U03
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CPSC 4030/6030 Fall 2020
Project Report

Introduction:
Riot: *League of Legends* is a MOBA game that hosts 151 playable champions. Each champion has different stats and abilities that can be used to play the game. To balance the champions, Riot makes patch changes to buff (increase certain stats) or nerf (decrease certain stats) them. We wanted to analyze whether or not Riot's patch changes met the expected outcome of implementing the changes. For buffing champions, we expected the champion's win-rate, play-rate, and total number of games played to be higher than before the change. The opposite effect was expected for nerfing a champion's stats.

Dataset:
As previously mentioned, we wanted to analyze each patched champion's win-rate, play-rate, and total number of games played. The win-rate determines whether a champion is winning more games than losing. This is relatively reflective of how good the champion is and whether or not that champion's stats are balanced. The play-rate determines what percentage of overall games played a champion has played in. Play-rate determines the community's opinion on whether or not the champion is useful in game. The total number of games played is self explanatory and we analyzed whether making patch changes to buff/nerf a champion increased/decreased their total games played.

Link to Data Used: https://developer.riotgames.com/docs/lol
Data Breakdown Reference: https://lolalytics.com/?tier=all&patch=10.19

Design Solution:
Graph 1 (Games Played): We used the color channel to distinguish between the buff changes (blue) and nerf changes (red) of each champion. The previous patch total number of games played (neutral grey) shows values before the patch implementation. We used the area channel to determine the total number of games played for each champion. We used grouping to align the bars of each graph to correspond to the respective champion they represent. This creates a visualization that's easier to understand and comprehend.

Graph 2 (Pick-Rate): We used the color channel to distinguish between the buff changes (blue) and nerf changes (red) of each champion. The previous patch pick-rate (neutral grey) shows values before the patch implementation. We used the area channel to determine the pick-rate for each champion. We used grouping to align the bars of each graph to correspond to the respective champion they represent. This creates a visualization that's easier to understand and comprehend.

Graph 3 (Win-Rate): We used the color channel to distinguish between the buff changes (blue) and nerf changes (red) of each champion. The previous patch win-rate (black) shows values before the patch implementation. We used the link channel to connect the previous patch's win-rate of each champion to their updated value after the patch implementation. We used the size attribute to distinguish between the two patches for an easier digestion of the data. This is an effective visualization as the viewer can see each champion's patch change values for win-rate as the links draw the viewers' eyes to group the correlating data together.