Jacob Ryse

CSSE 497 Abstract

Prof. Mike Stiber

Implementing GraphQL Subscriptions for Real-Time Updates

More and more, end-users desire real-time interactions with their applications. GraphQL, a flexible query language for API's, has become one of the best options to provide a service to developers to seamlessly create efficient data retrieval. Additionally, it provides a key feature in implementing real-time updates: GraphQL Subscriptions. This presentation strives to highlight the significance of GraphQL Subscriptions in producing real-time updates to end-users by explaining how this was achieved during my internship at PNNL. Participants will learn about how subscriptions enable live data streaming, removing the need for polling mechanisms, and thus reducing overall server load. As well as understanding examples of how this technology can be used in web applications, we will discuss the inner workings of GraphQL subscription types, resolvers, and WebSocket protocol. In combination with standard asynchronous technologies, the outcome of my project over the course of these ten weeks displays the importance of GraphQL Subscriptions in satisfying not only the developer, but the end-user. Some additional topics that will be discussed regarding my project include background of the project and company, PNNL, working on a development team using scrum, and the process I took to implement my project into a production application.