FIT3179 Data Visualisation

Assignment II

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Website URL:

https://kitkatug.github.io/Data-Visualisation-II/

GitHub Repository URL:

https://github.com/kitkatug/Data-Visualisation-II

No. of Words: 907

Introduction

The data visualisation, “Touring Around Australia with Airbnb” subjects to the topics of tourism and accommodation in Australia. It focuses on being an informative piece for travellers/tourists while presenting data for those interested in the human flow in Australia.

What

The data was obtained from Kaggle (Blanche, 2020) and Inside Airbnb (2023) which were inclusive of all the attributes used in the visualisation. Namely the longitude/latitude, states and regions, prices, number of trips and purposes. Based upon these attributes four categories were defined: location, costs, timeline, and purpose. These were separated from the introduction

Why & How

The category, location mainly consisted of longitude and latitude: two quantitative attributes which is determined by the channel position and best represented with a point mark. The idiom chosen that fits these criteria is a symbol map shown in figure 1.

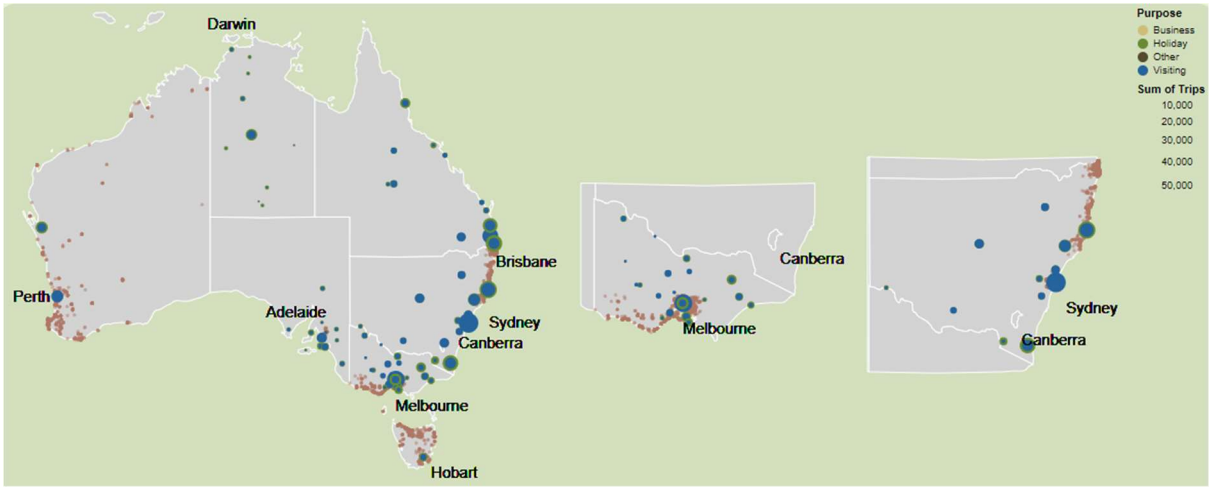

Figure 1: Symbol Map

The two quantitative attributes are encoded by three types of channels, colour, size, and position. Where colour represents the purpose and Airbnb’s, while size represents the sum of trips in that area. The position channel shows the location of the trips and Airbnb’s, this allows viewers to compare between the most accommodating travel spots. To enhance the viewer’s experience, closer visualisations of the denser states, Victoria, and New South Wales, are shown with textual annotations to help viewers grasp an idea of location. A selection is available for users to go through each purpose and a toolbox helps them gain more information. See figure 2.

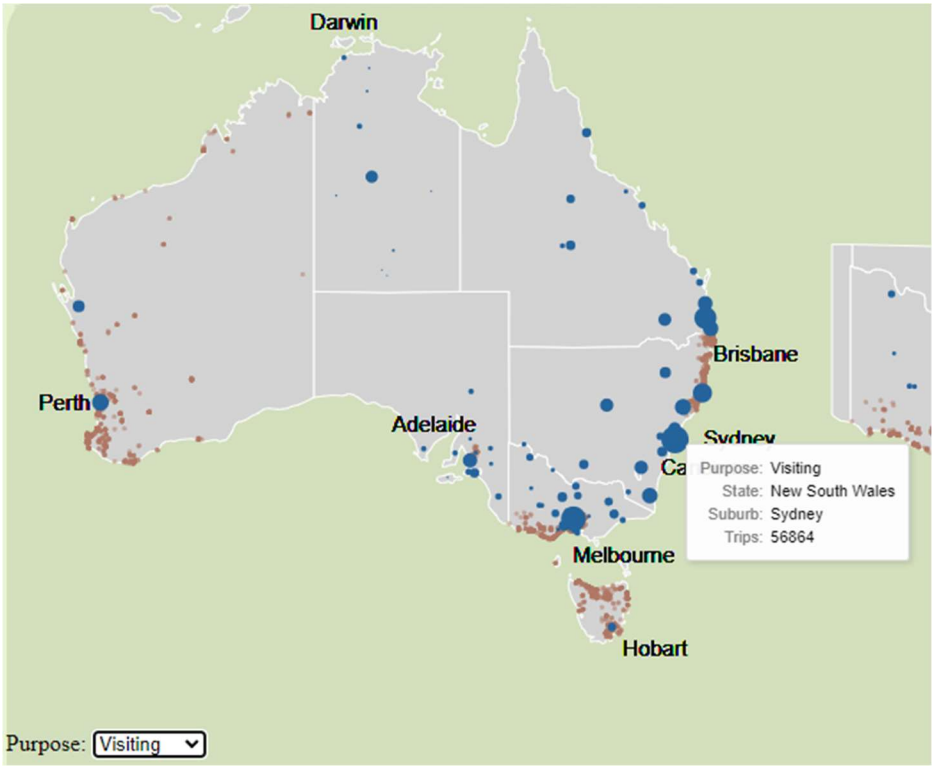

Figure 2: Selection & Toolbox

The second category, costs is presented with a radial plot. While presenting the attributes of price and state, the radius is determined in an orderly fashion so users can see the cheapest and most expensive states. While there are two attributes to this graph, the focus is the price which can be broken down into components (states). So, the best idiom to represent this is a part-to-whole visualisation. (GIJN Staff 2019) See figure 3.

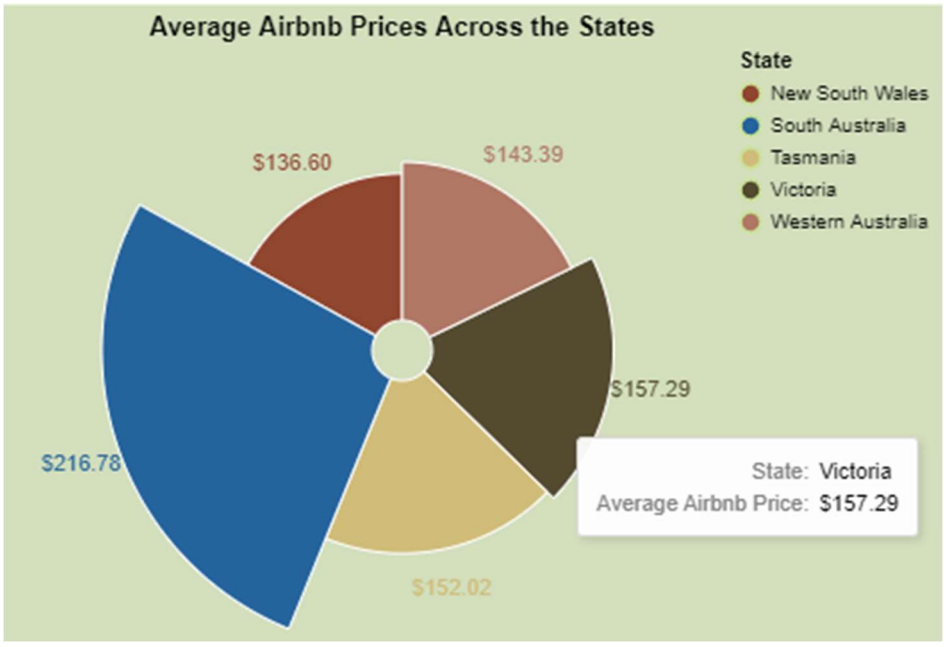

Figure 2: Radial Plot

Here the colour channel is primarily used to convey the states in adjunction to the textual mark which annotates the sections. The radius/size of the section is a channel that allows viewers to compare between the prices.

To increase the informative aspect of the visualisation, the number of trips is represented by a waterfall chart with the attributes of year and total trips. This chart best shows the decrease and increase in tourism through the mark, bar, which is shown by the colour channel hue using, red and green where red is decrease and green is increase. This idiom was chosen due to its blocky appearance and effectuality, where it firstly aligns with the "blocked colour theme" and secondly can strongly differentiate between decrease and increase compared to a line graph or a regular bar graph.

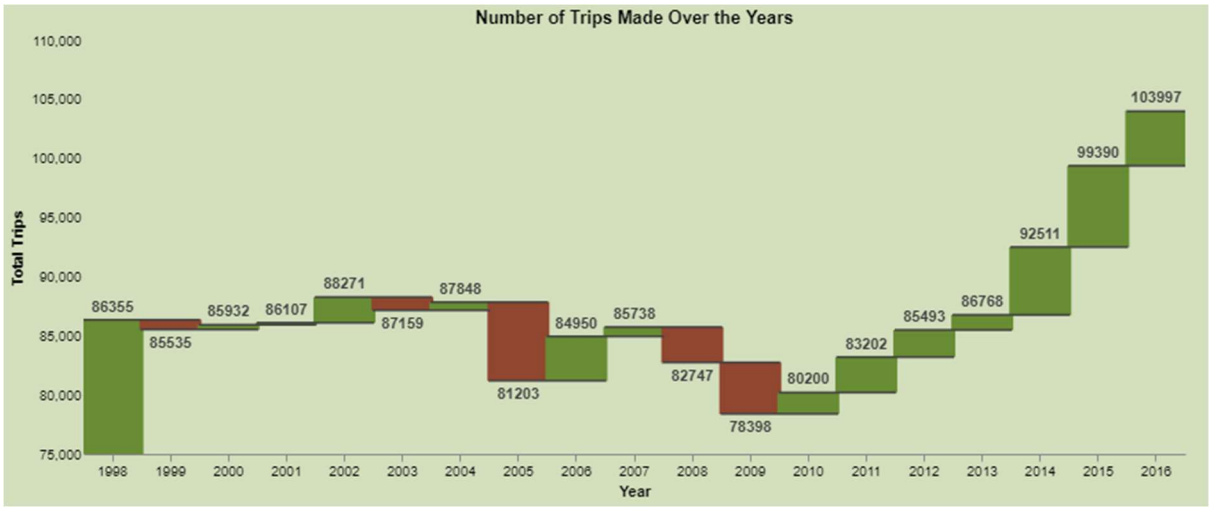

Figure 3: Waterfall Chart

Lastly, to keep the individuality of the states a grouped bar chart was used to define the number of trips by state by purpose. This graph consists of three attributes, purpose, trips, and state and effectively shows the most toured to state as well as the reason why. The colour channel hue effectively differentiates between the states while using the mark bar. For more user interaction, a legend selection (shown in figure 5) can be used to compare between the number of trips by the purpose.

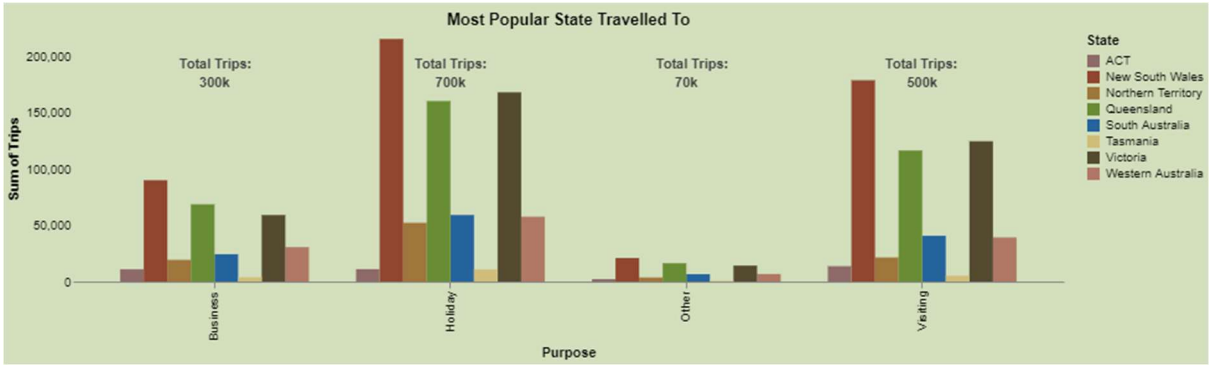

Figure 4: Grouped Bar Chart

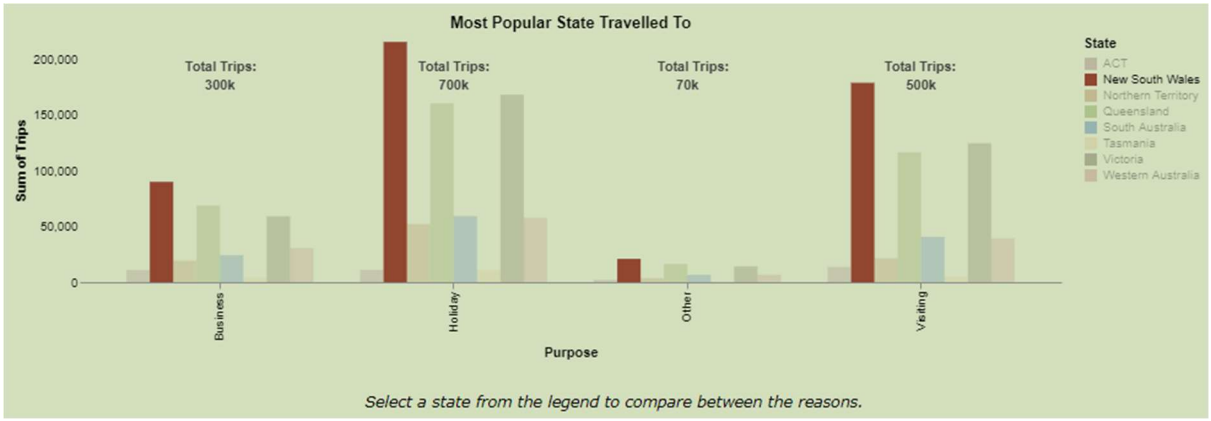

Figure 5: Legend Selection