Capstone Project 1 Proposal

Problem to Solve

The problems I want to solve will be in Esports, specifically the game League of Legends. This is online multi-player game where 10 players fight in 5v5 matches. The problems I want to solve are how to increase profitability of the game as well as improve game play interactions using only data from matches. League of Legends if a free to play game, and profit comes from cosmetic purchases for game characters. These cosmetic purchase do not give players any advantages like battle stats nor do they alter game mechanics in any way. Improvements in game play come from character design, item choices, and map interaction design.

Client

The client would be the developer of League, Riot Games. The main way to increase profitability of the company would be to increase the sales of cosmetic purchases. Good game play design goes hand in hand with profitability as well. If game play elements are fun and balanced, this means higher player retention and possibility of new players coming to the game. Finding what works well will be key in developing future elements of the game. Riot could make key game design decision designs with this data and find which cosmetics purchases to focus on.

Data

The data I will be using will come from Riot Games API found at https://developer.riotgames.com/. I will use python to pull ranked (competitive) match data from the API based on popular players, streamers, and professional players. All match data will be from high ranked games where the meta game is usually defined and copied down to lower ranks. The data includes game stats like match duration, game creation date, characters picks and bans. The data also includes about 100 game stats each for all 10 players.

Problem Solving

Based on looking at the data, we can get the games of every player, how many matches a player has played, when the match was created, and every in game stat for the end of the game. We can gather the information about how often a champion (character) is played by a popular streamer(s) for instance and see if there is an increase in play rate of that champion. This could prompt the design team to design cosmetic purchases around that champion. We can look at a combination of different items and picks to predict win conditions as percentage. Higher win rates paired with different combinations of champion picks, item choices, and map objectives could signal developers to tune in game stats of items and champions. We could also look at predicting gameplay times based on certain champion archetypes. Developers could use this data to design the next champions' type or abilities. Games that are too long

could be drawn out too long could have negative affects on player sentiment. Keeping games short with a high diversity of characters could lead to more cosmetic purchases.

Deliverables

I plan to deliver a Jupyter Notebook with all the code for pulling, wrangling, and cleaning of the data. Another Jupyter Notebook or the same will be used to provide the code for visual exploratory analysis. I will provide a slide presentation that breaks down on a high level, key findings and answers from the data which will include visuals with low text. The slide presentation should show key findings that are interesting to those who play and do not play the game. Finally, a paper will be provided that will outline the thought process and more detailed breakdown data. The paper will be directed to those with more intimate knowledge of the game who really want to learn the fine details. The paper will definitely make more sense for people who play the game.