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Fantasy Valorant

Capstone Abstract

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Two of my favorite hobbies are competitive video games (or e-sports) and fantasy sports. A popular hobby for sports fans, fantasy sports allows enthusiasts to create a hypothetical team of all their favorite players and pit them against other fantasy teams using statistical data from the athletes’ real performances. Combining fantasy sports with e-sports is a niche that is not yet explored, despite the incredible growths of both industries in recent times.

Fantasy Valorant aims to utilize the cutting-edge and commonly utilized MERN (MongoDB, Express.js, React.js, Node.js) stack to build a robust, full-stack application. MongoDB provides the database that will store the users’ login information, rosters, and statistics of e-sports players and tournaments. Express.js and Node.js combine to provide the server framework and middleware tools for the application. Finally, on the front end, React.js is an expansive JavaScript library that allows for effective user interfaces. The greatest appeal of the MERN stack is arguably the fact that all the architecture components can be written in JavaScript, allowing for seamless transitions between the technologies and greatly lowering the burden of entry. For example, libraries like mongoose and Redux help to streamline database access and state management, respectively.

Fantasy Valorant allows users to view a plethora of data on the performances of their favorite players and teams. Users can compete with other users within their league to draft star players and see how their teams fare against other users’. Admins can also invite new users to the platform to participate. Users are authenticated and authorized with JSON web tokens, and login states are stored. This project successfully combined the appeal of managing your favorite sports players in hypothetical head-to-head competition with the burgeoning competitive e-sports domain.

Developing Fantasy Valorant taught many valuable skills about using such a powerful and convenient technology stack. Full-stack development is very involved due to the intricate connections that must be managed between the backend database, the user experience on the frontend, and the server architecture in between. On the other hand, it was extremely difficult to learn how to manage the different technologies and integrate them together. I also gained valuable experience in working on complex software with a partner and in managing realistic expectations of project scope. Fantasy Valorant was extremely rewarding to develop and helped to develop critical skills in web development that will undoubtedly aid me in my future career.