Assignment 2

HDip in Computer Science

Web Development 1

Introduction

- This is the spec for Assignment 2 that is worth 60%

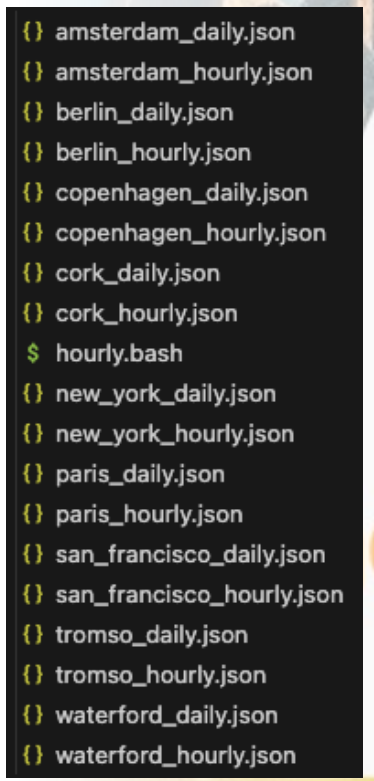
Introduction

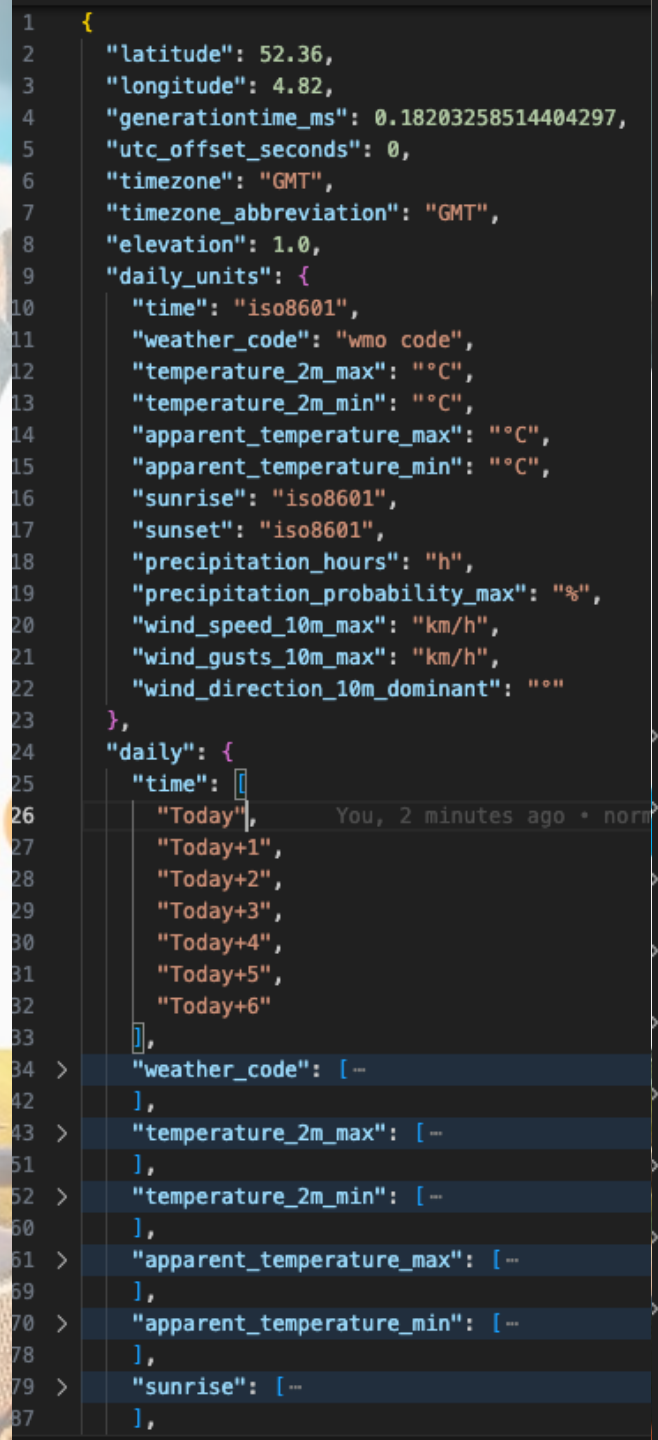
- Whether Weather have launched a new API that provides weather data for cities all over the world using the latest satellite technology

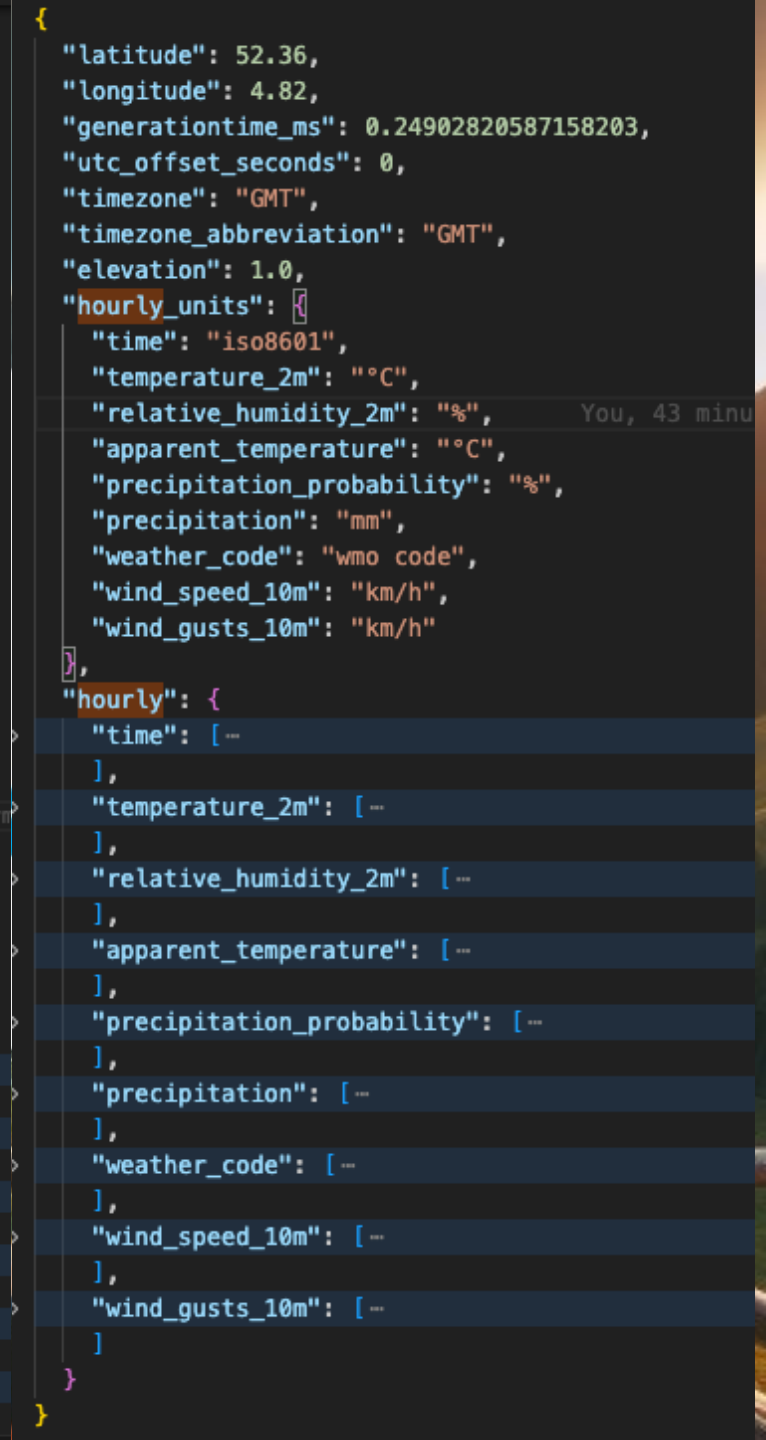
- Whether Weather has hired YOU to create their first web app to display the weather and forecast for the next 7 days for cities all over the world

Data

- You will be provided with weather data for today and 6 following days that you must build use in your website
- There will be a number of cities with various data points
- The data spec is available in the data download – data-definition.pdf
- Note that the times have been changed on the daily to be relative to today



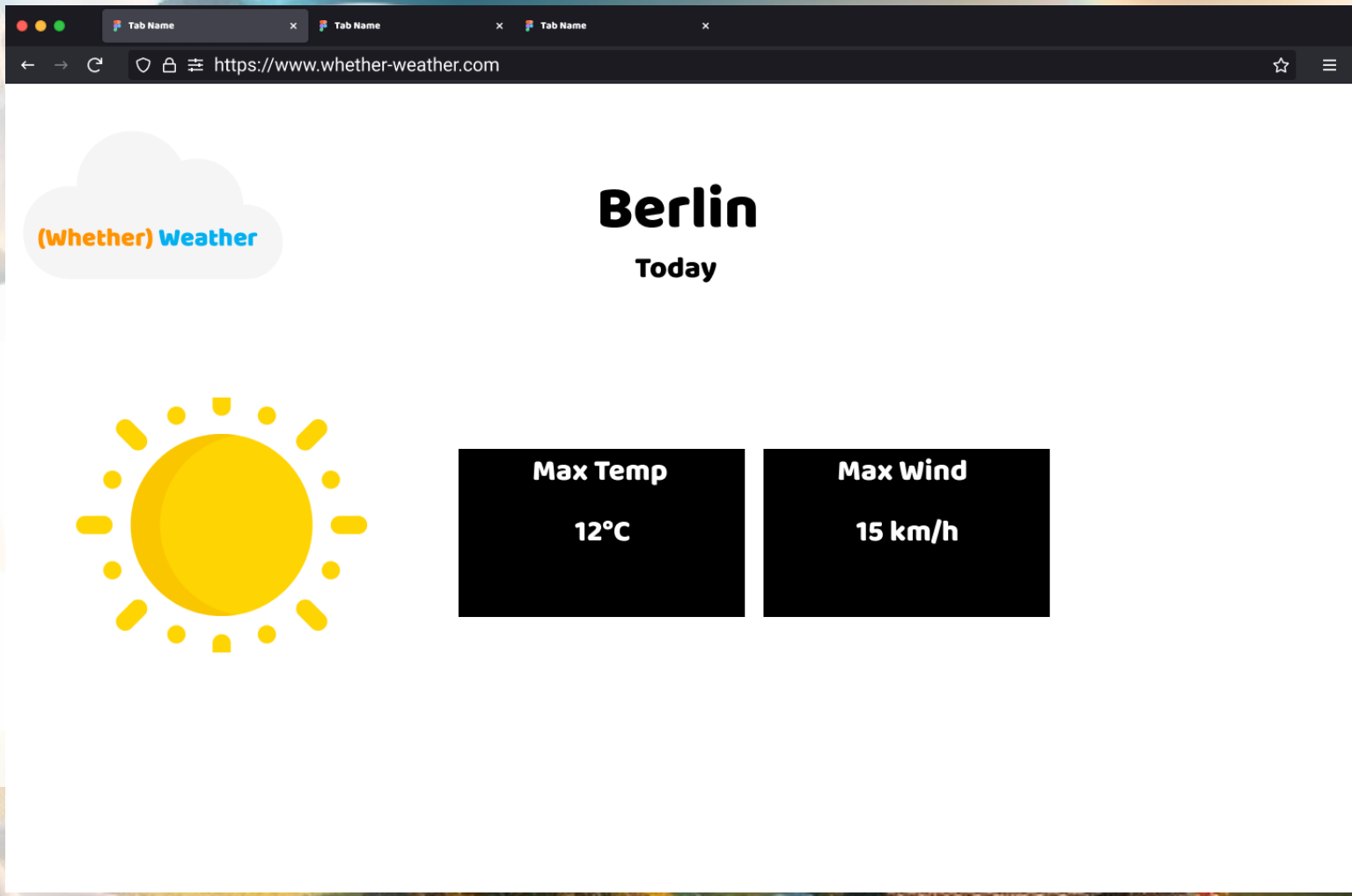




Expected Release Schedule

- Following are some designs for each stage of the Proof of Concept (POC) to Release
- The designs are illustrative only, you can use them for inspiration, or you can choose your own designs
- Whether Weather has also kindly offered to allow you redesign the logo if you wish, or use the one provided.

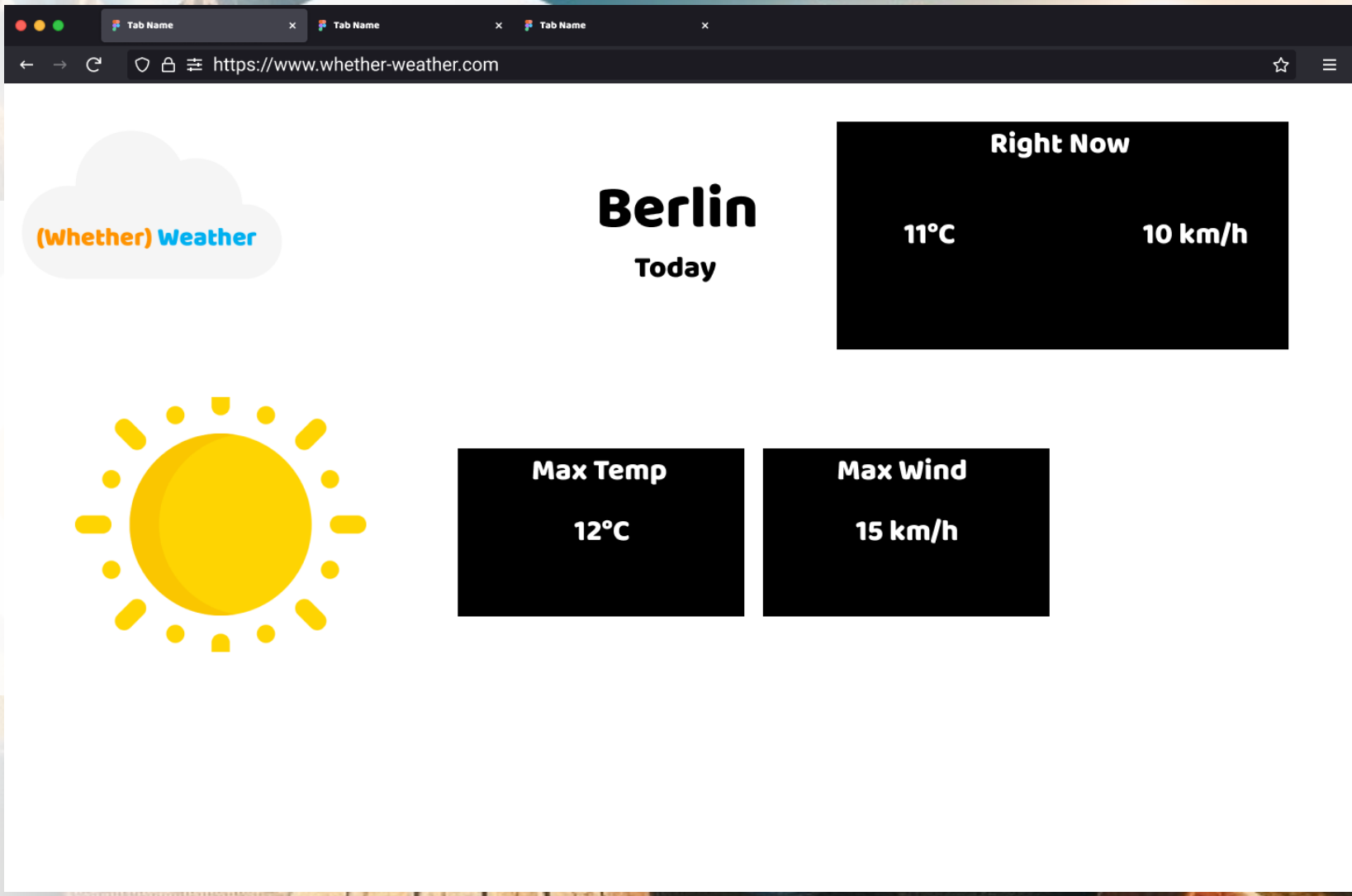
Proof of Concept (POC)
City Focus 1 - Berlin



- City Focus is where we focus on one city and display:
  - Today's weather (using weather code) – overcast, sunny, rain
  - Today's max temperature in Celsius
  - Today's max wind strength (not gust) in km/h
- This is the initial POC, it can be hardcoded to select Berlin (or any other city)

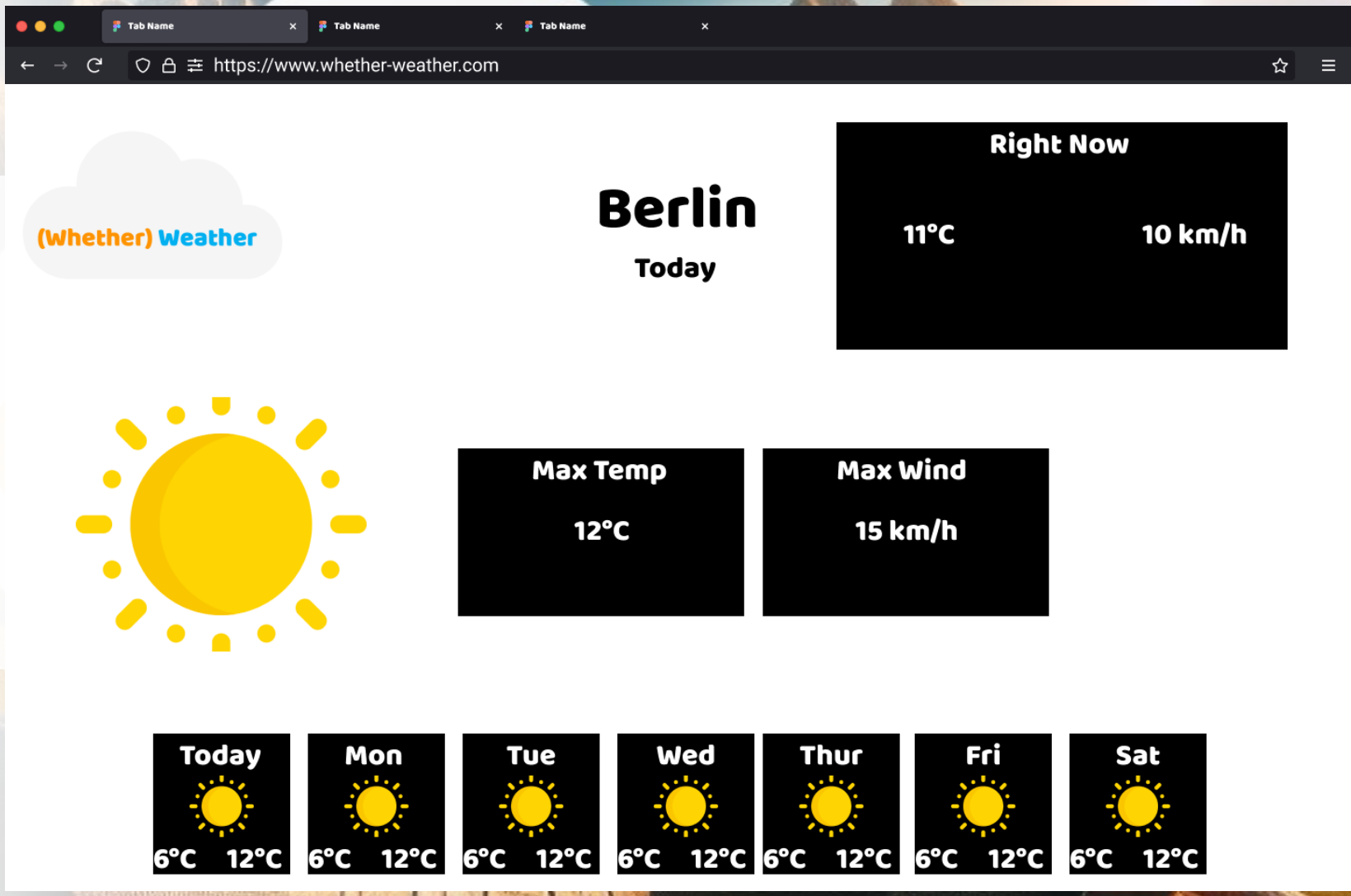
Proof of Concept (POC)
City Focus 2 - Berlin

- Add the current hour's weather forecast to Berlin
- This should be the hour that the page is loaded
- Wind and Temp



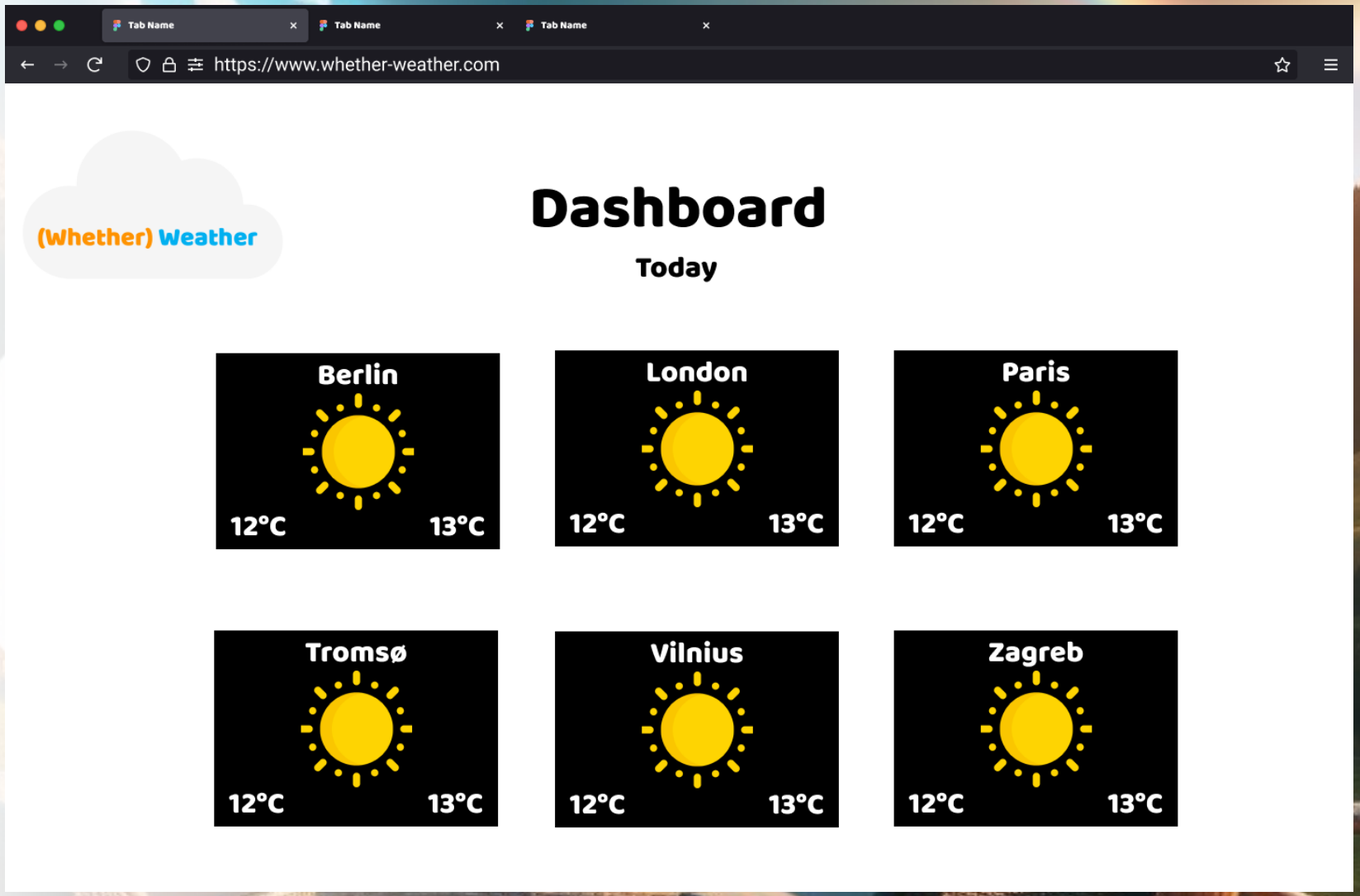
Proof of Concept (POC)
City Focus 3 - Berlin

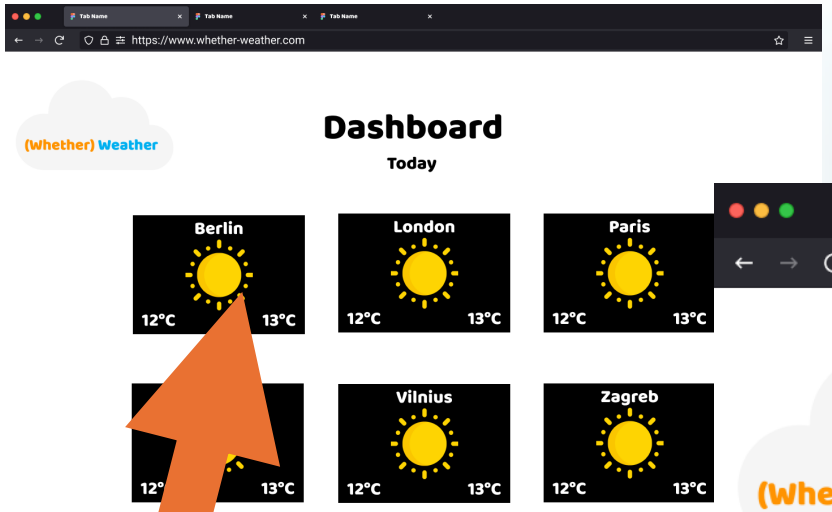
- Add a summary for each day for the next 7 days



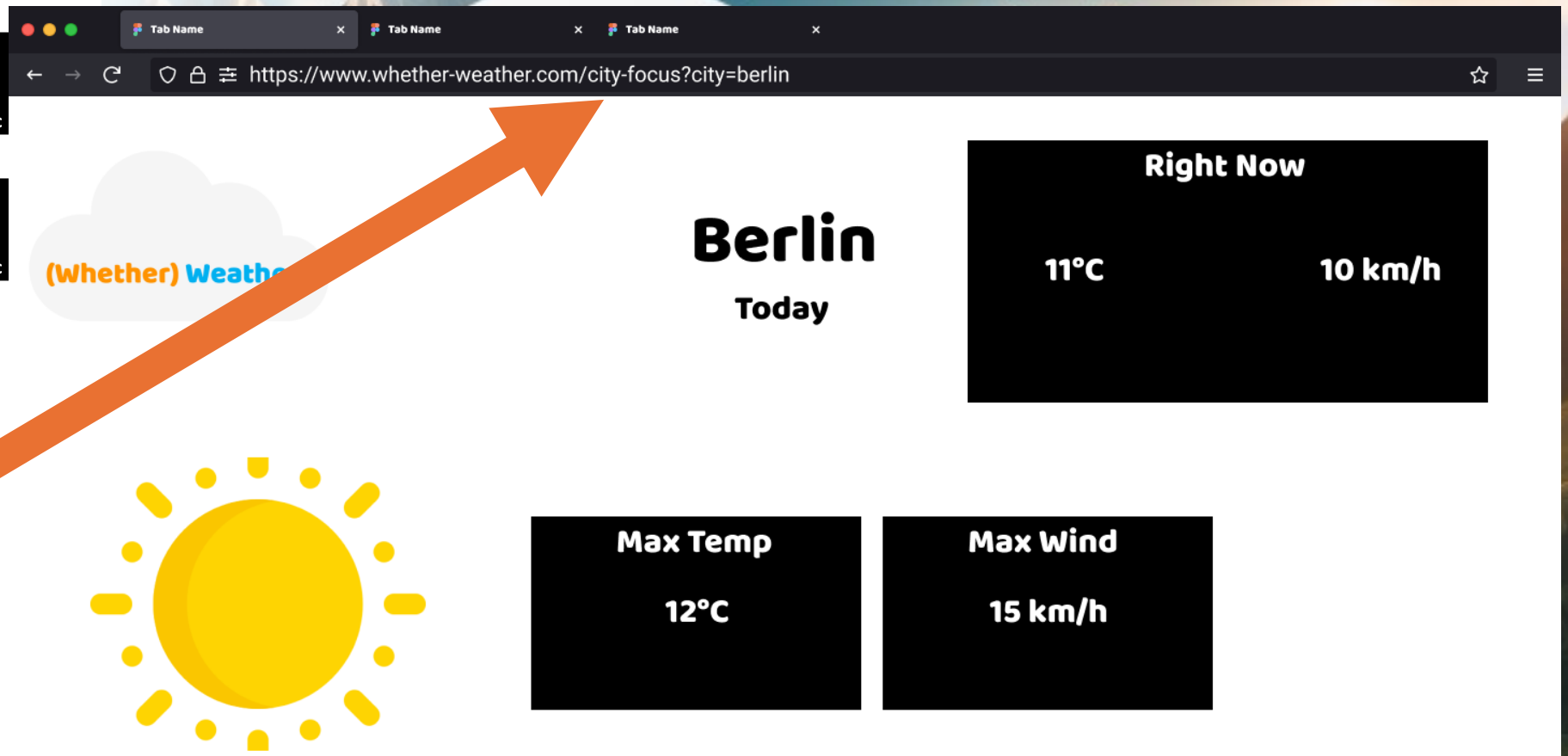
Release 1
The Dashboard

- Create a dashboard that shows a list of cities and the weather using the weather codes
- Interacting with a city will bring you the City Focus page for that city
- It should be possible to get back to the dashboard from City Focus





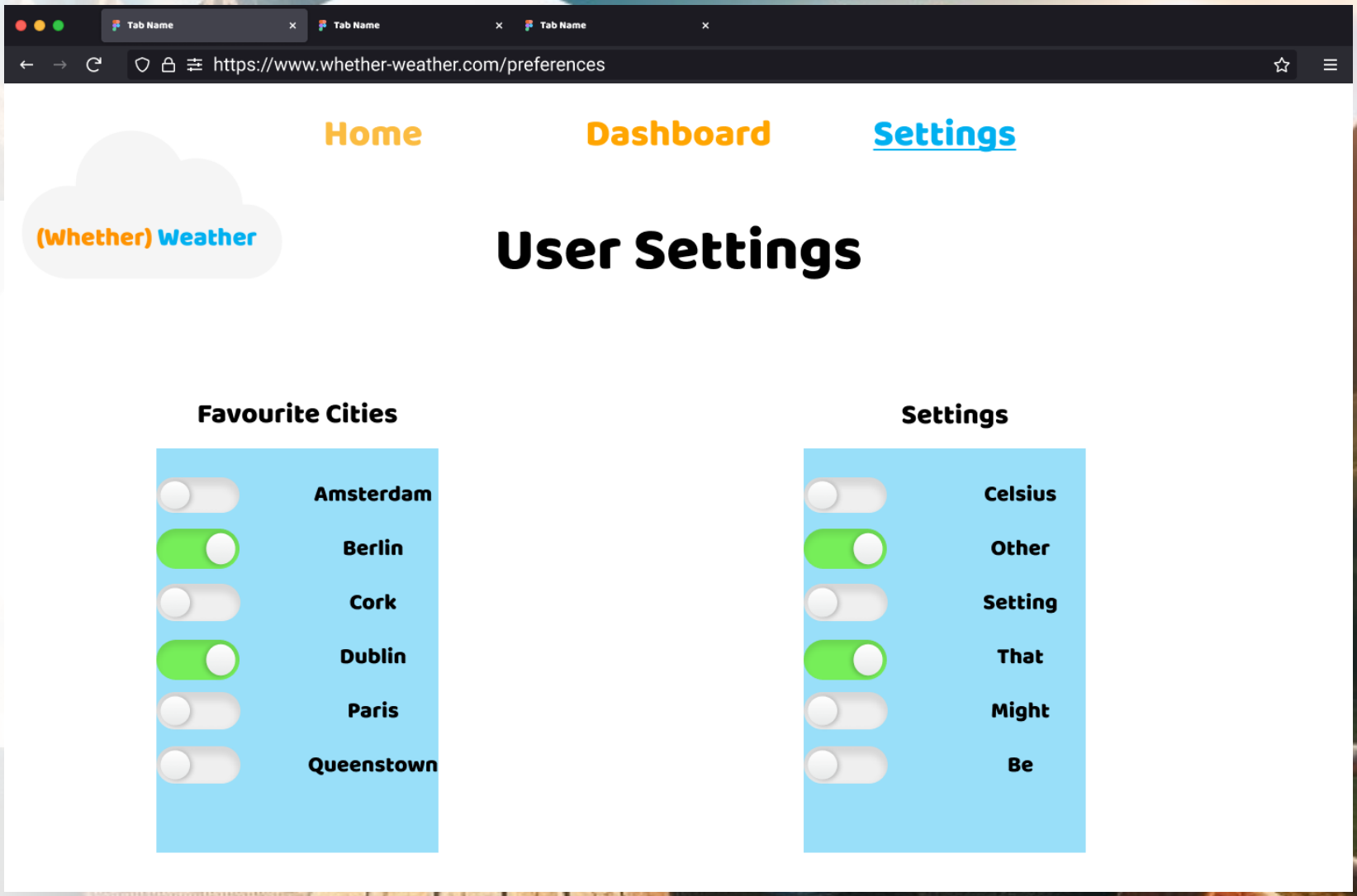
Click



URL Path & Parameters

Release 2
User Preferences

- A user should be able to select their favourite cities via a user preferences page
- These cities are highlighted (or separated) in some way in the dashboard
- Preferences are stored locally in the browser local storage so they are available on every visit
- Clearing the browser cache will clear the preference and that is what we want
- Note: Favourite Cities is only expected in this release



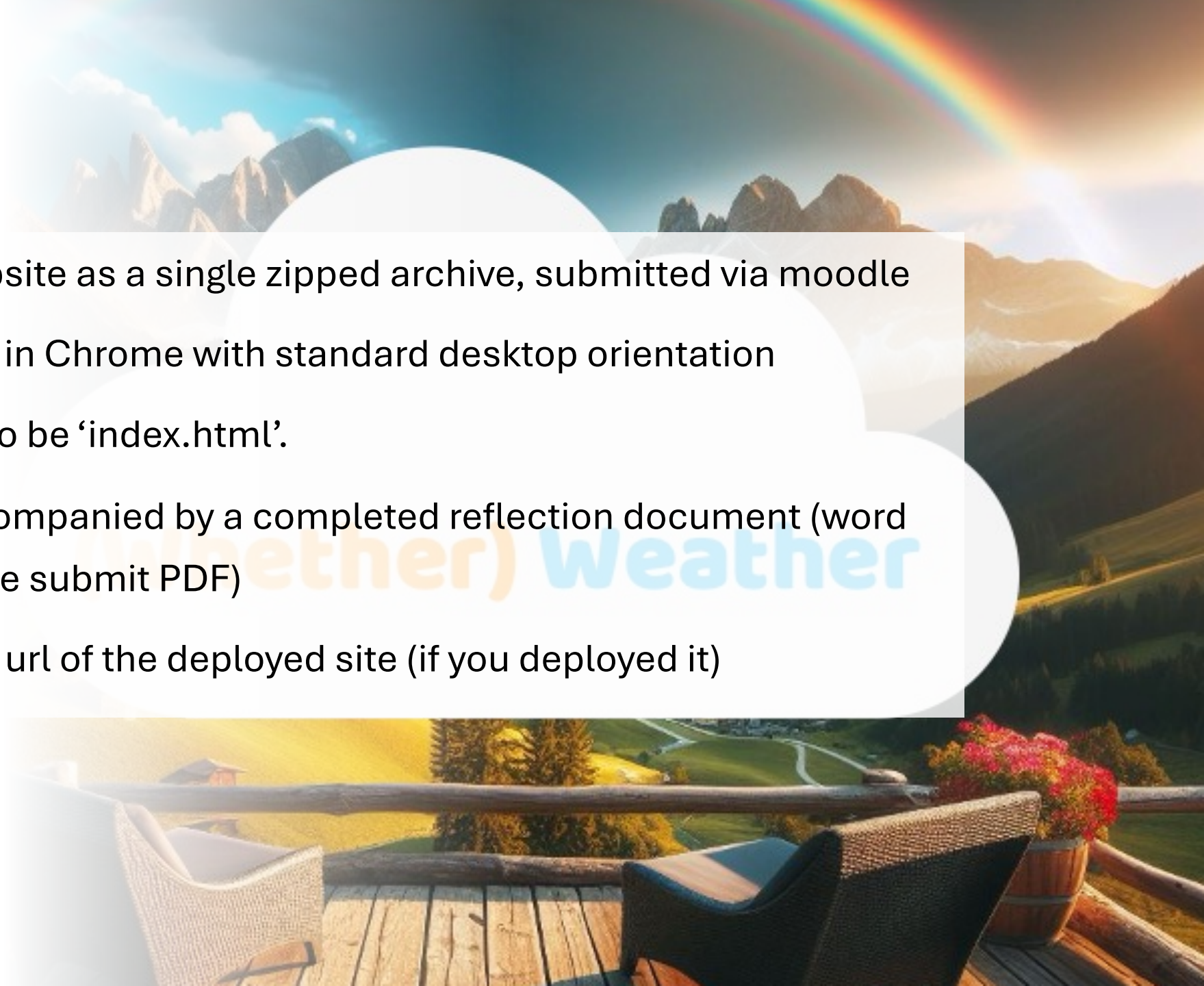
Release 3
Impress Us

- Use the data as you wish, show us what you can do
- Suggestions
  - Add hourly summaries to City Focus
  - Add preferences for wind speed and temp units
  - Clicking on a day other than today in City Focus will open City Focus on that day
  - Introduce “Feels Like” using (apparent temperature metric)
  - Introduce wind gusts and other metrics that may be useful
  - Selectable city on City Focus
  - Default city on City Focus
  - Default to “last seen city” on City Focus
  - Navigation bar
  - Up to you!

Assignment

- Using JavaScript, HTML and CSS step through each release or iteration as shown previous and develop a weather forcasting website
- The website must use the data provided, you cannot add or remove data
- The website must be multiple pages of HTML, no single page webapps allowed
- The technologies you are allowed to use to develop your website itself are:
  - HTML, CSS, Bulma, JavaScript, JQuery, Eleventy, Netlify
- There is no server-side component, everything is client side apart from deployment on Netlify
- You cannot use libraries like React, Angular etc
- This assignment is worth 60% of your final grade

Submission



- All files included in your website as a single zipped archive, submitted via moodle
- The project will be observed in Chrome with standard desktop orientation
- The main site entry point is to be ‘index.html’.
- The submission is to be accompanied by a completed reflection document (word template provided but please submit PDF)
- This template is to include a url of the deployed site (if you deployed it)

Please Note:

- The grading scheme may be subject to changes and is provided as a guideline
- Marks will be available for independent learning and other areas as the lecturing team sees fit
    - It may be safest to target your independent learning towards taking what we've learned to another level, rather than something completely new
- Please highlight any areas of independent learning in the notes section of your reflection form
- The number of marks for independent learning will be limited, for example, if there's 5 marks for independent learning and 20 marks for the rest of the column, you cannot get more than 5 marks for independent learning.
    - TLDR; if you spend 2 weeks on a feature that you consider independent learning and it is substantial, you will still only get 5 marks for it
    - This means that a submission that strays from the brief may lose marks relative to the amount of time you spend on it
    - It is recommended you build to spec, get that working, and then branch out if you have time
- The grading scheme will be the same for each student/submission
- Grades may be visible on moodle, however, all grades are not final and are subject to change until reviewed by the University
- A breakdown of how the submission scored will also be available but it is subject to the same change
- Marks may be deducted for incomplete submissions (e.g. an unclear reflection form may result in features being missed)

Plagiarism

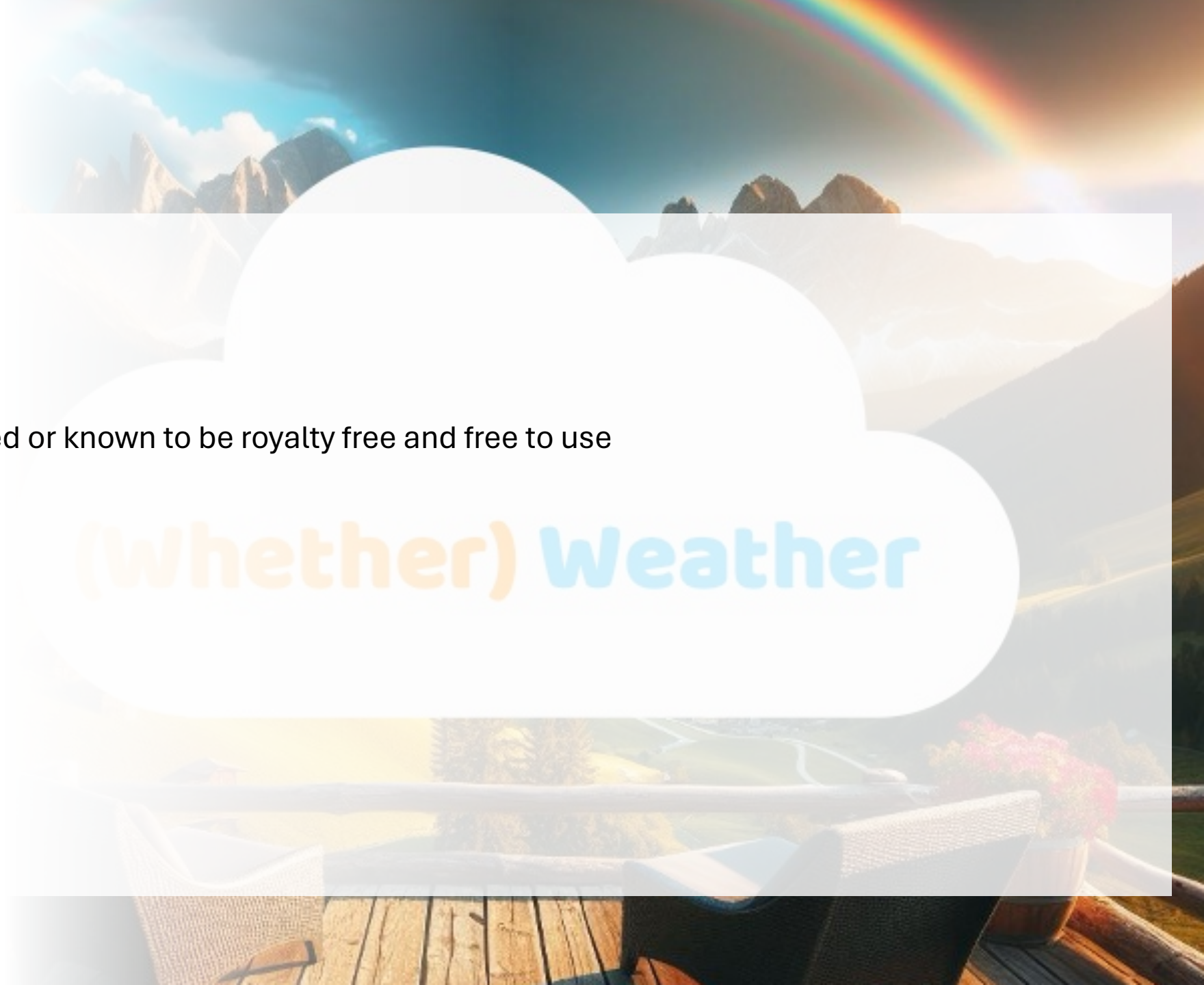
- All work must be your own and created specifically for this module
- We reserve the right to interview any candidate regarding their submission
- Plagiarism will result in a mark of zero (there may be additional consequences)
- The use of Generative AI is not permitted for this assignment
  - Includes but not limited to chatgpt, copilot (or similar applications), local code generation models or prompt driven code generation of any kind
- Any code copied from another source must be cited with a comment linking to the source if it is on the web, if it is from a book, please include a comment with the title, author, chapter. If you cannot explain how this code works, it may lead to marks lost.
- Your submission may be submitted to third party tools to verify it is not plagiarised

Grading Rubric

Grade Band	JavaScript	Dev Experience	Submission and Deployment	Release	Release Features
starter	Understanding of best practices: • let and const • Usage of arrays • Usage of object	Clearly laid out project structure – HTML, CSS and JavaScript	Zip file to moodle	POC – 1 - City Focus 1 1 City with today's weather	• Weather Code Mapped to Correct Weather • Display City Name • Clear it is today's weather • Max Temp and Wind
baseline	• Add and Remove elements from the DOM without the need for a screen refresh	DRY - Very little Repetition of HTML, JS and Styles	+ github repository link + github commit history	POC – 2 – City Focus 2 + current hour's weather	• Added current hours forecast • Correctly mapped hourly weather code • Correct hour taken from browser
good	• Understanding of application name spacing and scopes	Layered JavaScript Architecture - MVC	+ github tags	POC – 3 – City Focus 3 + 7 days summary	• Clear and concise summary for the 7 days • Weather code correctly mapped • Additional weather information
excellent	• Well maintained utility file(s) • Clear and concise loading of javascript • Functions utilized correctly	Excellent README	+ Manual upload to netlify	Release -1 + Dashboard	• Focus on user experience • Ability to navigate to city view • Ability to navigate back to dashboard • Usage of URL paths and parameters
outstanding			+ github push to master deploys to netlify	Release – 2 + Configure and Persist User Preferences	• User preferences user interface • User preferences saved in localStorage • Clear navigation • User preferences affect how the dashboard render • Reset preferences
amazing			-	Release – 3 + Build out your own features	• Start small and build from there • Do not start this without a lot of the previous releases done, don't feel pressure to get here

Allowed Resources

- Icons:
  - https://www.flaticon.com/
  - https://thenounproject.com/
  - https://fontawesome.com/
  - All Bulma icon sets
- Any images used must be attributed or known to be royalty free and free to use

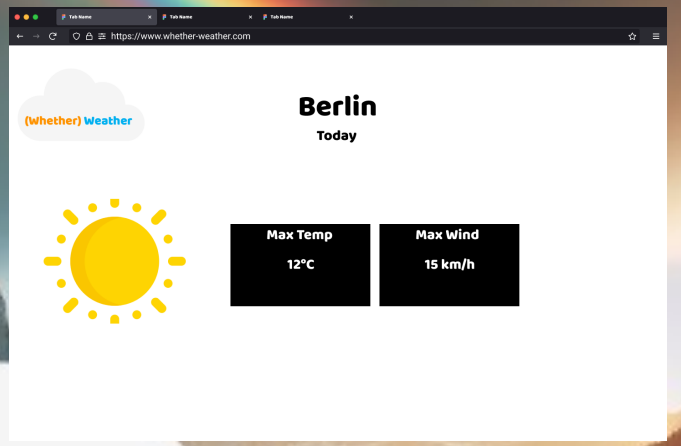


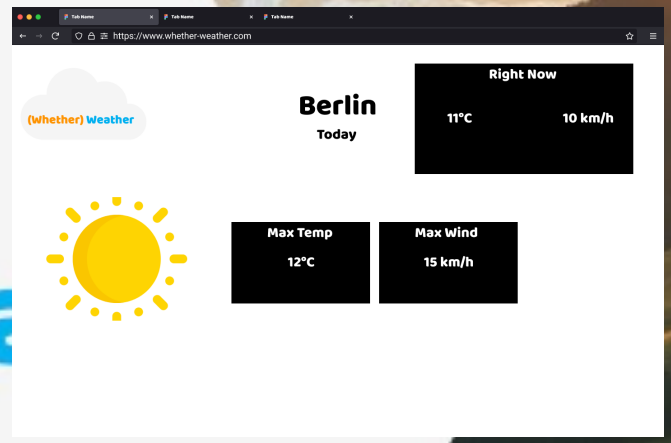
Deadline

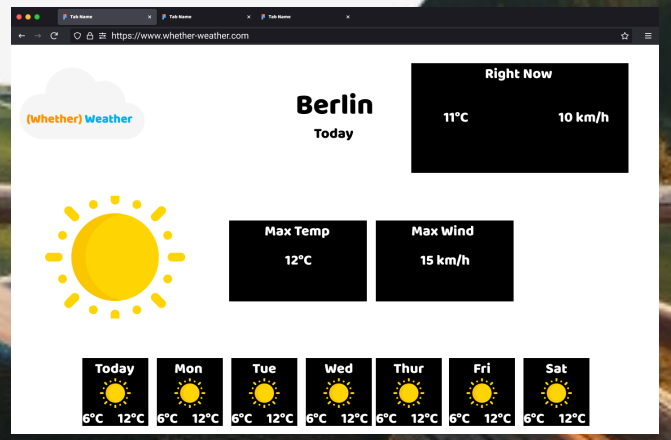
- Sunday May 12th 11:50pm.

Easter – Get Started on the UI

- Do not worry about the JavaScript, in fact, don't use it because we will be covering specific implementation patterns
- Bulma is a requirement so get started with Bulma in Week 7 and Week 8 lectures and labs
- The Week 8 Bulma lab starts an application completely from scratch, it should provide guidance for getting going here. Feel free to use it as a starting point (just change the style).
- Recommended path for easter – stick to bulma
  - Use the project structure from the week 8 lab to get a project with eleventy spun up
  - Use a column layout in bulma to create the City Focus Proof of Concept
  - Just hardcode any values for now, keep it simple
  - Ignore JavaScript and the data provided, we will do deep dive sessions on the data and how to work with it in JavaScript after easter
  - Take the path of POC 1, 2, 3 in order. It will ensure that you will have a great starting point for integrating JavaScript after easter
  - Feel free to use njk files for the header and footer but this can also wait until after easter, we will split the Dotify app from Week 8 into templates later
  - You can follow the designs in this document exactly if you wish, that can typically be the hardest part to getting started
  - Even getting the POC v1 done is an achievement as the rest should fall into place.
  - April will vanish very quickly, so be weary of that.
  - IT WILL TAKE YOU LONGER THAN YOU EXPECT TO GET STARTED WITH BULMA…. ahem







Passing Pathway

- To pass
  - You must have a well implemented City Focus
  - You must have a Dashboard that shows more than city (see below)
  - You must be able to link from the Dashboard to the City Focus using the City in the URL params
  - You must use Bulma and JavaScript
  - You must deploy to Netlify
  - I have highlighted areas that will ensure you pass on the next slide
  - Note that everything in green implemented well would be more than a passing grade so there is a little bit of flexibility to do a little less – particularly in the Dashboard, that is why it is highlighted yellow
  - Just be sure to have at least 2 pages implemented in Bulma that populate their data from the JavaScript data set provided and that link to each other
  - Extra points will be awarded for the use of templates and partials

Passing Pathway

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Assignment Data

- Please review the Assignment Data talk in tutors in the same section
- https://www.youtube.com/watch?v=eU0APT5Xgfg