**Data Visualisation 1 Proposal**

**1. Domain**

* The domain of the visualisation will be sports and fitness.
* The visualisation will focus on comparing various metrics of Australian athletes - integrate data from Australian Olympians, examining their physical attributes over time and performance in events.
* Additionally, the visualization will also consider current national health statistics from the National Australian Health Survey 2022, providing a potential view into how different Australian athletes are physically, compared to the average Australia.

**2. Why?**

* Users can see how Australian athletes' physical attributes like height, weight, and BMI have changed over time, revealing trends in athlete physiology.
* Users can explore how physical attributes relate to Olympic performance, offering insights into factors that influence athletic success.
* The visualization allows users to compare athletes' physical metrics with those of the general Australian population, highlighting differences and informing discussions on fitness and health benchmarks.

**3. Datasets**

Dataset 1 - Australian Athletes

*Link:* <https://www.kaggle.com/datasets/vikashrajluhaniwal/australian-athletes-data-set>

*Description:*

* The dataset contains 202 observations of 13 different features.
  + This dataset contains Australian athelete’s heights, lean body mass, percentage of body fat, BMI, white blood cell count, red blood cell count, hemaglobin concentration and more.
* The dataset is taken from DAAG package of R language which is taken from a study done in 1991.
* These data were collected in a study of how data on various characteristics of the blood varied with sport, body size, and sex of the athlete.
* The data is from 1991 – it’s quite old but I am sure some truths still hold

Dataset 2 – 120 Years of Olympic History: Athletes and Results

*Link:* <https://www.kaggle.com/datasets/heesoo37/120-years-of-olympic-history-athletes-and-results>

*Description:*

* The dataset contains 271,117 observations of 15 different features.
  + This dataset contains Australian Olympians sex, age, height, weight, games year (from 1896-2016), sport, event, medal.
* The data set contains 120 years of Olympics History of all the nations, but I will only focus on the datasets from Australia.

Dataset 3 - National Australian Health Survey 2022

*Link:* <https://www.abs.gov.au/statistics/health/health-conditions-and-risks/national-health-survey/2022#data-downloads>

*Description:*

* There are a few datasets that be obtained from here, including individual state level as well as the whole of Australia data.
  + This can be done by downloading the datasets from Title ’28’ to ‘35’ and tidying the data
* The data of interest would be the average height, weight, BMI, waist circumference, for the different age groups in Australia in the different states.

A screenshot of a computer

Description automatically generated

**4. Design ideas**

Historical Trends Visualization:

* Changes over time using interactive charts that maybe let you select a timeframe. Additionally, can include event-specific performance for a specific timeframe.
* *Potential Idioms:* bubble plots, Ridge Lines, Stacked Area, Violin Plot, Heatmap
* *Existing Inspirational Visualisation:* [Gapminder](•%09%20https:/www.gapminder.org/tag/gapminder-world/)

Comparative Health Statistics:

* Comparison of Athletes’ to average humans
* *Potential Idioms:* Bar Chart, Density Plot, Scatter plot, Radar Chart, Sankey, Parallel Coordinates or Scatter Plot Matrix
* *Existing Inspirational Visualisation:* [WHO Health Dashboards](https://www.who.int/teams/integrated-health-services/health-services-performance-assessment/monitoring-health-services/global-pulse-survey-on-continuity-of-essential-health-services-during-the-covid-19-pandemic/dashboard)

Medal Tally:

* View tally over the years (maybe a interactive feature that lets you select the year) of gold, silver and bronze and whether it was male or female who achieve it
* *Potential Idioms:* Stacked Bar Graph, Donut Chart, Sunburst Diagram
* *Existing Inspirational Visualisation:* [Gender in Parliament House Visualisation](https://public.tableau.com/app/profile/alessandro.gallo/viz/Book1_15692725931790/Dashboard_EU)

Maybe also incorporate some interesting Olympic facts such as these: <https://www.olympics.com.au/olympians/australian-olympic-team-statisticstrivia/>

* Australia’s Best Medal Tally Home vs Away
* Athletes Who Have Competed In Two Or More Sports At The Games
* Youngest Olympians, Oldest Olympians
* Most Olympic Games
* Most Medals
* Winter Olympics vs Summer Olympics [maybe correlate it with some facts about the weather?]