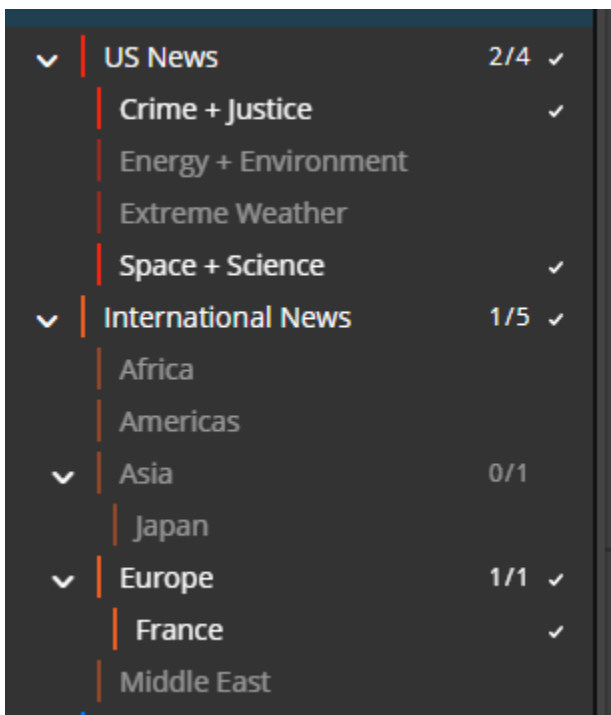# Programming Challenge

This is a front-end task we have put together to give potential candidates. Focus first on the main features, and then see if you have time to implement the bonus features.
It would be nice if you could solve this using Angular (2+), but React or Vue is also fine. If you don't have much time we take the time spent into account.

Department selector

- Create a simple page that lets you pick departments in a tree structure. Use the attached JSON array as source data.
- Departments have a unique ID (OID). They can also have a DepartmentParent_OID which refers to their parent department. (If department A has a DepartmentParent_OID for department B, then department A is a sub-department of department B.)
- Departments you are allowed to select are departments that have no sub-departments (leaf nodes).
- There can be an arbitrary amount of levels of departments, and the user should be allowed to select any number of departments.
- The result should be a simple Javascript array of IDs, e.g. [24, 54, 39].
- We will test the page with various lists of departments with the same JSON structure as input data.
- Next to each department that is not a leaf, there should be a number that says how many leaf sub-departments there are in total (including all descendants) and how many are selected.
- **Bonus feature**: Use department-colors in the view and make some accordion style functions to expand and contract sub-departments.
- **Bonus feature**: Take an array of IDs as input, to pre-select departments when the page is built.

GUI is up to you, this is an example picture:

Please don't hesitate to ask if something is unclear. The example JSON is attached below.

Example JSON

```
[{
  "OID" : 1,
  "Title" : "US News",
```

```
      "Color" : "#F52612",
      "DepartmentParent_OID" : null
    }, {
      "OID" : 2,
      "Title" : "Crime + Justice",
      "Color" : "#F52612",
      "DepartmentParent_OID" : 1
    }, {
      "OID" : 3,
      "Title" : "Energy + Environment",
      "Color" : "#F52612",
      "DepartmentParent_OID" : 1
    }, {
      "OID" : 4,
      "Title" : "Extreme Weather",
      "Color" : "#F52612",
      "DepartmentParent_OID" : 1
    }, {
      "OID" : 5,
      "Title" : "Space + Science",
      "Color" : "#F52612",
      "DepartmentParent_OID" : 1
    }, {
      "OID" : 6,
      "Title" : "International News",
      "Color" : "#EB5F25",
      "DepartmentParent_OID" : null
    }, {
      "OID" : 7,
      "Title" : "Africa",
      "Color" : "#EB5F25",
      "DepartmentParent_OID" : 6
    }, {
      "OID" : 8,
      "Title" : "Americas",
      "Color" : "#EB5F25",
      "DepartmentParent_OID" : 6
    }, {
      "OID" : 9,
      "Title" : "Asia",
      "Color" : "#EB5F25",
      "DepartmentParent_OID" : 6
    }, {
      "OID" : 10,
      "Title" : "Europe",
      "Color" : "#EB5F25",
      "DepartmentParent_OID" : 6
    }, {
      "OID" : 11,
      "Title" : "Middle East",
```

```json
  "Color" : "#EB5F25",
  "DepartmentParent_OID" : 6
}, {
  "OID" : 12,
  "Title" : "Politics",
  "Color" : "#0079FF",
  "DepartmentParent_OID" : null
}, {
  "OID" : 13,
  "Title" : "National",
  "Color" : "#0079FF",
  "DepartmentParent_OID" : 12
}, {
  "OID" : 41,
  "Title" : "Opinion",
  "Color" : "#32B32B",
  "DepartmentParent_OID" : null
}, {
  "OID" : 14,
  "Title" : "World",
  "Color" : "#0079FF",
  "DepartmentParent_OID" : 12
}, {
  "OID" : 15,
  "Title" : "2016 Election",
  "Color" : "#0079FF",
  "DepartmentParent_OID" : 12
}, {
  "OID" : 118,
  "Title" : "Japan",
  "Color" : "#EB5F25",
  "DepartmentParent_OID" : 9
}, {
  "OID" : 119,
  "Title" : "France",
```

```
  "Color" : "#EB5F25",
  "DepartmentParent_OID" : 10
}]
```