COMPX532 & DSIGN532: Information Visualisation

Assignment 3:
Representing Relationships

(Due 09 April, 2025)

You are to design an interactive visualization representing relationships, as in ***one*** of the following scenarios:

1. A particular sporting league has 10 teams, each of 11 players, and with 200 total participating players. During the course of the season each team plays each other team twice, so there are a total of 90 matches. All players play at least 2 matches and play in at least two different teams. Devise a visualization which represents the relationships between players, teams and matches in such a way that questions along the following lines can be posed:
    - Show which players ever played for a particular team;
    - Show which teams a particular player has played for;
    - Show which matches a particular player played in;
    - Show all players who only ever played in winning teams;
    - …

2. Devise a representation of a family tree, which as well as showing relationships, also includes concepts of time and place. For example, we might be able to pose the following sorts of questions:
    - Show me all of the first cousins of X;
    - Which members of the family were living during the 1914-18 war?
    - Which members of the family ever lived in Taranaki?
    - Does X have any cousins in Australia?
    - …

3. Imagine we have a database of cars and owners, where the cars might have attributes such as make, model, age, engine size, body style, cost, etc, and the owners might have attributes such as gender, ethnicity, age, income, occupation, etc. Devise a visualization that would allow exploration of questions such as:
    - Do younger females prefer newer, smaller cars?
    - What sorts of people own Skodas?
    - Do wealthier people own newer cars?
    - Are sports cars owned mainly by female blondes and middle-aged men?
    - …

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Whichever of these scenarios you attempt, try to base your solution on a single visualization, or a simple set of views onto a coherent continuous space. For example, for (3), one could imagine two linked spaces, one of the cars, and one of the owners; you would need to think how you might represent the various attributes in each of the spaces. *The exploratory questions shown in each scenario are just examples; try to think of others yourself, and show how your visualization could be used to answer these.* Try to avoid designing special visualizations to answer specific questions, but instead devise an overall visualization that can answer all of these and other similar questions. As much as possible you should look at ways of interacting directly and intuitively with the visualization itself, rather than indirectly using text boxes, buttons, etc.

Again, you are **not** required to produce a computer implementation of the interaction, but rather a **design** for the way it would work. However, if at all possible, I would prefer you to provide an animated sketch, using a tool such as PowerPoint, Flash, Proto.io or anything else you may be familiar with. You shouldn't need a lot of text to describe your solution.

Please do make use of visualization examples you might find on the web, or in books, etc, as inspiration or help with your design. However, you must acknowledge such sources if you do use them.

Hint: Begin by deciding what *things* you will be representing, and what *relationships* you might need to represent between any of these *things*.

[10 marks]