**Video Game Sales Project**

**Aim**

The aim of this project was to apply the knowledge gained from the [Microsoft Power BI Data Analyst](https://www.coursera.org/professional-certificates/microsoft-power-bi-data-analyst) course to a self-guided project, with a focus on completing the transformation stage of the ETL process in Power BI. The result is a dashboard displaying video game sales both globally and regionally. Interactive slicers also allow users to filter by release decade and platform.

**Data Source**

The dataset contains a list of video games with sales greater than 100,000 copies at the time of collection. This dataset was taken from [Kaggle](https://www.kaggle.com/datasets/gregorut/videogamesales).

**Data Transformation**

As the data was from a public dataset published on Kaggle, the need for data cleaning and preparation was minimal. However, steps were taken to transform the data based on the needs of current dashboard. For example, the data set contained separate columns for each regions’ sales. These were ‘unpivoted’ to create one region column and one sales column. A separate region table was also made to allow a region slicer to be made. Numerous calculated measures and columns were made for use in visuals, dynamic titles, detailed tooltips. The main of which was a decade calculated column which took the year a game was released and categorised it into a decade, allowing the creation of the decade slicer.

**Dashboard Overview**

The dashboard contains two pages, the first of which analyses global game sales by release decade and platform. Included are cards displaying key information which are reactive to applied slicers such as total sales, top selling game and the region with the most sales. Below are visuals highlighting the top ten bestselling games and genres by number of sales, publishers with the most sales and the number of titles published by year.

By navigating to the second page by using the interactive buttons on the left-hand side of the page, users can explore video game sales by region, as well as release decade and platform. Like the first page, slicer-reactive cards display key information including total sales, the top selling game and genre. There are also two bar charts displaying the top ten bestselling games and publishers. However, the second page introduces two new visuals: two column charts displaying regional sales by genre and platform.

**Business Applications**

The first page was designed to provide a summary of global game sales and how this can vary by platform. The decade slicer, whilst limited by the data available to release year rather than sales by year, still provides a level of insight into how genre popularity and publisher success has changed over time. This could be used to inform publishers approach to designing new games, for example racing games released in the 2000’s totalled over 440 million sales. However, at the time the data was collected (2017), racing games released in the 2010’s had only around 123 million sales. This could indicate a change in genre popularity where racing games have become less popular over time. Therefore, a publisher may look to focus on shooter games which look to see an increase in popularity in the 2010’s compared to the 2000’s.

The second page provides insight into how platform and genre popularity differ across regions and how different regions contribute to global platform and region sales. This could help inform the marketing teams of publishers on which region-platform pairs to develop. For example, action and shooter games in North America are extremely popular on Xbox platforms. Therefore, marketing teams may look to focus on ad campaigns and influencer partnerships for these specific region pairs. The page may also inform game publishers on which markets they could look to explore. For example, role-playing games have remained consistently popular in Japan over time, but have decreased in popularity in Europe. Therefore, a publisher may look to investigate further whether this is a potential market for role-playing games in the future, or whether this is a market worth exiting due to regional changes in taste.

**Reflection and Future Improvements**

As the data was static, where the year column referred to the release year and the sales column represented the total number of sales when the data was collected, the ability to investigate trends over time was severely limited. Whilst the decade slicer aimed to minimise this by providing a high-level view of how genres and platforms evolved, time-series analysis was not possible which would have provided the greatest value to any users. However, this was due to the constraints of the dataset, rather than any tools used.

To provide further value to users, the dashboard could include a third page focusing on publishers. Visuals could include those with a focus on market share across global, regional and platform specific sales, such as tree maps or stacked bar charts.