

Our project aimed to help League of Legends players analyze different team compositions in order to understand the winning conditions better as well as cater their gameplay to said conditions. For this we used Riot Games API provided by the Riot Developer Portal. Using this we have gathered data of over 20 000 matches from different servers, which were stored in two sqlite databases.

One of the databases served as a place for storing the raw gathered data. More specifically, the champion categories of each team as well as the match results were stored there. The second one was for storing the gathered champion categories as well as their winrates.

The data gathering process was easily the most difficult and time consuming part of the project. The first problem was to figure out how to automate the data gathering process to make it less tedious. The number of team compositions (combinations with repetitions allowed) was approximately 6000. So we required a lot of data to back up these compositions. The issue here was that there is a limit to how many calls one can make in a set period of time to the Riot API. More precisely, one can make 100 calls per 2 minutes, which our data gathering system had to take into account. Even after automating the process, the data gathering was very time consuming.

As for our technical components, we used Python as our programming language and Riot API to gather game data from Riot's servers. Over the course of the project we have learned a lot about using Riot API for this kind of data analysis, although it required a lot of research at the beginning. We also used sqlite3 to interact with our databases and Flask as our web application framework. These were chosen for the convenience and because we found them the most suitable for our project.

In the initial project canvas our idea was to gather data on each of the team compositions winrates against other compositions. We had to scratch this idea, since the amount of data needed to achieve this was simply too large. Instead we decided to focus solely on winrates of the different team compositions. We also had to discard the ideas of including different damage types and build paths for different champions in our calculations for the same reason.

The possible future steps could be to gather more data, since a good proportion of the team compositions have only a few recorded games. Gathering more data would increase the reliability of our findings.