
Frontend Engineer Exercise

DevOps Division, University of Cambridge Information Services

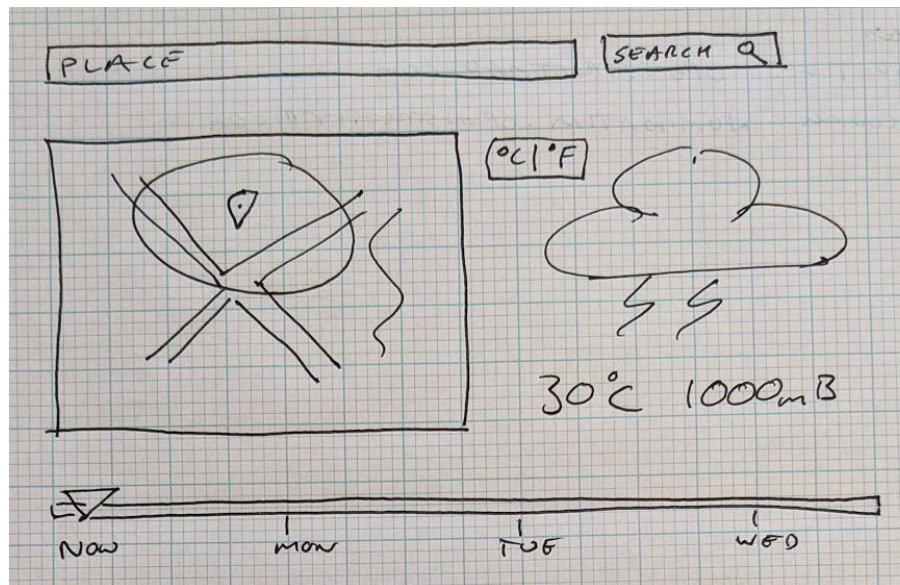
OVERVIEW

This exercise is intended to assess your familiarity with writing frontend applications which interact with web APIs. Please do not spend more than a few hours on the application. We'd prefer well-written partial functionality to unreadable full functionality.

The goal of the exercise is to create a frontend application which lets a user search for a location on Earth and get the current weather for that location along with a forecast for the next few days.

DESIGN

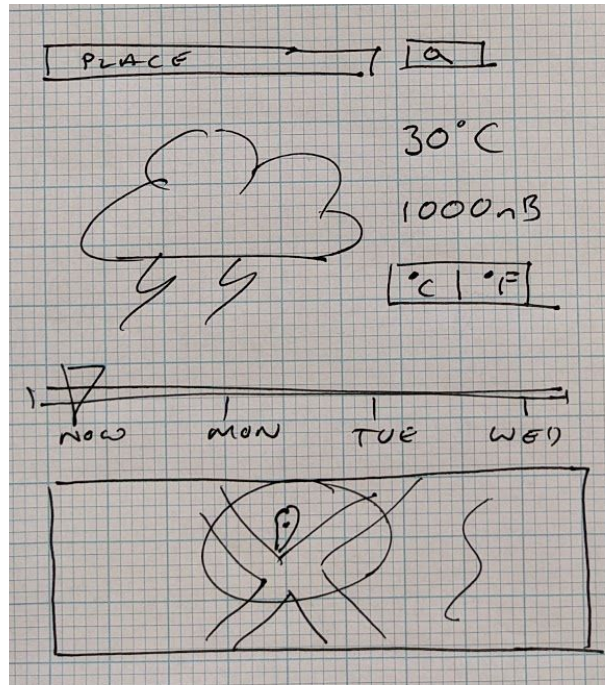
Here is a sketch design for the application UI as it appears in a desktop web browser:



Initially only the place name input and search button are visible. Entering a place name and clicking the search button should bring up a map of the geocoded location, an icon indicating the current weather, the temperature and pressure and a UI element allowing selection of units.

There is a slider at the bottom of the page which can select forecast times. Moving the slider updates the weather icon, temperature and pressure accordingly.

On small-screen devices, the UI is re-arranged slightly:



The map view is below the slider and the search button now shows only an icon rather than the icon and “search” label. The position of the temperature, pressure and units control has moved to the right of the weather icon.

DELIVERABLES

Provide a link to a git repository containing your code and a link to a working example site. We are happy with these both being on a public platform such as GitHub and GitHub pages. This link should be sent via email to amc203@cam.ac.uk.

Your repository should contain a README explaining how to build your code, how to obtain any required API credentials and a discussion of how the example application is hosted. You should also have had done it via a Pull Request. The Pull Request should have all the information that you consider it should have for another developer to review. It is ok if you auto-accept and merge your pull request. You are free to include further information if you feel it useful in the repository.

HINTS

Suggested Technologies

Some technologies which are currently used by the team are listed below. If you are familiar with the following technologies, we would prefer they be used but we understand if you wish to use a different technology if it would make completing the exercise easier.

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- React
 - TypeScript
 - npm or yarn
 - [create-react-app](#)
 - [Material UI](#)

Suggested APIs

Some APIs which you may find useful to implement the design are listed below. If you have familiarity with other APIs feel free to use them as long as you are still able to hand over a functioning example.

- [OpenWeatherMap 5-day forecast](#)
- [OpenStreetMap tiles](#)
- [Nominatim GeoCoding](#)

Suggested Resources

Some resources which may be helpful for the exercise are listed below.

- [The Noun Project](#) for icons