

“Ajax” programming is becoming a de-facto standard for certain types of web applications, but unfortunately developing this kind of application is a difficult task. Developers have to deal with problems like a language impedance mismatch, limited execution runtime in web browser on the client-side and no integration between client and server-side parts that are developed as a two independent applications, but typically form a single and homogenous application. In this work we present the first project that deals with all three mentioned problems but which still integrates with existing web technologies such as ASP.NET on the server and JavaScript on the client. We use the F# language for writing both client and server-side part of the web application, which makes it possible to develop client-side code in a type-safe programming language using a subset of the F# library, and we provide a way to write both server-side and client-side code as a part of single homogeneous type defining the web page logic. The code is executed heterogeneously, part as JavaScript on the client, and part as native code on the server. Finally we use monadic syntax for the separation of client and server-side code, tracking this separation through the F# type system.