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Abstract

Web applications that update in real-time as a response to remote data changes are becoming more prominent because of new web technologies such as WebSockets and WebRTC. These applications typically depend on multiple asynchronous data sources through callback functions on events. Composing callback functions and working with asynchronous code in general can be challenging. The introduction of Promises and async/await to JavaScript is a big improvement in this area, but there is still a need for a more powerful abstraction. Functional reactive programming is a programming paradigm that solves this problem by modeling asynchronous code as streams. Multiple JavaScript libraries already allow developers to adopt functional reactive programming for developing web applications. This bachelor thesis explores this new paradigm and investigates how it applies to real-time web applications.