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CMT218 Data Analysis and Visualisation Creation

Visualisation Evaluation

Context

Clash Royale is a real-time mobile strategy game which has players use characters (Cards) with varying abilities and costs (Elixir) to destroy the opposing towers in a 1v1, 3-minute match. The player can pick a deck of 8 cards to play with and the player who destroys the most of the opposing players towers wins. The key to winning is the efficient use of 'Elixir' which can be thought of as the currency with which cards are bought in the match. Elixir slowly generates during the match to a maximum of 10 and is taken away from the player when they call on a Card to be played. All Cards shown are of level 11 (tournament standard).

Motivation

As a player of this game, I struggle to find resources which present the attributes of all of the Cards at once and so this was a reason behind creating a Tableau Dashboard. I wanted to create something that could be used by Clash Royale players as a tool to explore the attributes of all Cards in one place instead of one Card at a time like on most websites. The heavy use of filters is something I hope facilitates this exploration. I also wanted to learn a new skill which is why I chose to use Tableau, namely for its value in industry.

Explanations

The bubble scatter graph pits HP vs Damage per Hit (DPH) against each other with the size of the markers representing the Elixir Cost of each Card. I found that these attributes lent themselves well to this type of graph as these 3 attributes were the most important in the game with Elixir Cost having a small range of 1-9 in comparison to HP and DPH. Bubble scatter graphs are an excellent medium to convey the relationships between 3 variables, which this one does well.

The markers were made translucent with black borders to provide more depth and visual stimulation. The colours of the markers are taken from the colour coding of Clash Royale, with the Rarity's sharing the exact same HEX code. I felt this was necessary to have players looking at the visualisation have a natural understanding of the colour coding.

On the right, a collection of bubbles are grouped using the shared filtration of the bubble scatter plot. I like to think of these as the bubbles from the scatter plot being put side-by-side so there is no overlap for increased clarity. However, these bubbles sizes represent the Damage per Second (DPS) of each card and the tooltip tells the reader the Cards Range and Speed. I thought about making all sizes represent Elixir Cost but felt this repeating of data would fail to add another dimension to the Dashboard and I wanted to have every attribute of the Cards available on-screen. Colour coding was kept as the Rarity as not to confuse readers. The use of marker size here is more pronounced than in the scatter graph. Effort was made to give greater pronunciation in the scatter but to no avail. This in turn made the legend defining the bubble sizes and their Elixir Cost redundant and therefore it was removed. The '!' icons in the top-right of each plot to label the attribute that the marker size represented.

3 tiles lie above these plots and serve as summaries of the data, displaying the Cards with the greatest value of some attributes. I felt these 3 attributes where under represented and it would have been of interest to the reader to find which Cards perform the best. The Cards characters were imposed behind the statistics to provide visual stimulation. I used calculated fields to find the cards

with the highest values in these dimensions. However this didn't work with the filters, instead filtering the worksheet would return a blank name. The summary tiles were therefore made static and instead permanently showed the cards with the highest value of all the cards, regardless of any effect from filters. I would have loved these tiles to display the statistics in relation to the filters chosen and the character picture behind the text change in the way of a custom shape.

I think the colours used are tasteful as well as relevant and images used without being overbearing.

Improvements

Along with more pronounced bubble size in the scatter plot and dynamic summary tiles it would've been nice to filter by Card level instead of all cards being level 11.

The Cards are much more complex than the attributes presented, although a player would know this. Some have special one-off actions that are impossible to fit into a single Dashboard and communicate their value.

In all, I'm proud to have produced this Dashboard with zero experience of Tableau and believe It serves it purpose very well.