

iSim React Developer Programming Challenge

A large part of the job at iSim is implementing aircraft instrumentation in React. With this in mind, we have created a simple task for you to complete that will require you to demonstrate some basic Javascript, React, HTML and CSS skills.

Task:

You will be implementing a basic radar altimeter gauge as shown below. Some graphics are provided as well as a base for your project. The radar altimeter is made up from the following components:

- A background scale, 0 to 1500 ft.
- A needle showing the current altitude.
- A “bug”, (the yellow triangle) that can be moved to select an altitude.
- A red flag that indicates that the instrument is not powered.
- A cover with a light that can turn on and off.

Radar Altimeter



Altitude: 253
Bug: 299
Has power: ☐

Layout:

The instrument can be constructed by placing the provided graphics on top of each other. All images are the same size, so there is no special alignment needed.

A graphic for the light is not provided. In many scenarios, a visual element is so simple that using a dedicated image is not warranted. In these cases the element should be created using the native drawing tools available. In this case you can use a div tag and CSS to make the light and change its appearance between on and off.

Requirements:

Input:

- Two range sliders that can be used to select a value between 0 and 1500. One corresponding to the needle and one to the bug.
- A checkbox to toggle power for the instrument on and off.

Behaviour:

- The needle and bug should rotate to indicate on the instrument the current value from the respective slider.
- When the power is off:
 - The flag should appear
 - The needle should remain stuck in the position it was in when the power was turned off.
 - The bug should still be able to be moved (as it is driven mechanically).
 - The light should be off.
- The light should come on when the following conditions are met:
 - The needle has transitioned from above the bug to below it.
 - The power is on.

How to get started:

You will need to have node.js installed. You can find it here: <https://nodejs.org/en/>

Extract the project zip.

In your terminal, cd into the project folder.

Run `npm install`, then `npm start`

Hints:

You may use any extra npm modules that you deem appropriate, such as a CSS in JS library, although it is not required; inline styles are sufficient.

The scale that the needle moves on is not linear.