Abstract: An Item Guide Generator for League of Legends Using Riot Games API

The competitive nature of games like League of Legends (LoL) has given rise to a demand for data-driven tools to optimize gameplay. To address this, a program was developed to create an item guide tailored for individual players based on their play style and champion preferences. The algorithm leverages the Riot Games API to fetch and analyze match data for specific players, champions, and positions.

Initially, the program fetches the unique player identifier, PUUID, based on the summoner name provided. Using this PUUID, match IDs associated with the player are retrieved. The program then navigates through these matches, focusing specifically on the player's chosen champion and position. Once the relevant matches are pinpointed, an item timeline is extracted, documenting item purchases made during the course of the game.

Subsequent analysis segregates these items into the % of times they were purchased at which item slot and situational items based on their purchase timings and frequencies. This analysis helps identify common items for each item slot and the sequential purchase trends of the player, giving insights into player's in-game decision-making.

The findings are then structured into an item guide, presented in a JSON format. This guide delineates common starter items and suggests purchase sequences based on historical data, offering percentages that denote purchase likelihood. Situational items, being non-sequential purchases made on a case-by-case basis, are also highlighted with their respective purchase rates.

Integration of the Flask web framework, SQL Alchemy for data management, and HTML for the front-end interface makes the program user-friendly. Users can input their summoner name, champion, and position and instantly receive a custom item guide based on their past games.

This program, through its detailed analysis and user-friendly interface, empowers League of Legends players to refine their gameplay strategies, drawing from their own historical data and tendencies.