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Rich Web Applications

Worksheet3

1. **Explain what is meant by the stream abstraction. What is the relationship between streams and the observer pattern?  What are streams useful for modelling and when might you use them in Rich Web development?**

Stream abstraction is a concept for handling asynchronous data sources that you don’t know what data size they will provide or when they will send their data. The observer pattern is a software design paradigm which maintains a list of all its items and notifies them of any state changes. In relation to the observer pattern, streams act as observers of what is taking place in the DOM. For Rich web applications, streams are useful when it comes to handling asynchronous events. If everything is modeled as stream, then these streams will be able to handle multiple asynchronous events simultaneously. For example, multiple button clicks can be handled using streams and each button click can provide a different result even if the one before it hasn’t finished processing its task.

1. **Assume that you are building an interface to an API in your Rich Web App. Describe in detail how you could use the RxJS library to handle asynchronous network responses to API requests. In your opinion, what are the benefits to using a streams library for networking over, say, promises? And what do you think are the downsides?**