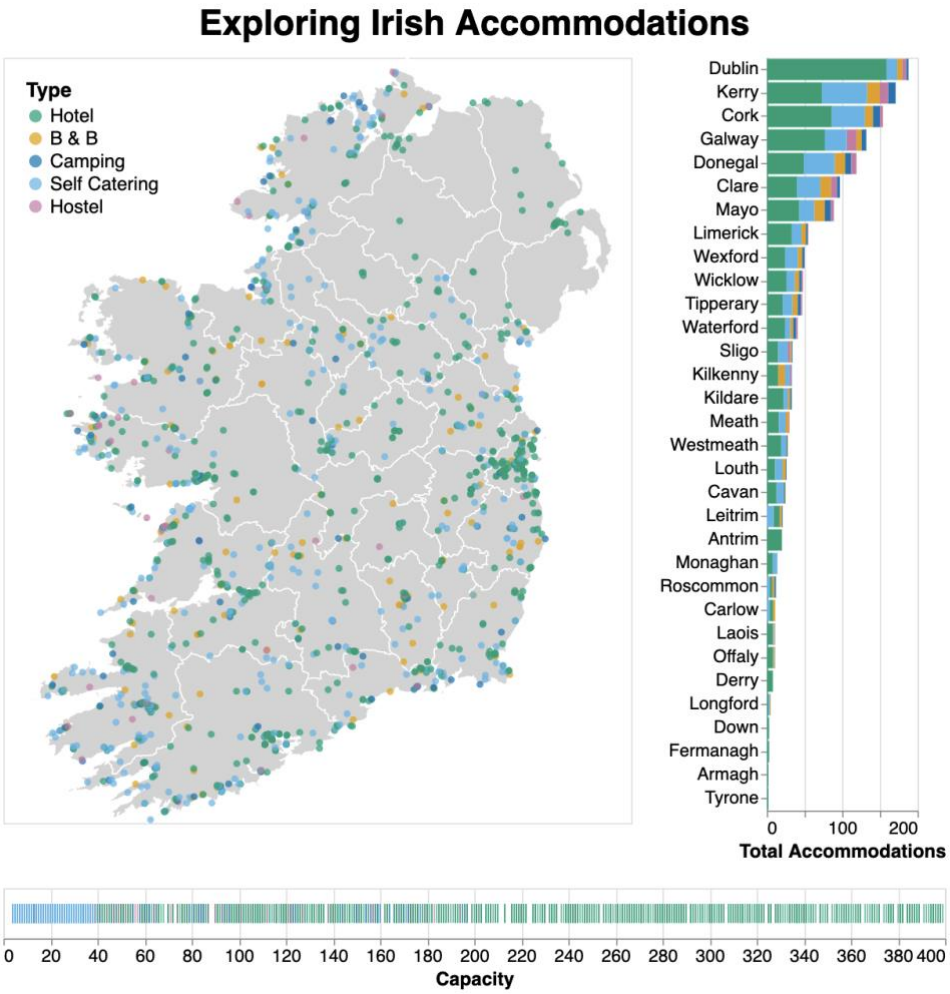
Information Visualisation

Dashboard Assignment (20% of grade)

The goal of this assignment is to create an interactive 'dashboard' style visualisation to enable analysis and exploration of different accommodations in Ireland.

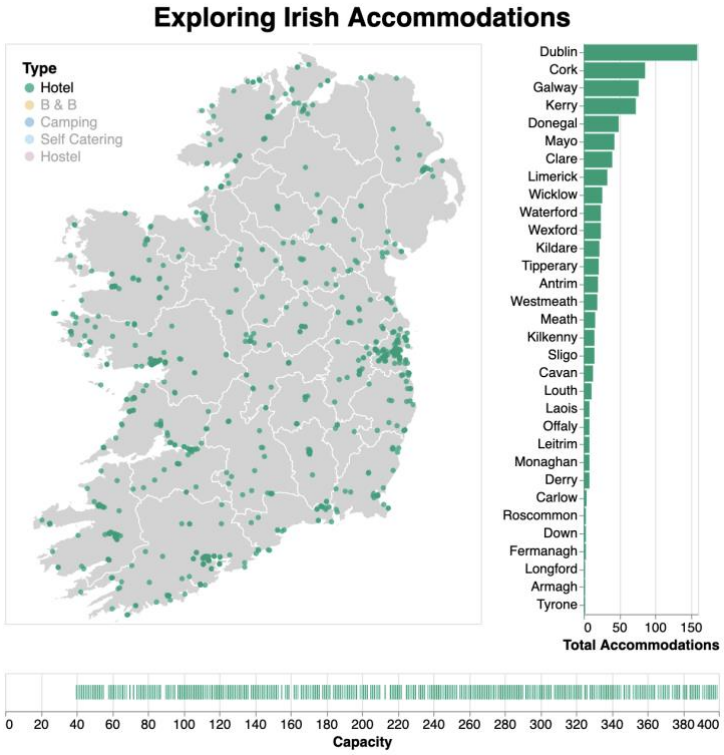
The end result should look like the below:



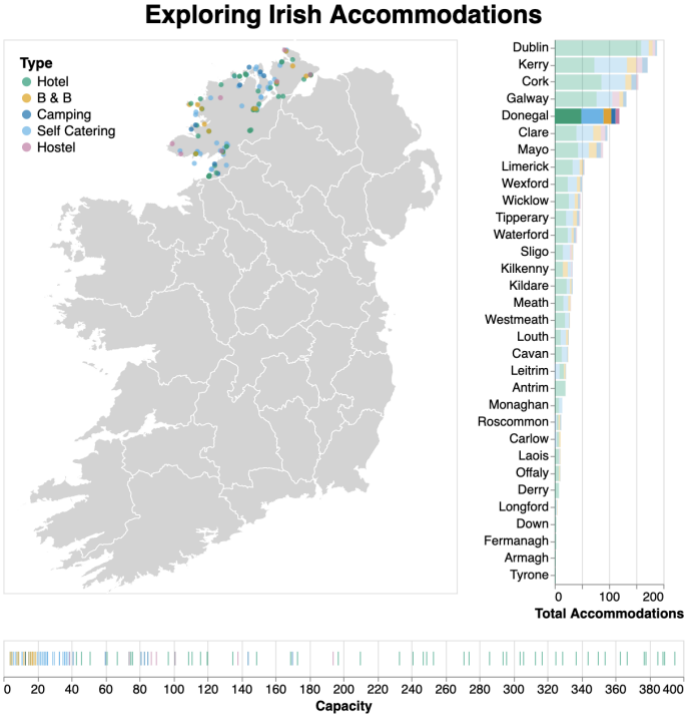
This visualisation contains three linked charts that interact with each other.

The point map shows the location of various accommodations in Ireland. Each point is coloured according to type of accommodation. I have used the Okabe Ito colour scheme. Hovering over an individual point should provide a tooltip containing the name, type and telephone number of that accommodation. Clicking on an individual point should bring you to the website associated with that accommodation (using the href encoding).

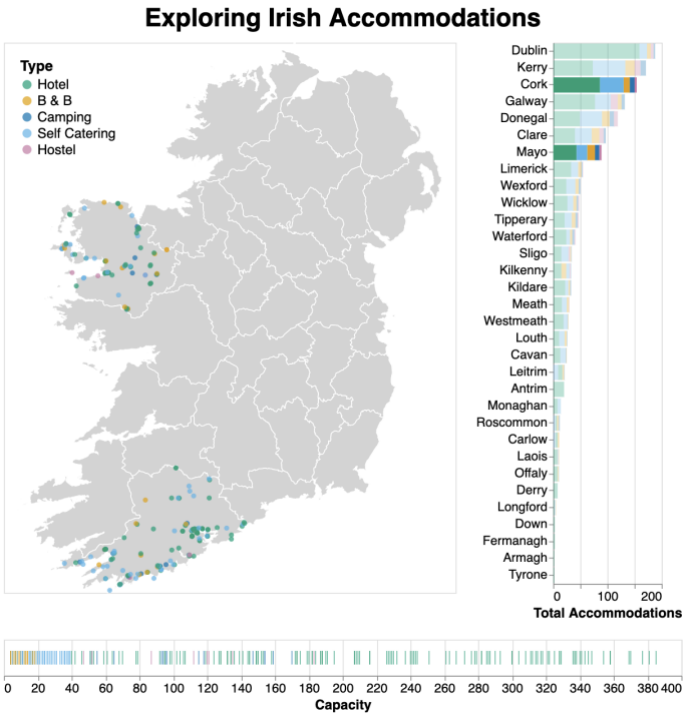
Clicking on the colour legend allows filtering to show only select types of accommodations (e.g. only Hotels, or Hotels and B &Bs). This is reflected both on the map and the two other charts, as in the below:



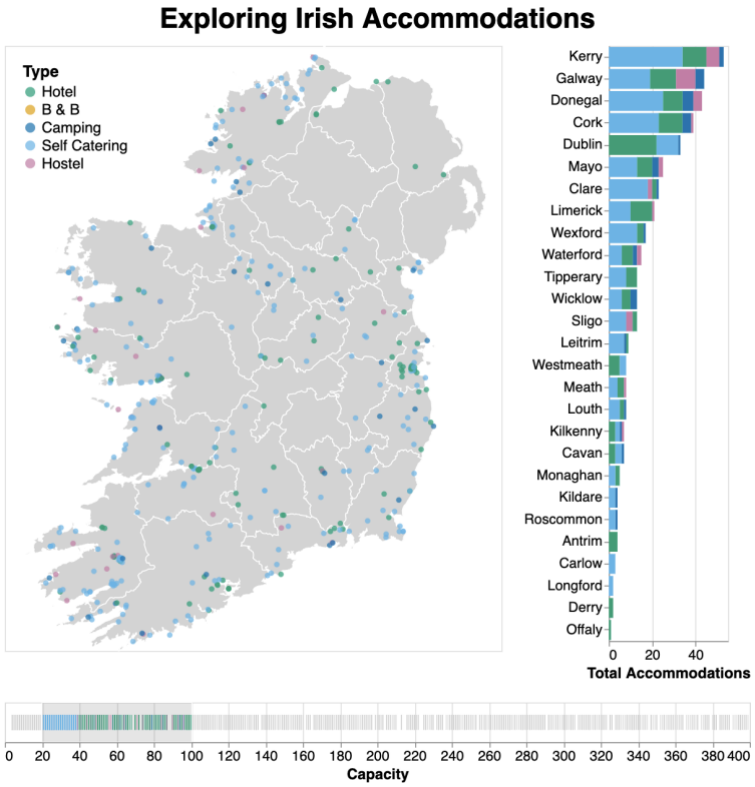
The bar chart on the right shows the number of accommodations in each county. Clicking on a county on the bar chart should filter the map on the left so that only the accommodations from that county are shown. This should also update the chart on the bottom of the image, e.g. selecting Donegal in the bar chart should update the visualisation as below:



It should be possible to select multiple counties using the bar chart as below:

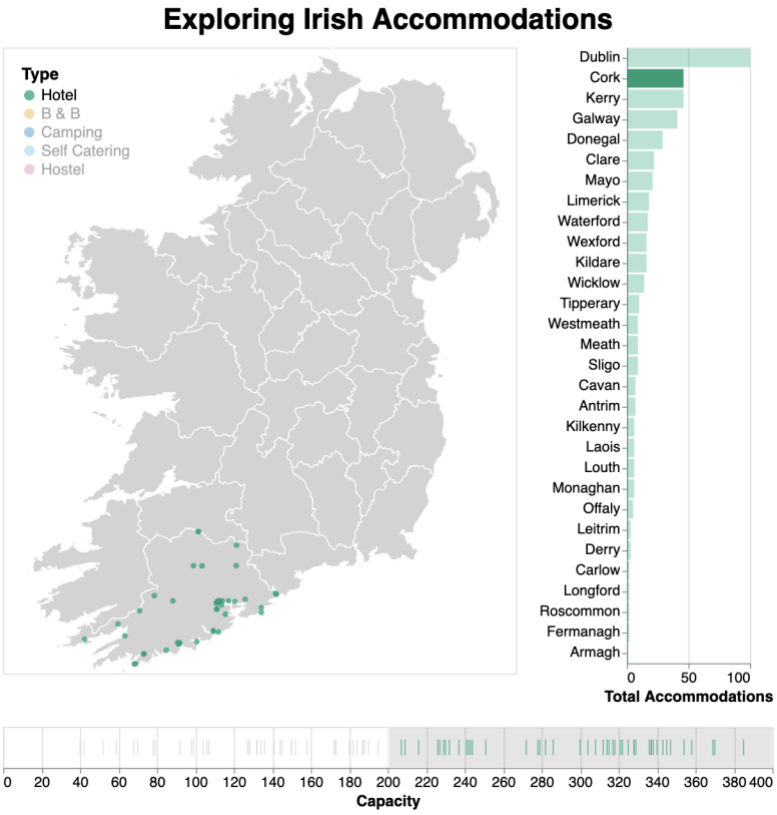


The chart at the bottom of the image is a strip chart that shows the capacity of accommodations. This strip chart allows a brush selection so that it is possible to select accommodations with a specific capacity range (e.g. between 20 and 100 beds):



Selecting on this strip chart should also update the other two charts – e.g. hiding the points on the map corresponding to accommodations with a capacity outside the selected range and adjusting the data used to generate the bar chart.

It should be possible to use all interactions together – e.g. to select only hotels in Cork with a capacity greater than 200, as below:



A video demonstrating all of the interactive features is available on Brightspace.

This visualisation uses the a 32 county topoJSON map rather than the 26 county variant we used in Lab 4. The accommodations dataset is adapted from a file provided by Fáilte Ireland. NB - note that the Capacity and Type fields in this file are randomly generated – i.e. they do not reflect the real capacity or type of each accommodation.

The visualisation is designed to use much of the Vega-Lite functionality we have learned in class including view composition (e.g. hconcat, layer), interactions and selections, and geographic data visualisation.

Marks will be given for correct implementation of each individual chart (the map, area chart and bar chart) along with the correct coordinated interaction between them. Mark breakdown is as follows:

Map 30%
Barchart 20%
Strip Chart 20%

Interaction & Coordination 30%

Please submit a single json file containing your Vega-Lite specification.

The filename should include your name and student number – e.g. ColmRyan_1234_dashboard.vl.json

Should you need to wish to add a text explanation of any limitations please do so in the specification using the ‘description’ property.