Year 2 Elective
Spatial Visualisation

Spatial **Visualisation**

Instructions

- One Tableau file saved as studentname.**twbx**
- Word processing document containing written answers screenshots from Tableau and images of any sketches created for Question 1.
- Please write a short reflection on your learning experience – what worked well, what didn't, improvements you would make to the current form, what you would do differently. No more than 400 words.
- The assessment must be based on your own work.
- Please ensure that any sources e.g. books, articles, etc., consulted are attributed to the author and appropriately referenced in your submitted documentation.
- Please place your submission in your private teams folder in the Data Visualisation team on or before **Friday, 27th January 2023**.

1. Mapping

Select at least one table from the small area data from the Central Statistics Office (CSO) census that is of interest to you e.g., Housing, Social Class & Socio-Economic Group, Disability etc. The data is provided in the excel file CensusSA.xls located in the Mapping Folder. Note the glossary of all the Census themes is provided in CSO Census Glossary n the Mapping folder. Further information on the census can also be found at (https://www.cso.ie/en/census/).

i) Visualise the geographical distribution of your chosen table(s) by creating a Choropleth map by joining the shape file Small_Areas__CSO_Generalised_20M with the CSO excel file CensusSA.xls

ii) Describe any interesting patterns or observations in the map created in i)

iii) The United Nations has developed 17 Sustainable Development Goals (SDGs) for member states to reach. Progress on the the Irish SDGs can be found at https://irelandsdg.geohive.ie. Maps of the kind created in i) are playing a significant role in measuring and monitoring progress towards the goals. Describe why you think maps make an effective tool for visualising progress towards the SDGs - no more than 250 words.

2. Interactive Visualisation and Dashboard Creation

This part of your assessment will involve the analysis of Tourism data. The data contains the following variables in the Excel worksheet **TourismCA** located in **Data2023.xls**:

Variable Name	Description
Holiday trips	Number of holiday trips
Business trips	Number of business trips
VFR trips	Number of trips involving **V**isits to **F**riends and **R**elatives
Town	Name of Town Visited
Longitude	Column Value (x-axis)
Latitude	Row Value (y-axis)
Region (Country of Residence)	Britain (value 2), North American (value 3) and Mainland Europe (value 4)
Brand*	*Wild Atlantic Way*, *Ireland's Ancient East*, *Dublin - Surprising by Nature* and *Ireland's Hidden Heartlands*.

*Students will create the Brand variable in part iv) of this assessment using the selection tools of Tableau

Recently Fáilte Ireland introduced a new brand known as *Ireland's Hidden Heartlands* and renamed their Dublin brand to *Dublin - Surprising by Nature*. They now require insights on the geographic distribution of visitors to all four tourism brands (*Ireland's Hidden Heartlands*, *Wild Atlantic Way*, *Ireland's Ancient East* and *Dublin - Surprising by Nature*) by segment (business, holiday and VFR) and by region (country of residence) (Britain, North American and Mainland Europe). The analysis will feed into Fáilte Ireland's strategic plans for growing the business in 2022 onwards through identification of potential opportunities for growth.

i) Import the **TourismCA** data from Excel into Tableau. Create a calculated field that recodes the numbers 2 to 4 in the variable **Region (or Country of Residence)** to text labels **Britain**, **North American** and **Mainland Europe**. Call this new variable **Residence**.

ii) Using the dynamic selection tools of Tableau create your own customised geography by creating a new data variable called **Brand** which contains the four spatial regions *Wild Atlantic Way*, *Dublin - Surprising by Nature*, *Ireland's Hidden Heartlands* and *Ireland's Ancient East* (which can be treated as the remainder of the country).

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Question 2 (Contd.)

The regions can be selected approximately using the map from Fáilte Ireland that is provided with this assessment. Label each of the selected regions as above and call the variable containing the regions **Brand**.

iii) Create a worksheet in Tableau that shows a map of the towns visited and allows the differences in **holiday visitors** to each town to be visualised. Allow for dynamic interaction with the map by creating a filter for **Residence** and a filter for **Brand**.

iv) Using the **Brand** and **Residence** filter created in iii) determine if there are any **differences** between British, North American and Mainland Europe **holiday visitors** in terms of the spatial pattern of towns visited along the *Wild Atlantic Way*. Include any screenshots as appropriate to reinforce your observations.

v) Create another worksheet which visualises using a bar chart the number of visitors by **Segment** (business, holiday and VFR), **Brand** (*Wild Atlantic Way*, *Dublin - Surprising by Nature*, *Ireland's Hidden Heartlands* and *Ireland's Ancient East*) and **Residence** (Britain, Mainland Europe and North America).

v) Create an interactive dashboard that contains the plots created in iii) and v).