StatVision

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Project Purposes

- **Effortless Statistics Search**: Enable users to easily find statistics on their favorite teams and players through a simple search function.

- **Centralized Sports Data Platform**: Provide a unified platform for accessing sports data across multiple leagues.

- **Real-Time Updates**: Support real-time updates to keep users informed of the latest statistics.

- **Data-Driven Decision-Making**: Facilitate informed decisions for fantasy sports players and analysts through accessible data.

Project Goals

- **Comprehensive Data Access**: Allow users to retrieve both past and current sports data from all major leagues.

- **Efficient Search Functionality**: Transform user input into optimized SQL queries for quick and accurate data retrieval.

- **Seamless API Integration**: Utilize APIs to incorporate extensive data across all major sports leagues.

- **Engaging Data Visualization**: Implement dynamic visualizations to present query results in an understandable and captivating format.

Intellectual Merits

- Our project aims to develop a comprehensive sports tracker and analytics website that caters to a diverse range of users, including casual sports fans, fantasy sports players, and sports analysts. The platform enables casual fans to look up statistics on their favorite athletes and teams, keeping them updated on performance metrics in real-time. Fantasy sports players can access updated statistics on their rostered players to make informed decisions for their teams. Sports analysts will find it easy to access extensive sports data across different leagues for their projects. By integrating real-time data and advanced analytics, our platform bridges the gap between raw sports data and meaningful insights, serving the needs of all users.

Broader Impacts

- As a fan, I want to look up statistics on my favorite athletes and teams so I can stay updated on their performance.

- As a sports analyst, I want to easily access sports data across different leagues for my projects.

- As a fantasy sports player, I want to find updated statistics on players on my roster to create decisions for my fantasy team.
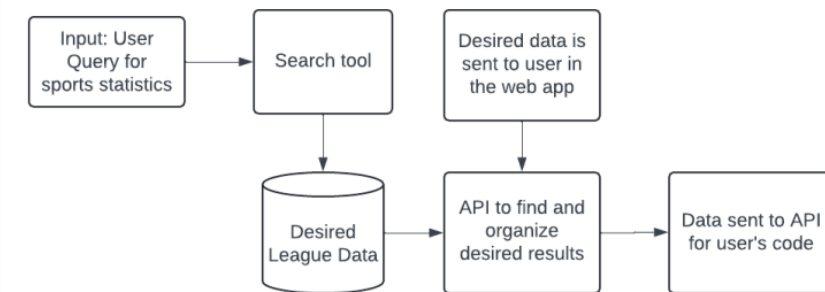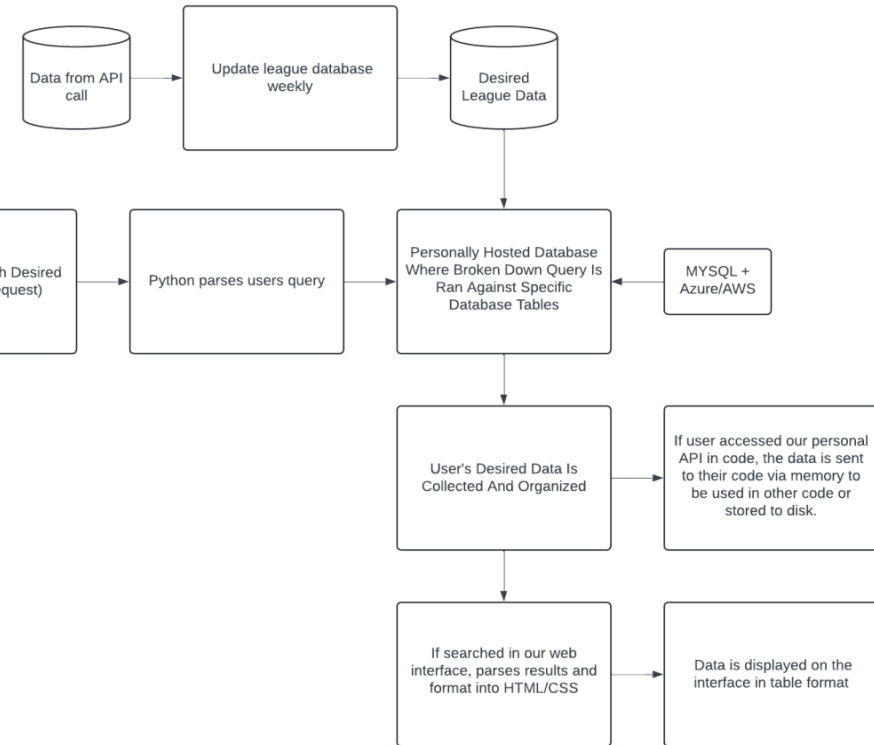
Design Diagrams

Technologies Applied

- For this project, we plan on using open-source APIs for pulling team and player data into our database. Some leagues, such as the NBA, offer an open-source API, however for some leagues we plan to use a 3rd party open-source API's that are community ran and lead. For hosting our website and database, we are currently deciding between tools such as AWS or Azure.

- The middleware that will connect most of these tools together will be written in languages such as Python and JavaScript. The majority of the full-stack will be programmed using Python, as its libraries give us much broader capabilities, as well as more accessible features for all of our sub-applications working together in the stack.

Milestones

- The primary goal for our project is to have the application operational and in a relatively bug free beta phase by the following dates:

- CEAS Expo: April 8, 2025

- Final Design Report Due: April 14, 2025

Current Results

- Completed research for data storage methods

- Completed research for API options

- Have created a working front end and UI

- Designed the data organization

- Documented database layout

Project Challenges

- For this project, our team discovered that there are some financial limitations, and we intend to use any free or open-source tools when we can. We plan on using open-source APIs for pulling team and player data into our database. Some leagues, such as the NBA, offer an open-source API, however for some leagues we plan to use a 3rd party open-source API due to our financial limitations. We are also financially limited for hosting our website and database, so we are currently comparing costs between tools such as AWS and Azure, as well as other tools that offer student discounts/credits to determine which resource would best match our budget.

- When dealing with player and team data from different sports leagues we will need to consider any legal restrictions that these leagues have on using their data. Some leagues, such as the MLB, have very strict policy when it comes to the rights to their digital property, so when finding open-source APIs for each league we will need to ensure that these tools comply with their respective leagues usage policies.