Current Architecture :

Diagram

Description automatically generated

1. I have loaded the two given itinerary files into a folder called TestData
2. The FlightsContainer Component is the starting point of this functionality. It imports the json file from the test data folder and sends it to the child component “Flights” along with an array of strings which would be the fieldNames in the itinerary array.
3. The flights component parses the json , extracts the filter values and puts it in the react state using hooks.
4. An useEffect hook is used to extract the field names for table headers. It renders on componentLoad and will only rerender if the underlying json is changed.
5. The flights component passes data on to FlightFilters and FlightTable components.
6. The FlightFilters component will analyze the props it receives and renders an array of CheckBoxList components for each filter it receives in the Props.
7. The CheckBoxList component destructures the object and uses different html elements like Label, input (checkbox) to visually render a checkbox component with the counts shown at the end. This also maps the handleOnChange prop appropriately to each checkbox component.
8. The FlightsTable component receives the data and headers as props and renders a html table with thead and tbody.
9. Any change in the checkbox element in the filters page would trigger the onChange callback which will update the state with the new filters , which would update the table data according to the new filters which would update the counts according to the new data.

Other things considered:

1. I ve considered using useReducer, but went against it as I felt for this particular assessment, it would complicate things more. I m only using the useState for just the filters.
2. A couple of helper functions from lodash were used. UniqBy and startCase .

**To answer the question 3,**

**This architecture is already designed to be re-usable. In Step-2 highlighted in yellow above, instead of passing in an array of strings as filter points, if we want to have a dynamic filter points, we only need to extract one object from the json and send in Object.keys(sampleObject) as the prop instead of a pre-defined array.**