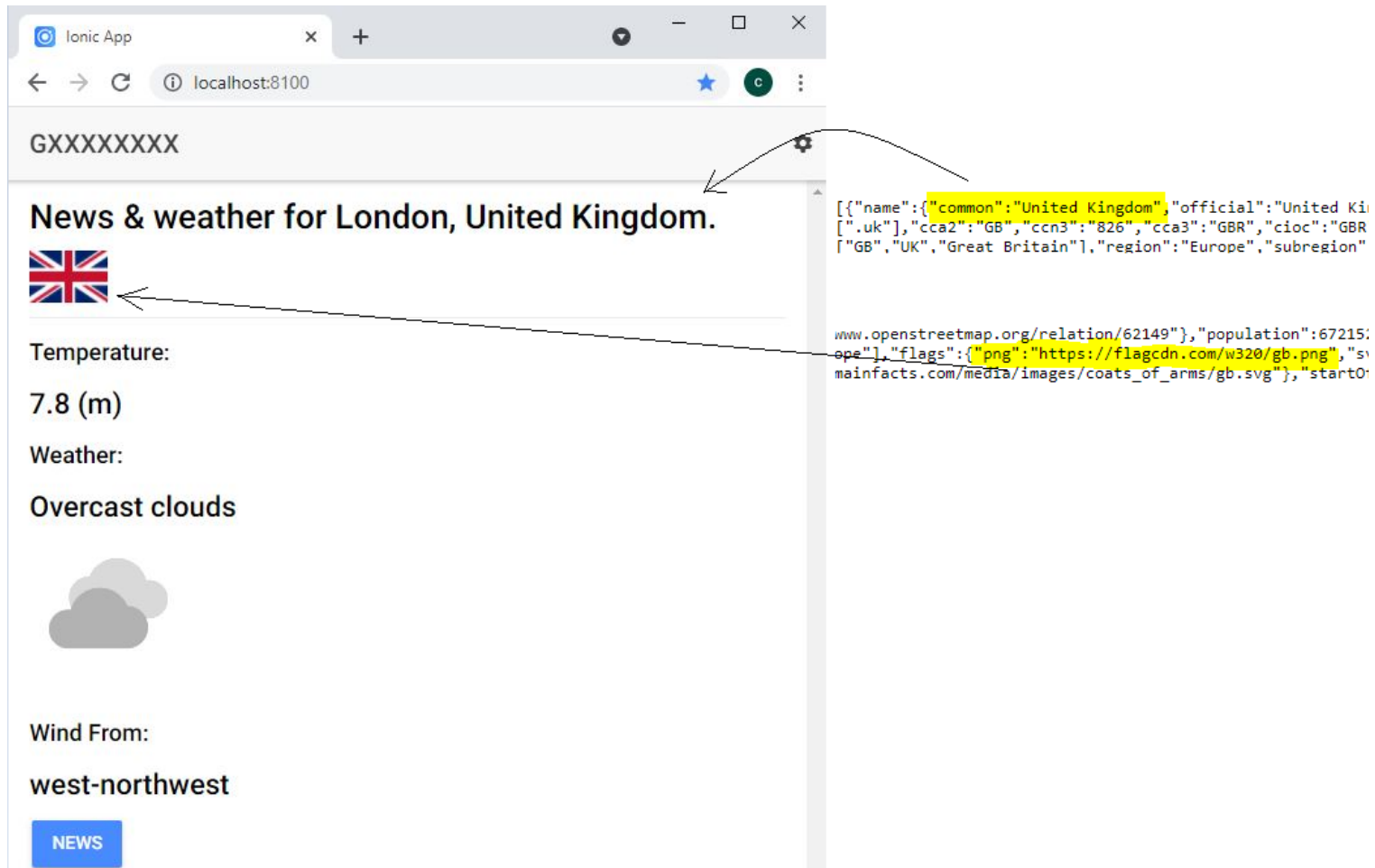- Flag (From *png* attribute of data returned from restcountries.com)

Figure 6 Home Page with Weather

Home Page – City Found – Display Weather

The weather information for the country the city is in should be read from weatherbit.io.

To use this service:

- Create an account at https://www.weatherbit.io/account/create and select the Free ($0/mo) plan.
- This will give you an API key which you will need to access the service.

To get weather data for the selected city you need 4 things:

- **lat**
- **lon**

  Latitude & Longitude will be gotten from the data returned from restcountries.com (**NOTE**: Not capitalInfo.latlng.)

```
{"official":"Arabrepubliken Egypten","common":"Egypten"},"urd":{"official":"مصری عرب جمہوریہ","common":"مصر"},"zho":
{"official":"阿拉伯埃及共和国","common":"埃及"}},"latlng":[27.0,30.0],"landlocked":false,"borders":
["ISR","LBY","PSE","SDN"],"area":1002450.0,"demonyms":{"eng":{"f":"Egyptian","m":"Egyptian"},"fra":
{"f":"Égyptienne","m":"Égyptien"}},"flag":"\uD83C\uDDEA\uD83C\uDDEC","maps":
{"googleMaps":"https://goo.gl/maps/uoDRhXbsqjG6L7VG7","openStreetMaps":"https://www.openstreetmap.org/relation/1473947"
"population":102334403,"gini":{"2017":31.5},"fifa":"EGY","car":{"signs":["ET"],"side":"right"},"timezones":
["UTC+02:00"],"continents":["Africa"],"flags":
{"png":"https://flagcdn.com/w320/eg.png","svg":"https://flagcdn.com/eg.svg"},"coatOfArms":
{"png":"https://mainfacts.com/media/images/coats_of_arms/eg.png","svg":"https://mainfacts.com/media/images/coats_of_arm
eg.svg"},"startOfWeek":"sunday","capitalInfo":{"latlng":[30.05,31.25]},"postalCode":
{"format":"#####","regex":"^(\\d{5})$"}}]
```

- **units**

  will be gotten from Storage (whatever was selected on the Settings page).
- **Your API Key**

  will be given when you create an account.

After the weather data has been received from weatherbit.io, the following attributes should be displayed on the home page:

- temp (including units)
- description
- icon (See https://www.weatherbit.io/api/codes)
- wind_cdir_full

In addition, the *News* button should now be visible.

Figure 7 Home page with weather

See here for full API description: https://www.weatherbit.io/api/weather-current.

News Page – City Found and News Returned for Country

The first 5 news stories for the country the city is in should be read from newsapi.org.
To use this service:
- Create an account at https://newsapi.org/register and select the Developer (free) plan.
- This will give you an API key which you will need to access the service.

To get news stories for the selected country you need 3 things:
- **country**
  The cca2 code for the country will be the cca2 attribute from restcountries.com.

  ```
  [{"name":{"common":"United Kingdom","official":"United Kingdom of
  [".uk"],"cca2":"GB","ccn3":"826","cca3":"GBR","cioc":"GBR","indep
  ["GB","UK","Great Britain"],"region":"Europe","subregion":"Northe
  Irska","common":"Spojené království"},"cym":{"official":"United K
  ```
- **pageSize**
  will always be 5.
- **Your API Key**
  will be given when you create an account.

After the news data has been received from newsapi.org, the following attributes should be displayed on the News page for each of the 5 news stories:

- urlToImage
- title
- description
- url (If either the urlToImage, title or description are clicked a new browser window should open to the url)
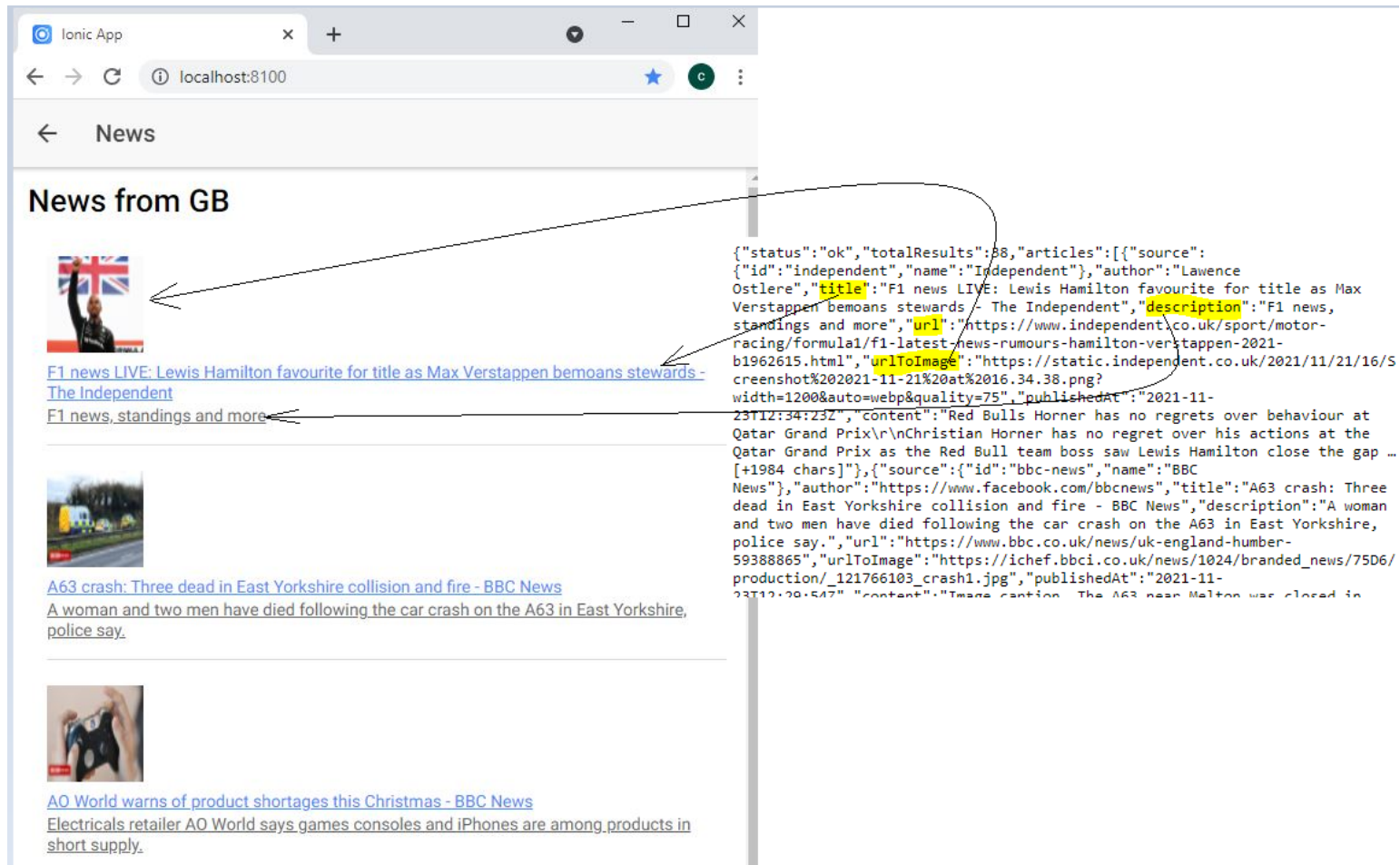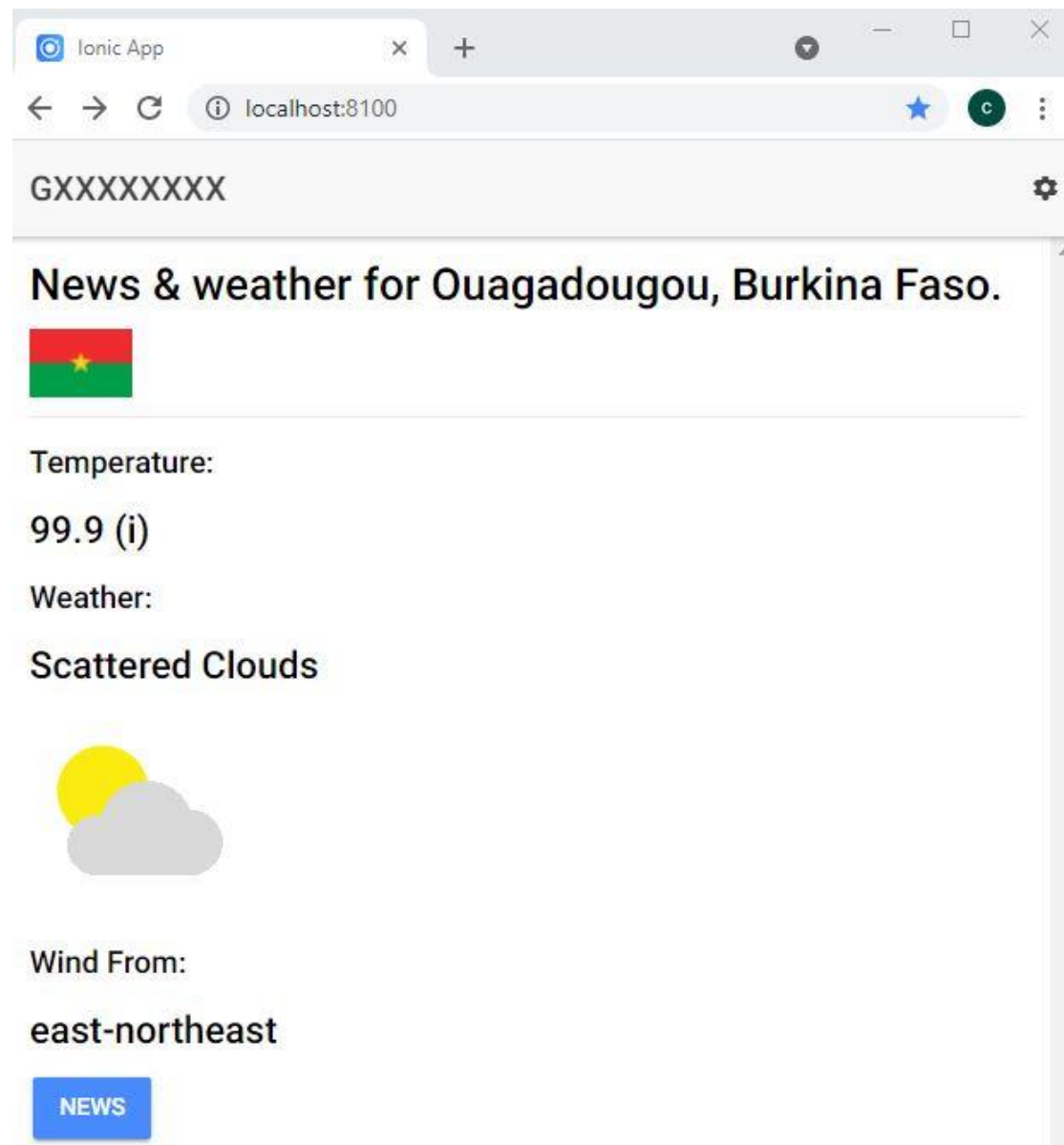

Figure 8 News Page

NOTE: When a link is selected and the news story opens, if the back button is pressed the Ionic app will restart – this behaviour can be ignored.
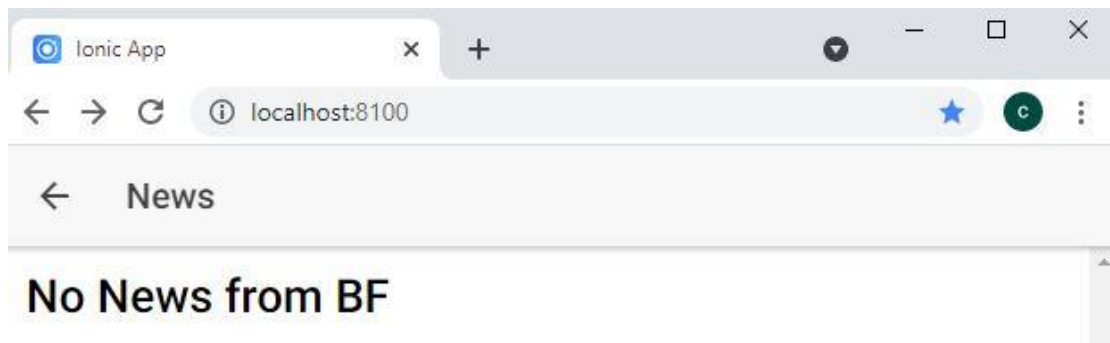
See here for full API description: https://newsapi.org/docs/endpoints/top-headlines.

If a city is entered that is found on restcountries.com and weatherbit.io the weather is displayed as normal:

Figure 9 Weather found for country / city

However, if no news stories from the country are found on newsapi.org, the following message should be displayed on the *News* page indicating the Country Code (cca2) of the country that has no news stories.

Figure 10 No news from BF

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